



METAFLO
technologies™



SoilTech Powers Sustainable Road from Indigenous Land

MetaFLO's biopolymer quickly turned a potentially hazardous unpaved road into a compact and durable surface while saving time and money.

CASE STUDY



PROJECT
SOILTECH – INDIGENOUS LAND ROAD

Alto Horizonte, GO, Brazil



Challenge

With regular heavy rain and 600 trucks passing through daily, the sandy clay soil road suffered severe structural impact and required continuous maintenance and labor. Due to the road being on Indigenous land, paving was not an option, and another solution was needed to increase the surface's density, stability and compaction.

Solution

To address these issues, MetaFLO applied 0.02% of SoilTech biopolymer to a 200x12x0.3 m3 track, demonstrating the technology's potential for road stabilization. When diluted directly in a water truck and applied to the track, SoilTech binds with the soil forming a hydrogel, while improving the soil's mechanical properties after it cures. The treated soil exhibited increased mass density, better compaction, enhanced layer stabilization, and improved impermeability.

Outcome

- ✓ **COST SAVINGS**
The use of SoilTech resulted in a 27% reduction in fuel consumption and emissions of polluting gases, along with 2 hours less labor. The total savings almost reduced the cost of the project by half (46%).
- ✓ **WATER SAVINGS**
40.000 liters of water were saved by using SoilTech instead of traditional methods, reducing water consumption by 50%.
- ✓ **ROAD QUALITY**
After curing for 24 hours, the soil's particle cohesion, compaction and impermeability were noticeably improved, leading to a more durable and resilient road surface.





Figure 1: Before SoilTech



Figura 2: After SoilTech

