**QUIZ #2-**

1. **Waler depth @ 6 feet**

Vertical Spacing @ 4 feet

Horizontal Spacing of struts @ 8 feet

Soil Force @ 60 psf

SHOW YOUR MATH

1. Calculate the tributary area
2. Calculate the force on the waler (FORMULA: Tributary x Force x Depth)
3. **Waler Depth @ 10 feet**

Vertical Spacing @ 4 feet

Horizontal Spacing of struts @ 8 feet

Soil Force @ 60 psf

SHOW YOUR MATH  
a) Calculate the tributary area

1. Calculate the force on the waler (FORMULA: Tributary x Force x Depth)
2. **Waler Depth @ 14 feet**

Vertical Spacing @ 4 feet

Horizontal Spacing of struts @ 8 feet  
Soil Force @ 60 psf

SHOW YOUR MATH  
a) Calculate the tributary area

1. Calculate the force on the waler (FORMULA: Tributary x Force x Depth)
2. **Waler Depth @ 14 feet**

Vertical Spacing @ 2 feet

Horizontal Spacing @ 8 feet  
Soil Force @ 60 psf

SHOW YOUR MATH  
a) Calculate the tributary area

1. Calculate the force on the waler (FORMULA: Tributary x Force x Depth)

**5. SAFETY FACTOR**

**Given Failure Strengths –**6”x6” Timber Waler- 14,000  
 8”x8” Timber Wales- 35,000  
 7”x7” LVL Wales- 45,000

a) Using the force on the waler found in **question # 3** calculate the safety factor for a 6x6 waler.

SHOW YOUR MATH

1. Using the force on the waler found in **question # 3** calculate the safety factor for a 7x7 LVL. (Formula- Strut Strength divided by Total Soil Force)

SHOW YOUR MATH

1. Using the force on the waler found in **question # 4** calculate the safety factor for a 6x6 waler. (Formula- Strut Strength divided by Total Soil Force)

SHOW YOUR MATH

1. Using the force on the waler found in **question # 4** calculate the safety factor for a 7x7 GluLam. (Formula- Strut Strength divided by Total Soil Force)

SHOW YOUR MATH