

Summary of Decisions of the Structural Engineering Committee
SEC 6/2008 held on 23.09.2008

(a) Case 6/2008

- Issue: Use of 273 mm diameter Mini-piles and 323 mm diameter Mini-piles socketted into Rock
- Recommendation: The use of 273 mm diameter mini-piles and 323 mm diameter mini-piles socketted into rock at this site be accepted subject to the satisfactory verification by trial piles.
- Decision: Members endorsed the recommendations subject to the following conditions:
- (a) The tight spacing of the reinforcement bars and adequacy of the grout cover to the bars are satisfactorily addressed. RSE subsequently confirmed that spreader bars of 20mm diameter would be used and adequate grout cover to bars would be maintained: the nominal covers to bars in Type I and II mini-piles would be 45 and 49 mm respectively.
 - (b) The contractor should pay attention to the possibility of overbreak in soil during the boring operation, its effect on the site safety and buckling load checking, and the method of boring with details of how overbreak in soil would be avoided should be shown on the submitted plan.
 - (c) It was important to conduct an effective grouting that had to effectively fill up all areas around the bars in the pile cross section, including the area inside the peripherals of bars, the area outside the peripheral of bars, and the area around every bar. To this end, 3 grout tubes (with one inside the peripheral of bars and two outside) would be pressurized together evenly to allow the grout to be pushed upward at a suitably slow pace from the bottom of the piles.
 - (d) The length of the pile is important as the grouting operation would be more critical for long piles. It was noted that the pile lengths range from 8m to 24m, and therefore should not be critical to the grouting operation.
 - (e) The arrangement of the permanent casing above rockhead is satisfactorily detailed. It is confirmed that the permanent casing will be keyed about 100 mm into rock.