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FLI structures

Steel Foundations

FLI offers steel tower foundations as a solution for challenging topography, soft ground, bridging services and legacy concrete. The installation is rapid and the technology a more sustainable alternative to concrete.

Screw Piles

Micro Piles

Steel Grillages

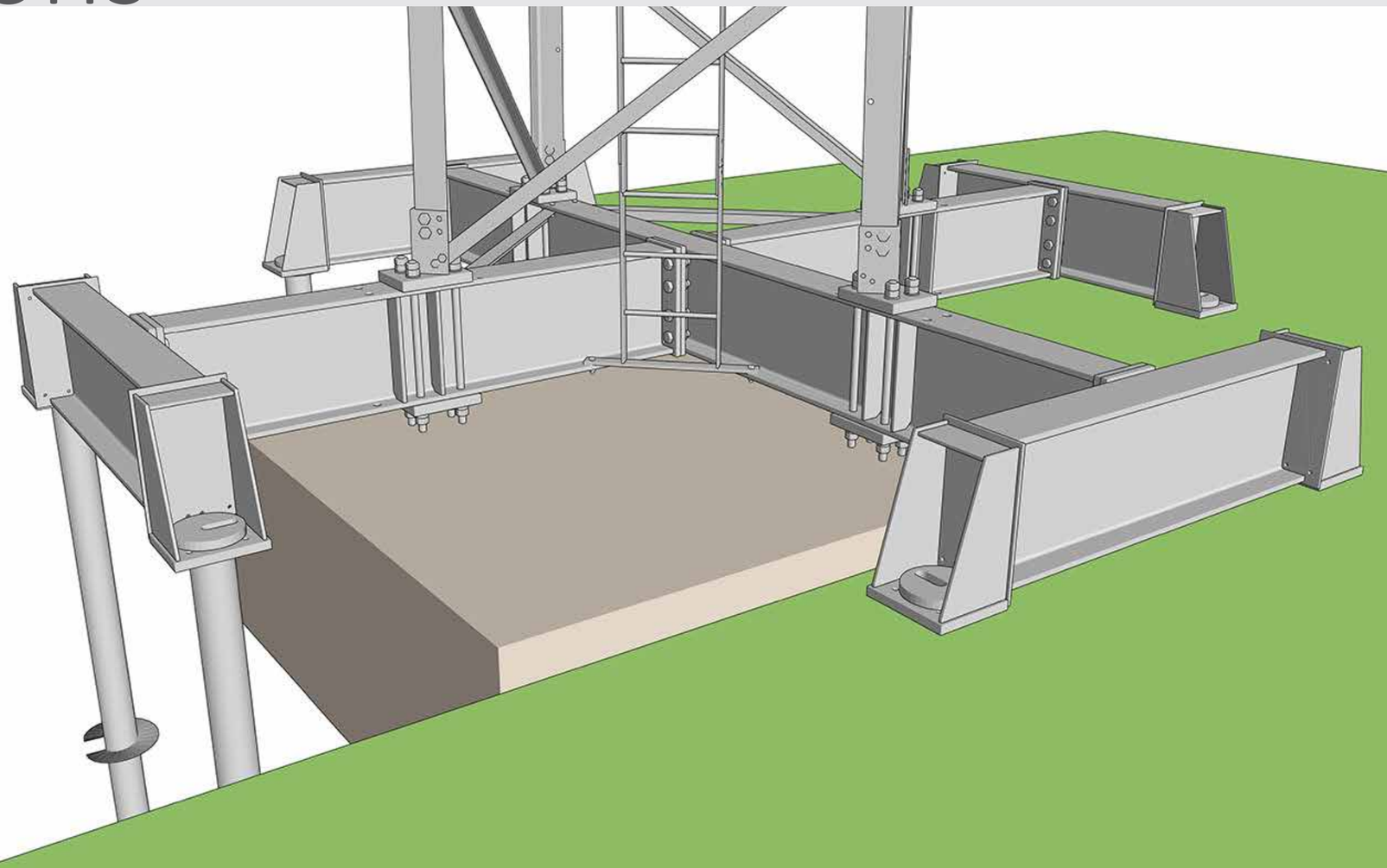
Integrated Cabinet Platforms

Sloping Sites

Bridging Services and Obstructions

Bridging Existing Bases

Flood Mitigation



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FLI structures

Screw Piles

Unlike mass foundations and most other pile types, screw piles work in both tension and compression and so are ideal for cantilever structures, like towers and gantries. They can also work well for platforms on embankments and in cuttings. Features include:

Rapid installation.

Limited outages for upgrade sites.

Suitable for sloping ground.

Low-cost solution for extremely soft ground.

Minimal excavation required so no cart away.

Foundation and structure can be installed back-to-back.

Suitable for bridging existing services and foundations.

Low noise, low impact solution.

No vibration, so suitable against historic structures.

No wet trades, so no chemicals or mess.

Low carbon emissions, removable and recyclable.

Low-cost solution for flood mitigation.

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FLI structures

Micropiles

Micropiles offer a low-cost solution for bedrock and hard ground. Micropile grillages are super-fast to install with a complete foundation in place in as little as two shifts, limiting the cost of Trackway and other site costs. The solution benefits from the same advantages as screw piled foundations, albeit some wet trades are unavoidable for grouting. For upgrading existing sites, outages are reduced as the piles can be installed with the existing tower still in place.

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FLI structures

Steel Interface Grillages

A grillage solution can be designed to fit within a tight, existing compound.

Taller towers need larger concrete foundations, which need more land and extended sites. FLI's steel grillage and screw pile foundations are narrower than their equivalent in mass concrete, so our foundations can usually be accommodated within existing site boundaries.

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FLI structures

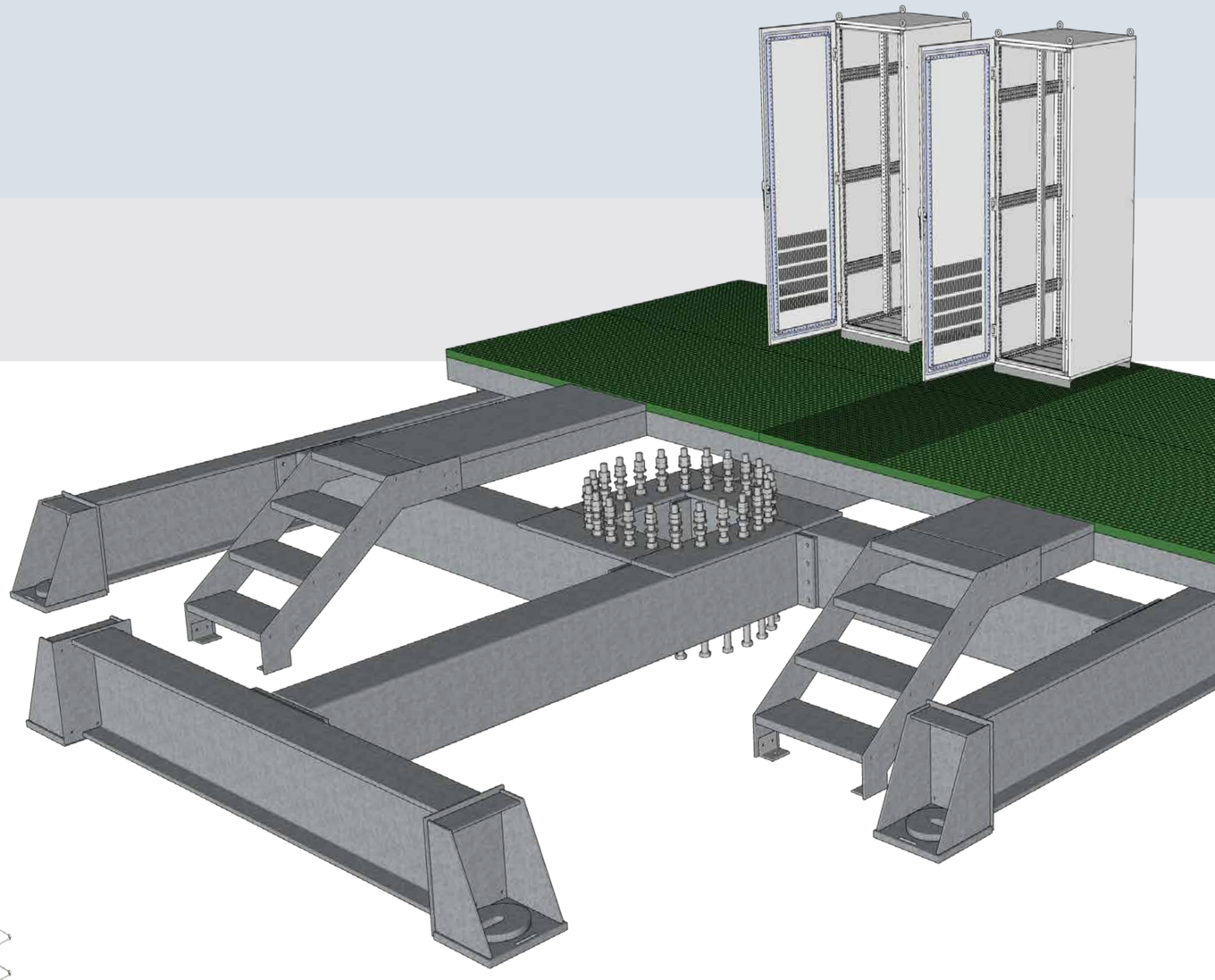
Redundant concrete left in place

Breaking out and removing the existing foundation is expensive. FLI's grillages with screwpiles or micropiles span the existing base and enable the concrete foundation to remain in place.

If needed, the existing base can be utilised as ballast to reduce pile tension forces and increase the efficiency of the solution.

FLI structures

Platform Grillages

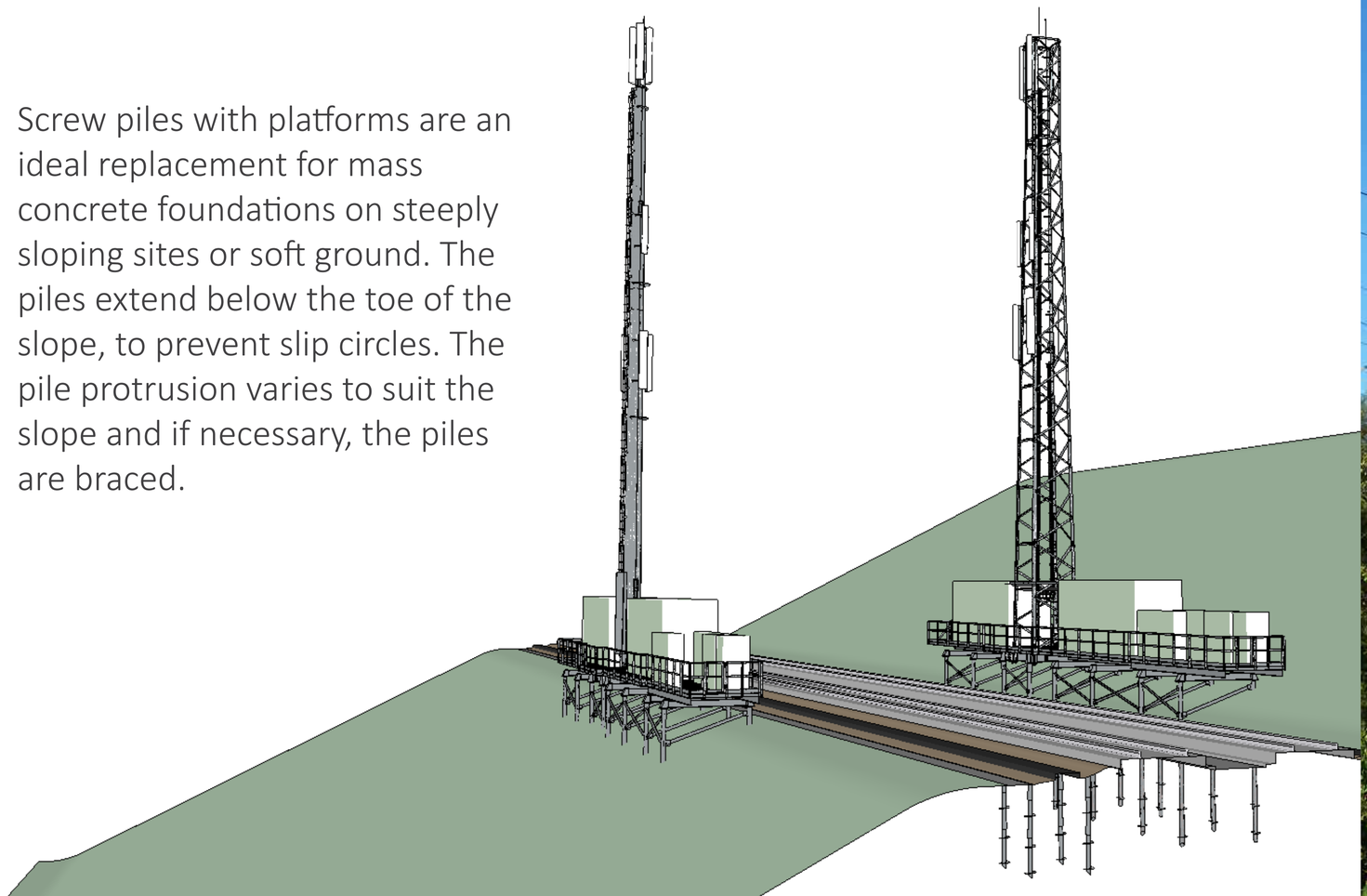


A cabinet platform supported on the grillage, saves space on site and facilitates an upgrade on a tight site without extending the land take.

FLI structures

Sloping Sites

Screw piles with platforms are an ideal replacement for mass concrete foundations on steeply sloping sites or soft ground. The piles extend below the toe of the slope, to prevent slip circles. The pile protrusion varies to suit the slope and if necessary, the piles are braced.



FLI structures

Low-cost flood mitigation

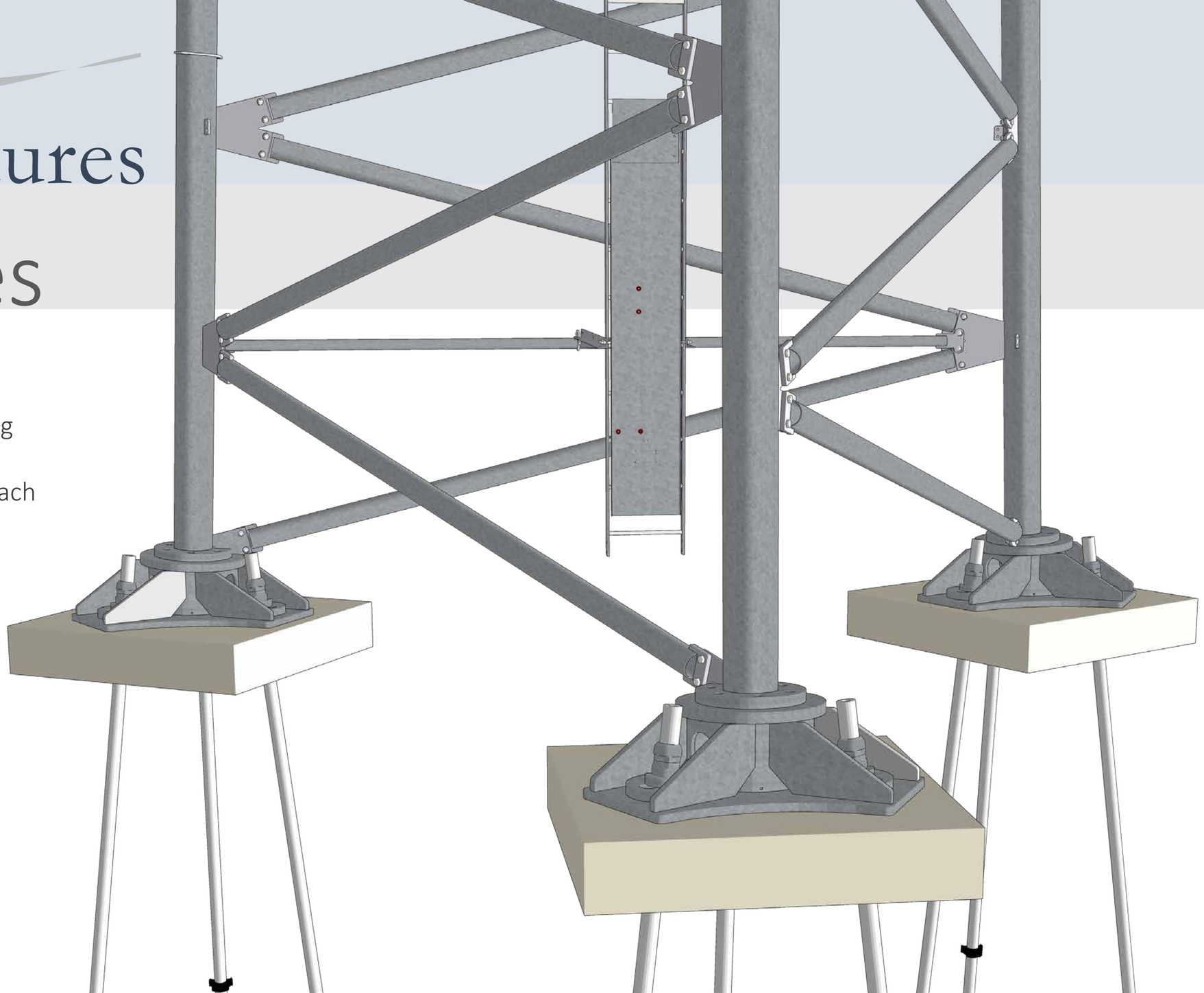
Flood mitigation for infrastructure is an increasingly costly undertaking.

Screw piles offer possibly the simplest, quickest and most cost-effective solution. The pile protrusion is simply increased, so that the installation will remain above floodwater.
As the piles are anchored deep in the ground, there is no risk of the installation being washed away and a concrete solution would require significant excess material to reach the required height.

FLI structures

Leg Grillages

Taller high-capacity towers have high leg forces. To avoid a large, heavy grillage, mini grillages with a pile group under each leg work well.



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FLI structures

Grillages for Monopoles

A rapid deployment foundation reduces timescales on both outage time and build.

Option of mounting cabinets on the grillages to save space.

Sustainable foundation solution, easily removed and 100% recyclable.

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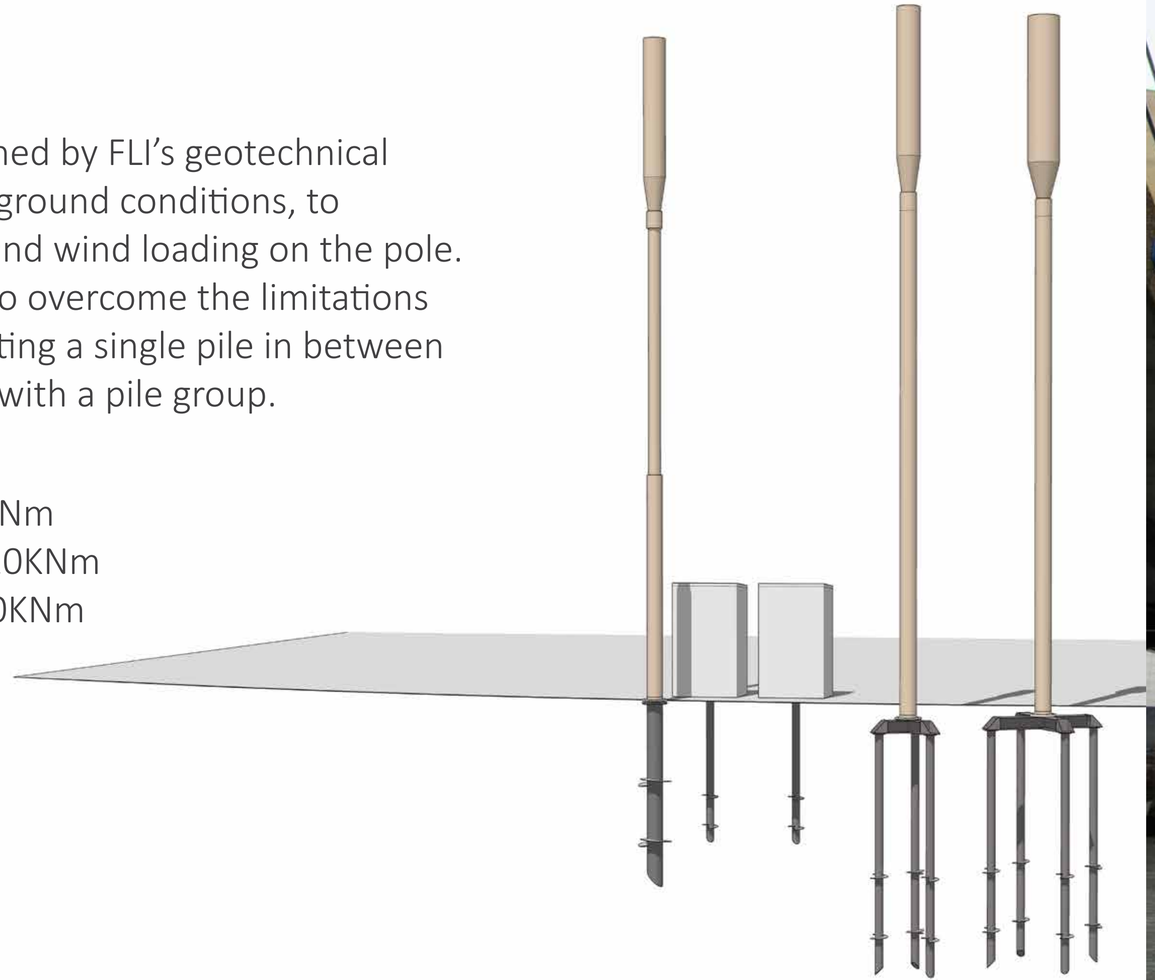
FLI structures

Grillages for Streetworks Monopoles

Screwpile foundations are designed by FLI's geotechnical engineers taking account of the ground conditions, to withstand vehicle impact loads and wind loading on the pole. FLI can provide various designs to overcome the limitations of root foundations, either by fitting a single pile in between or bridging over buried services with a pile group.

Capacities:
Single screwpile: OTM up to 80KNm
Triple pile grillage: OTM up to 110KNm
Four pile grillage: OTM up to 200KNm



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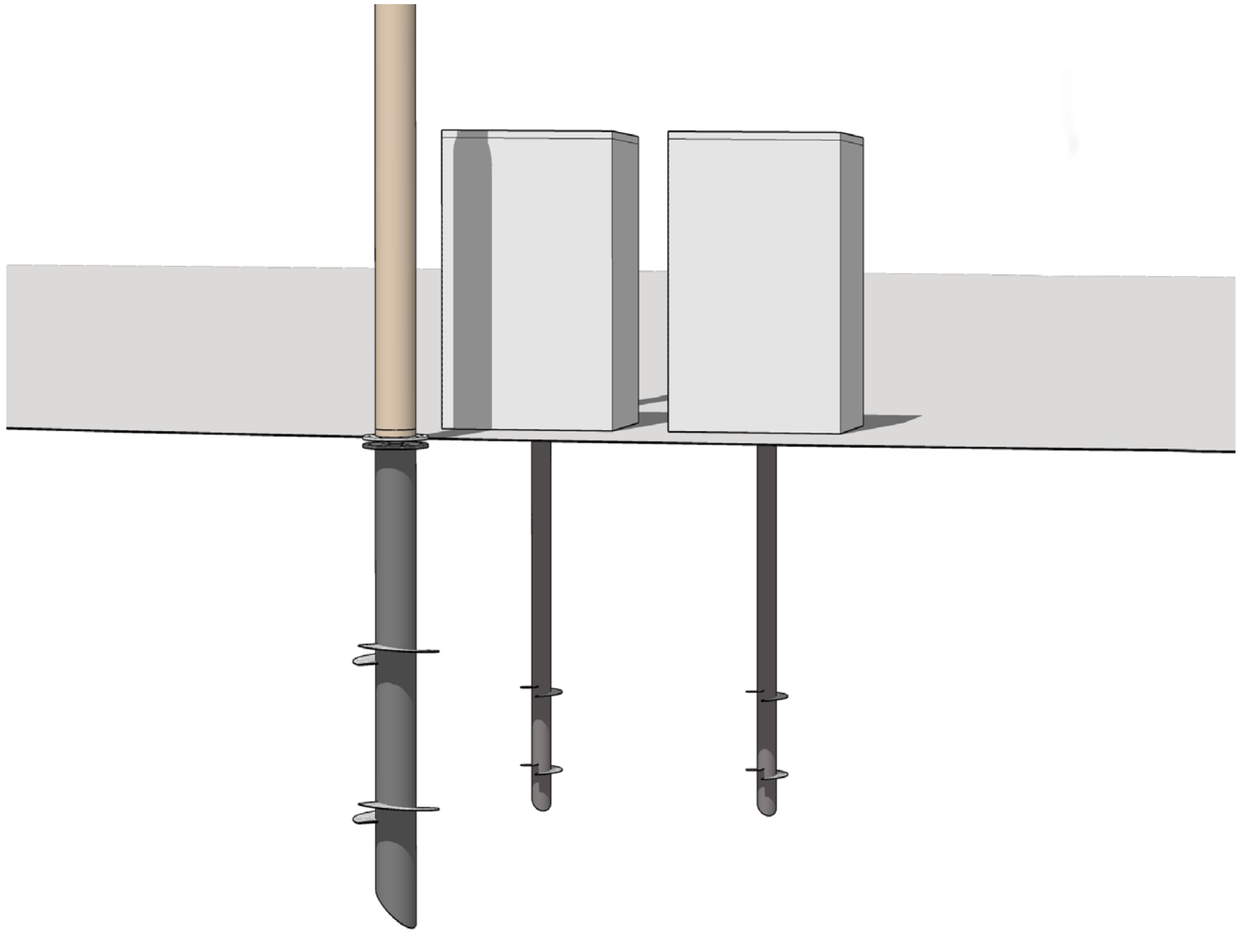
FLI structures

Screw Piles For Cabinets



FLI offers a simple single pile solution with a plate for mounting cabinets. It’s quick to install, flexible in terms of avoiding services and useful on sloping ground, avoiding the need to level off.