

Project Name: Stockport Long Timbers

Customer Organisation: J. Murphy & Sons Ltd.

Date: 04.02.2018 – 07.07.2018

Value; £75,000



The contractor was commissioned to replace life-expired longitudinal timber bearers on EJN/7, Stockport Road in Cheadle. EJN/7 is a long-timbered structure at 1m 1370yds consisting of a skewed span carrying the single bi-directional Down & Up Main line over Stockport Road between Edgeley Junction and Northenden Junction. The line was non-electrified with existing linespeed of 75mph and EMGTPA of 7 (due to increase to 20). Owing to the poor track quality there was an emergency speed restriction of 20mph in place over the structure.

The objective of works was to provide a solution to secure the vertical and horizontal movement of the longitudinal timbers as the horizontal wedges were insecure and requiring regular maintenance interventions.

Schedule of works:-

- Mobilise on site and prepare suitable compound and working area
- Remove rails and store for re-installation
- Remove all existing timbers and connection details, including chairs, waybeam packing and transom ties.
- Replace existing long timbers and baseplates
- Install packer plates, wedges and holding-down arrangement, including transom bars.
- Install track to line and level in accordance with Permanent Way AFC design.
- Construct a stiffness transition area either side of the structure, consisting of geo-web with rail-grid overlaid, with a minimum of 250mm of bottom ballast below sleepers.
- Supervise tamping of site

Standards adhered to:-

- Carry out stressing of rails in accordance with NR/L2/TRK/3011
- Carry out as-built survey to confirm installation was compliant with NR/L2/TRK/2102
- Works were checked and documented by competent and experienced track handback engineers in accordance with NR/L3/TRK/1016 and NR/L2/TRK/001/mod13.
- Manage critical rail temperature in accordance with NR/L2/TRK/001/mod14
- Technical Approval in the Design of Track Infrastructure - NR/L2/TRK/2500
- Management of tight clearances and track position - NR/L2/TRK/3201
- Permanent Way Standard drawings (RE/PW series) NR/L2/TRK/7004
- Technical Approval in the Design of Track Infrastructure - NR/L2/TRK/2500
- Waterproofing Underline Bridge Decks - NR/GN/ICIV/001
- Track Design Handbook - NR/L2/TRK/2049
- Design and Construction of Undertrack Crossings - NR/SP/CIV/044
- Wood Sleepers, Bearers and Longitudinal Timbers - NR/SP/TRK/029
- Management of Gauging and Clearances - NR/SP/TRK/036
- Long Timbers - Design, Installation & maintenance - NR/L2/TRK/3038
- Installation & Maintenance of Longitudinal Timbers - NR/SP/TRK/9003

Risk Reduction Measures Taken During Works:-

- The linespeed was raised in a staged manner to permit regular post-work inspections prior to re-opening to linespeed.
- Void meters were installed throughout the transition lengths to detect any areas of insufficient consolidation and follow-up works were planned to rectify any issues arising.
- The use of low-vibration hand-held plant was procured to minimise the exposure of the workforce to HAVs whilst drilling and fixing the ancillaries.
- S&T cables were identified and protected prior to works to prevent damage.
- Depth and location of structural elements were established prior to works so that transitional excavations could be controlled to prevent damage.
- Safe manual handling was achieved by identifying the weights of items at the planning stage and procuring adequate plant.