

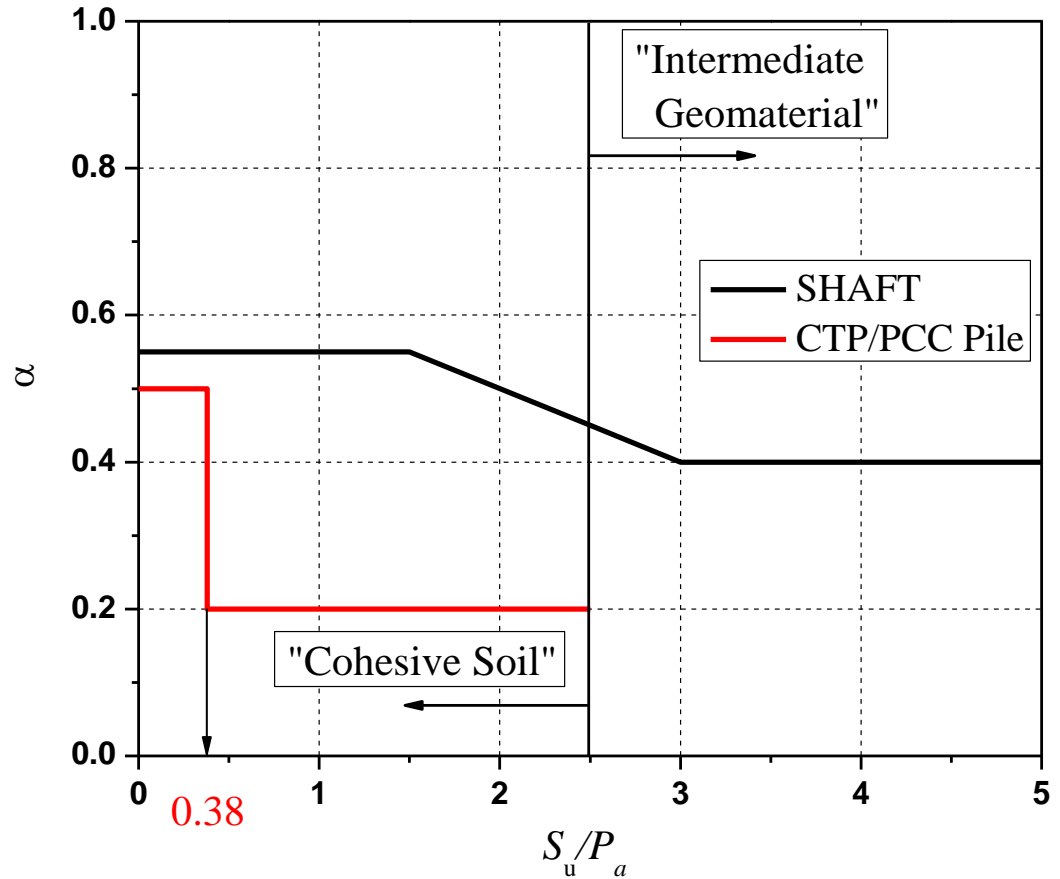
# Vertical load-settlement predictions using SHAFT program

$$f_{sn} = \alpha (S_u)_s$$

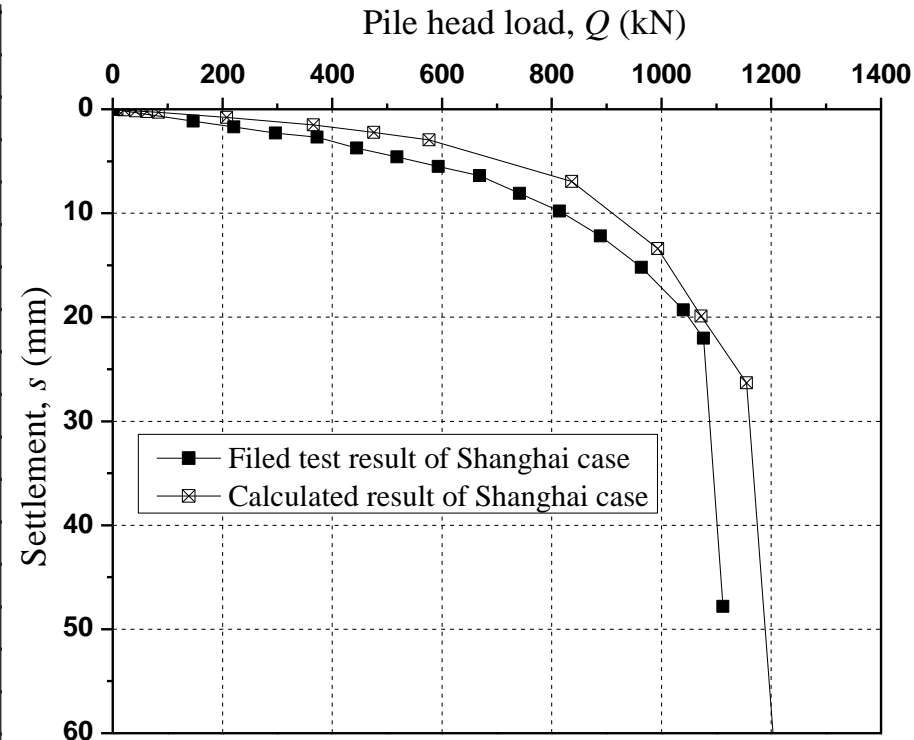
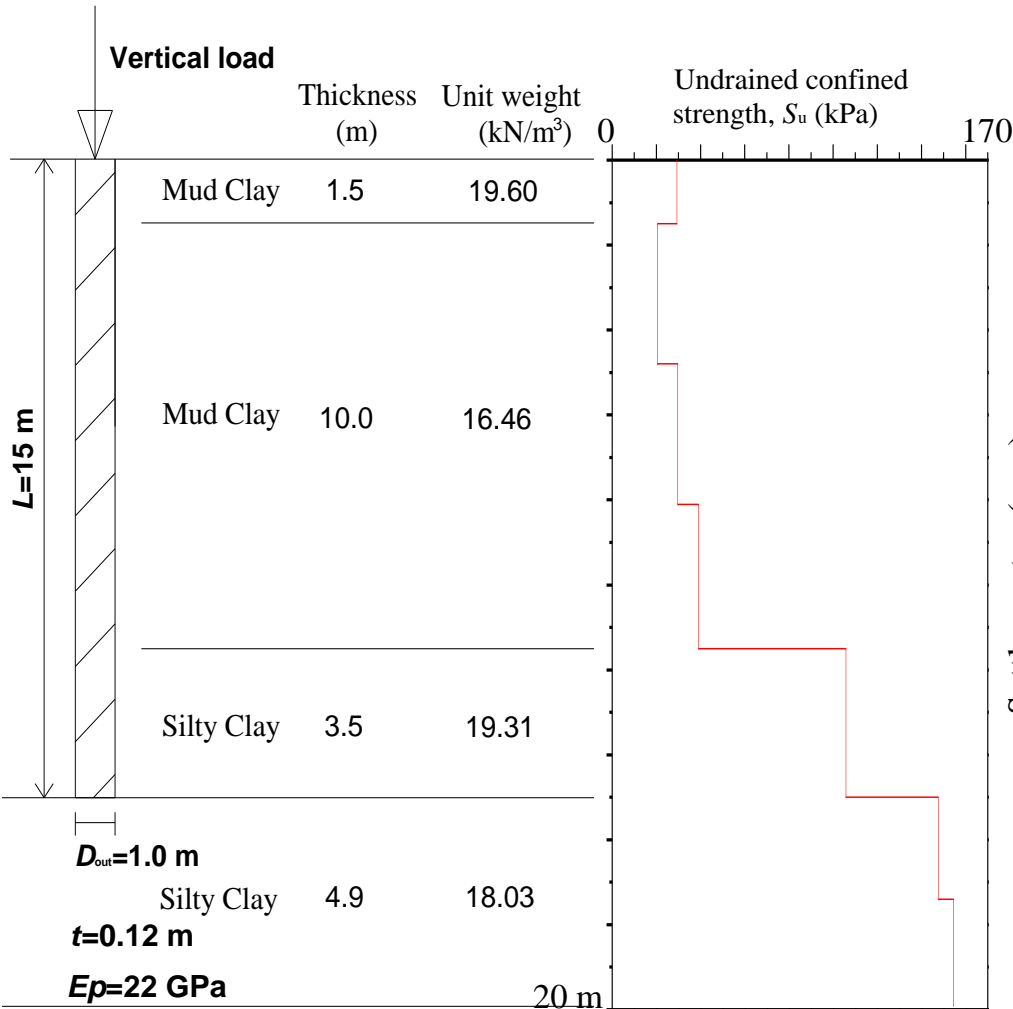
$\alpha$  is shown in Figure.

$$f_{sb} = 0.83 N_c^* (S_u)_b$$

$N_c^*$  is given by SHAFT  
(  $N_c^* = 6.5 - 9.0$  )

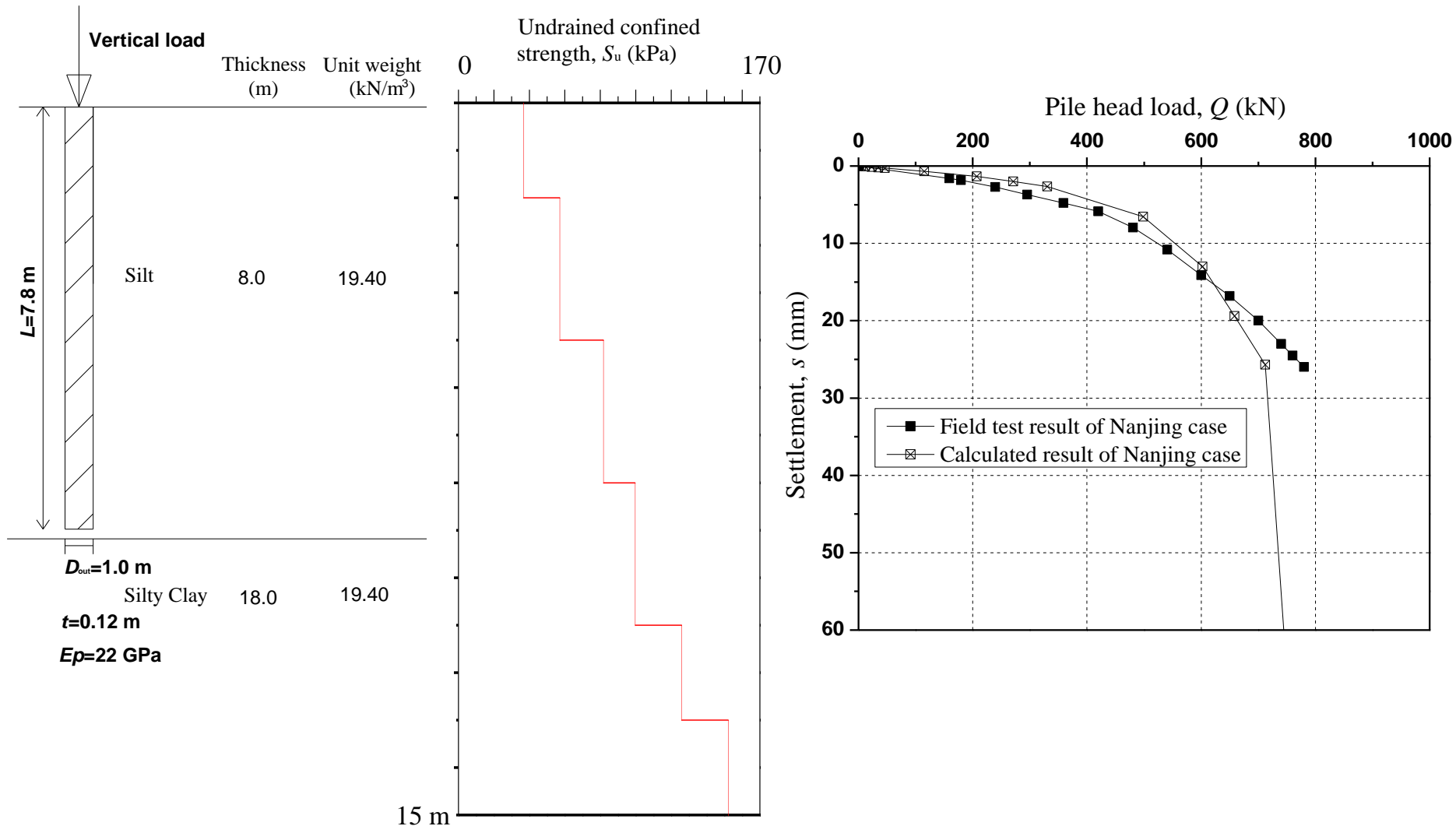


# Vertical load test results and SHAFT program predictions



**Case\_1: Shanghai North Central Expressway**

# Vertical load test results and SHAFT program predictions

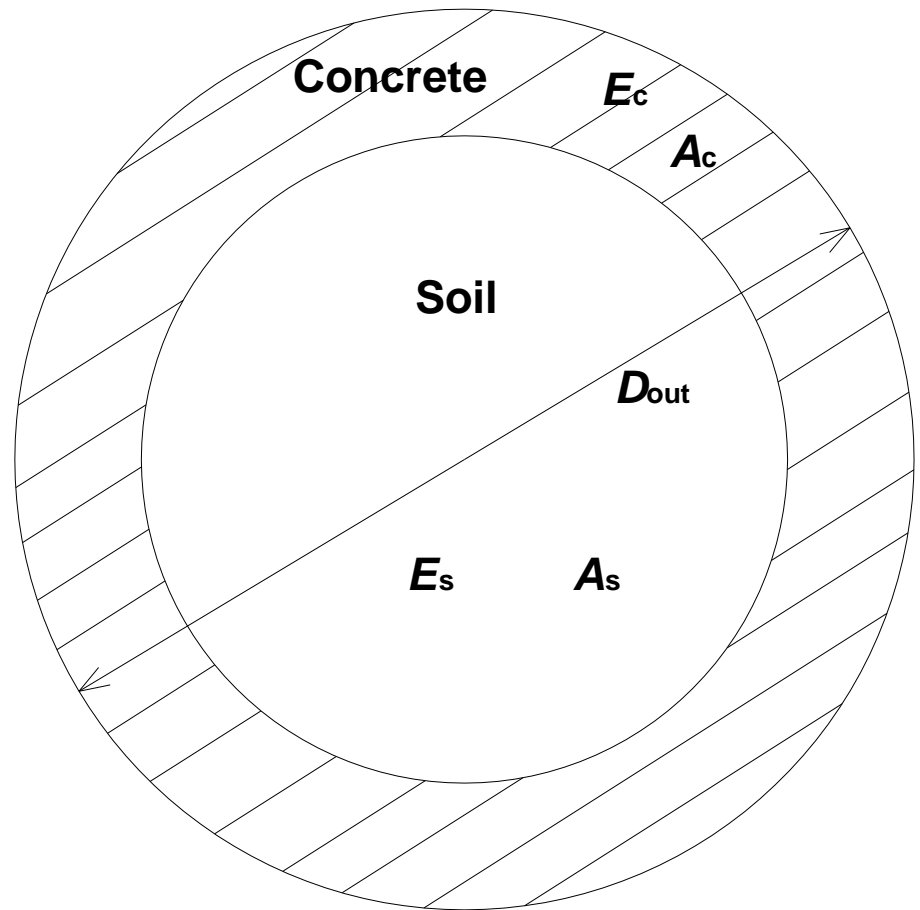


**Case\_2: Jiayi Road, Nanjing, China**

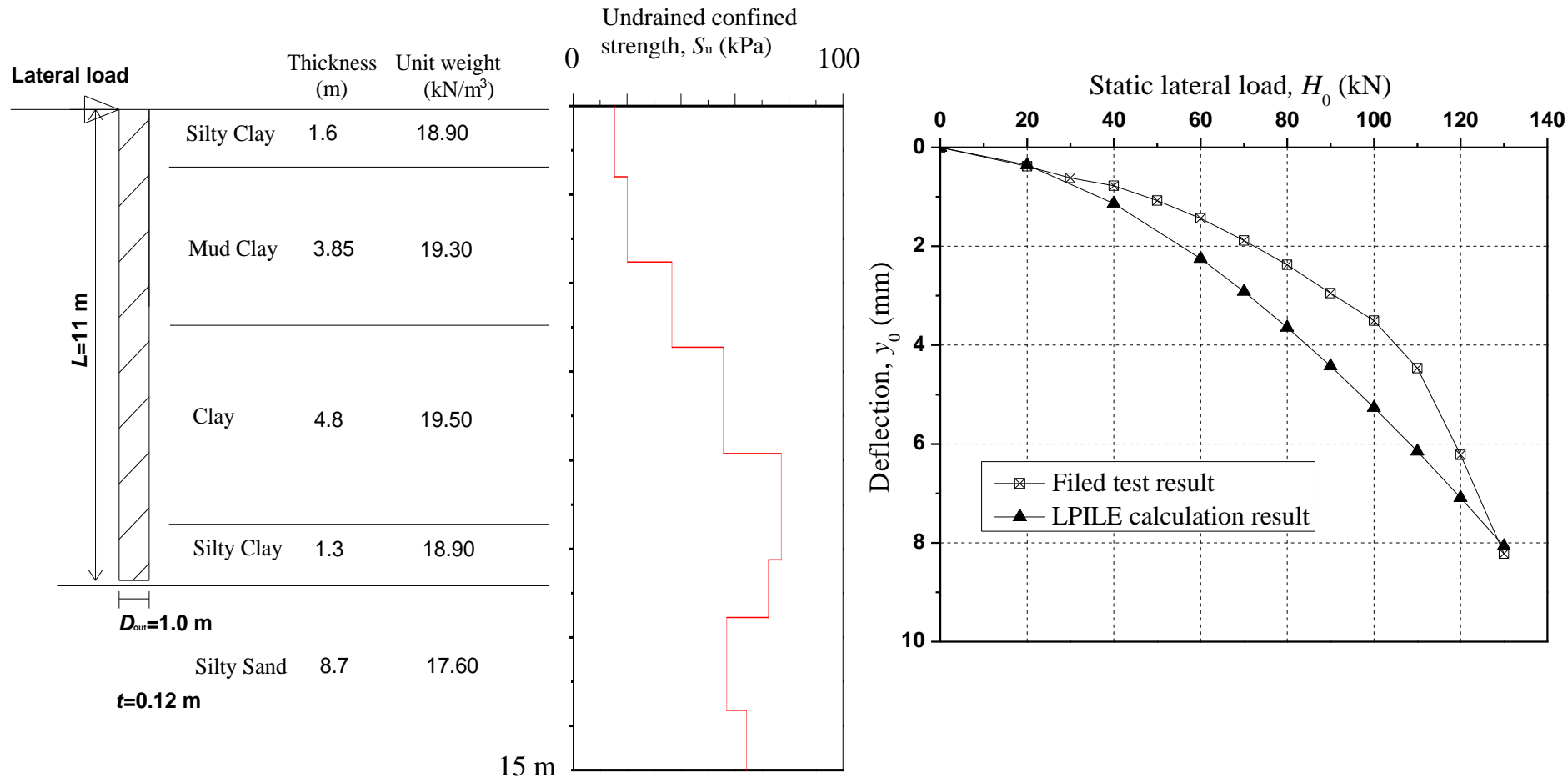
# Lateral load-deflection predictions using LPILE program

$$E_{\text{combined}} = \frac{E_c A_c + E_s A_s}{A_c + A_s}$$

$$A_{\text{combined}} = A_c + A_s = \frac{\pi D_{\text{out}}^2}{4}$$

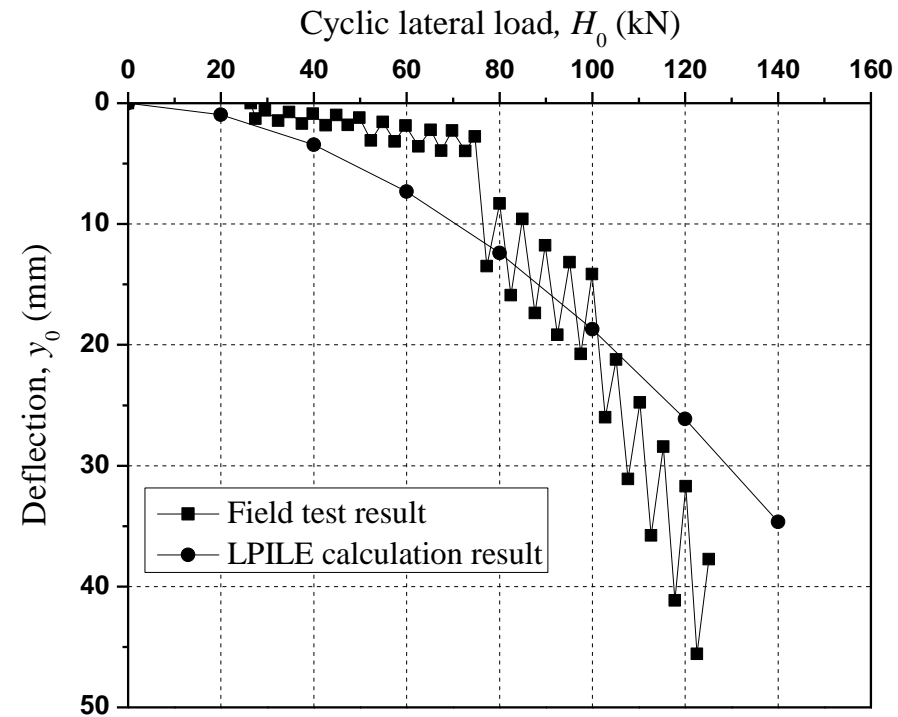
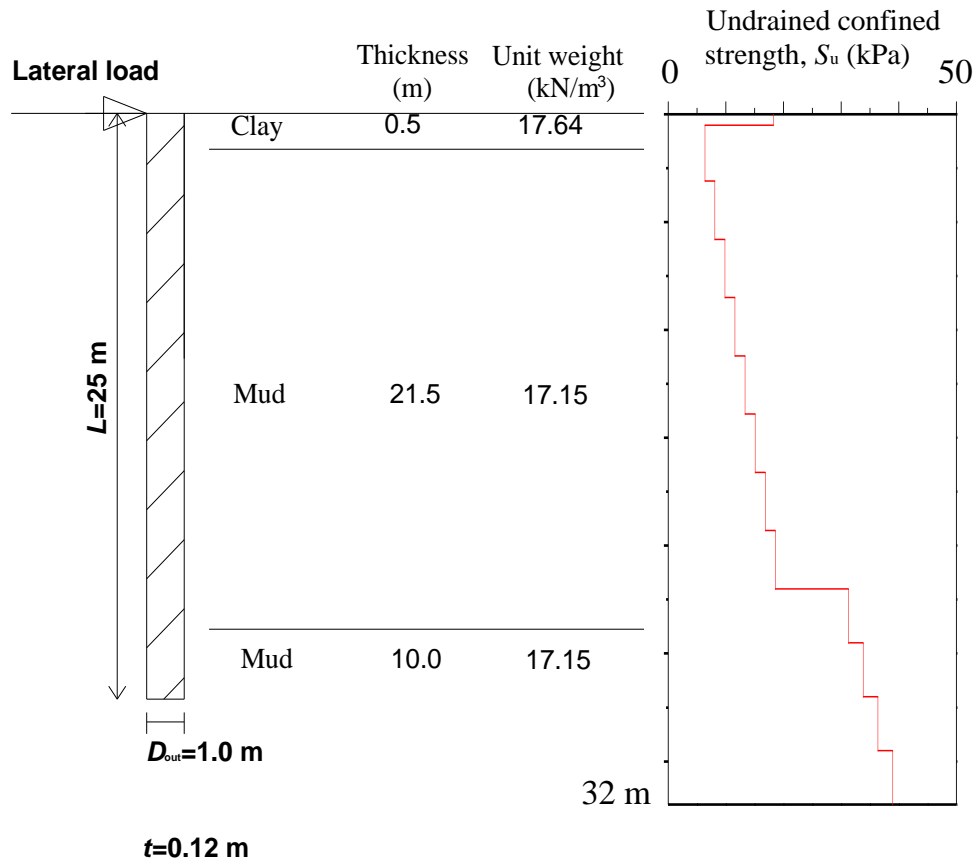


# Lateral load test results and LPILE program predictions



Case\_3: Hang-Qian Expressway, China

# Lateral load test results and LPILE program predictions



**Case\_4: Xuyang Road, Zhejiang, China**