



DEEP FOUNDATIONS INSTITUTE

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DFI SUSTAINABILITY COMMITTEE

GUIDANCE NOTE 2

SUSTAINABLE PRACTICES IN DEEP FOUNDATIONS

SUSTAINABLE DESIGN

The design of deep foundations should focus on reducing both the use of materials and the production of waste. This could be achieved by;

- increase ground investigation or testing to allow the use of a lower, but still appropriate, factor of safety
- comparing material volumes for different foundation options
- at the end of their design life steel foundations are likely to use less energy during their removal than concrete foundations
- use foundations as part of a ground storage energy system
- reduce any operational requirements
- re-use existing foundations to reduce or eliminate the need for new ones

MATERIALS

The reduction in the use of new materials and the increase in the use of existing or waste materials is encouraged. Examples of how this could be achieved are;

- use of recycled steel not virgin steel
- minimal use of cement and maximum use of waste cement replacement materials
- use of recycled aggregates, either in concrete, stone columns or for the working platform
- use of timber only from suppliers that provide certified sustainably harvested timber
- purchase materials from suppliers whose practices are associated with increasing energy efficiency, reducing material consumption, reducing waste and reducing other impacts on the environment
- reduce potable water consumption
- use of sealants, adhesives, coatings and other products with reduced amounts of Volatile Organic Compounds
- divert waste construction materials from disposal in landfill to an alternative use through either recycling, reprocessing or re-use

REDUCING EMISSIONS

Greenhouse gas emissions could be reduced by;

- use of biodiesel instead of regular diesel
- turning off plant when not in use
- using plant and materials from a local supplier and not transporting over great distances
- supply offices with energy from a renewable energy company
- reducing travel

