



## Forensic Engineering Support for Clancy: TVB and SLR Earthworks Models

**Client:** Clancy Group

**Consultant:** Magnus Civil Engineering Ltd

**Location:** Two Villages Bypass & Sizewell Link Road, Suffolk

**Form of Contract:** Bespoke Fixed Price

**Scope:** Verification, refinement, and forensic breakdown of earthworks models across TVB and SLR alignments, including resoiling volumes, formation trims, and error rectification for production of mass haul.





## The Challenge

To meet the increased demand for UK Energy Security by capital expansion of Sizewell C Nuclear Power Station - the 6.5km Sizewell Link Road and the 1.8km Two Village Bypass are required to be constructed to alleviate local traffic implications.

Clancy - pricing the Earthworks Packages- required final earthworks models and drawings to support the mass-haul under to achieve target cost. When in contract, late-stage design clarifications and critical model errors emerged and a substantiated audit trail was required to recover costs.

## Key Issues

- Resoiling volumes required re-splitting by section and area (inside/outside model areas).
- Formation trim areas were undefined, impacting surface calculations.
- Material discrepancies: 1,499m<sup>3</sup> soil misclassification in TVB; pond formation depth errors in SLR.
- Void spaces improperly included within Section 4.2 earthworks.
- Inconsistent topsoil strip hatching on original models.
- Design crossfall and contour anomalies requiring rectification.





## Magnus' Solution

Magnus adopted a forensic approach to navigate these challenges without delay claims, supporting Clancy's commercial position through proactive issue identification and fast reworking.

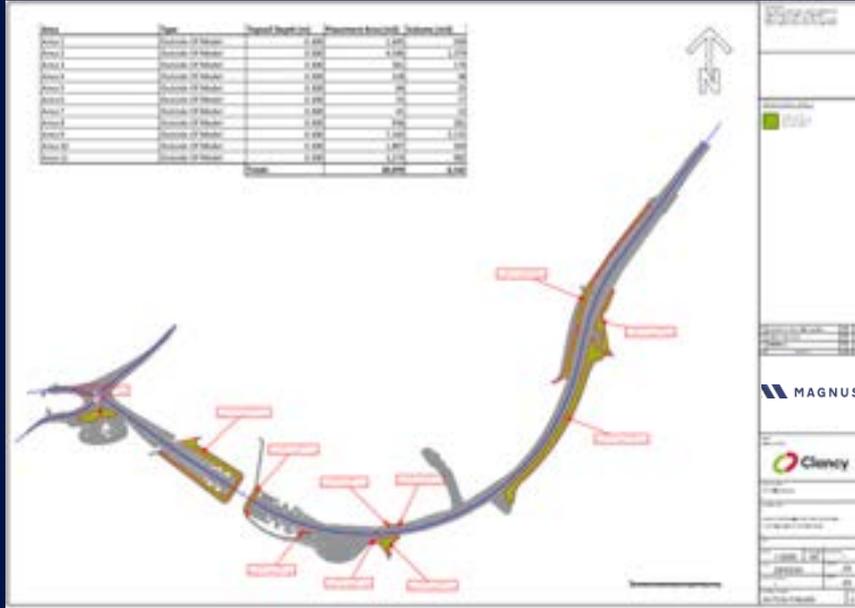
### Actions Taken

- **Model Breakdown:** Delivered revised TVB drawing and SLR drawing with corrected earthworks splits.
- **Error Identification:** Highlighted and corrected cumulative discrepancies (+1,499m<sup>3</sup> soil, pond formation adjustments).
- **Formation Area Clarification:** Built missing m<sup>3</sup> areas into the revised drawings.
- **Drawing Reissues:** Fast-tracked new Bulking Sheets and Topsoil Strip Keys to support certification.
- **Change Management:** Maintained transparent communication on all design quality issue

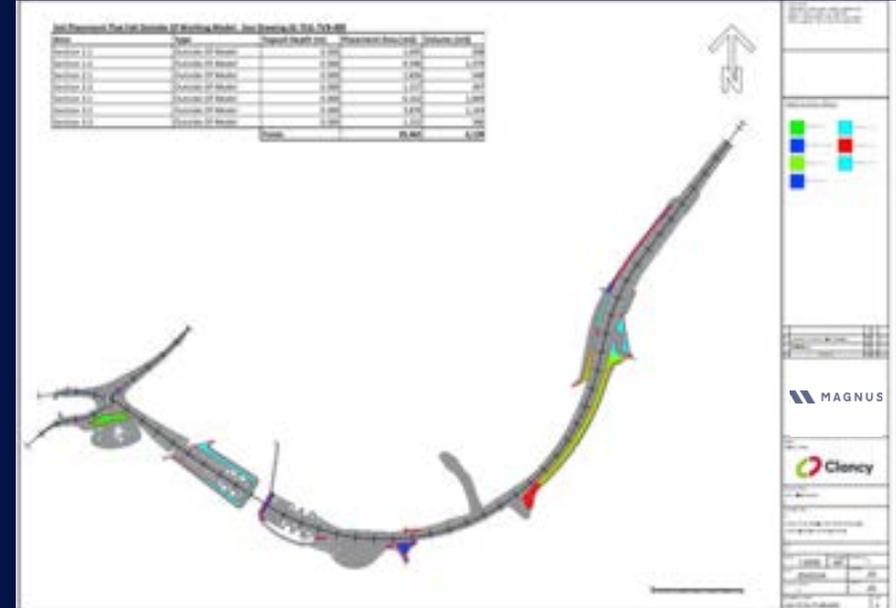




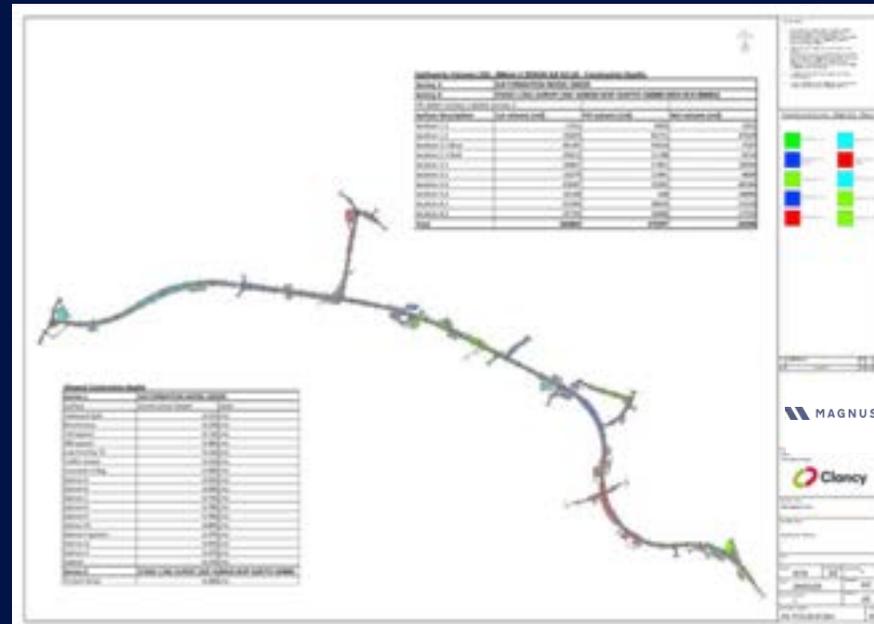
TVB Earthworks Split - JG-TCG-TVB-006 R2



SLR Earthworks Volumes - JG-TCG-SLR-004 R2



Topsoil Strip (Revised Hatching) - JG-TCG-SLR-005



## Impact Delivered

- **Commercial Protection:** Ensured Clancy was not commercially exposed due to incorrect volume miscalculations for the cut & fill balance.
- **Audit-Ready Deliverables:** All outputs structured for immediate integration into NEC payment applications.
- **Stakeholder Confidence:** Built clear evidential links between design changes, timelines, and project valuation milestones.
- **Risk Reduction:** Proactively surfaced design inconsistencies preventing margin erosion via major muck-away activities in construction phase.

## Looking Ahead

- **Early-stage involvement from Magnus CQP has proven critical in protecting commercial entitlement. Future phases would benefit from even earlier ECI engagement, leveraging Magnus' capability to.**
  - Validate ground models pre-tender.
  - Highlight design weaknesses early.
  - Build payment substantiation structures in parallel with delivery.
  - Provide 3D Machine Control Engineering & Technical Support during construction phase.





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