



matt durbin associates
.....engineering integrity

Lee Moor Culvert Installation

As part of the ongoing Tungsten Mine works in Plymouth, CA Blackwell are installing a road diversion to enable the expansion of the mine. As part of this new road diversion, MDA were appointed to install 2 No new flood relief culverts. The works shown below are the larger of the two culverts, with each unit measuring 5.5m wide by 2.8m high and weighing 27 tonnes. This document highlights the installation process from start to finish.



These photos show the preparation of the works area including installing the sub-base layers, mass concrete blinding, and the installation of the 6L sand layer prior to the culverts being installed.



It can be seen from the photos below that MDA use a system of installing aluminium tubes within the sand layer which assists when positioning the large 27 tonne culvert units.



The photos below show the start of the culvert installation process. MDA used a 200T mobile crane to lift the units into place. The PCC units were delivered by Shay Murtagh on a 'Just in Time' system and were unloaded from the wagon and lifted straight into position. The wing walls were sat upon a PCC toe beam that acted as a lateral restraint for the culvert structure. These toe beams had starter bars that tied into the insitu RC inlet and outlet slabs which can be seen on the following page.



Lee Moor Culvert Installation



The photo above shows the inside of the culvert units after the external waterproofing was completed. Once the inside of the culverts was completely dry, the internal joint sealing could begin.



These photos show the toe beam being installed, the insitu reinforced concrete slab being poured and the external baffles on the inlet slab being installed.



The photos above show the completed inlet structure and the entire length of the structure from an elevated viewing platform. These works were completed in poor weather conditions and it is a testament to the site team that the works were completed in only 12 working days without any accidents, incidents or near misses.