techno Metal Post
HELICAL PILE FOUNDATIONS



HELICAL PILES SUPPORT A RESIDENTIAL STRUCTURE ON A SLOPED SITE

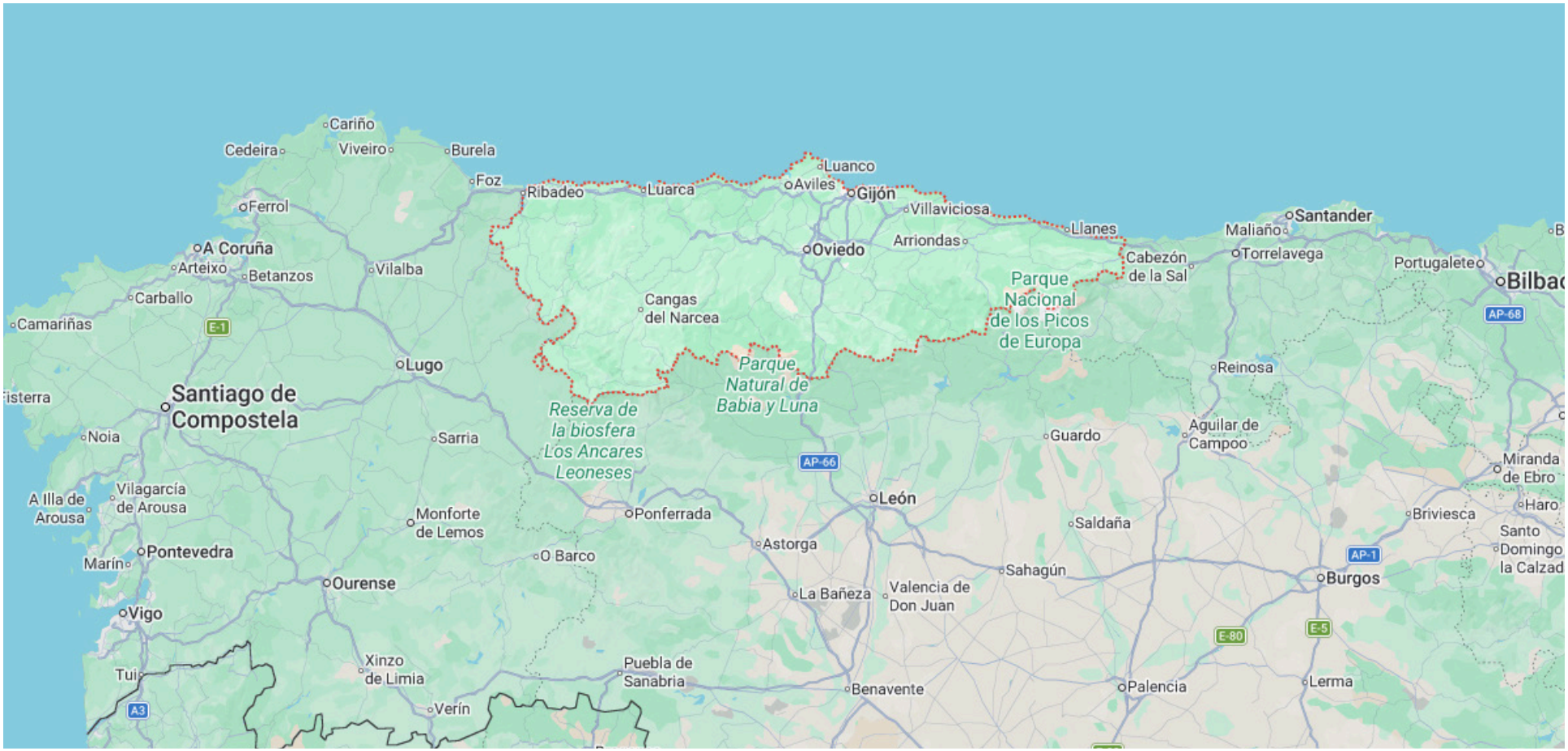
STRUCTURAL SUPPORT PROJECT ON PILES

Type of Project

- Installation of helical piles by Techno Metal Post Madrid for a residential structural project on a sloped site.

PROJECT LOCATION

Asturias, Spain



PROJECT OVERVIEW

This project involved the installation of helical piles for a residential structure built on challenging sloped terrain. The foundation design required careful adaptation due to significant level variations and underground rock conditions.

- **Equipment installed:** 18 helical piles P12 type
- **Installation depth:** 2 to 3 metres
- **Installation team:** 2 installers
- **Duration:** 3 days

CHALLENGES

- The project involved several technical challenges, including a steeply sloped terrain across the entire installation area and significant level differences between installation points, reaching up to 1.8 metres between the highest and lowest areas.
- The foundation layout also required multiple structural connections, adding complexity to the installation process. In addition, underground rock was encountered at one installation point, which prevented standard penetration, and the works had to be completed with limited manpower within a short execution timeframe.

SOLUTIONS IMPLEMENTED

- Installation of 18 P12-G helical piles at depths between 2 and 3 metres
- Precise adjustment of pile elevations to follow the slope:
  - On one side, piles were approximately 20 cm above ground level
  - On the opposite side, piles were up to 1.8 m above ground level
- Efficient coordination by a 2-person team, completing the full installation in just 3 days
- Overcoming the rock obstruction by installing an additional helical pile, reinforced with a triangular steel structure to ensure structural continuity

PROJECT



PROJECT



PROJECT



RESULTS / CONCLUSION

- Despite complex ground conditions, including a steep slope and unexpected rock obstruction, all 18 helical piles were successfully installed within the planned timeframe.
- The Techno Metal Post helical pile system provided a robust and adaptable foundation solution, ensuring reliable structural support in highly challenging terrain conditions.



DEALERSHIP:

TECHNO METAL POST MADRID