

# GEOPIER®

## RAILWAY SUBGRADE IMPROVEMENT Technology - Success Story



### CLIENT'S CHALLENGE

The Geopier GeoSpike<sup>SM</sup> system was used to repair the subgrade on the mainline track in New Orleans for Norfolk Southern. The track was experiencing repeated vertical deflection which resulted in unfavorable settlements and dynamic deflection. These deflections caused repeated slow orders and service interruptions.

### Description

The subgrade issues at the project site were likely associated with the removal of an old turnout that was backfilled with poor material that degraded over time. Norfolk Southern had been periodically addressing the issue by raising and tamping the subgrade every few months but wanted a more permanent solution. Geopier was able to provide that permanent solution using its cost-effective GeoSpike system along an approximately 80-foot long stretch of track.

### GEOPIER® SOLUTION

The Geopier solution for this project consisted of 3 to 5 foot long GeoSpike<sup>SM</sup> elements installed so that the GeoSpike apexes were 1 ft below the existing ties. The GeoSpike elements were installed in pairs beneath every tie to resist a Cooper E-80 derived working load of 16 kips per GeoSpike. Approximately 70 GeoSpikes were installed along the 80 foot section in about 5 hours of total track time (over 3 days) using a hyrail excavator with vibratory driver. Geopier was able to work in-between trains and clear the track for traffic. The project was completed in conjunction with the switching operations with minimal impact on service and revenue.



**Norfolk Southern**  
**NO 193.4**

📍 New Orleans, Louisiana

**Norfolk Southern**  
Owner

**Katter Rail Services**  
Contractor

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