

# Solving Expansive Soils through Wafflemat Design

ASCE Redwood Empire  
Luncheon Presentation  
April 14, 2022



# Wafflemat Foundations for Expansive, Collapsible, and Rocky Soils

What is it? Post-tensioned slab (4" to 6" thick) poured over an 8.5" or 12" high, 19" x 19" foundation form (waffle box), which provides void space for movement of soils.

A series of ribs, 3'-8" on center each way, are created by inter-connecting the waffle boxes.



# Wafflemat Advantages over Conventional Slab On-Grade Foundation

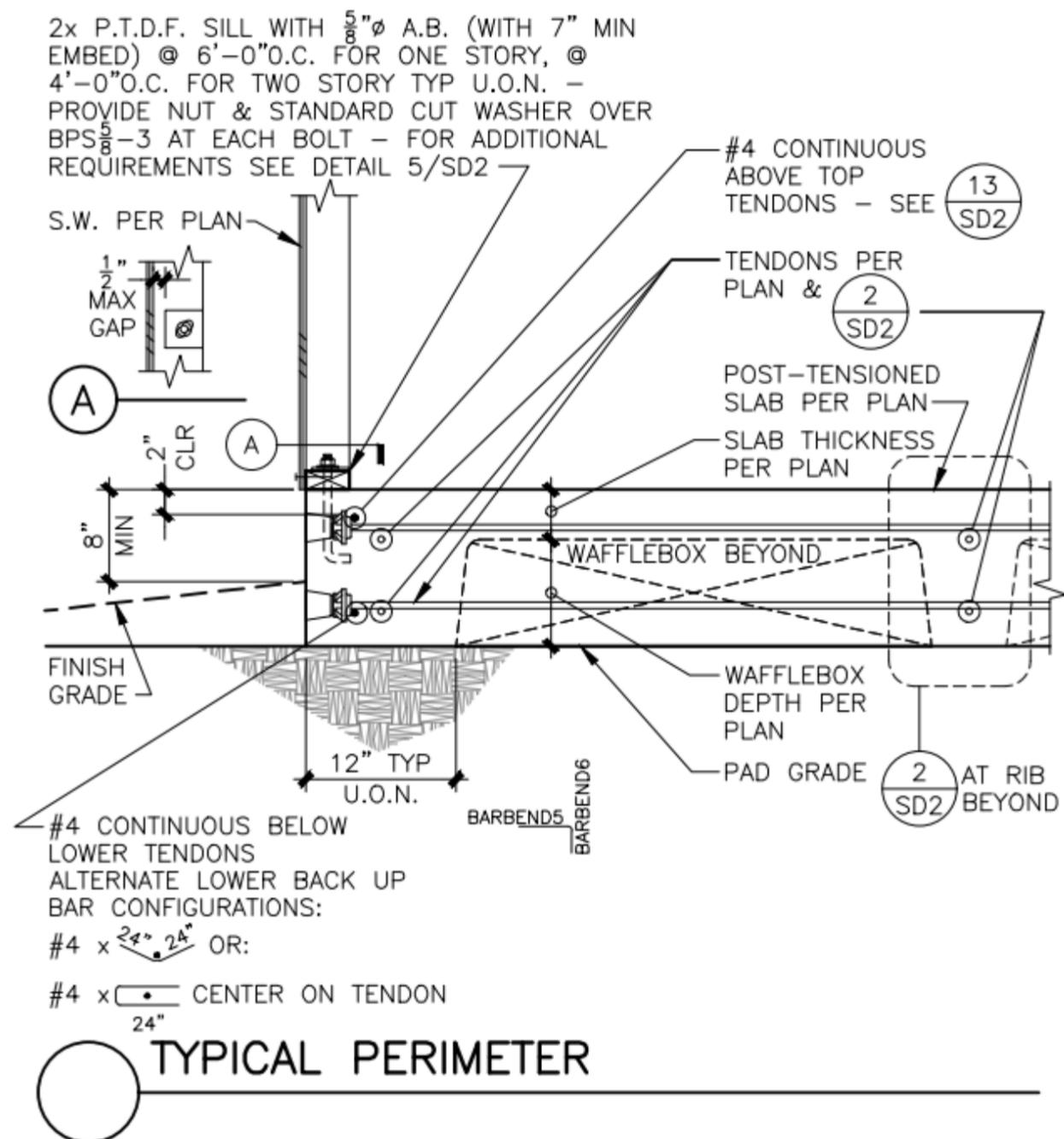
- No control joints.
- Minimizes slab cracking.
- Less concrete and steel resulting in cost savings.
- Shorter construction schedule.
- Additional layer of protection from water vapor.
- Less excavation of soils and materials to off-haul.

# Costs and Comparisons

- \$10.95 per 12" Wafflebox - made and shipped to site  
(\$10.95 per = \$2.15 sf in cost)
- Compared by area, Wafflemat provides cost savings:  
Soils prep, trenching, off haul, concrete, steel, cycletime, and reserves for future warranty issues. Developers tell us savings in these areas generally add up to \$3.00+ per sq. ft.
- \$2.15 per sf vs. \$3.00+ per sq. ft. = savings.  
Wafflemat provides measurable and demonstrated savings when constructing on expansive, compressible, rocky, or liquefiable soils.

# Cross Section

# Clips





Yountville Residence



Yountville Residence



Yountville Residence



Yountville Residence

Holder Design Associates



Yountville Residence



Yountville Residence



Courtyard by Marriott, Hawaii



Courtyard by Marriott, Hawaii



Courtyard by Marriott, Hawaii



Courtyard by Marriott, Hawaii



Courtyard by Marriott, Hawaii

# The Wafflemat™ Foundation Forming System

Thank you.

**MIKM**  
**& Associates**  
structural engineering