

MANNINGTREE STATION

Lift shafts within an operational railway station

SHAFT SINKING / RESTRICTED ACCESS / SAFETY THROUGH DESIGN

Specialist shaft-sinking expertise supporting step-free access, with hand excavation and hydraulic jacking within hoarded working areas on existing platforms.

TWO LIFT SHAFTS

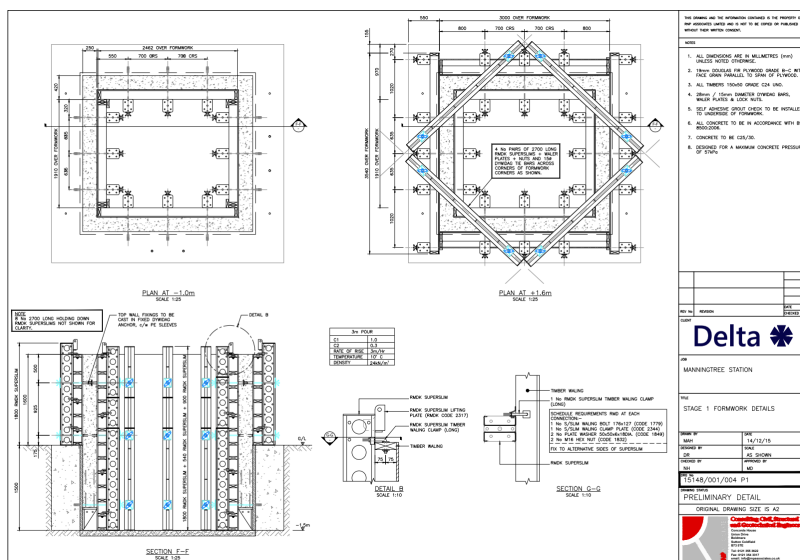
Access to the existing subway

LIVE PLATFORMS

Enclosed working areas

JACKED CAISSONS

Controlled shaft sinking



COMPLETED LIFT ACCESS

Manningtree Station, pictured in September 2021. Photo source: ITV News Anglia.

Original RNP Associates drawing for Delta: Stage 1 Formwork Details, 15148/001/004 P1, dated 14 December 2015. Historical preliminary design; not for construction.

THE CHALLENGE

Construct lift shafts in a constrained station environment, linking the platforms to the existing subway while maintaining separation between the works and railway users.

OUR SPECIALIST CONTRIBUTION

Through Delta Civil Engineering, our team developed the shaft-sinking approach using our jacking system, with hand excavation inside hoardings on a live platform.

The original brief proposed rectangular caissons approximately 6m deep, with the shaft walls forming part of the permanent works and new passageways connecting to the subway.

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SAFETY THROUGH PLANNING

A controlled method for deep excavation beside an operational railway.

01 SEPARATE PEOPLE AND WORKS

Hoarded work areas separated shaft operations from the live platform. Maintaining passenger routes, secure boundaries and controlled access was central to the working environment.

02 CONTROL THE SHAFT SINKING

Hand excavation and hydraulic jacking formed the construction method. The design package addressed the concrete collar, steel cutting shoe and jacking beam arrangement.

03 ENGINEER THE TEMPORARY WORKS

Bespoke formwork details addressed the casting of shaft sections. The correspondence also identified a temporary working floor for incorporation into the Work Package Plan.

04 PLAN THE RAILWAY INTERFACES

The scheme required coordination of design, construction sequence and station operations. Railway access, isolations and the interfaces with the existing subway were planning considerations.

THE SUPPORTING PROJECT RECORD

Engineering and work-planning records identified in the project correspondence:

DESIGN CALCULATIONS + DRAWINGS

RNP package 15148/001, issued 18 December 2015: calculations, preliminary drawings and document register for the collar, cutting shoe and jacking arrangements.

NETWORK RAIL FORMS F002 + F003

Statement of Design Intent and Certificate of Design and Check documents were included in the engineering submission package.

WORK PACKAGE PLAN + METHOD REVIEW

WPP-CLE-802-010ca and January 2016 correspondence record review of excavation arrangements, supporting RAMS and the proposed temporary working floor.

INSPECTION + QUALITY DOCUMENTATION

The published project account also records Inspection and Test Plan documentation, shaft waterproofing and connections into the existing subway.

Project record: Delta / RNP correspondence, November 2015-January 2016; RNP drawing 15148/001/004 P1. Published context: OCL Capability Profile, April 2017, p15 (OCL workforce scope).

Historical case study. The forms listed evidence the assurance process; final signed Network Rail acceptance is not reproduced or asserted here.