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19. ABSTRACT (Continue on reverse if necessary and identify by block number) Sand compaction piles can be used to improve marginal sites for stability, liquefaction, and settlement applications. They have been employed extensively in Japan for many years to improve land reclaimed from the sea. The advantages and disadvantages of using sand compaction piles are compared with other vibro-compaction techniques such as stone columns. Methods are described for construction of sand compaction piles on land and over water. Design theories are given for the utilization of sand compaction piles at sites underlain by both cohesionless and cohesive soils. For sites underlain by cohesionless sands, procedures are presented for estimating the increase in standard penetration resistance in both the sand compaction pile and the surrounding sand. Techniques are described for estimating stability and one-dimensional consolidation settlement of sites underlain by cohesive soils that have been improved with sand compaction piles. Finally, typical applications of sand compaction piles are described, and practical design criteria and practices are given.					
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