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## Tunnel Tech North – Phase 1 Mushroom Compost Bunkers

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### Client

Tunnel Tech North Ltd

### Civil Designer

Melia Smith & Jones Ltd

### Process Design Co-ordination

Growing Designs Ltd

### Civils Contractor

Ashridge Construction Ltd

Melia Smith & Jones were asked to provide the Civil Engineering Design support for the installation of some Stage 1 Mushroom Composting Bunkers at Tunnel Tech's facility near Bawtry. The installation was initially for 4 Bunkers, each 8m square in cross section and 50m long. This subsequently increased to 7 bunkers with the design allowing for 6 more to be added in the future.



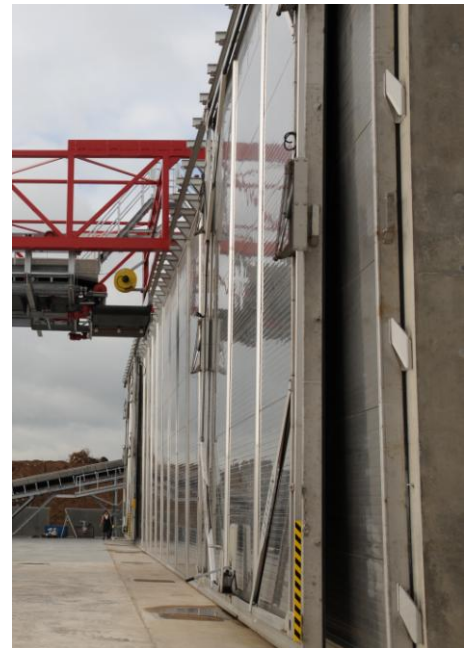
Following discussion with the Client, Melia Smith & Jones were appointed as the civil designers for the whole stage 1 development and also provided an overall development plan for the future expansion of the entire site.

Melia Smith & Jones worked closely with the Process Design Co-

ordinator to develop solutions to allow for the installation of the under-floor aeration equipment; bunker

ventilation; bunker doors and lifting gear; filling crane rails; filling conveyor system; straw bale handling and mixing area; control and electrical switchrooms; leachate and rainwater collection, water distribution and storage around the site. One particular challenge was to design and construct before equipment suppliers had been appointed to allow the client flexibility in selecting the best solution.

The concrete bunkers are designed to cope with temperatures up to 60°C, 100% relative humidity and very high nitrate and ammonia concentrations. Operations required that one bunker would be in use whilst the one next to it was empty. The roof therefore incorporates pre-cast concrete elements mounted on continuous sliding bearings on the tops of all the walls. This allows the roof to expand and contract without overstressing its' supports.



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