# ANI2 Spey Viaduct

## Topographic Survey & Laser Scan Survey

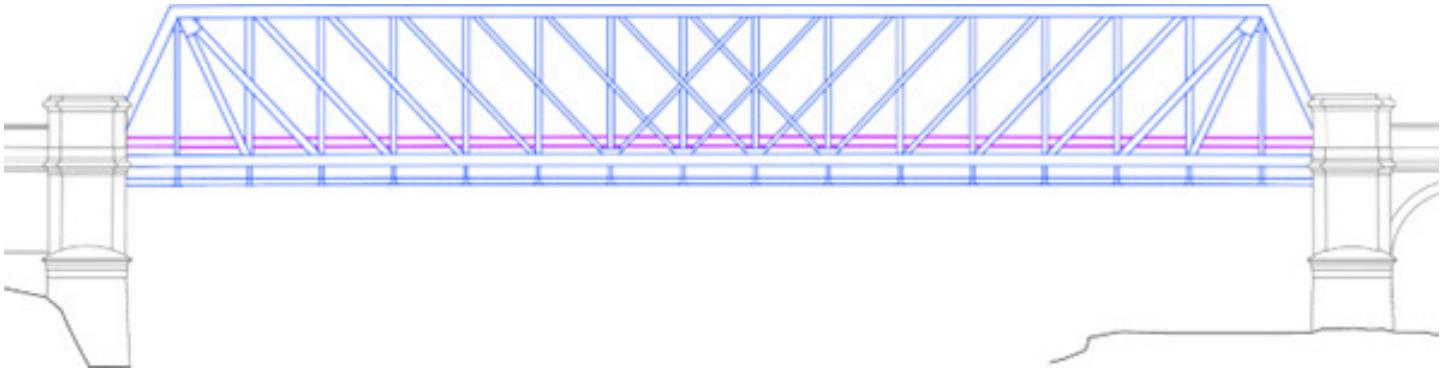
**Location:** Spey Viaduct, Scotland
**Principal Contractor:** QTS Group
**Principal Designer:** AECOM
**Client:** Network Rail
**Value:** £200k
**Timescale:** 1 Week

### The Project

As part of a GI/SI contract we were asked to undertake by AMCO in 2018. We had a requirement to carry out a topo survey of Spey (Orton) Viaduct on the ANI2 lines. A major prerequisite of the specification was that very detailed cross sections were to be produced of the 690m long structure alongside electronic plan views of the structure and surrounding area.

### Works Carried Out

Our team of 2 surveyors carried out the survey over the course of 1 week. One surveyor tackled the topographic survey element using a TS15 total station kit. The other surveyor used a Leica P40 Laser Scanner set up in various locations to get a highly detailed scan of the entire viaduct. Both elements of the survey were tied into OSGB36 coordinate system using Leica GPS kits.



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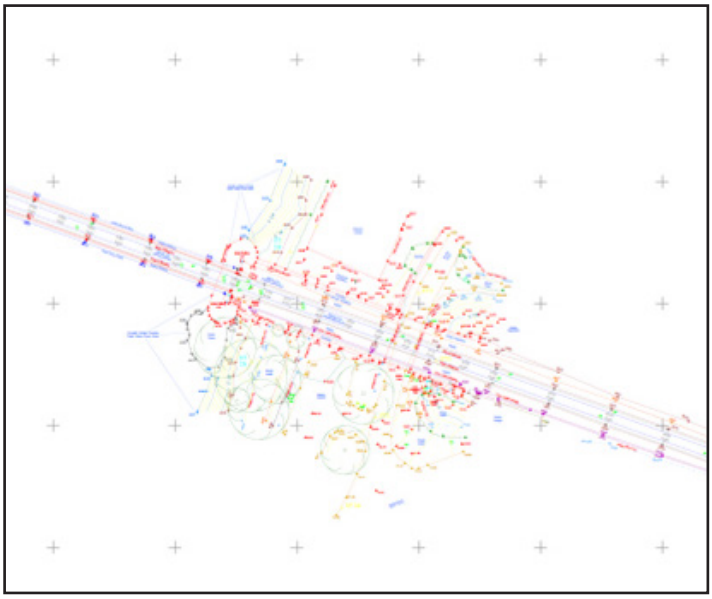
## Topographic Survey (Bridge Cross Sections)

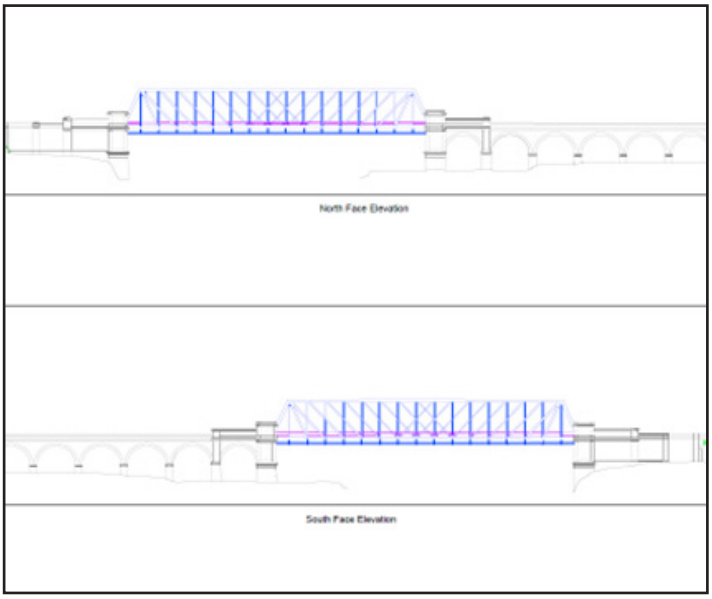
Full details of the bridge structures are required including:

- Full shape of the structure (including internal opening, parapet top and road level)
- Surveyed dimensions (internal shape) of inlet and outlet of structure, including bed levels at openings
- Four surveyed cross-sections are required at each bridge. The first, to be labelled "Bridge X D/S" is to be taken approximately 5 metres downstream of the outlet. The second and third, to be labelled "Bridge F D/S" and "Bridge F U/S, are at the downstream and upstream face of the bridge. The forth, to be labelled "Bridge X U/S" is to be taken 5 metres upstream of the inlet. Upstream and downstream bridge information (invert, soffit, material, opening and wingwall dimensions) are required for each bridge.
- Surveyed bridge parapet levels and road levels. Levels to extend 15 - 20m on either side of structure, beyond river bank.

## Final Output

Processing works were then carried out the following week. LSS software and Autocad were used to produce highly detailed plans and cross section drawings of the site as requested in the topographic specification.



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