

## Project Summary

File Name: Slope Stability Analysis.slmd  
 Slide2 Modeler Version: 9.038  
 Project Title: Sundown Condos Phase 2  
 Author: JAM  
 Company: AMMTEC Consultants, PLLC.  
 Date Created: 4/29/2025, 10:26:18 AM

### Currently Open Scenarios

| Group Name                                                                                                      | Scenario Name   | Global Minimum    | Compute Time    |
|-----------------------------------------------------------------------------------------------------------------|-----------------|-------------------|-----------------|
| Walls 1 and 5b Static          | Master Scenario | Spencer: 1.546170 | 00h:00m:02.77s  |
| Walls 1 and 5b Seismic         | Master Scenario | Spencer: 1.118860 | 00h:00m:03.574s |
| Wall 2 Static                  | Master Scenario | Spencer: 2.923670 | 00h:00m:01.505s |
| Wall 2 Seismic                 | Master Scenario | Spencer: 2.061630 | 00h:00m:01.818s |
| Wall 3 Static                  | Master Scenario | Spencer: 1.795230 | 00h:00m:01.845s |
| Wall 3 Seismic                 | Master Scenario | Spencer: 1.347990 | 00h:00m:03.208s |
| Wall 4 Static                 | Master Scenario | Spencer: 2.468560 | 00h:00m:01.250s |
| Wall 4 Seismic               | Master Scenario | Spencer: 1.729510 | 00h:00m:01.583s |
| Walls 5a and 6 Static        | Master Scenario | Spencer: 1.414540 | 00h:00m:01.459s |
| Walls 5a and 6 Seismic       | Master Scenario | Spencer: 1.080310 | 00h:00m:02.462s |
| Wall 7 Static                | Master Scenario | Spencer: 2.202750 | 00h:00m:01.77s  |
| Wall 7 Seismic               | Master Scenario | Spencer: 2.253550 | 00h:00m:02.44s  |
| Wall 8 Static                | Master Scenario | Spencer: 2.419700 | 00h:00m:01.122s |
| Wall 8 Seismic               | Master Scenario | Spencer: 1.713700 | 00h:00m:01.591s |
| Walls 9, 10, and 12a Static  | Master Scenario | Spencer: 1.386350 | 00h:00m:01.487s |
| Walls 9,10, and 12a Seismic  | Master Scenario | Spencer: 1.056600 | 00h:00m:02.779s |
| Walls 11 and 12b Static      | Master Scenario | Spencer: 1.471330 | 00h:00m:01.499s |
| Walls 11 and 12b Seismic     | Master Scenario | Spencer: 1.177750 | 00h:00m:03.348s |

## Seismic Loading

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### ◆ Walls 1 and 5b Static

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ Walls 1 and 5b Seismic

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

### ◆ Wall 2 Static

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ Wall 2 Seismic

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

### ◆ Wall 3 Static

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ Wall 3 Seismic

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

### ◆ Wall 4 Static

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ Wall 4 Seismic

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

### ◆ Walls 5a and 6 Static

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

### ◆ Walls 5a and 6 Seismic

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

 **Wall 7 Static**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

 **Wall 7 Seismic**

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

 **Wall 8 Static**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

 **Wall 8 Seismic**

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

 **Walls 9, 10, and 12a Static**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

 **Walls 9,10, and 12a Seismic**

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

 **Walls 11 and 12b Static**

|                               |    |
|-------------------------------|----|
| Advanced seismic analysis:    | No |
| Staged pseudostatic analysis: | No |

 **Walls 11 and 12b Seismic**

|                                        |       |
|----------------------------------------|-------|
| Advanced seismic analysis:             | No    |
| Staged pseudostatic analysis:          | No    |
| Seismic Load Coefficient (Horizontal): | 0.224 |

## Materials

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### Mass Wasting Colluvium

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 120 lbs/ft <sup>3</sup>                                                           |
| Cohesion      | 100 psf                                                                           |
| Phi           | 38 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

### Gravel

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                      |
| Unit Weight   | 135 lbs/ft <sup>3</sup>                                                           |
| Cohesion      | 0 psf                                                                             |
| Phi           | 40 °                                                                              |
| Water Surface | Assigned per scenario                                                             |
| Ru Value      | 0                                                                                 |

### Verti-Block

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 120 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 3000 psf                                                                            |
| Phi           | 0 °                                                                                 |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

### Reinforced Fill

|               |                                                                                     |
|---------------|-------------------------------------------------------------------------------------|
| Color         |  |
| Strength Type | Mohr-Coulomb                                                                        |
| Unit Weight   | 120 lbs/ft <sup>3</sup>                                                             |
| Cohesion      | 135 psf                                                                             |
| Phi           | 38 °                                                                                |
| Water Surface | Assigned per scenario                                                               |
| Ru Value      | 0                                                                                   |

## Materials In Use

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| Material   | Wals 1 and 5b Stat ic | Wals 1 and 5b Seis mic | Wal I 2 Stat ic | Wal I 2 Seis mic | Wal I 3 Stat ic | Wal I 3 Seis mic | Wal I 4 Stat ic | Wal I 4 Seis mic | Wals 5a and 6 Stat ic | Wals 5a and 6 Seis mic | Wal I 7 Stat ic | Wal I 7 Seis mic | Wal I 8 Stat ic | Wal I 8 Seis mic | Wals 9, 10, and 12a Stat ic | Wals 9, 10, and 12a Seis mic | Wal Is 11 and 12b Stat ic | Wal Is 11 and 12b Seis mic |
|------------|-----------------------|------------------------|-----------------|------------------|-----------------|------------------|-----------------|------------------|-----------------------|------------------------|-----------------|------------------|-----------------|------------------|-----------------------------|------------------------------|---------------------------|----------------------------|
| Mass Collu | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓               | ✓                | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓                           | ✓                            | ✓                         | ✓                          |
| Grave      | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓               | ✓                | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓                           | ✓                            | ✓                         | ✓                          |
| Verti      | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓               | ✓                | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓                           | ✓                            | ✓                         | ✓                          |
| Reinf      | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓               | ✓                | ✓                     | ✓                      | ✓               | ✓                | ✓               | ✓                | ✓                           | ✓                            | ✓                         | ✓                          |

## Support

### Mirafi 5XT

|                                            |                                                                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------|
| Color                                      |  |
| Type                                       | Geosynthetic                                                                      |
| Force Application                          | Passive (Method B)                                                                |
| Force Orientation                          | Bisector of Parallel and Tangent                                                  |
| Selected Manufacturer                      | ACEGrid GG60-I                                                                    |
| Ultimate Tensile Strength                  | 4111 lbs/ft                                                                       |
| Creep Reduction Factor (RFcr)              | 1.44                                                                              |
| Installation Damage Factor (RFid)          | 1.05                                                                              |
| Deterioration in Service Factor (RFd)      | 1.1                                                                               |
| Factor of Safety (Fr)                      | 1.1                                                                               |
| Strip Coverage (%)                         | 100                                                                               |
| Long Term Design Strength                  | 2471.93 lbs/ft                                                                    |
| Anchorage                                  | None                                                                              |
| Input Type                                 | Friction Angle & Adhesion                                                         |
| Shear Strength Model                       | Linear                                                                            |
| Adhesion                                   | 0 psf                                                                             |
| Friction Angle                             | 34 °                                                                              |
| Material Dependent                         | No                                                                                |
| Use External Loads in Strength Computation | Yes                                                                               |
| Consider Sliding Along Interface           | No                                                                                |

### Mirafi 8XT

|                                            |                                                                                     |
|--------------------------------------------|-------------------------------------------------------------------------------------|
| Color                                      |  |
| Type                                       | Geosynthetic                                                                        |
| Force Application                          | Passive (Method B)                                                                  |
| Force Orientation                          | Bisector of Parallel and Tangent                                                    |
| Selected Manufacturer                      | ACEGrid GG120-I                                                                     |
| Ultimate Tensile Strength                  | 8223 lbs/ft                                                                         |
| Creep Reduction Factor (RFcr)              | 1.43                                                                                |
| Installation Damage Factor (RFid)          | 1                                                                                   |
| Deterioration in Service Factor (RFd)      | 1.1                                                                                 |
| Factor of Safety (Fr)                      | 1.05                                                                                |
| Strip Coverage (%)                         | 100                                                                                 |
| Long Term Design Strength                  | 5227.34 lbs/ft                                                                      |
| Anchorage                                  | None                                                                                |
| Input Type                                 | Friction Angle & Adhesion                                                           |
| Shear Strength Model                       | Linear                                                                              |
| Adhesion                                   | 0 psf                                                                               |
| Friction Angle                             | 34 °                                                                                |
| Material Dependent                         | No                                                                                  |
| Use External Loads in Strength Computation | Yes                                                                                 |
| Consider Sliding Along Interface           | No                                                                                  |

## Global Minimums

### ◆ Walls 1 and 5b Static

Method: spencer

|                                   | FS                     | 1.546170 |
|-----------------------------------|------------------------|----------|
| Center:                           | -22.056, 87.825        |          |
| Radius:                           | 92.721                 |          |
| Left Slip Surface Endpoint:       | 12.536, 1.800          |          |
| Right Slip Surface Endpoint:      | 63.478, 52.035         |          |
| Resisting Moment:                 | 1.39152e+07 lb-ft      |          |
| Driving Moment:                   | 8.9998e+06 lb-ft       |          |
| Resisting Horizontal Force:       | 124723 lb              |          |
| Driving Horizontal Force:         | 80665.5 lb             |          |
| Passive Support Moment:           | 2.90639e+06 lb-ft      |          |
| Passive Horizontal Support Force: | 31331.4 lb             |          |
| Maximum Single Support Force:     | 5227.34 lb             |          |
| Total Support Force:              | 32589.3 lb             |          |
| Total Slice Area:                 | 1313.3 ft <sup>2</sup> |          |
| Surface Horizontal Width:         | 50.9421 ft             |          |
| Surface Average Height:           | 25.7802 ft             |          |

### ◆ Walls 1 and 5b Seismic

Method: spencer

|                                   | FS                      | 1.118860 |
|-----------------------------------|-------------------------|----------|
| Center:                           | -44.809, 142.390        |          |
| Radius:                           | 151.847                 |          |
| Left Slip Surface Endpoint:       | 12.535, 1.788           |          |
| Right Slip Surface Endpoint:      | 77.229, 52.035          |          |
| Resisting Moment:                 | 2.37236e+07 lb-ft       |          |
| Driving Moment:                   | 2.12034e+07 lb-ft       |          |
| Resisting Horizontal Force:       | 136508 lb               |          |
| Driving Horizontal Force:         | 122006 lb               |          |
| Passive Support Moment:           | 4.04033e+06 lb-ft       |          |
| Passive Horizontal Support Force: | 26594.8 lb              |          |
| Maximum Single Support Force:     | 5227.34 lb              |          |
| Total Support Force:              | 27402.5 lb              |          |
| Total Slice Area:                 | 1622.45 ft <sup>2</sup> |          |
| Surface Horizontal Width:         | 64.6942 ft              |          |
| Surface Average Height:           | 25.0788 ft              |          |

### ◆ Wall 2 Static

Method: spencer

| FS                           | 2.923670                |
|------------------------------|-------------------------|
| Center:                      | 26.072, 10.895          |
| Radius:                      | 6.859                   |
| Left Slip Surface Endpoint:  | 21.973, 5.395           |
| Right Slip Surface Endpoint: | 32.931, 10.895          |
| Resisting Moment:            | 35190.2 lb-ft           |
| Driving Moment:              | 12036.3 lb-ft           |
| Resisting Horizontal Force:  | 4166.13 lb              |
| Driving Horizontal Force:    | 1424.97 lb              |
| Total Slice Area:            | 37.2529 ft <sup>2</sup> |
| Surface Horizontal Width:    | 10.9581 ft              |
| Surface Average Height:      | 3.39957 ft              |

### ◆ Wall 2 Seismic

Method: spencer

| FS                           | 2.061630                |
|------------------------------|-------------------------|
| Center:                      | 26.037, 16.725          |
| Radius:                      | 12.313                  |
| Left Slip Surface Endpoint:  | 21.216, 5.395           |
| Right Slip Surface Endpoint: | 36.882, 10.895          |
| Resisting Moment:            | 75136.4 lb-ft           |
| Driving Moment:              | 36445.1 lb-ft           |
| Resisting Horizontal Force:  | 5496.44 lb              |
| Driving Horizontal Force:    | 2666.07 lb              |
| Total Slice Area:            | 49.6263 ft <sup>2</sup> |
| Surface Horizontal Width:    | 15.6658 ft              |
| Surface Average Height:      | 3.16782 ft              |

### ◆ Wall 3 Static

Method: spencer

| FS                                | 1.795230                |
|-----------------------------------|-------------------------|
| Center:                           | 20.568, 39.490          |
| Radius:                           | 34.114                  |
| Left Slip Surface Endpoint:       | 13.124, 6.198           |
| Right Slip Surface Endpoint:      | 54.009, 32.747          |
| Resisting Moment:                 | 1.52553e+06 lb-ft       |
| Driving Moment:                   | 849770 lb-ft            |
| Resisting Horizontal Force:       | 37829.6 lb              |
| Driving Horizontal Force:         | 21072.3 lb              |
| Passive Support Moment:           | 80186.4 lb-ft           |
| Passive Horizontal Support Force: | 2358.3 lb               |
| Maximum Single Support Force:     | 2471.93 lb              |
| Total Support Force:              | 2471.93 lb              |
| Total Slice Area:                 | 425.683 ft <sup>2</sup> |
| Surface Horizontal Width:         | 40.8846 ft              |
| Surface Average Height:           | 10.4118 ft              |

### ◆ Wall 3 Seismic

Method: spencer

| FS                                | 1.347990                |
|-----------------------------------|-------------------------|
| Center:                           | 20.515, 39.426          |
| Radius:                           | 34.040                  |
| Left Slip Surface Endpoint:       | 13.125, 6.199           |
| Right Slip Surface Endpoint:      | 53.884, 32.702          |
| Resisting Moment:                 | 1.45036e+06 lb-ft       |
| Driving Moment:                   | 1.07594e+06 lb-ft       |
| Resisting Horizontal Force:       | 37085.5 lb              |
| Driving Horizontal Force:         | 27511.6 lb              |
| Passive Support Moment:           | 87344.6 lb-ft           |
| Passive Horizontal Support Force: | 2573.93 lb              |
| Maximum Single Support Force:     | 2471.93 lb              |
| Total Support Force:              | 2702.04 lb              |
| Total Slice Area:                 | 422.834 ft <sup>2</sup> |
| Surface Horizontal Width:         | 40.7586 ft              |
| Surface Average Height:           | 10.3741 ft              |

#### ◆ **Wall 4 Static**

**Method: spencer**

| FS                           | 2.468560                |
|------------------------------|-------------------------|
| Center:                      | 9.919, 19.225           |
| Radius:                      | 12.554                  |
| Left Slip Surface Endpoint:  | 5.093, 7.636            |
| Right Slip Surface Endpoint: | 22.174, 16.505          |
| Resisting Moment:            | 105527 lb-ft            |
| Driving Moment:              | 42748.3 lb-ft           |
| Resisting Horizontal Force:  | 7136.2 lb               |
| Driving Horizontal Force:    | 2890.84 lb              |
| Total Slice Area:            | 69.3957 ft <sup>2</sup> |
| Surface Horizontal Width:    | 17.081 ft               |
| Surface Average Height:      | 4.06273 ft              |

#### ◆ **Wall 4 Seismic**

**Method: spencer**

| FS                           | 1.729510                |
|------------------------------|-------------------------|
| Center:                      | 9.779, 22.375           |
| Radius:                      | 15.656                  |
| Left Slip Surface Endpoint:  | 4.498, 7.636            |
| Right Slip Surface Endpoint: | 24.550, 17.185          |
| Resisting Moment:            | 146251 lb-ft            |
| Driving Moment:              | 84561.8 lb-ft           |
| Resisting Horizontal Force:  | 8253.91 lb              |
| Driving Horizontal Force:    | 4772.39 lb              |
| Total Slice Area:            | 81.9281 ft <sup>2</sup> |
| Surface Horizontal Width:    | 20.0516 ft              |
| Surface Average Height:      | 4.08585 ft              |

#### ◆ **Walls 5a and 6 Static**

**Method: spencer**



| FS                           | 1.414540                |
|------------------------------|-------------------------|
| Center:                      | 5.627, 61.881           |
| Radius:                      | 58.405                  |
| Left Slip Surface Endpoint:  | -8.127, 5.119           |
| Right Slip Surface Endpoint: | 63.768, 56.330          |
| Resisting Moment:            | 7.23468e+06 lb-ft       |
| Driving Moment:              | 5.1145e+06 lb-ft        |
| Resisting Horizontal Force:  | 100940 lb               |
| Driving Horizontal Force:    | 71358.8 lb              |
| Total Slice Area:            | 1355.94 ft <sup>2</sup> |
| Surface Horizontal Width:    | 71.8948 ft              |
| Surface Average Height:      | 18.86 ft                |

### ◆ Walls 5a and 6 Seismic

Method: spencer

| FS                                | 1.080310                |
|-----------------------------------|-------------------------|
| Center:                           | 4.201, 70.008           |
| Radius:                           | 65.375                  |
| Left Slip Surface Endpoint:       | -3.752, 5.119           |
| Right Slip Surface Endpoint:      | 68.424, 57.785          |
| Resisting Moment:                 | 7.8663e+06 lb-ft        |
| Driving Moment:                   | 7.28151e+06 lb-ft       |
| Resisting Horizontal Force:       | 103324 lb               |
| Driving Horizontal Force:         | 95643.2 lb              |
| Passive Support Moment:           | 172909 lb-ft            |
| Passive Horizontal Support Force: | 2643.86 lb              |
| Maximum Single Support Force:     | 2471.93 lb              |
| Total Support Force:              | 2689.06 lb              |
| Total Slice Area:                 | 1387.82 ft <sup>2</sup> |
| Surface Horizontal Width:         | 72.1755 ft              |
| Surface Average Height:           | 19.2284 ft              |

### ◆ Wall 7 Static

Method: spencer

| FS                                | 2.202750                |
|-----------------------------------|-------------------------|
| Center:                           | 1.599, 26.372           |
| Radius:                           | 22.053                  |
| Left Slip Surface Endpoint:       | -8.068, 6.551           |
| Right Slip Surface Endpoint:      | 23.652, 26.372          |
| Resisting Moment:                 | 741106 lb-ft            |
| Driving Moment:                   | 336446 lb-ft            |
| Resisting Horizontal Force:       | 28437.8 lb              |
| Driving Horizontal Force:         | 12910.1 lb              |
| Passive Support Moment:           | 52396.6 lb-ft           |
| Passive Horizontal Support Force: | 2382.9 lb               |
| Maximum Single Support Force:     | 2471.93 lb              |
| Total Support Force:              | 2471.93 lb              |
| Total Slice Area:                 | 290.601 ft <sup>2</sup> |
| Surface Horizontal Width:         | 31.7201 ft              |
| Surface Average Height:           | 9.16142 ft              |



### ◆ **Wall 7 Seismic**

**Method: spencer**

| FS                                | 2.253550                |
|-----------------------------------|-------------------------|
| Center:                           | -25.825, 60.432         |
| Radius:                           | 60.615                  |
| Left Slip Surface Endpoint:       | 2.090, 6.628            |
| Right Slip Surface Endpoint:      | 24.556, 26.729          |
| Resisting Moment:                 | 2.0166e+06 lb-ft        |
| Driving Moment:                   | 894854 lb-ft            |
| Resisting Horizontal Force:       | 29454.8 lb              |
| Driving Horizontal Force:         | 13070.4 lb              |
| Passive Support Moment:           | 655209 lb-ft            |
| Passive Horizontal Support Force: | 10810.8 lb              |
| Maximum Single Support Force:     | 2471.93 lb              |
| Total Support Force:              | 11370.4 lb              |
| Total Slice Area:                 | 160.878 ft <sup>2</sup> |
| Surface Horizontal Width:         | 22.4661 ft              |
| Surface Average Height:           | 7.1609 ft               |

### ◆ **Wall 8 Static**

**Method: spencer**

| FS                                | 2.419700                |
|-----------------------------------|-------------------------|
| Center:                           | 6.037, 23.266           |
| Radius:                           | 18.778                  |
| Left Slip Surface Endpoint:       | -2.734, 6.662           |
| Right Slip Surface Endpoint:      | 24.327, 19.012          |
| Resisting Moment:                 | 412620 lb-ft            |
| Driving Moment:                   | 170525 lb-ft            |
| Resisting Horizontal Force:       | 19128.4 lb              |
| Driving Horizontal Force:         | 7905.26 lb              |
| Passive Support Moment:           | 23.0345 lb-ft           |
| Passive Horizontal Support Force: | 1.22147 lb              |
| Maximum Single Support Force:     | 1.28562 lb              |
| Total Support Force:              | 1.28562 lb              |
| Total Slice Area:                 | 199.792 ft <sup>2</sup> |
| Surface Horizontal Width:         | 27.0606 ft              |
| Surface Average Height:           | 7.38313 ft              |

### ◆ **Wall 8 Seismic**

**Method: spencer**

| FS                           | 1.713700               |
|------------------------------|------------------------|
| Center:                      | 5.321, 26.608          |
| Radius:                      | 21.955                 |
| Left Slip Surface Endpoint:  | -3.855, 6.662          |
| Right Slip Surface Endpoint: | 25.921, 19.012         |
| Resisting Moment:            | 486269 lb-ft           |
| Driving Moment:              | 283754 lb-ft           |
| Resisting Horizontal Force:  | 19863.7 lb             |
| Driving Horizontal Force:    | 11591.2 lb             |
| Total Slice Area:            | 207.97 ft <sup>2</sup> |
| Surface Horizontal Width:    | 29.7751 ft             |
| Surface Average Height:      | 6.9847 ft              |

### ◆ Walls 9, 10, and 12a Static

Method: spencer

| FS                                | 1.386350               |
|-----------------------------------|------------------------|
| Center:                           | 8.794, 57.162          |
| Radius:                           | 53.887                 |
| Left Slip Surface Endpoint:       | 0.360, 3.939           |
| Right Slip Surface Endpoint:      | 61.691, 46.879         |
| Resisting Moment:                 | 4.56333e+06 lb-ft      |
| Driving Moment:                   | 3.29161e+06 lb-ft      |
| Resisting Horizontal Force:       | 68408.9 lb             |
| Driving Horizontal Force:         | 49344.6 lb             |
| Passive Support Moment:           | 53.2429 lb-ft          |
| Passive Horizontal Support Force: | 0.993763 lb            |
| Maximum Single Support Force:     | 1.06026 lb             |
| Total Support Force:              | 1.06026 lb             |
| Total Slice Area:                 | 920.86 ft <sup>2</sup> |
| Surface Horizontal Width:         | 61.3303 ft             |
| Surface Average Height:           | 15.0148 ft             |

### ◆ Walls 9,10, and 12a Seismic

Method: spencer

| FS                                | 1.056600               |
|-----------------------------------|------------------------|
| Center:                           | -1.719, 84.466         |
| Radius:                           | 80.545                 |
| Left Slip Surface Endpoint:       | 13.569, 5.385          |
| Right Slip Surface Endpoint:      | 69.518, 46.879         |
| Resisting Moment:                 | 6.55822e+06 lb-ft      |
| Driving Moment:                   | 6.20692e+06 lb-ft      |
| Resisting Horizontal Force:       | 69932.1 lb             |
| Driving Horizontal Force:         | 66186 lb               |
| Passive Support Moment:           | 389499 lb-ft           |
| Passive Horizontal Support Force: | 4836.15 lb             |
| Maximum Single Support Force:     | 2471.93 lb             |
| Total Support Force:              | 4952.99 lb             |
| Total Slice Area:                 | 918.79 ft <sup>2</sup> |
| Surface Horizontal Width:         | 55.9492 ft             |
| Surface Average Height:           | 16.4219 ft             |

### ◆ Walls 11 and 12b Static

**Method: spencer**

| FS                                | 1.471330                |
|-----------------------------------|-------------------------|
| Center:                           | 5.029, 53.600           |
| Radius:                           | 50.075                  |
| Left Slip Surface Endpoint:       | -10.671, 6.050          |
| Right Slip Surface Endpoint:      | 55.104, 53.600          |
| Resisting Moment:                 | 6.22691e+06 lb-ft       |
| Driving Moment:                   | 4.23216e+06 lb-ft       |
| Resisting Horizontal Force:       | 101237 lb               |
| Driving Horizontal Force:         | 68806.2 lb              |
| Passive Support Moment:           | 255698 lb-ft            |
| Passive Horizontal Support Force: | 5119.61 lb              |
| Maximum Single Support Force:     | 5227.34 lb              |
| Total Support Force:              | 5233.56 lb              |
| Total Slice Area:                 | 1289.91 ft <sup>2</sup> |
| Surface Horizontal Width:         | 65.7752 ft              |
| Surface Average Height:           | 19.6109 ft              |

### ◆ Walls 11 and 12b Seismic

**Method: spencer**

| FS                                | 1.177750               |
|-----------------------------------|------------------------|
| Center:                           | -5.444, 72.918         |
| Radius:                           | 67.104                 |
| Left Slip Surface Endpoint:       | 11.581, 8.009          |
| Right Slip Surface Endpoint:      | 58.820, 53.600         |
| Resisting Moment:                 | 7.25921e+06 lb-ft      |
| Driving Moment:                   | 6.1636e+06 lb-ft       |
| Resisting Horizontal Force:       | 93368.1 lb             |
| Driving Horizontal Force:         | 79276.4 lb             |
| Passive Support Moment:           | 1.35524e+06 lb-ft      |
| Passive Horizontal Support Force: | 20210.5 lb             |
| Maximum Single Support Force:     | 5227.34 lb             |
| Total Support Force:              | 20983.1 lb             |
| Total Slice Area:                 | 1059.4 ft <sup>2</sup> |
| Surface Horizontal Width:         | 47.2383 ft             |
| Surface Average Height:           | 22.4268 ft             |

## Global Minimum Support Data

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### ◆ Walls 1 and 5b Static

Method: spencer

Number of Supports: 23

**Mirafi 8XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 12.5852,<br>2.30685 | 23          | 1.18483          | 21.8152           | 1.18483       | 21.8152       | 1225.27    |
| 12.7781,<br>4.31357 | 23          | 5.44693          | 17.5531           | 5.44693       | 17.5531       | 5227.34    |
| 12.9713,<br>6.32314 | 23          | 9.17983          | 13.8202           | 9.17983       | 13.8202       | 5227.34    |
| 13.1615,<br>8.30103 | 23          | 12.4543          | 10.5457           | 12.4543       | 10.5457       | 5227.34    |
| 13.3548,<br>10.3113 | 23          | 15.4646          | 7.53538           | 15.4646       | 7.53538       | 5227.34    |
| 13.5452,<br>12.2919 | 23          | 18.1703          | 4.82969           | 18.1703       | 4.82969       | 5227.34    |
| 13.7391,<br>14.3085 | 23          | 20.7043          | 2.29567           | 20.7043       | 2.29567       | 5227.34    |
| 13.9303,<br>16.2966 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 14.1221,<br>18.2917 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 14.3166,<br>20.3142 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 14.508,<br>22.3052  | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 14.7009,<br>24.311  | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 23.1496,<br>28.9807 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.3427,<br>30.9958 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.534,<br>32.9932  | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.7261,<br>34.9986 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.9173,<br>36.9943 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.1089,<br>38.9953 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.3008,<br>40.9979 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.4909,<br>42.9826 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.6838,<br>44.9962 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.8745,<br>46.9878 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.0671,<br>48.998  | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |



◆ **Walls 1 and 5b Seismic**

**Method: spencer**

Number of Supports: 23

**Mirafi 8XT**

Support Type: Geosynthetic

| <b>Start (x, y)</b> | <b>Length (ft)</b> | <b>L Inside SS (ft)</b> | <b>L Outside SS (ft)</b> | <b>Li (ft)</b> | <b>Lo (ft)</b> | <b>Force (lb)</b> |
|---------------------|--------------------|-------------------------|--------------------------|----------------|----------------|-------------------|
| 12.5852,<br>2.30685 | 23                 | 1.20576                 | 21.7942                  | 1.20576        | 21.7942        | 1265.78           |
| 12.7781,<br>4.31357 | 23                 | 5.5977                  | 17.4023                  | 5.5977         | 17.4023        | 5227.34           |
| 12.9713,<br>6.32314 | 23                 | 9.6201                  | 13.3799                  | 9.6201         | 13.3799        | 5227.34           |
| 13.1615,<br>8.30103 | 23                 | 13.2836                 | 9.71636                  | 13.2836        | 9.71636        | 5227.34           |
| 13.3548,<br>10.3113 | 23                 | 16.7524                 | 6.24763                  | 16.7524        | 6.24763        | 5227.34           |
| 13.5452,<br>12.2919 | 23                 | 19.9494                 | 3.05065                  | 19.9494        | 3.05065        | 5227.34           |
| 13.7391,<br>14.3085 | 23                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 13.9303,<br>16.2966 | 23                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 14.1221,<br>18.2917 | 23                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 14.3166,<br>20.3142 | 23                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 14.508,<br>22.3052  | 23                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 14.7009,<br>24.311  | 23                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |

**Mirafi 5XT**

Support Type: Geosynthetic

| <b>Start (x, y)</b> | <b>Length (ft)</b> | <b>L Inside SS (ft)</b> | <b>L Outside SS (ft)</b> | <b>Li (ft)</b> | <b>Lo (ft)</b> | <b>Force (lb)</b> |
|---------------------|--------------------|-------------------------|--------------------------|----------------|----------------|-------------------|
| 23.1496,<br>28.9807 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 23.3427,<br>30.9958 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 23.534,<br>32.9932  | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 23.7261,<br>34.9986 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 23.9173,<br>36.9943 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 24.1089,<br>38.9953 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 24.3008,<br>40.9979 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 24.4909,<br>42.9826 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 24.6838,<br>44.9962 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 24.8745,<br>46.9878 | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |
| 25.0671,<br>48.998  | 18                 | Not Effective           | Not Effective            | Not Effective  | Not Effective  | 0                 |

### ◆ **Wall 2 Static**

No Supports Present

### ◆ **Wall 2 Seismic**

No Supports Present

### ◆ **Wall 3 Static**

**Method: spencer**

Number of Supports: 8

#### Mirafi 5XT

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 28.2147,<br>11.7053 | 14.5        | 12.143           | 2.35703           | 12.143        | 2.35703       | 2471.93    |
| 28.3961,<br>13.6992 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.5791,<br>15.7103 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.7603,<br>17.7014 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.9419,<br>19.697  | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 29.1244,<br>21.7023 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 29.3066,<br>23.7043 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 29.4892,<br>25.7107 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

### ◆ **Wall 3 Seismic**

**Method: spencer**

Number of Supports: 8

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 28.2147,<br>11.7053 | 14.5        | 12.0508          | 2.44921           | 12.0508       | 2.44921       | 2471.93    |
| 28.3961,<br>13.6992 | 14.5        | 14.4053          | 0.094699          | 14.4053       | 0.094699      | 230.106    |
| 28.5791,<br>15.7103 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.7603,<br>17.7014 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.9419,<br>19.697  | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 29.1244,<br>21.7023 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 29.3066,<br>23.7043 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 29.4892,<br>25.7107 | 14.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

 **Wall 4 Static**

No Supports Present

 **Wall 4 Seismic**

No Supports Present

 **Walls 5a and 6 Static****Method: spencer**

Number of Supports: 16

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 11.6625,<br>7.99901 | 16.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 11.8441,<br>9.99549 | 16.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.0259,<br>11.9941 | 16.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.2089,<br>14.0055 | 16.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**Mirafi 8XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 22.6227,<br>19.3952 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 22.8058,<br>21.4066 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 22.9865,<br>23.3925 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.1695,<br>25.4023 | 23.0017     | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.3508,<br>27.3941 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.5343,<br>29.411  | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.7147,<br>31.3922 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.8979,<br>33.4055 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.0787,<br>35.3921 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.2618,<br>37.4029 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.4431,<br>39.3954 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.6262,<br>41.4072 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

◆ **Walls 5a and 6 Seismic****Method: spencer**

Number of Supports: 16

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 11.6625,<br>7.99901 | 16.5        | 13.2325          | 3.26755           | 13.2325       | 3.26755       | 2471.93    |
| 11.8441,<br>9.99549 | 16.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.0259,<br>11.9941 | 16.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.2089,<br>14.0055 | 16.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**Mirafi 8XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 22.6227,<br>19.3952 | 23          | 22.9571          | 0.0428811         | 22.9571       | 0.0428811     | 217.129    |
| 22.8058,<br>21.4066 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 22.9865,<br>23.3925 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.1695,<br>25.4023 | 23.0017     | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.3508,<br>27.3941 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.5343,<br>29.411  | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.7147,<br>31.3922 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 23.8979,<br>33.4055 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.0787,<br>35.3921 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.2618,<br>37.4029 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.4431,<br>39.3954 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.6262,<br>41.4072 | 23          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

 **Wall 7 Static****Method: spencer**



Number of Supports: 5

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 2.17435,<br>7.55487 | 13.5        | 10.9205          | 2.57954           | 10.9205       | 2.57954       | 2471.93    |
| 2.35564, 9.547      | 13.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 2.53849,<br>11.5564 | 13.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 2.71852,<br>13.5347 | 13.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 2.90234,<br>15.5547 | 13.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**◆ Wall 7 Seismic****Method: spencer**

Number of Supports: 5

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft) | Lo (ft) | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------|---------|------------|
| 2.17435,<br>7.55487 | 13.5        | 1.6332           | 11.8668           | 1.6332  | 11.8668 | 2111.64    |
| 2.35564, 9.547      | 13.5        | 4.75648          | 8.74352           | 4.75648 | 8.74352 | 2471.93    |
| 2.53849,<br>11.5564 | 13.5        | 7.48679          | 6.01321           | 7.48679 | 6.01321 | 2471.93    |
| 2.71852,<br>13.5347 | 13.5        | 9.85873          | 3.64127           | 9.85873 | 3.64127 | 2471.93    |
| 2.90234,<br>15.5547 | 13.5        | 12.0168          | 1.48321           | 12.0168 | 1.48321 | 1843       |

**◆ Wall 8 Static****Method: spencer**

Number of Supports: 5

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 6.46335,<br>7.99535 | 10.5        | 10.4993          | 0.000720881       | 10.4993       | 0.000720881   | 1.28562    |
| 6.64528,<br>9.99428 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 6.82813,<br>12.0033 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 7.00989,<br>14.0005 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 7.19259,<br>16.0079 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**◆ Wall 8 Seismic****Method: spencer**

Number of Supports: 5

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 6.46335,<br>7.99535 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 6.64528,<br>9.99428 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 6.82813,<br>12.0033 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 7.00989,<br>14.0005 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 7.19259,<br>16.0079 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

◆ **Walls 9, 10, and 12a Static****Method: spencer**

Number of Supports: 17

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 13.6148,<br>5.88795 | 9.5         | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 13.7982,<br>7.90293 | 9.5         | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 13.9793,<br>9.89358 | 9.5         | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 14.1616,<br>11.8968 | 9.5         | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 27.6176,<br>16.9074 | 17          | 16.9998          | 0.000218527       | 16.9998       | 0.000218527   | 1.06026    |
| 27.7994,<br>18.9053 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 27.981, 20.901      | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.1631,<br>22.9024 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.3453,<br>24.9039 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.5272,<br>26.9031 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.7097,<br>28.9084 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.8923,<br>30.9155 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.3463,<br>35.9038 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.5288,<br>37.9095 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.7107,<br>39.9082 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.8932,<br>41.9147 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 41.0741,<br>43.9022 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

◆ **Walls 9,10, and 12a Seismic**

**Method: spencer**

Number of Supports: 17

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 13.6148,<br>5.88795 | 9.5         | 2.35087          | 7.14913           | 2.35087       | 7.14913       | 2471.93    |
| 13.7982,<br>7.90293 | 9.5         | 9.49293          | 0.00707259        | 9.49293       | 0.00707259    | 9.132      |
| 13.9793,<br>9.89358 | 9.5         | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 14.1616,<br>11.8968 | 9.5         | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 27.6176,<br>16.9074 | 17          | 14.5147          | 2.48531           | 14.5147       | 2.48531       | 2471.93    |
| 27.7994,<br>18.9053 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 27.981, 20.901      | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.1631,<br>22.9024 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.3453,<br>24.9039 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.5272,<br>26.9031 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.7097,<br>28.9084 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 28.8923,<br>30.9155 | 17          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.3463,<br>35.9038 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.5288,<br>37.9095 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.7107,<br>39.9082 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 40.8932,<br>41.9147 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 41.0741,<br>43.9022 | 10.5        | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

 **Walls 11 and 12b Static**
**Method: spencer**



Number of Supports: 21

**Mirafi 8XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 11.5878,<br>8.08067 | 18          | 14.3072          | 3.69276           | 14.3072       | 3.69276       | 5227.34    |
| 11.7682,<br>10.0634 | 18          | 17.9991          | 0.00088265        | 17.9991       | 0.00088265    | 6.22074    |
| 11.9477,<br>12.0359 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.1315,<br>14.0552 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.3146,<br>16.0675 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.4961,<br>18.0618 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.6786,<br>20.0672 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.8585,<br>22.0444 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 24.2742,<br>26.6122 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.4557,<br>28.6073 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.6377,<br>30.6075 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.8195,<br>32.6054 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.0016,<br>34.6063 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.1833,<br>36.6027 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.3651,<br>38.6003 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.5464,<br>40.5927 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.7304,<br>42.6156 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.9104,<br>44.5937 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 26.0942,<br>46.6127 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 26.2748,<br>48.5975 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 26.4571,<br>50.6005 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

◆ **Walls 11 and 12b Seismic****Method: spencer**

Number of Supports: 21

**Mirafi 8XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 11.5878,<br>8.08067 | 18          | 0.256708         | 17.7433           | 0.256708      | 17.7433       | 82.1995    |
| 11.7682,<br>10.0634 | 18          | 6.28349          | 11.7165           | 6.28349       | 11.7165       | 5227.34    |
| 11.9477,<br>12.0359 | 18          | 10.8239          | 7.17612           | 10.8239       | 7.17612       | 5227.34    |
| 12.1315,<br>14.0552 | 18          | 14.644           | 3.35602           | 14.644        | 3.35602       | 5227.34    |
| 12.3146,<br>16.0675 | 18          | 17.8884          | 0.111565          | 17.8884       | 0.111565      | 677.851    |
| 12.4961,<br>18.0618 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.6786,<br>20.0672 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 12.8585,<br>22.0444 | 18          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |

**Mirafi 5XT**

Support Type: Geosynthetic

| Start (x, y)        | Length (ft) | L Inside SS (ft) | L Outside SS (ft) | Li (ft)       | Lo (ft)       | Force (lb) |
|---------------------|-------------|------------------|-------------------|---------------|---------------|------------|
| 24.2742,<br>26.6122 | 21          | 18.8435          | 2.15646           | 18.8435       | 2.15646       | 2471.93    |
| 24.4557,<br>28.6073 | 21          | 20.4886          | 0.511406          | 20.4886       | 0.511406      | 2069.08    |
| 24.6377,<br>30.6075 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 24.8195,<br>32.6054 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.0016,<br>34.6063 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.1833,<br>36.6027 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.3651,<br>38.6003 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.5464,<br>40.5927 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.7304,<br>42.6156 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 25.9104,<br>44.5937 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 26.0942,<br>46.6127 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 26.2748,<br>48.5975 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |
| 26.4571,<br>50.6005 | 21          | Not Effective    | Not Effective     | Not Effective | Not Effective | 0          |



## Valid and Invalid Surfaces

---

### ◆ Walls 1 and 5b Static

**Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 6983 |
| Number of Invalid Surfaces: | 0    |

### ◆ Walls 1 and 5b Seismic

**Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 8415 |
| Number of Invalid Surfaces: | 0    |

### ◆ Wall 2 Static

**Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 6909 |
| Number of Invalid Surfaces: | 0    |

### ◆ Wall 2 Seismic

**Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 9595 |
| Number of Invalid Surfaces: | 0    |

### ◆ Wall 3 Static

**Method: spencer**

|                             |       |
|-----------------------------|-------|
| Number of Valid Surfaces:   | 11596 |
| Number of Invalid Surfaces: | 0     |

### ◆ Wall 3 Seismic

**Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 7673 |
| Number of Invalid Surfaces: | 0    |

### ◆ Wall 4 Static

**Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 9322 |
| Number of Invalid Surfaces: | 0    |

### ◆ Wall 4 Seismic

**Method: spencer**

|                             |       |
|-----------------------------|-------|
| Number of Valid Surfaces:   | 10149 |
| Number of Invalid Surfaces: | 0     |

### ◆ Walls 5a and 6 Static

**Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 8078 |
| Number of Invalid Surfaces: | 0    |

 **Walls 5a and 6 Seismic****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 9663 |
| Number of Invalid Surfaces: | 0    |

 **Wall 7 Static****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 7197 |
| Number of Invalid Surfaces: | 0    |

 **Wall 7 Seismic****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 4399 |
| Number of Invalid Surfaces: | 0    |

 **Wall 8 Static****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 7521 |
| Number of Invalid Surfaces: | 0    |

 **Wall 8 Seismic****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 9051 |
| Number of Invalid Surfaces: | 0    |

 **Walls 9, 10, and 12a Static****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 9713 |
| Number of Invalid Surfaces: | 0    |

 **Walls 9,10, and 12a Seismic****Method: spencer**

|                             |       |
|-----------------------------|-------|
| Number of Valid Surfaces:   | 11673 |
| Number of Invalid Surfaces: | 0     |

 **Walls 11 and 12b Static****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 5566 |
| Number of Invalid Surfaces: | 0    |

 **Walls 11 and 12b Seismic****Method: spencer**

|                             |      |
|-----------------------------|------|
| Number of Valid Surfaces:   | 5226 |
| Number of Invalid Surfaces: | 0    |

## Slice Data

### ◆ Walls 1 and 5b Static

Global Minimum Query (spencer) - Safety Factor: 1.54617

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material   | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|-----------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.08748    | 708.921      | 22.2689                   | Verti-Block     | 3000                | 0                         | 1940.28            | 3000                 | 1111.09                  | 0                   | 1111.09                       | 1905.62                    | 1905.62                         |
| 2            | 1.08748    | 2125.7       | 22.997                    | Verti-Block     | 3000                | 0                         | 1940.28            | 3000                 | 2372.78                  | 0                   | 2372.78                       | 3196.26                    | 3196.26                         |
| 3            | 1.08748    | 3220.58      | 23.729                    | Verti-Block     | 3000                | 0                         | 1940.28            | 3000                 | 2727                     | 0                   | 2727                          | 3579.89                    | 3579.89                         |
| 4            | 1.02937    | 3071.62      | 24.4454                   | Reinforced Fill | 135                 | 38                        | 1372.13            | 2121.55              | 2542.67                  | 0                   | 2542.67                       | 3166.41                    | 3166.41                         |
| 5            | 1.02937    | 3012.88      | 25.1462                   | Reinforced Fill | 135                 | 38                        | 1326.25            | 2050.61              | 2451.86                  | 0                   | 2451.86                       | 3074.43                    | 3074.43                         |
| 6            | 1.02937    | 2952.23      | 25.8509                   | Reinforced Fill | 135                 | 38                        | 2100.37            | 3247.53              | 3983.86                  | 0                   | 3983.86                       | 5001.52                    | 5001.52                         |
| 7            | 1.02937    | 2889.65      | 26.5599                   | Reinforced Fill | 135                 | 38                        | 1235.65            | 1910.53              | 2272.57                  | 0                   | 2272.57                       | 2890.26                    | 2890.26                         |
| 8            | 1.02937    | 2825.09      | 27.2733                   | Reinforced Fill | 135                 | 38                        | 1190.92            | 1841.36              | 2184.05                  | 0                   | 2184.05                       | 2798.02                    | 2798.02                         |
| 9            | 1.02937    | 2758.52      | 27.9913                   | Reinforced Fill | 135                 | 38                        | 1146.54            | 1772.74              | 2096.22                  | 0                   | 2096.22                       | 2705.62                    | 2705.62                         |
| 10           | 1.02937    | 2694.19      | 28.7141                   | Reinforced Fill | 135                 | 38                        | 1833               | 2834.13              | 3454.72                  | 0                   | 3454.72                       | 4458.85                    | 4458.85                         |
| 11           | 1.02937    | 3193.13      | 29.442                    | Reinforced Fill | 135                 | 38                        | 1269.62            | 1963.05              | 2339.8                   | 0                   | 2339.8                        | 3056.42                    | 3056.42                         |
| 12           | 1.02937    | 4443.82      | 30.1751                   | Reinforced Fill | 135                 | 38                        | 1700.55            | 2629.34              | 3192.61                  | 0                   | 3192.61                       | 4181.36                    | 4181.36                         |
| 13           | 1.02937    | 5358.26      | 30.9137                   | Reinforced Fill | 135                 | 38                        | 2661.96            | 4115.85              | 5095.25                  | 0                   | 5095.25                       | 6689.27                    | 6689.27                         |
| 14           | 1.02937    | 5332.54      | 31.658                    | Reinforced Fill | 135                 | 38                        | 1954.63            | 3022.19              | 3695.44                  | 0                   | 3695.44                       | 4900.67                    | 4900.67                         |
| 15           | 1.02937    | 5248.17      | 32.4084                   | Reinforced Fill | 135                 | 38                        | 1892.86            | 2926.68              | 3573.18                  | 0                   | 3573.18                       | 4774.81                    | 4774.81                         |
| 16           | 1.02937    | 5166.26      | 33.165                    | Reinforced Fill | 135                 | 38                        | 2437.46            | 3768.73              | 4650.96                  | 0                   | 4650.96                       | 6243.87                    | 6243.87                         |
| 17           | 1.02937    | 5081.95      | 33.9283                   | Reinforced Fill | 135                 | 38                        | 1774.09            | 2743.04              | 3338.14                  | 0                   | 3338.14                       | 4531.55                    | 4531.55                         |
| 18           | 1.02937    | 4995.17      | 34.6984                   | Reinforced Fill | 135                 | 38                        | 1715.39            | 2652.29              | 3221.98                  | 0                   | 3221.98                       | 4409.7                     | 4409.7                          |
| 19           | 1.02937    | 4905.84      | 35.4758                   | Reinforced Fill | 135                 | 38                        | 2203.39            | 3406.82              | 4187.74                  | 0                   | 4187.74                       | 5758.01                    | 5758.01                         |
| 20           | 1.02937    | 4813.9       | 36.2608                   | Reinforced Fill | 135                 | 38                        | 1599.29            | 2472.78              | 2992.22                  | 0                   | 2992.22                       | 4165.33                    | 4165.33                         |
| 21           | 1.02937    | 4719.26      | 37.0538                   | Reinforced Fill | 135                 | 38                        | 1541.87            | 2383.99              | 2878.58                  | 0                   | 2878.58                       | 4042.73                    | 4042.73                         |

|    |          |         |         |                        |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 22 | 1.02937  | 4621.85 | 37.8551 | Reinforced Fill        | 135 | 38 | 1975.66 | 3054.71 | 3737.05 | 0 | 3737.05 | 5272.58 | 5272.58 |
| 23 | 1.02937  | 4521.57 | 38.6652 | Reinforced Fill        | 135 | 38 | 1428.21 | 2208.26 | 2653.66 | 0 | 2653.66 | 3796.45 | 3796.45 |
| 24 | 1.02937  | 4418.32 | 39.4846 | Reinforced Fill        | 135 | 38 | 1371.96 | 2121.29 | 2542.34 | 0 | 2542.34 | 3672.68 | 3672.68 |
| 25 | 1.02937  | 4311.99 | 40.3138 | Reinforced Fill        | 135 | 38 | 1316.09 | 2034.9  | 2431.76 | 0 | 2431.76 | 3548.44 | 3548.44 |
| 26 | 1.02937  | 4202.49 | 41.1533 | Reinforced Fill        | 135 | 38 | 1260.59 | 1949.08 | 2321.92 | 0 | 2321.92 | 3423.67 | 3423.67 |
| 27 | 1.02937  | 4089.67 | 42.0037 | Reinforced Fill        | 135 | 38 | 1205.45 | 1863.83 | 2212.8  | 0 | 2212.8  | 3298.33 | 3298.33 |
| 28 | 1.02937  | 3973.41 | 42.8657 | Reinforced Fill        | 135 | 38 | 1150.67 | 1779.13 | 2104.39 | 0 | 2104.39 | 3172.37 | 3172.37 |
| 29 | 0.997522 | 3736.21 | 43.7261 | Mass Wasting Colluvium | 100 | 38 | 1075.11 | 1662.3  | 1999.66 | 0 | 1999.66 | 3027.99 | 3027.99 |
| 30 | 0.997522 | 3620.26 | 44.5853 | Mass Wasting Colluvium | 100 | 38 | 1022.88 | 1581.54 | 1896.28 | 0 | 1896.28 | 2904.46 | 2904.46 |
| 31 | 0.997522 | 3500.75 | 45.4575 | Mass Wasting Colluvium | 100 | 38 | 970.973 | 1501.29 | 1793.58 | 0 | 1793.58 | 2780.18 | 2780.18 |
| 32 | 0.997522 | 3377.51 | 46.3433 | Mass Wasting Colluvium | 100 | 38 | 919.427 | 1421.59 | 1691.55 | 0 | 1691.55 | 2655.13 | 2655.13 |
| 33 | 0.997522 | 3250.37 | 47.2438 | Mass Wasting Colluvium | 100 | 38 | 868.223 | 1342.42 | 1590.22 | 0 | 1590.22 | 2529.25 | 2529.25 |
| 34 | 0.997522 | 3119.12 | 48.1598 | Mass Wasting Colluvium | 100 | 38 | 817.375 | 1263.8  | 1489.6  | 0 | 1489.6  | 2402.49 | 2402.49 |
| 35 | 0.997522 | 2983.53 | 49.0925 | Mass Wasting Colluvium | 100 | 38 | 766.901 | 1185.76 | 1389.71 | 0 | 1389.71 | 2274.81 | 2274.81 |
| 36 | 0.997522 | 2843.37 | 50.0431 | Mass Wasting Colluvium | 100 | 38 | 716.803 | 1108.3  | 1290.57 | 0 | 1290.57 | 2146.13 | 2146.13 |
| 37 | 0.997522 | 2698.35 | 51.0129 | Mass Wasting Colluvium | 100 | 38 | 667.108 | 1031.46 | 1192.22 | 0 | 1192.22 | 2016.41 | 2016.41 |
| 38 | 0.997522 | 2548.16 | 52.0034 | Mass Wasting Colluvium | 100 | 38 | 617.833 | 955.275 | 1094.7  | 0 | 1094.7  | 1885.59 | 1885.59 |
| 39 | 0.997522 | 2392.46 | 53.0164 | Mass Wasting Colluvium | 100 | 38 | 569.002 | 879.774 | 998.062 | 0 | 998.062 | 1753.6  | 1753.6  |
| 40 | 0.997522 | 2230.85 | 54.0538 | Mass Wasting Colluvium | 100 | 38 | 520.643 | 805.003 | 902.364 | 0 | 902.364 | 1620.38 | 1620.38 |
| 41 | 0.997522 | 2062.87 | 55.1177 | Mass Wasting Colluvium | 100 | 38 | 472.79  | 731.014 | 807.66  | 0 | 807.66  | 1485.84 | 1485.84 |
| 42 | 0.997522 | 1888.01 | 56.2109 | Mass Wasting Colluvium | 100 | 38 | 425.478 | 657.862 | 714.032 | 0 | 714.032 | 1349.86 | 1349.86 |
| 43 | 0.997522 | 1705.67 | 57.3361 | Mass Wasting Colluvium | 100 | 38 | 378.748 | 585.609 | 621.553 | 0 | 621.553 | 1212.33 | 1212.33 |
| 44 | 0.997522 | 1515.13 | 58.497  | Mass Wasting Colluvium | 100 | 38 | 332.639 | 514.317 | 530.3   | 0 | 530.3   | 1073.05 | 1073.05 |
| 45 | 0.997522 | 1315.55 | 59.6977 | Mass Wasting Colluvium | 100 | 38 | 287.188 | 444.041 | 440.353 | 0 | 440.353 | 931.77  | 931.77  |
| 46 | 0.997522 | 1105.94 | 60.9431 | Mass Wasting Colluvium | 100 | 38 | 242.42  | 374.822 | 351.756 | 0 | 351.756 | 788.071 | 788.071 |

|    |          |         |         |                              |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 47 | 0.997522 | 885.054 | 62.2395 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 198.332 | 306.655 | 264.506 | 0 | 264.506 | 641.305 | 641.305 |
| 48 | 0.997522 | 651.388 | 63.5942 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 154.867 | 239.451 | 178.489 | 0 | 178.489 | 490.388 | 490.388 |
| 49 | 0.997522 | 403.015 | 65.017  | Mass<br>Wasting<br>Colluvium | 100 | 38 | 111.857 | 172.95  | 93.3716 | 0 | 93.3716 | 333.436 | 333.436 |
| 50 | 0.997522 | 137.441 | 66.5203 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 106.564 | 164.766 | 82.8966 | 0 | 82.8966 | 328.215 | 328.215 |



# **Walls 1 and 5b Seismic**

**Global Minimum Query (spencer) - Safety Factor: 1.11886**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material          | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 1.0872     | 708.344      | 22.4098                   | Verti-Block            | 3000                | 0                         | 2681.3             | 3000                 | 1973.23                  | 0                   | 1973.23                       | 3078.92                    | 3078.92                         |
| 2            | 1.0872     | 2124.39      | 22.8543                   | Verti-Block            | 3000                | 0                         | 2681.3             | 3000                 | 3261.12                  | 0                   | 3261.12                       | 4391.23                    | 4391.23                         |
| 3            | 1.0872     | 3221.16      | 23.3002                   | Verti-Block            | 3000                | 0                         | 2681.3             | 3000                 | 2897.1                   | 0                   | 2897.1                        | 4051.87                    | 4051.87                         |
| 4            | 1.28896    | 3841.92      | 23.7893                   | Reinforced Fill        | 135                 | 38                        | 1720.17            | 1924.63              | 2290.62                  | 0                   | 2290.62                       | 3048.92                    | 3048.92                         |
| 5            | 1.28896    | 3752.92      | 24.3219                   | Reinforced Fill        | 135                 | 38                        | 1643.31            | 1838.63              | 2180.55                  | 0                   | 2180.55                       | 2923.29                    | 2923.29                         |
| 6            | 1.28896    | 3661.68      | 24.8568                   | Reinforced Fill        | 135                 | 38                        | 4896.1             | 5478.05              | 6838.79                  | 0                   | 6838.79                       | 9107                       | 9107                            |
| 7            | 1.28896    | 3568.18      | 25.394                    | Reinforced Fill        | 135                 | 38                        | 1497.28            | 1675.25              | 1971.43                  | 0                   | 1971.43                       | 2682.2                     | 2682.2                          |
| 8            | 1.28896    | 3472.38      | 25.9336                   | Reinforced Fill        | 135                 | 38                        | 1427.83            | 1597.54              | 1871.97                  | 0                   | 1871.97                       | 2566.32                    | 2566.32                         |
| 9            | 1.28896    | 3507.97      | 26.4757                   | Reinforced Fill        | 135                 | 38                        | 4443.53            | 4971.69              | 6190.68                  | 0                   | 6190.68                       | 8403.79                    | 8403.79                         |
| 10           | 1.28896    | 5046.85      | 27.0203                   | Reinforced Fill        | 135                 | 38                        | 1888.49            | 2112.96              | 2531.68                  | 0                   | 2531.68                       | 3494.76                    | 3494.76                         |
| 11           | 1.28896    | 6672.49      | 27.5676                   | Reinforced Fill        | 135                 | 38                        | 2374.82            | 2657.09              | 3228.13                  | 0                   | 3228.13                       | 4467.95                    | 4467.95                         |
| 12           | 1.28896    | 6743.8       | 28.1177                   | Reinforced Fill        | 135                 | 38                        | 5119.22            | 5727.69              | 7158.3                   | 0                   | 7158.3                        | 9893.74                    | 9893.74                         |
| 13           | 1.28896    | 6631.34      | 28.6706                   | Reinforced Fill        | 135                 | 38                        | 2252.8             | 2520.57              | 3053.39                  | 0                   | 3053.39                       | 4285.26                    | 4285.26                         |
| 14           | 1.28896    | 6521.06      | 29.2264                   | Reinforced Fill        | 135                 | 38                        | 2167.67            | 2425.32              | 2931.47                  | 0                   | 2931.47                       | 4144.25                    | 4144.25                         |
| 15           | 1.28896    | 6408.23      | 29.7852                   | Reinforced Fill        | 135                 | 38                        | 4627.75            | 5177.8               | 6454.48                  | 0                   | 6454.48                       | 9103.23                    | 9103.23                         |
| 16           | 1.28896    | 6292.81      | 30.3472                   | Reinforced Fill        | 135                 | 38                        | 2004.62            | 2242.89              | 2697.98                  | 0                   | 2697.98                       | 3871.6                     | 3871.6                          |
| 17           | 1.28896    | 6174.76      | 30.9124                   | Reinforced Fill        | 135                 | 38                        | 4325.12            | 4839.2               | 6021.1                   | 0                   | 6021.1                        | 8610.9                     | 8610.9                          |
| 18           | 1.28896    | 6054.03      | 31.481                    | Reinforced Fill        | 135                 | 38                        | 1850.41            | 2070.35              | 2477.14                  | 0                   | 2477.14                       | 3610.23                    | 3610.23                         |
| 19           | 1.28896    | 5930.57      | 32.0531                   | Reinforced Fill        | 135                 | 38                        | 1776.36            | 1987.5               | 2371.09                  | 0                   | 2371.09                       | 3483.38                    | 3483.38                         |
| 20           | 1.28896    | 5804.33      | 32.6288                   | Reinforced Fill        | 135                 | 38                        | 1704.23            | 1906.8               | 2267.8                   | 0                   | 2267.8                        | 3358.91                    | 3358.91                         |
| 21           | 1.28896    | 5675.26      | 33.2082                   | Reinforced Fill        | 135                 | 38                        | 1633.93            | 1828.14              | 2167.12                  | 0                   | 2167.12                       | 3236.67                    | 3236.67                         |
| 22           | 0.761909   | 3292.89      | 33.6715                   | Mass Wasting Colluvium | 100                 | 38                        | 1534.87            | 1717.31              | 2070.06                  | 0                   | 2070.06                       | 3092.6                     | 3092.6                          |
| 23           | 1.40706    | 5957.71      | 34.1651                   | Reinforced Fill        | 135                 | 38                        | 1522.58            | 1703.55              | 2007.66                  | 0                   | 2007.66                       | 3041.05                    | 3041.05                         |

|    |         |         |         |                              |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 24 | 1.33564 | 5504.39 | 34.7928 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 1409.13 | 1576.62 | 1889.98 | 0 | 1889.98 | 2869.09 | 2869.09 |
| 25 | 1.33564 | 5353.93 | 35.4088 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 1343.19 | 1502.84 | 1795.55 | 0 | 1795.55 | 2750.41 | 2750.41 |
| 26 | 1.33564 | 5199.99 | 36.0296 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 1278.86 | 1430.86 | 1703.42 | 0 | 1703.42 | 2633.57 | 2633.57 |
| 27 | 1.33564 | 5042.48 | 36.6553 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 1216.06 | 1360.6  | 1613.49 | 0 | 1613.49 | 2518.44 | 2518.44 |
| 28 | 1.33564 | 4881.33 | 37.2861 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 1154.76 | 1292.01 | 1525.7  | 0 | 1525.7  | 2404.95 | 2404.95 |
| 29 | 1.33564 | 4716.44 | 37.9222 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 1094.88 | 1225.02 | 1439.96 | 0 | 1439.96 | 2292.98 | 2292.98 |
| 30 | 1.33564 | 4547.71 | 38.5639 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 1036.39 | 1159.58 | 1356.2  | 0 | 1356.2  | 2182.48 | 2182.48 |
| 31 | 1.33564 | 4375.05 | 39.2114 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 979.255 | 1095.65 | 1274.37 | 0 | 1274.37 | 2073.36 | 2073.36 |
| 32 | 1.33564 | 4198.33 | 39.865  | Mass<br>Wasting<br>Colluvium | 100 | 38 | 923.412 | 1033.17 | 1194.4  | 0 | 1194.4  | 1965.53 | 1965.53 |
| 33 | 1.33564 | 4017.44 | 40.5248 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 868.832 | 972.101 | 1116.24 | 0 | 1116.24 | 1858.94 | 1858.94 |
| 34 | 1.33564 | 3832.27 | 41.1911 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 815.48  | 912.408 | 1039.83 | 0 | 1039.83 | 1753.51 | 1753.51 |
| 35 | 1.33564 | 3642.68 | 41.8644 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 763.325 | 854.054 | 965.148 | 0 | 965.148 | 1649.18 | 1649.18 |
| 36 | 1.33564 | 3448.53 | 42.5448 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 712.34  | 797.009 | 892.13  | 0 | 892.13  | 1545.89 | 1545.89 |
| 37 | 1.33564 | 3249.66 | 43.2326 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 662.498 | 741.243 | 820.754 | 0 | 820.754 | 1443.59 | 1443.59 |
| 38 | 1.33564 | 3045.93 | 43.9284 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 613.78  | 686.734 | 750.985 | 0 | 750.985 | 1342.22 | 1342.22 |
| 39 | 1.33564 | 2837.15 | 44.6324 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 566.164 | 633.458 | 682.793 | 0 | 682.793 | 1241.74 | 1241.74 |
| 40 | 1.33564 | 2623.15 | 45.345  | Mass<br>Wasting<br>Colluvium | 100 | 38 | 519.634 | 581.398 | 616.162 | 0 | 616.162 | 1142.09 | 1142.09 |
| 41 | 1.33564 | 2403.72 | 46.0667 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 474.176 | 530.536 | 551.059 | 0 | 551.059 | 1043.23 | 1043.23 |
| 42 | 1.33564 | 2178.64 | 46.798  | Mass<br>Wasting<br>Colluvium | 100 | 38 | 429.777 | 480.86  | 487.478 | 0 | 487.478 | 945.112 | 945.112 |
| 43 | 1.33564 | 1947.7  | 47.5394 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 386.424 | 432.354 | 425.393 | 0 | 425.393 | 847.683 | 847.683 |
| 44 | 1.33564 | 1710.63 | 48.2914 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 344.104 | 385.004 | 364.789 | 0 | 364.789 | 750.885 | 750.885 |
| 45 | 1.33564 | 1467.16 | 49.0546 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 302.804 | 338.795 | 305.643 | 0 | 305.643 | 654.651 | 654.651 |
| 46 | 1.33564 | 1217    | 49.8298 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 262.503 | 293.704 | 247.93  | 0 | 247.93  | 558.888 | 558.888 |
| 47 | 1.33564 | 959.815 | 50.6176 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 223.176 | 249.703 | 191.611 | 0 | 191.611 | 463.48  | 463.48  |
| 48 | 1.33564 | 695.253 | 51.4188 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 184.783 | 206.746 | 136.629 | 0 | 136.629 | 368.258 | 368.258 |

|    |         |         |         |                              |     |    |         |         |         |   |         |         |         |
|----|---------|---------|---------|------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 49 | 1.33564 | 422.919 | 52.2343 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 147.266 | 164.769 | 82.901  | 0 | 82.901  | 272.99  | 272.99  |
| 50 | 1.33564 | 142.379 | 53.0651 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 111.186 | 124.402 | 31.2332 | 0 | 31.2332 | 179.132 | 179.132 |

## **Wall 2 Static**

### Global Minimum Query (spencer) - Safety Factor: 2.92367

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material          | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.224634   | 2.16292      | -35.5418                  | Mass Wasting Colluvium | 100                 | 38                        | 52.3645            | 153.097              | 67.9604                  | 0                   | 67.9604                       | 30.5515                    | 30.5515                         |
| 2            | 0.224634   | 6.3121       | -33.2666                  | Mass Wasting Colluvium | 100                 | 38                        | 58.5232            | 171.103              | 91.0071                  | 0                   | 91.0071                       | 52.6134                    | 52.6134                         |
| 3            | 0.224634   | 10.1211      | -31.0493                  | Mass Wasting Colluvium | 100                 | 38                        | 63.7054            | 186.254              | 110.399                  | 0                   | 110.399                       | 72.0467                    | 72.0467                         |
| 4            | 0.224634   | 13.614       | -28.8827                  | Mass Wasting Colluvium | 100                 | 38                        | 68.0831            | 199.052              | 126.781                  | 0                   | 126.781                       | 89.2243                    | 89.2243                         |
| 5            | 0.224634   | 16.8109      | -26.7604                  | Mass Wasting Colluvium | 100                 | 38                        | 71.7817            | 209.866              | 140.622                  | 0                   | 140.622                       | 104.424                    | 104.424                         |
| 6            | 0.224634   | 19.7287      | -24.6771                  | Mass Wasting Colluvium | 100                 | 38                        | 74.8953            | 218.969              | 152.274                  | 0                   | 152.274                       | 117.862                    | 117.862                         |
| 7            | 0.224634   | 22.3818      | -22.628                   | Mass Wasting Colluvium | 100                 | 38                        | 77.4971            | 226.576              | 162.011                  | 0                   | 162.011                       | 129.707                    | 129.707                         |
| 8            | 0.224634   | 24.7824      | -20.6092                  | Mass Wasting Colluvium | 100                 | 38                        | 79.6444            | 232.854              | 170.045                  | 0                   | 170.045                       | 140.094                    | 140.094                         |
| 9            | 0.224634   | 26.9408      | -18.6168                  | Mass Wasting Colluvium | 100                 | 38                        | 81.3823            | 237.935              | 176.548                  | 0                   | 176.548                       | 149.134                    | 149.134                         |
| 10           | 0.224634   | 28.866       | -16.6475                  | Mass Wasting Colluvium | 100                 | 38                        | 82.7481            | 241.928              | 181.659                  | 0                   | 181.659                       | 156.916                    | 156.916                         |
| 11           | 0.224634   | 30.5655      | -14.6982                  | Mass Wasting Colluvium | 100                 | 38                        | 83.7725            | 244.923              | 185.493                  | 0                   | 185.493                       | 163.518                    | 163.518                         |
| 12           | 0.224634   | 32.0457      | -12.7662                  | Mass Wasting Colluvium | 100                 | 38                        | 84.4808            | 246.994              | 188.144                  | 0                   | 188.144                       | 169.002                    | 169.002                         |
| 13           | 0.224634   | 33.3119      | -10.8489                  | Mass Wasting Colluvium | 100                 | 38                        | 84.8943            | 248.203              | 189.691                  | 0                   | 189.691                       | 173.421                    | 173.421                         |
| 14           | 0.224634   | 34.3686      | -8.94387                  | Mass Wasting Colluvium | 100                 | 38                        | 85.0308            | 248.602              | 190.202                  | 0                   | 190.202                       | 176.82                     | 176.82                          |
| 15           | 0.224634   | 35.2195      | -7.04872                  | Mass Wasting Colluvium | 100                 | 38                        | 84.9063            | 248.238              | 189.736                  | 0                   | 189.736                       | 179.237                    | 179.237                         |
| 16           | 0.224634   | 35.8673      | -5.16131                  | Mass Wasting Colluvium | 100                 | 38                        | 84.5331            | 247.147              | 188.34                   | 0                   | 188.34                        | 180.704                    | 180.704                         |
| 17           | 0.224634   | 36.7876      | -3.2795                   | Mass Wasting Colluvium | 100                 | 38                        | 84.5369            | 247.158              | 188.354                  | 0                   | 188.354                       | 183.51                     | 183.51                          |
| 18           | 0.224634   | 38.1077      | -1.40123                  | Mass Wasting Colluvium | 100                 | 38                        | 85.0568            | 248.678              | 190.299                  | 0                   | 190.299                       | 188.219                    | 188.219                         |
| 19           | 0.224634   | 38.2955      | 0.475534                  | Mass Wasting Colluvium | 100                 | 38                        | 84.1425            | 246.005              | 186.877                  | 0                   | 186.877                       | 187.576                    | 187.576                         |
| 20           | 0.224634   | 38.4944      | 2.35281                   | Mass Wasting Colluvium | 100                 | 38                        | 83.2703            | 243.455              | 183.614                  | 0                   | 183.614                       | 187.035                    | 187.035                         |
| 21           | 0.224634   | 77.8777      | 4.23261                   | Mass Wasting Colluvium | 100                 | 38                        | 129.996            | 380.065              | 358.466                  | 0                   | 358.466                       | 368.087                    | 368.087                         |
| 22           | 0.224634   | 143.87       | 6.117                     | Mass Wasting Colluvium | 100                 | 38                        | 207.031            | 605.291              | 646.741                  | 0                   | 646.741                       | 668.928                    | 668.928                         |

|    |           |         |         |                        |     |    |         |         |          |   |          |         |         |
|----|-----------|---------|---------|------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 23 | 0.224634  | 184.231 | 8.00807 | Mass Wasting Colluvium | 100 | 38 | 251.477 | 735.236 | 813.066  | 0 | 813.066  | 848.445 | 848.445 |
| 24 | 0.224634  | 183.802 | 9.90796 | Mass Wasting Colluvium | 100 | 38 | 247.266 | 722.923 | 797.307  | 0 | 797.307  | 840.497 | 840.497 |
| 25 | 0.224634  | 182.64  | 11.8189 | Mass Wasting Colluvium | 100 | 38 | 242.286 | 708.365 | 778.672  | 0 | 778.672  | 829.372 | 829.372 |
| 26 | 0.224634  | 181.266 | 13.7434 | Mass Wasting Colluvium | 100 | 38 | 237.151 | 693.35  | 759.451  | 0 | 759.451  | 817.453 | 817.453 |
| 27 | 0.224634  | 179.675 | 15.6838 | Mass Wasting Colluvium | 100 | 38 | 231.851 | 677.856 | 739.62   | 0 | 739.62   | 804.72  | 804.72  |
| 28 | 0.224634  | 177.862 | 17.6428 | Mass Wasting Colluvium | 100 | 38 | 226.38  | 661.859 | 719.146  | 0 | 719.146  | 791.144 | 791.144 |
| 29 | 0.226649  | 177.249 | 19.6324 | Gravel                 | 0   | 40 | 200.93  | 587.453 | 700.098  | 0 | 700.098  | 771.774 | 771.774 |
| 30 | 0.226649  | 174.635 | 21.656  | Gravel                 | 0   | 40 | 194.492 | 568.631 | 677.667  | 0 | 677.667  | 754.892 | 754.892 |
| 31 | 0.226649  | 171.736 | 23.7085 | Gravel                 | 0   | 40 | 187.824 | 549.134 | 654.434  | 0 | 654.434  | 736.916 | 736.916 |
| 32 | 0.226649  | 168.537 | 25.7938 | Gravel                 | 0   | 40 | 180.913 | 528.93  | 630.354  | 0 | 630.354  | 717.787 | 717.787 |
| 33 | 0.226649  | 165.024 | 27.9165 | Gravel                 | 0   | 40 | 173.749 | 507.986 | 605.394  | 0 | 605.394  | 697.454 | 697.454 |
| 34 | 0.245812  | 174.877 | 30.1755 | Reinforced Fill        | 135 | 38 | 198.108 | 579.202 | 568.552  | 0 | 568.552  | 683.74  | 683.74  |
| 35 | 0.245812  | 170.452 | 32.5816 | Reinforced Fill        | 135 | 38 | 190.351 | 556.524 | 539.525  | 0 | 539.525  | 661.173 | 661.173 |
| 36 | 0.245812  | 165.591 | 35.0543 | Reinforced Fill        | 135 | 38 | 182.259 | 532.865 | 509.244  | 0 | 509.244  | 637.121 | 637.121 |
| 37 | 0.0371833 | 24.6023 | 36.5017 | Mass Wasting Colluvium | 100 | 38 | 166.852 | 487.819 | 496.385  | 0 | 496.385  | 619.856 | 619.856 |
| 38 | 0.212347  | 138.049 | 37.8176 | Reinforced Fill        | 135 | 38 | 173.098 | 506.081 | 474.962  | 0 | 474.962  | 609.316 | 609.316 |
| 39 | 0.212347  | 133.671 | 40.0998 | Reinforced Fill        | 135 | 38 | 165.439 | 483.689 | 446.303  | 0 | 446.303  | 585.614 | 585.614 |
| 40 | 0.212347  | 128.917 | 42.4616 | Reinforced Fill        | 135 | 38 | 157.447 | 460.324 | 416.394  | 0 | 416.394  | 560.474 | 560.474 |
| 41 | 0.212347  | 123.744 | 44.9163 | Reinforced Fill        | 135 | 38 | 149.086 | 435.878 | 385.105  | 0 | 385.105  | 533.756 | 533.756 |
| 42 | 0.212347  | 118.095 | 47.4812 | Reinforced Fill        | 135 | 38 | 140.31  | 410.219 | 352.266  | 0 | 352.266  | 505.286 | 505.286 |
| 43 | 0.212347  | 111.9   | 50.1785 | Reinforced Fill        | 135 | 38 | 131.061 | 383.18  | 317.655  | 0 | 317.655  | 474.84  | 474.84  |
| 44 | 0.212347  | 105.06  | 53.0387 | Reinforced Fill        | 135 | 38 | 121.265 | 354.538 | 280.996  | 0 | 280.996  | 442.146 | 442.146 |
| 45 | 0.212347  | 97.4379 | 56.1043 | Reinforced Fill        | 135 | 38 | 110.816 | 323.99  | 241.896  | 0 | 241.896  | 406.835 | 406.835 |
| 46 | 0.212347  | 88.8292 | 59.4393 | Reinforced Fill        | 135 | 38 | 99.5666 | 291.1   | 199.799  | 0 | 199.799  | 368.421 | 368.421 |
| 47 | 0.212347  | 78.9036 | 63.1476 | Reinforced Fill        | 135 | 38 | 87.2848 | 255.192 | 153.838  | 0 | 153.838  | 326.241 | 326.241 |
| 48 | 0.212347  | 67.0533 | 67.4219 | Reinforced Fill        | 135 | 38 | 73.5639 | 215.077 | 102.493  | 0 | 102.493  | 279.41  | 279.41  |
| 49 | 0.212347  | 51.8503 | 72.7193 | Reinforced Fill        | 135 | 38 | 57.5036 | 168.121 | 42.3935  | 0 | 42.3935  | 227.236 | 227.236 |
| 50 | 0.212347  | 21.5768 | 82.8531 | Reinforced Fill        | 135 | 38 | 31.8677 | 93.1706 | -53.5391 | 0 | -53.5391 | 200.614 | 200.614 |



 **Wall 2 Seismic**
**Global Minimum Query (spencer) - Safety Factor: 2.06163**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material          | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.313954   | 2.42048      | -22.2581                  | Mass Wasting Colluvium | 100                 | 38                        | 113.759            | 234.528              | 172.187                  | 0                   | 172.187                       | 125.629                    | 125.629                         |
| 2            | 0.313954   | 7.07427      | -20.688                   | Mass Wasting Colluvium | 100                 | 38                        | 120.277            | 247.967              | 189.39                   | 0                   | 189.39                        | 143.969                    | 143.969                         |
| 3            | 0.313954   | 11.3594      | -19.134                   | Mass Wasting Colluvium | 100                 | 38                        | 124.894            | 257.486              | 201.573                  | 0                   | 201.573                       | 158.242                    | 158.242                         |
| 4            | 0.313954   | 15.2867      | -17.5945                  | Mass Wasting Colluvium | 100                 | 38                        | 128.048            | 263.987              | 209.894                  | 0                   | 209.894                       | 169.289                    | 169.289                         |
| 5            | 0.313954   | 18.8656      | -16.068                   | Mass Wasting Colluvium | 100                 | 38                        | 130.053            | 268.122              | 215.186                  | 0                   | 215.186                       | 177.727                    | 177.727                         |
| 6            | 0.313954   | 22.1043      | -14.5532                  | Mass Wasting Colluvium | 100                 | 38                        | 131.142            | 270.367              | 218.06                   | 0                   | 218.06                        | 184.014                    | 184.014                         |
| 7            | 0.313954   | 25.0103      | -13.0486                  | Mass Wasting Colluvium | 100                 | 38                        | 131.487            | 271.078              | 218.97                   | 0                   | 218.97                        | 188.496                    | 188.496                         |
| 8            | 0.313954   | 27.5899      | -11.5532                  | Mass Wasting Colluvium | 100                 | 38                        | 131.218            | 270.522              | 218.257                  | 0                   | 218.257                       | 191.434                    | 191.434                         |
| 9            | 0.313954   | 29.8486      | -10.0657                  | Mass Wasting Colluvium | 100                 | 38                        | 130.432            | 268.902              | 216.185                  | 0                   | 216.185                       | 193.032                    | 193.032                         |
| 10           | 0.313954   | 31.7913      | -8.5851                   | Mass Wasting Colluvium | 100                 | 38                        | 129.207            | 266.377              | 212.953                  | 0                   | 212.953                       | 193.446                    | 193.446                         |
| 11           | 0.313954   | 33.4218      | -7.11022                  | Mass Wasting Colluvium | 100                 | 38                        | 127.602            | 263.069              | 208.719                  | 0                   | 208.719                       | 192.803                    | 192.803                         |
| 12           | 0.313954   | 34.7436      | -5.64006                  | Mass Wasting Colluvium | 100                 | 38                        | 125.666            | 259.077              | 203.61                   | 0                   | 203.61                        | 191.199                    | 191.199                         |
| 13           | 0.313954   | 35.7592      | -4.17362                  | Mass Wasting Colluvium | 100                 | 38                        | 123.436            | 254.479              | 197.724                  | 0                   | 197.724                       | 188.716                    | 188.716                         |
| 14           | 0.313954   | 36.4707      | -2.70991                  | Mass Wasting Colluvium | 100                 | 38                        | 120.942            | 249.337              | 191.143                  | 0                   | 191.143                       | 185.419                    | 185.419                         |
| 15           | 0.319945   | 38.8653      | -1.23404                  | Gravel                 | 0                   | 40                        | 59.63              | 122.935              | 146.509                  | 0                   | 146.509                       | 145.224                    | 145.224                         |
| 16           | 0.319945   | 40.0007      | 0.254964                  | Gravel                 | 0                   | 40                        | 59.0416            | 121.722              | 145.063                  | 0                   | 145.063                       | 145.326                    | 145.326                         |
| 17           | 0.319945   | 50.7401      | 1.74414                   | Gravel                 | 0                   | 40                        | 72.1507            | 148.748              | 177.271                  | 0                   | 177.271                       | 179.468                    | 179.468                         |
| 18           | 0.319945   | 161.099      | 3.2345                    | Gravel                 | 0                   | 40                        | 220.963            | 455.544              | 542.896                  | 0                   | 542.896                       | 555.383                    | 555.383                         |
| 19           | 0.319945   | 247.612      | 4.72705                   | Gravel                 | 0                   | 40                        | 327.955            | 676.122              | 805.77                   | 0                   | 805.77                        | 832.888                    | 832.888                         |
| 20           | 0.319945   | 248.036      | 6.22283                   | Gravel                 | 0                   | 40                        | 317.535            | 654.64               | 780.17                   | 0                   | 780.17                        | 814.793                    | 814.793                         |
| 21           | 0.319945   | 246.345      | 7.72288                   | Gravel                 | 0                   | 40                        | 305.086            | 628.974              | 749.581                  | 0                   | 749.581                       | 790.954                    | 790.954                         |
| 22           | 0.319945   | 244.286      | 9.22828                   | Gravel                 | 0                   | 40                        | 292.882            | 603.814              | 719.599                  | 0                   | 719.599                       | 767.183                    | 767.183                         |
| 23           | 0.319945   | 241.853      | 10.7401                   | Gravel                 | 0                   | 40                        | 280.887            | 579.086              | 690.128                  | 0                   | 690.128                       | 743.406                    | 743.406                         |
| 24           | 0.319945   | 239.041      | 12.2596                   | Gravel                 | 0                   | 40                        | 269.072            | 554.727              | 661.098                  | 0                   | 661.098                       | 719.566                    | 719.566                         |
| 25           | 0.319945   | 235.843      | 13.7879                   | Gravel                 | 0                   | 40                        | 257.409            | 530.682              | 632.441                  | 0                   | 632.441                       | 695.609                    | 695.609                         |
| 26           | 0.319945   | 232.254      | 15.3263                   | Gravel                 | 0                   | 40                        | 245.875            | 506.903              | 604.103                  | 0                   | 604.103                       | 671.488                    | 671.488                         |
| 27           | 0.264363   | 189.08       | 16.7404                   | Reinforced Fill        | 135                 | 38                        | 291.28             | 600.512              | 595.829                  | 0                   | 595.829                       | 683.441                    | 683.441                         |
| 28           | 0.264363   | 186.454      | 18.0296                   | Reinforced Fill        | 135                 | 38                        | 282.413            | 582.231              | 572.431                  | 0                   | 572.431                       | 664.354                    | 664.354                         |
| 29           | 0.292517   | 202.993      | 19.398                    | Mass Wasting Colluvium | 100                 | 38                        | 254.357            | 524.389              | 543.194                  | 0                   | 543.194                       | 632.757                    | 632.757                         |
| 30           | 0.292517   | 199.23       | 20.8478                   | Mass Wasting Colluvium | 100                 | 38                        | 244.886            | 504.864              | 518.204                  | 0                   | 518.204                       | 611.461                    | 611.461                         |



|    |          |         |         |                              |     |    |         |         |          |   |          |         |         |
|----|----------|---------|---------|------------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 31 | 0.292517 | 195.168 | 22.3118 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 235.464 | 485.44  | 493.34   | 0 | 493.34   | 589.967 | 589.967 |
| 32 | 0.315896 | 205.844 | 23.8511 | Reinforced<br>Fill           | 135 | 38 | 243.856 | 502.74  | 470.685  | 0 | 470.685  | 578.498 | 578.498 |
| 33 | 0.315896 | 200.345 | 25.4688 | Reinforced<br>Fill           | 135 | 38 | 233.549 | 481.491 | 443.488  | 0 | 443.488  | 554.729 | 554.729 |
| 34 | 0.315896 | 194.428 | 27.1086 | Reinforced<br>Fill           | 135 | 38 | 223.273 | 460.306 | 416.373  | 0 | 416.373  | 530.67  | 530.67  |
| 35 | 0.315896 | 188.075 | 28.7728 | Reinforced<br>Fill           | 135 | 38 | 213.02  | 439.169 | 389.318  | 0 | 389.318  | 506.296 | 506.296 |
| 36 | 0.315896 | 181.265 | 30.4641 | Reinforced<br>Fill           | 135 | 38 | 202.782 | 418.062 | 362.304  | 0 | 362.304  | 481.581 | 481.581 |
| 37 | 0.315896 | 173.975 | 32.1852 | Reinforced<br>Fill           | 135 | 38 | 192.553 | 396.973 | 335.311  | 0 | 335.311  | 456.499 | 456.499 |
| 38 | 0.315896 | 166.178 | 33.9396 | Reinforced<br>Fill           | 135 | 38 | 182.326 | 375.889 | 308.324  | 0 | 308.324  | 431.025 | 431.025 |
| 39 | 0.315896 | 157.841 | 35.731  | Reinforced<br>Fill           | 135 | 38 | 172.097 | 354.8   | 281.332  | 0 | 281.332  | 405.137 | 405.137 |
| 40 | 0.315896 | 148.929 | 37.5637 | Reinforced<br>Fill           | 135 | 38 | 161.862 | 333.699 | 254.322  | 0 | 254.322  | 378.809 | 378.809 |
| 41 | 0.315896 | 139.398 | 39.4427 | Reinforced<br>Fill           | 135 | 38 | 151.617 | 312.579 | 227.29   | 0 | 227.29   | 352.019 | 352.019 |
| 42 | 0.315896 | 129.199 | 41.3739 | Reinforced<br>Fill           | 135 | 38 | 141.362 | 291.437 | 200.23   | 0 | 200.23   | 324.743 | 324.743 |
| 43 | 0.315896 | 118.27  | 43.3644 | Reinforced<br>Fill           | 135 | 38 | 131.097 | 270.274 | 173.142  | 0 | 173.142  | 296.96  | 296.96  |
| 44 | 0.319149 | 107.571 | 45.4336 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 105.041 | 216.555 | 149.184  | 0 | 149.184  | 255.827 | 255.827 |
| 45 | 0.319149 | 94.6749 | 47.5929 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 94.8731 | 195.593 | 122.354  | 0 | 122.354  | 226.227 | 226.227 |
| 46 | 0.319149 | 80.7402 | 49.8456 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 84.7244 | 174.67  | 95.5736  | 0 | 95.5736  | 195.993 | 195.993 |
| 47 | 0.319149 | 65.6154 | 52.209  | Mass<br>Wasting<br>Colluvium | 100 | 38 | 74.6227 | 153.844 | 68.9176  | 0 | 68.9176  | 165.152 | 165.152 |
| 48 | 0.319149 | 49.1008 | 54.7061 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 64.6197 | 133.222 | 42.5221  | 0 | 42.5221  | 133.809 | 133.809 |
| 49 | 0.319149 | 30.9229 | 57.3686 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 54.8147 | 113.008 | 16.6491  | 0 | 16.6491  | 102.257 | 102.257 |
| 50 | 0.319149 | 10.6892 | 60.2419 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 45.2811 | 93.3529 | -8.50786 | 0 | -8.50786 | 70.6918 | 70.6918 |

### **Wall 3 Static**

**Global Minimum Query (spencer) - Safety Factor: 1.79523**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material          | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.830333   | 21.1207      | -11.8908                  | Mass Wasting Colluvium | 100                 | 38                        | 106.611            | 191.392              | 116.976                  | 0                   | 116.976                       | 94.5276                    | 94.5276                         |
| 2            | 0.830333   | 62.2954      | -10.4691                  | Mass Wasting Colluvium | 100                 | 38                        | 139.932            | 251.211              | 193.541                  | 0                   | 193.541                       | 167.684                    | 167.684                         |
| 3            | 0.830333   | 101.351      | -9.05388                  | Mass Wasting Colluvium | 100                 | 38                        | 168.886            | 303.189              | 260.071                  | 0                   | 260.071                       | 233.159                    | 233.159                         |
| 4            | 0.830333   | 138.316      | -7.64421                  | Mass Wasting Colluvium | 100                 | 38                        | 194.002            | 348.279              | 317.782                  | 0                   | 317.782                       | 291.744                    | 291.744                         |
| 5            | 0.830333   | 173.211      | -6.23919                  | Mass Wasting Colluvium | 100                 | 38                        | 215.723            | 387.272              | 367.692                  | 0                   | 367.692                       | 344.108                    | 344.108                         |
| 6            | 0.830333   | 206.055      | -4.83793                  | Mass Wasting Colluvium | 100                 | 38                        | 234.416            | 420.83               | 410.644                  | 0                   | 410.644                       | 390.804                    | 390.804                         |
| 7            | 0.830333   | 236.863      | -3.43956                  | Mass Wasting Colluvium | 100                 | 38                        | 250.392            | 449.512              | 447.355                  | 0                   | 447.355                       | 432.305                    | 432.305                         |
| 8            | 0.830333   | 265.645      | -2.04325                  | Mass Wasting Colluvium | 100                 | 38                        | 263.916            | 473.79               | 478.429                  | 0                   | 478.429                       | 469.013                    | 469.013                         |
| 9            | 0.830333   | 292.409      | -0.648143                 | Mass Wasting Colluvium | 100                 | 38                        | 275.211            | 494.067              | 504.383                  | 0                   | 504.383                       | 501.27                     | 501.27                          |
| 10           | 0.830333   | 317.159      | 0.746575                  | Mass Wasting Colluvium | 100                 | 38                        | 284.47             | 510.689              | 525.659                  | 0                   | 525.659                       | 529.366                    | 529.366                         |
| 11           | 0.830333   | 339.893      | 2.14174                   | Mass Wasting Colluvium | 100                 | 38                        | 291.86             | 523.955              | 542.637                  | 0                   | 542.637                       | 553.552                    | 553.552                         |
| 12           | 0.830333   | 360.608      | 3.53817                   | Mass Wasting Colluvium | 100                 | 38                        | 297.523            | 534.122              | 555.651                  | 0                   | 555.651                       | 574.048                    | 574.048                         |
| 13           | 0.830333   | 379.298      | 4.93671                   | Mass Wasting Colluvium | 100                 | 38                        | 301.585            | 541.415              | 564.985                  | 0                   | 564.985                       | 591.035                    | 591.035                         |
| 14           | 0.830333   | 395.95       | 6.33821                   | Mass Wasting Colluvium | 100                 | 38                        | 304.157            | 546.031              | 570.893                  | 0                   | 570.893                       | 604.678                    | 604.678                         |
| 15           | 0.830333   | 410.55       | 7.74353                   | Mass Wasting Colluvium | 100                 | 38                        | 305.332            | 548.142              | 573.596                  | 0                   | 573.596                       | 615.115                    | 615.115                         |
| 16           | 0.830333   | 423.08       | 9.15356                   | Mass Wasting Colluvium | 100                 | 38                        | 305.198            | 547.9                | 573.285                  | 0                   | 573.285                       | 622.463                    | 622.463                         |
| 17           | 0.830333   | 433.516      | 10.5692                   | Mass Wasting Colluvium | 100                 | 38                        | 303.827            | 545.439              | 570.137                  | 0                   | 570.137                       | 626.827                    | 626.827                         |
| 18           | 0.830333   | 446.31       | 11.9914                   | Mass Wasting Colluvium | 100                 | 38                        | 303.696            | 545.204              | 569.835                  | 0                   | 569.835                       | 634.34                     | 634.34                          |
| 19           | 0.830333   | 841.86       | 13.4212                   | Mass Wasting Colluvium | 100                 | 38                        | 504.105            | 904.985              | 1030.33                  | 0                   | 1030.33                       | 1150.63                    | 1150.63                         |
| 20           | 0.830333   | 1728.39      | 14.8595                   | Mass Wasting Colluvium | 100                 | 38                        | 945.16             | 1696.78              | 2043.79                  | 0                   | 2043.79                       | 2294.56                    | 2294.56                         |
| 21           | 0.830333   | 2192.39      | 16.3074                   | Mass Wasting Colluvium | 100                 | 38                        | 1153.35            | 2070.53              | 2522.16                  | 0                   | 2522.16                       | 2859.59                    | 2859.59                         |
| 22           | 0.830333   | 2167.63      | 17.7662                   | Mass Wasting Colluvium | 100                 | 38                        | 1113.23            | 1998.51              | 2429.98                  | 0                   | 2429.98                       | 2786.68                    | 2786.68                         |

|    |          |         |         |                        |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 0.830333 | 2136.57 | 19.237  | Mass Wasting Colluvium | 100 | 38 | 1071.46 | 1923.51 | 2333.99 | 0 | 2333.99 | 2707.89 | 2707.89 |
| 24 | 0.830333 | 2103.63 | 20.7211 | Mass Wasting Colluvium | 100 | 38 | 1030.17 | 1849.4  | 2239.13 | 0 | 2239.13 | 2628.84 | 2628.84 |
| 25 | 0.830333 | 2071.08 | 22.2199 | Mass Wasting Colluvium | 100 | 38 | 990.386 | 1777.97 | 2147.7  | 0 | 2147.7  | 2552.27 | 2552.27 |
| 26 | 0.830333 | 2035.99 | 23.7348 | Mass Wasting Colluvium | 100 | 38 | 950.692 | 1706.71 | 2056.49 | 0 | 2056.49 | 2474.51 | 2474.51 |
| 27 | 0.830333 | 1998.28 | 25.2677 | Mass Wasting Colluvium | 100 | 38 | 911.059 | 1635.56 | 1965.43 | 0 | 1965.43 | 2395.45 | 2395.45 |
| 28 | 0.830333 | 1957.84 | 26.8201 | Mass Wasting Colluvium | 100 | 38 | 871.443 | 1564.44 | 1874.4  | 0 | 1874.4  | 2314.98 | 2314.98 |
| 29 | 0.830333 | 1914.56 | 28.3942 | Mass Wasting Colluvium | 100 | 38 | 831.821 | 1493.31 | 1783.35 | 0 | 1783.35 | 2233.01 | 2233.01 |
| 30 | 0.830333 | 1868.33 | 29.992  | Mass Wasting Colluvium | 100 | 38 | 792.155 | 1422.1  | 1692.21 | 0 | 1692.21 | 2149.42 | 2149.42 |
| 31 | 0.830333 | 1818.99 | 31.6159 | Mass Wasting Colluvium | 100 | 38 | 752.422 | 1350.77 | 1600.91 | 0 | 1600.91 | 2064.1  | 2064.1  |
| 32 | 0.806321 | 1716.08 | 33.2444 | Reinforced Fill        | 135 | 38 | 731.917 | 1313.96 | 1509    | 0 | 1509    | 1988.77 | 1988.77 |
| 33 | 0.806321 | 1663.32 | 34.8795 | Reinforced Fill        | 135 | 38 | 799.107 | 1434.58 | 1663.39 | 0 | 1663.39 | 2220.43 | 2220.43 |
| 34 | 0.806321 | 1607.21 | 36.5478 | Reinforced Fill        | 135 | 38 | 653.76  | 1173.65 | 1329.41 | 0 | 1329.41 | 1814.01 | 1814.01 |
| 35 | 0.806321 | 1547.54 | 38.253  | Reinforced Fill        | 135 | 38 | 614.461 | 1103.1  | 1239.11 | 0 | 1239.11 | 1723.57 | 1723.57 |
| 36 | 0.806321 | 1484.45 | 39.9993 | Reinforced Fill        | 135 | 38 | 575.129 | 1032.49 | 1148.73 | 0 | 1148.73 | 1631.31 | 1631.31 |
| 37 | 0.793759 | 1413.18 | 41.7771 | Mass Wasting Colluvium | 100 | 38 | 524.18  | 941.024 | 1076.46 | 0 | 1076.46 | 1544.75 | 1544.75 |
| 38 | 0.793759 | 1370.63 | 43.5914 | Mass Wasting Colluvium | 100 | 38 | 493.806 | 886.495 | 1006.67 | 0 | 1006.67 | 1476.77 | 1476.77 |
| 39 | 0.793759 | 1323.45 | 45.4622 | Mass Wasting Colluvium | 100 | 38 | 462.608 | 830.487 | 934.984 | 0 | 934.984 | 1405.11 | 1405.11 |
| 40 | 0.793759 | 1271.14 | 47.3974 | Mass Wasting Colluvium | 100 | 38 | 430.556 | 772.947 | 861.335 | 0 | 861.335 | 1329.52 | 1329.52 |
| 41 | 0.793759 | 1213.14 | 49.4066 | Mass Wasting Colluvium | 100 | 38 | 397.62  | 713.82  | 785.654 | 0 | 785.654 | 1249.67 | 1249.67 |
| 42 | 0.793759 | 1148.71 | 51.502  | Mass Wasting Colluvium | 100 | 38 | 363.767 | 653.046 | 707.867 | 0 | 707.867 | 1165.22 | 1165.22 |
| 43 | 0.793759 | 1076.94 | 53.6989 | Mass Wasting Colluvium | 100 | 38 | 328.96  | 590.559 | 627.886 | 0 | 627.886 | 1075.69 | 1075.69 |
| 44 | 0.793759 | 996.613 | 56.0175 | Mass Wasting Colluvium | 100 | 38 | 293.158 | 526.286 | 545.621 | 0 | 545.621 | 980.532 | 980.532 |
| 45 | 0.793759 | 906.095 | 58.4855 | Mass Wasting Colluvium | 100 | 38 | 256.317 | 460.148 | 460.968 | 0 | 460.968 | 879.002 | 879.002 |
| 46 | 0.793759 | 803.06  | 61.142  | Mass Wasting Colluvium | 100 | 38 | 218.384 | 392.049 | 373.806 | 0 | 373.806 | 770.094 | 770.094 |
| 47 | 0.793759 | 684.011 | 64.0466 | Mass Wasting Colluvium | 100 | 38 | 179.285 | 321.857 | 283.964 | 0 | 283.964 | 652.311 | 652.311 |

|    |          |         |         |                              |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 0.793759 | 543.202 | 67.2972 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 138.884 | 249.328 | 191.131 | 0 | 191.131 | 523.098 | 523.098 |
| 49 | 0.793759 | 369.767 | 71.0809 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 96.8069 | 173.791 | 94.4475 | 0 | 94.4475 | 376.89  | 376.89  |
| 50 | 0.793759 | 136.541 | 75.8684 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 57.5498 | 103.315 | 4.24307 | 0 | 4.24307 | 232.825 | 232.825 |

### ◆ Wall 3 Seismic

**Global Minimum Query (spencer) - Safety Factor: 1.34799**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material          | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.801502   | 19.6501      | -11.8491                  | Mass Wasting Colluvium | 100                 | 38                        | 437.066            | 589.16               | 626.096                  | 0                   | 626.096                       | 534.397                    | 534.397                         |
| 2            | 0.801502   | 57.9891      | -10.4739                  | Mass Wasting Colluvium | 100                 | 38                        | 498.694            | 672.235              | 732.427                  | 0                   | 732.427                       | 640.235                    | 640.235                         |
| 3            | 0.801502   | 94.4184      | -9.10472                  | Mass Wasting Colluvium | 100                 | 38                        | 535.399            | 721.713              | 795.757                  | 0                   | 795.757                       | 709.955                    | 709.955                         |
| 4            | 0.801502   | 128.961      | -7.74078                  | Mass Wasting Colluvium | 100                 | 38                        | 555.647            | 749.006              | 830.689                  | 0                   | 830.689                       | 755.16                     | 755.16                          |
| 5            | 0.801502   | 161.638      | -6.38124                  | Mass Wasting Colluvium | 100                 | 38                        | 564.976            | 761.582              | 846.786                  | 0                   | 846.786                       | 783.601                    | 783.601                         |
| 6            | 0.801502   | 192.465      | -5.0253                   | Mass Wasting Colluvium | 100                 | 38                        | 567.029            | 764.349              | 850.328                  | 0                   | 850.328                       | 800.467                    | 800.467                         |
| 7            | 0.801502   | 221.454      | -3.67218                  | Mass Wasting Colluvium | 100                 | 38                        | 564.206            | 760.544              | 845.459                  | 0                   | 845.459                       | 809.248                    | 809.248                         |
| 8            | 0.801502   | 248.617      | -2.32111                  | Mass Wasting Colluvium | 100                 | 38                        | 558.093            | 752.304              | 834.912                  | 0                   | 834.912                       | 812.291                    | 812.291                         |
| 9            | 0.801502   | 273.959      | -0.971332                 | Mass Wasting Colluvium | 100                 | 38                        | 549.738            | 741.041              | 820.495                  | 0                   | 820.495                       | 811.175                    | 811.175                         |
| 10           | 0.801502   | 297.485      | 0.377909                  | Mass Wasting Colluvium | 100                 | 38                        | 539.831            | 727.687              | 803.403                  | 0                   | 803.403                       | 806.964                    | 806.964                         |
| 11           | 0.801502   | 319.195      | 1.72736                   | Mass Wasting Colluvium | 100                 | 38                        | 528.828            | 712.855              | 784.419                  | 0                   | 784.419                       | 800.367                    | 800.367                         |
| 12           | 0.801502   | 339.087      | 3.07777                   | Mass Wasting Colluvium | 100                 | 38                        | 517.029            | 696.95               | 764.061                  | 0                   | 764.061                       | 791.861                    | 791.861                         |
| 13           | 0.801502   | 357.155      | 4.42989                   | Mass Wasting Colluvium | 100                 | 38                        | 504.629            | 680.235              | 742.666                  | 0                   | 742.666                       | 781.76                     | 781.76                          |
| 14           | 0.801502   | 373.391      | 5.7845                    | Mass Wasting Colluvium | 100                 | 38                        | 491.756            | 662.882              | 720.456                  | 0                   | 720.456                       | 770.272                    | 770.272                         |
| 15           | 0.801502   | 387.783      | 7.14235                   | Mass Wasting Colluvium | 100                 | 38                        | 478.492            | 645.002              | 697.571                  | 0                   | 697.571                       | 757.53                     | 757.53                          |
| 16           | 0.801502   | 400.316      | 8.50426                   | Mass Wasting Colluvium | 100                 | 38                        | 464.891            | 626.669              | 674.106                  | 0                   | 674.106                       | 743.62                     | 743.62                          |
| 17           | 0.801502   | 410.972      | 9.87102                   | Mass Wasting Colluvium | 100                 | 38                        | 450.99             | 607.93               | 650.121                  | 0                   | 650.121                       | 728.596                    | 728.596                         |
| 18           | 0.801502   | 420.388      | 11.2435                   | Mass Wasting Colluvium | 100                 | 38                        | 437.31             | 589.49               | 626.518                  | 0                   | 626.518                       | 713.453                    | 713.453                         |
| 19           | 0.801502   | 466.743      | 12.6225                   | Mass Wasting Colluvium | 100                 | 38                        | 451.352            | 608.418              | 650.746                  | 0                   | 650.746                       | 751.821                    | 751.821                         |
| 20           | 0.801502   | 1086.97      | 14.009                    | Mass Wasting Colluvium | 100                 | 38                        | 857.84             | 1156.36              | 1352.09                  | 0                   | 1352.09                       | 1566.11                    | 1566.11                         |
| 21           | 0.801502   | 1888.52      | 15.404                    | Mass Wasting Colluvium | 100                 | 38                        | 1344.89            | 1812.9               | 2192.41                  | 0                   | 2192.41                       | 2562.96                    | 2562.96                         |
| 22           | 0.801502   | 2107.97      | 16.8084                   | Mass Wasting Colluvium | 100                 | 38                        | 1423.2             | 1918.46              | 2327.53                  | 0                   | 2327.53                       | 2757.45                    | 2757.45                         |

|    |          |         |         |                        |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 23 | 0.801502 | 2083.63 | 18.2232 | Mass Wasting Colluvium | 100 | 38 | 1347.7  | 1816.69 | 2197.27 | 0 | 2197.27 | 2640.98 | 2640.98 |
| 24 | 0.801502 | 2052.77 | 19.6497 | Mass Wasting Colluvium | 100 | 38 | 1273.6  | 1716.8  | 2069.41 | 0 | 2069.41 | 2524.17 | 2524.17 |
| 25 | 0.801502 | 2022.54 | 21.089  | Mass Wasting Colluvium | 100 | 38 | 1204.72 | 1623.95 | 1950.57 | 0 | 1950.57 | 2415.16 | 2415.16 |
| 26 | 0.801502 | 1991.68 | 22.5423 | Mass Wasting Colluvium | 100 | 38 | 1139.82 | 1536.47 | 1838.59 | 0 | 1838.59 | 2311.71 | 2311.71 |
| 27 | 0.801502 | 1958.51 | 24.0112 | Mass Wasting Colluvium | 100 | 38 | 1077.66 | 1452.68 | 1731.35 | 0 | 1731.35 | 2211.41 | 2211.41 |
| 28 | 0.801502 | 1922.96 | 25.497  | Mass Wasting Colluvium | 100 | 38 | 1017.97 | 1372.22 | 1628.37 | 0 | 1628.37 | 2113.86 | 2113.86 |
| 29 | 0.801502 | 1884.94 | 27.0014 | Mass Wasting Colluvium | 100 | 38 | 960.497 | 1294.74 | 1529.2  | 0 | 1529.2  | 2018.62 | 2018.62 |
| 30 | 0.801502 | 1844.34 | 28.5263 | Mass Wasting Colluvium | 100 | 38 | 905.022 | 1219.96 | 1433.49 | 0 | 1433.49 | 1925.41 | 1925.41 |
| 31 | 0.801502 | 1801.07 | 30.0736 | Mass Wasting Colluvium | 100 | 38 | 851.364 | 1147.63 | 1340.9  | 0 | 1340.9  | 1833.9  | 1833.9  |
| 32 | 0.801502 | 1755    | 31.6455 | Mass Wasting Colluvium | 100 | 38 | 799.358 | 1077.53 | 1251.17 | 0 | 1251.17 | 1743.82 | 1743.82 |
| 33 | 0.82609  | 1757.49 | 33.2694 | Reinforced Fill        | 135 | 38 | 777.212 | 1047.67 | 1168.17 | 0 | 1168.17 | 1678.11 | 1678.11 |
| 34 | 0.82609  | 1702.01 | 34.9492 | Reinforced Fill        | 135 | 38 | 1248.33 | 1682.74 | 1981.02 | 0 | 1981.02 | 2853.46 | 2853.46 |
| 35 | 0.82609  | 1642.91 | 36.6642 | Reinforced Fill        | 135 | 38 | 676.302 | 911.648 | 994.061 | 0 | 994.061 | 1497.5  | 1497.5  |
| 36 | 0.82609  | 1579.96 | 38.4184 | Reinforced Fill        | 135 | 38 | 627.79  | 846.254 | 910.364 | 0 | 910.364 | 1408.27 | 1408.27 |
| 37 | 0.82609  | 1513.3  | 40.2163 | Reinforced Fill        | 135 | 38 | 618.903 | 834.275 | 895.031 | 0 | 895.031 | 1418.35 | 1418.35 |
| 38 | 0.844619 | 1493.37 | 42.0846 | Mass Wasting Colluvium | 100 | 38 | 513.274 | 691.888 | 757.583 | 0 | 757.583 | 1221.11 | 1221.11 |
| 39 | 0.844619 | 1444.15 | 44.0312 | Mass Wasting Colluvium | 100 | 38 | 475.838 | 641.425 | 692.992 | 0 | 692.992 | 1153    | 1153    |
| 40 | 0.844619 | 1389.2  | 46.0441 | Mass Wasting Colluvium | 100 | 38 | 438.498 | 591.091 | 628.568 | 0 | 628.568 | 1083.35 | 1083.35 |
| 41 | 0.844619 | 1327.87 | 48.1334 | Mass Wasting Colluvium | 100 | 38 | 401.21  | 540.827 | 564.233 | 0 | 564.233 | 1011.91 | 1011.91 |
| 42 | 0.844619 | 1259.34 | 50.3118 | Mass Wasting Colluvium | 100 | 38 | 363.929 | 490.573 | 499.911 | 0 | 499.911 | 938.449 | 938.449 |
| 43 | 0.844619 | 1182.61 | 52.5952 | Mass Wasting Colluvium | 100 | 38 | 326.608 | 440.264 | 435.519 | 0 | 435.519 | 862.63  | 862.63  |
| 44 | 0.844619 | 1096.31 | 55.0051 | Mass Wasting Colluvium | 100 | 38 | 289.187 | 389.821 | 370.954 | 0 | 370.954 | 784.034 | 784.034 |
| 45 | 0.844619 | 998.623 | 57.5703 | Mass Wasting Colluvium | 100 | 38 | 251.589 | 339.139 | 306.084 | 0 | 306.084 | 702.07  | 702.07  |
| 46 | 0.844619 | 886.932 | 60.3322 | Mass Wasting Colluvium | 100 | 38 | 213.714 | 288.085 | 240.738 | 0 | 240.738 | 615.909 | 615.909 |
| 47 | 0.844619 | 757.308 | 63.3537 | Mass Wasting Colluvium | 100 | 38 | 175.473 | 236.536 | 174.758 | 0 | 174.758 | 524.463 | 524.463 |



|    |          |         |         |                              |     |    |         |         |         |   |         |         |         |
|----|----------|---------|---------|------------------------------|-----|----|---------|---------|---------|---|---------|---------|---------|
| 48 | 0.844619 | 603.249 | 66.7391 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 137.038 | 184.726 | 108.445 | 0 | 108.445 | 427.242 | 427.242 |
| 49 | 0.844619 | 412.339 | 70.6894 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 100.465 | 135.425 | 45.342  | 0 | 45.342  | 332.054 | 332.054 |
| 50 | 0.844619 | 152.797 | 75.7232 | Mass<br>Wasting<br>Colluvium | 100 | 38 | 83.873  | 113.06  | 16.7159 | 0 | 16.7159 | 346.319 | 346.319 |

# **Wall 4 Static**

## **Global Minimum Query (spencer) - Safety Factor: 2.46856**

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material          | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.340456   | 2.77737      | -21.7696                  | Mass Wasting Colluvium | 100                 | 38                        | 61.0379            | 150.676              | 64.862                   | 0                   | 64.862                        | 40.4861                    | 40.4861                         |
| 2            | 0.340456   | 8.10055      | -20.1056                  | Mass Wasting Colluvium | 100                 | 38                        | 67.5633            | 166.784              | 85.4796                  | 0                   | 85.4796                       | 60.7474                    | 60.7474                         |
| 3            | 0.340456   | 12.9678      | -18.4591                  | Mass Wasting Colluvium | 100                 | 38                        | 73.0559            | 180.343              | 102.834                  | 0                   | 102.834                       | 78.4482                    | 78.4482                         |
| 4            | 0.340456   | 17.3928      | -16.8283                  | Mass Wasting Colluvium | 100                 | 38                        | 77.6347            | 191.646              | 117.301                  | 0                   | 117.301                       | 93.82                      | 93.82                           |
| 5            | 0.340456   | 21.3872      | -15.2114                  | Mass Wasting Colluvium | 100                 | 38                        | 81.3981            | 200.936              | 129.192                  | 0                   | 129.192                       | 107.06                     | 107.06                          |
| 6            | 0.340456   | 24.9616      | -13.6068                  | Mass Wasting Colluvium | 100                 | 38                        | 84.429             | 208.418              | 138.769                  | 0                   | 138.769                       | 118.333                    | 118.333                         |
| 7            | 0.340456   | 28.1249      | -12.0131                  | Mass Wasting Colluvium | 100                 | 38                        | 86.7972            | 214.264              | 146.251                  | 0                   | 146.251                       | 127.781                    | 127.781                         |
| 8            | 0.340456   | 30.8848      | -10.4287                  | Mass Wasting Colluvium | 100                 | 38                        | 88.5618            | 218.62               | 151.826                  | 0                   | 151.826                       | 135.526                    | 135.526                         |
| 9            | 0.340456   | 33.248       | -8.85236                  | Mass Wasting Colluvium | 100                 | 38                        | 89.7738            | 221.612              | 155.656                  | 0                   | 155.656                       | 141.674                    | 141.674                         |
| 10           | 0.340456   | 35.2199      | -7.28275                  | Mass Wasting Colluvium | 100                 | 38                        | 90.4774            | 223.349              | 157.879                  | 0                   | 157.879                       | 146.316                    | 146.316                         |
| 11           | 0.340456   | 36.8052      | -5.71863                  | Mass Wasting Colluvium | 100                 | 38                        | 90.7108            | 223.925              | 158.616                  | 0                   | 158.616                       | 149.532                    | 149.532                         |
| 12           | 0.340456   | 38.0073      | -4.15877                  | Mass Wasting Colluvium | 100                 | 38                        | 90.507             | 223.422              | 157.973                  | 0                   | 157.973                       | 151.392                    | 151.392                         |
| 13           | 0.340456   | 38.829       | -2.602                    | Mass Wasting Colluvium | 100                 | 38                        | 89.8953            | 221.912              | 156.041                  | 0                   | 156.041                       | 151.955                    | 151.955                         |
| 14           | 0.343905   | 41.1053      | -1.03928                  | Gravel                 | 0                   | 40                        | 47.5844            | 117.465              | 139.99                   | 0                   | 139.99                        | 139.127                    | 139.127                         |
| 15           | 0.343905   | 42.1207      | 0.530546                  | Gravel                 | 0                   | 40                        | 47.6626            | 117.658              | 140.219                  | 0                   | 140.219                       | 140.66                     | 140.66                          |
| 16           | 0.343905   | 85.2061      | 2.10077                   | Gravel                 | 0                   | 40                        | 94.2837            | 232.745              | 277.375                  | 0                   | 277.375                       | 280.833                    | 280.833                         |
| 17           | 0.343905   | 235.184      | 3.67257                   | Gravel                 | 0                   | 40                        | 254.57             | 628.421              | 748.922                  | 0                   | 748.922                       | 765.262                    | 765.262                         |
| 18           | 0.343905   | 307.949      | 5.24715                   | Gravel                 | 0                   | 40                        | 326.163            | 805.153              | 959.543                  | 0                   | 959.543                       | 989.496                    | 989.496                         |
| 19           | 0.343905   | 306.26       | 6.82572                   | Gravel                 | 0                   | 40                        | 317.472            | 783.699              | 933.977                  | 0                   | 933.977                       | 971.978                    | 971.978                         |
| 20           | 0.343905   | 304.124      | 8.40951                   | Gravel                 | 0                   | 40                        | 308.608            | 761.817              | 907.898                  | 0                   | 907.898                       | 953.521                    | 953.521                         |
| 21           | 0.343905   | 301.537      | 9.99981                   | Gravel                 | 0                   | 40                        | 299.568            | 739.502              | 881.304                  | 0                   | 881.304                       | 934.125                    | 934.125                         |
| 22           | 0.343905   | 298.49       | 11.5979                   | Gravel                 | 0                   | 40                        | 290.352            | 716.752              | 854.193                  | 0                   | 854.193                       | 913.783                    | 913.783                         |
| 23           | 0.343905   | 294.979      | 13.2053                   | Gravel                 | 0                   | 40                        | 280.959            | 693.565              | 826.558                  | 0                   | 826.558                       | 892.484                    | 892.484                         |
| 24           | 0.343905   | 290.993      | 14.8233                   | Gravel                 | 0                   | 40                        | 271.388            | 669.938              | 798.4                    | 0                   | 798.4                         | 870.221                    | 870.221                         |
| 25           | 0.290424   | 242.474      | 16.3258                   | Reinforced Fill        | 135                 | 38                        | 300.277            | 741.253              | 775.969                  | 0                   | 775.969                       | 863.923                    | 863.923                         |
| 26           | 0.290424   | 239.376      | 17.7121                   | Reinforced Fill        | 135                 | 38                        | 292.582            | 722.256              | 751.652                  | 0                   | 751.652                       | 845.095                    | 845.095                         |
| 27           | 0.287127   | 234.731      | 19.1013                   | Mass Wasting Colluvium | 100                 | 38                        | 271.817            | 670.996              | 730.841                  | 0                   | 730.841                       | 824.973                    | 824.973                         |
| 28           | 0.287127   | 233.997      | 20.4943                   | Mass Wasting Colluvium | 100                 | 38                        | 266.818            | 658.657              | 715.047                  | 0                   | 715.047                       | 814.776                    | 814.776                         |
| 29           | 0.287127   | 232.988      | 21.9                      | Mass Wasting Colluvium | 100                 | 38                        | 261.615            | 645.813              | 698.607                  | 0                   | 698.607                       | 803.776                    | 803.776                         |

|    |          |         |         |                        |     |    |         |         |          |   |          |         |         |
|----|----------|---------|---------|------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 30 | 0.351313 | 283.269 | 23.4804 | Reinforced Fill        | 135 | 38 | 269.587 | 665.491 | 678.998  | 0 | 678.998  | 796.107 | 796.107 |
| 31 | 0.351313 | 280.795 | 25.2409 | Reinforced Fill        | 135 | 38 | 262.519 | 648.045 | 656.667  | 0 | 656.667  | 780.428 | 780.428 |
| 32 | 0.351313 | 277.76  | 27.0273 | Reinforced Fill        | 135 | 38 | 255.136 | 629.818 | 633.337  | 0 | 633.337  | 763.489 | 763.489 |
| 33 | 0.351313 | 274.139 | 28.8426 | Reinforced Fill        | 135 | 38 | 247.43  | 610.796 | 608.992  | 0 | 608.992  | 745.257 | 745.257 |
| 34 | 0.351313 | 269.899 | 30.6902 | Reinforced Fill        | 135 | 38 | 239.395 | 590.961 | 583.603  | 0 | 583.603  | 725.691 | 725.691 |
| 35 | 0.351313 | 265.007 | 32.574  | Reinforced Fill        | 135 | 38 | 231.022 | 570.291 | 557.147  | 0 | 557.147  | 704.744 | 704.744 |
| 36 | 0.351313 | 259.421 | 34.4982 | Reinforced Fill        | 135 | 38 | 222.301 | 548.763 | 529.593  | 0 | 529.593  | 682.366 | 682.366 |
| 37 | 0.351313 | 253.092 | 36.468  | Reinforced Fill        | 135 | 38 | 213.219 | 526.344 | 500.897  | 0 | 500.897  | 658.487 | 658.487 |
| 38 | 0.351313 | 245.965 | 38.4893 | Reinforced Fill        | 135 | 38 | 203.763 | 503.001 | 471.021  | 0 | 471.021  | 633.039 | 633.039 |
| 39 | 0.351313 | 237.971 | 40.5691 | Reinforced Fill        | 135 | 38 | 193.915 | 478.69  | 439.903  | 0 | 439.903  | 605.926 | 605.926 |
| 40 | 0.351313 | 229.028 | 42.7158 | Reinforced Fill        | 135 | 38 | 183.654 | 453.36  | 407.482  | 0 | 407.482  | 577.046 | 577.046 |
| 41 | 0.356548 | 222.214 | 44.9569 | Mass Wasting Colluvium | 100 | 38 | 160.502 | 396.21  | 379.13   | 0 | 379.13   | 539.391 | 539.391 |
| 42 | 0.356548 | 210.692 | 47.3068 | Mass Wasting Colluvium | 100 | 38 | 149.352 | 368.684 | 343.899  | 0 | 343.899  | 505.789 | 505.789 |
| 43 | 0.356548 | 197.77  | 49.7667 | Mass Wasting Colluvium | 100 | 38 | 137.693 | 339.903 | 307.062  | 0 | 307.062  | 469.807 | 469.807 |
| 44 | 0.356548 | 183.225 | 52.359  | Mass Wasting Colluvium | 100 | 38 | 125.477 | 309.747 | 268.465  | 0 | 268.465  | 431.159 | 431.159 |
| 45 | 0.356548 | 166.757 | 55.1142 | Mass Wasting Colluvium | 100 | 38 | 112.641 | 278.06  | 227.906  | 0 | 227.906  | 389.458 | 389.458 |
| 46 | 0.356548 | 147.936 | 58.0758 | Mass Wasting Colluvium | 100 | 38 | 99.093  | 244.617 | 185.102  | 0 | 185.102  | 344.151 | 344.151 |
| 47 | 0.356548 | 126.117 | 61.3098 | Mass Wasting Colluvium | 100 | 38 | 84.6984 | 209.083 | 139.62   | 0 | 139.62   | 294.388 | 294.388 |
| 48 | 0.356548 | 100.238 | 64.9252 | Mass Wasting Colluvium | 100 | 38 | 69.2287 | 170.895 | 90.7419  | 0 | 90.7419  | 238.699 | 238.699 |
| 49 | 0.356548 | 68.2918 | 69.13   | Mass Wasting Colluvium | 100 | 38 | 52.2258 | 128.923 | 37.0193  | 0 | 37.0193  | 174     | 174     |
| 50 | 0.356548 | 25.2332 | 74.4514 | Mass Wasting Colluvium | 100 | 38 | 32.6093 | 80.4979 | -24.9616 | 0 | -24.9616 | 92.2372 | 92.2372 |

# **Wall 4 Seismic**

## Global Minimum Query (spencer) - Safety Factor: 1.72951

| Slice Number | Width [ft] | Weight [lbs] | Angle of Slice Base [deg] | Base Material          | Base Cohesion [psf] | Base Friction Angle [deg] | Shear Stress [psf] | Shear Strength [psf] | Base Normal Stress [psf] | Pore Pressure [psf] | Effective Normal Stress [psf] | Base Vertical Stress [psf] | Effective Vertical Stress [psf] |
|--------------|------------|--------------|---------------------------|------------------------|---------------------|---------------------------|--------------------|----------------------|--------------------------|---------------------|-------------------------------|----------------------------|---------------------------------|
| 1            | 0.420536   | 3.63257      | -18.8981                  | Mass Wasting Colluvium | 100                 | 38                        | 158.903            | 274.825              | 223.766                  | 0                   | 223.766                       | 169.367                    | 169.367                         |
| 2            | 0.420536   | 10.5658      | -17.2788                  | Mass Wasting Colluvium | 100                 | 38                        | 166.485            | 287.938              | 240.55                   | 0                   | 240.55                        | 188.763                    | 188.763                         |
| 3            | 0.420536   | 16.8439      | -15.6737                  | Mass Wasting Colluvium | 100                 | 38                        | 170.986            | 295.722              | 250.512                  | 0                   | 250.512                       | 202.535                    | 202.535                         |
| 4            | 0.420536   | 22.4828      | -14.0811                  | Mass Wasting Colluvium | 100                 | 38                        | 173.214            | 299.575              | 255.444                  | 0                   | 255.444                       | 211.996                    | 211.996                         |
| 5            | 0.420536   | 27.4967      | -12.4996                  | Mass Wasting Colluvium | 100                 | 38                        | 173.733            | 300.473              | 256.595                  | 0                   | 256.595                       | 218.08                     | 218.08                          |
| 6            | 0.420536   | 31.8977      | -10.9276                  | Mass Wasting Colluvium | 100                 | 38                        | 172.944            | 299.108              | 254.848                  | 0                   | 254.848                       | 221.458                    | 221.458                         |
| 7            | 0.420536   | 35.6962      | -9.36401                  | Mass Wasting Colluvium | 100                 | 38                        | 171.134            | 295.978              | 250.84                   | 0                   | 250.84                        | 222.62                     | 222.62                          |
| 8            | 0.420536   | 38.9009      | -7.80739                  | Mass Wasting Colluvium | 100                 | 38                        | 168.514            | 291.446              | 245.039                  | 0                   | 245.039                       | 221.934                    | 221.934                         |
| 9            | 0.420536   | 41.5192      | -6.25655                  | Mass Wasting Colluvium | 100                 | 38                        | 165.235            | 285.776              | 237.782                  | 0                   | 237.782                       | 219.667                    | 219.667                         |
| 10           | 0.420536   | 43.5568      | -4.7103                   | Mass Wasting Colluvium | 100                 | 38                        | 161.415            | 279.169              | 229.325                  | 0                   | 229.325                       | 216.025                    | 216.025                         |
| 11           | 0.420536   | 45.0183      | -3.16748                  | Mass Wasting Colluvium | 100                 | 38                        | 157.139            | 271.774              | 219.86                   | 0                   | 219.86                        | 211.164                    | 211.164                         |
| 12           | 0.420536   | 45.9069      | -1.62696                  | Mass Wasting Colluvium | 100                 | 38                        | 152.474            | 263.706              | 209.534                  | 0                   | 209.534                       | 205.203                    | 205.203                         |
| 13           | 0.382533   | 43.6673      | -0.15716                  | Gravel                 | 0                   | 40                        | 71.6717            | 123.957              | 147.727                  | 0                   | 147.727                       | 147.53                     | 147.53                          |
| 14           | 0.382533   | 44.4193      | 1.24295                   | Gravel                 | 0                   | 40                        | 69.7527            | 120.638              | 143.771                  | 0                   | 143.771                       | 145.284                    | 145.284                         |
| 15           | 0.382533   | 147.886      | 2.64381                   | Gravel                 | 0                   | 40                        | 222.568            | 384.934              | 458.747                  | 0                   | 458.747                       | 469.024                    | 469.024                         |
| 16           | 0.382533   | 316.066      | 4.04625                   | Gravel                 | 0                   | 40                        | 456.598            | 789.69               | 941.116                  | 0                   | 941.116                       | 973.415                    | 973.415                         |
| 17           | 0.382533   | 339.167      | 5.45113                   | Gravel                 | 0                   | 40                        | 470.962            | 814.533              | 970.723                  | 0                   | 970.723                       | 1015.67                    | 1015.67                         |
| 18           | 0.382533   | 337.036      | 6.8593                    | Gravel                 | 0                   | 40                        | 450.398            | 778.967              | 928.337                  | 0                   | 928.337                       | 982.516                    | 982.516                         |
| 19           | 0.382533   | 334.412      | 8.27165                   | Gravel                 | 0                   | 40                        | 430.546            | 744.633              | 887.419                  | 0                   | 887.419                       | 950.011                    | 950.011                         |
| 20           | 0.382533   | 331.29       | 9.68909                   | Gravel                 | 0                   | 40                        | 411.318            | 711.378              | 847.787                  | 0                   | 847.787                       | 918.015                    | 918.015                         |
| 21           | 0.382533   | 327.663      | 11.1125                   | Gravel                 | 0                   | 40                        | 392.637            | 679.07               | 809.285                  | 0                   | 809.285                       | 886.407                    | 886.407                         |
| 22           | 0.382533   | 323.526      | 12.543                    | Gravel                 | 0                   | 40                        | 374.438            | 647.595              | 771.772                  | 0                   | 771.772                       | 855.078                    | 855.078                         |
| 23           | 0.485364   | 404.136      | 14.1761                   | Reinforced Fill        | 135                 | 38                        | 419.801            | 726.05               | 756.509                  | 0                   | 756.509                       | 862.548                    | 862.548                         |
| 24           | 0.401383   | 330.868      | 15.8557                   | Mass Wasting Colluvium | 100                 | 38                        | 378.94             | 655.381              | 710.854                  | 0                   | 710.854                       | 818.481                    | 818.481                         |
| 25           | 0.401383   | 330.606      | 17.3888                   | Mass Wasting Colluvium | 100                 | 38                        | 367.459            | 635.524              | 685.441                  | 0                   | 685.441                       | 800.517                    | 800.517                         |
| 26           | 0.401383   | 329.79       | 18.935                    | Mass Wasting Colluvium | 100                 | 38                        | 355.961            | 615.638              | 659.988                  | 0                   | 659.988                       | 782.103                    | 782.103                         |
| 27           | 0.389229   | 318.473      | 20.4717                   | Reinforced Fill        | 135                 | 38                        | 367.647            | 635.85               | 641.058                  | 0                   | 641.058                       | 778.309                    | 778.309                         |
| 28           | 0.389229   | 316.604      | 22.0001                   | Reinforced Fill        | 135                 | 38                        | 356.059            | 615.807              | 615.406                  | 0                   | 615.406                       | 759.264                    | 759.264                         |

|    |          |         |         |                        |     |    |         |         |          |   |          |         |         |
|----|----------|---------|---------|------------------------|-----|----|---------|---------|----------|---|----------|---------|---------|
| 29 | 0.389229 | 314.168 | 23.5452 | Reinforced Fill        | 135 | 38 | 344.41  | 595.66  | 589.617  | 0 | 589.617  | 739.694 | 739.694 |
| 30 | 0.389229 | 311.145 | 25.1086 | Reinforced Fill        | 135 | 38 | 332.687 | 575.386 | 563.669  | 0 | 563.669  | 719.573 | 719.573 |
| 31 | 0.389229 | 307.512 | 26.6924 | Reinforced Fill        | 135 | 38 | 320.882 | 554.969 | 537.536  | 0 | 537.536  | 698.869 | 698.869 |
| 32 | 0.389229 | 303.245 | 28.2985 | Reinforced Fill        | 135 | 38 | 308.983 | 534.389 | 511.196  | 0 | 511.196  | 677.555 | 677.555 |
| 33 | 0.389229 | 298.315 | 29.9292 | Reinforced Fill        | 135 | 38 | 296.981 | 513.631 | 484.624  | 0 | 484.624  | 655.597 | 655.597 |
| 34 | 0.389229 | 292.69  | 31.5871 | Reinforced Fill        | 135 | 38 | 284.866 | 492.678 | 457.808  | 0 | 457.808  | 632.97  | 632.97  |
| 35 | 0.389229 | 286.333 | 33.2752 | Reinforced Fill        | 135 | 38 | 272.631 | 471.518 | 430.722  | 0 | 430.722  | 609.638 | 609.638 |
| 36 | 0.399154 | 286.216 | 35.0189 | Mass Wasting Colluvium | 100 | 38 | 239.778 | 414.699 | 402.795  | 0 | 402.795  | 570.808 | 570.808 |
| 37 | 0.399154 | 277.826 | 36.8232 | Mass Wasting Colluvium | 100 | 38 | 227.242 | 393.017 | 375.044  | 0 | 375.044  | 545.186 | 545.186 |
| 38 | 0.399154 | 268.483 | 38.6712 | Mass Wasting Colluvium | 100 | 38 | 214.552 | 371.07  | 346.953  | 0 | 346.953  | 518.665 | 518.665 |
| 39 | 0.399154 | 258.114 | 40.5682 | Mass Wasting Colluvium | 100 | 38 | 201.702 | 348.846 | 318.508  | 0 | 318.508  | 491.194 | 491.194 |
| 40 | 0.399154 | 246.63  | 42.5207 | Mass Wasting Colluvium | 100 | 38 | 188.684 | 326.331 | 289.69   | 0 | 289.69   | 462.713 | 462.713 |
| 41 | 0.399154 | 233.924 | 44.5364 | Mass Wasting Colluvium | 100 | 38 | 175.492 | 303.515 | 260.488  | 0 | 260.488  | 433.163 | 433.163 |
| 42 | 0.399154 | 219.866 | 46.6247 | Mass Wasting Colluvium | 100 | 38 | 162.119 | 280.386 | 230.883  | 0 | 230.883  | 402.466 | 402.466 |
| 43 | 0.399154 | 204.296 | 48.797  | Mass Wasting Colluvium | 100 | 38 | 148.559 | 256.935 | 200.868  | 0 | 200.868  | 370.548 | 370.548 |
| 44 | 0.399154 | 187.01  | 51.0682 | Mass Wasting Colluvium | 100 | 38 | 134.813 | 233.16  | 170.436  | 0 | 170.436  | 337.321 | 337.321 |
| 45 | 0.399154 | 167.743 | 53.4573 | Mass Wasting Colluvium | 100 | 38 | 120.883 | 209.068 | 139.601  | 0 | 139.601  | 302.71  | 302.71  |
| 46 | 0.399154 | 146.143 | 55.9899 | Mass Wasting Colluvium | 100 | 38 | 106.792 | 184.698 | 108.408  | 0 | 108.408  | 266.674 | 266.674 |
| 47 | 0.399154 | 121.718 | 58.7018 | Mass Wasting Colluvium | 100 | 38 | 92.5977 | 160.149 | 76.9869  | 0 | 76.9869  | 229.294 | 229.294 |
| 48 | 0.399154 | 93.7466 | 61.646  | Mass Wasting Colluvium | 100 | 38 | 78.4498 | 135.68  | 45.6679  | 0 | 45.6679  | 191.036 | 191.036 |
| 49 | 0.399154 | 61.0854 | 64.9065 | Mass Wasting Colluvium | 100 | 38 | 64.7449 | 111.977 | 15.3299  | 0 | 15.3299  | 153.586 | 153.586 |
| 50 | 0.399154 | 21.7026 | 68.634  | Mass Wasting Colluvium | 100 | 38 | 57.2268 | 98.9744 | -1.31272 | 0 | -1.31272 | 144.969 | 144.969 |