longitudinally to approximately equalise packings. Lattice beam to be bolted to columns with access to the internal end of fixings being provided by access from the top of the column. V brackets installed. 50mm dia tie bars temporarily installed to check fit. Undertake preliminary lattice beam fix at each end of lattice beam. Only remove crane support when preliminary fix is complete at both ends of the beam.

(i) As soon as practical (ie when lattice beam is preliminary fixed both sides of a column), undertake final lattice beam fix to lower lattice beams. Monitor verticality of columns throughout tightening and adjust packing at lattice beam ends as required.

(j) When final fix of lower lattice beams is complete at a column location, upper part of column may be installed.

(k) Re-assemble/assemble erection frame around lower lattice beam.

(l) Upper column to be placed into U shaped erection frame via approved lifting beam. Guide rail to be fixed to column. Projection of column below dismantling frame to coordinate with levels of lower column and dismantling frame splice positions. 4th side of erection frame to be fitted together with all clasps and internal access platforms. Consideration to be given for securing access ladders at this stage. Adopt 'Permit To Lift' procedure incorporating a full check on the security of the column within the frame.

(m) Upper column/lower column connection bolts to be prefixed on site into the upper column. Once the upper column is in position it will no longer be possible to access the top side of these bolts and as such bolts must be installed though original holes (pointing downwards) and secured using circlips or by a similar method to allow the upper columns to be lowered onto the column beneath with the projecting bolts being guided through the holes in the top of the lower column. Upper column to be lifted into vertical position and carefully installed over lower column.

(n) Fit lifting frame to column and support column via crane. Release clamps full height.

(o) Column verticality and orientation to be checked against target line and level as established from the 3D survey and, position adjusted to suit. Nuts and washers fitted and tightened, projecting blind bolts from column above to be held from beneath to facilitate tightening.

(p) Upper lattice beams to be lifted in accordance with previously approved methods. Knee plate 'ends' are prefixed to top of beams. Beams to be seated on column castings whilst crane support maintained. Position lattice beam longitudinally to approximately equalise packings. Lattice beam to be bolted to columns with access to the internal end of fixings being provided from the top of column. V brackets installed. Undertake preliminary lattice beam fix at each end of lattice beam. Undetake preliminary fix of knee plate. Only remove crane support when preliminary fix is complete at both ends of the beam.

(q) As soon as practical (ie when lattice beam is preliminary fixed both sides of a column), undertake final lattice beam fix to upper lattice beams. Monitor verticality of columns throughout tightening and adjust packing at lattice beam ends as required.

(r) Undertake final fix to knee plate.

(s) Fully grout up base plate.

(t) Remove elements of upper erection frame as necessary for the installation of the lower drainage capital and upper cornice. Lower drainage capital to be installed on a bed of mastic.

(u) Access covers incorporating ventilation to be fixed in position within lower drainage capital on a bed of an approved mastic.

(v) Dismantle and remove upper erection frame and erection frame in the vicinity of the junction between the upper and lower column all as necessary to install the 'central' section of the guide rail and the joint covers.

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(w) Joint covers to be lifted into position utilising a purpose made cradle and set on bed of an approved mastic. 50mm tie bar to be temporarily removed to allow the installation of the joint covers. Tie bars to be re-installed and receive final tightening.

(x) Inspections: At intervals throughout the re-erection, and following plumbing and tightening up works, the structure shall be made available for inspection by the Project Engineer. Access shall be provided by the erection frames where still in place and via the Contractor mobile access platform in all other instances.

(y) Making good paintwork: Site fixings specified are galvanised where available. All site fixings are to be etched and painted to the Clients specification to match the new paint system to the structure.

(z) Damage to paintwork: Any damage to paintwork is to be made good to the Clients specification.

(aa) Following completion of the re-erection works, final tightening of all joints, making good to damaged paint and painting of fixings, and removal of erection frames, the structure shall be made available to the Client, their Engineers and / or representatives to undertake a snagging visit utilising the Contractors mobile access platforms.

APPENDIX A

Key to Gas Holder 8 Guideframe Elements

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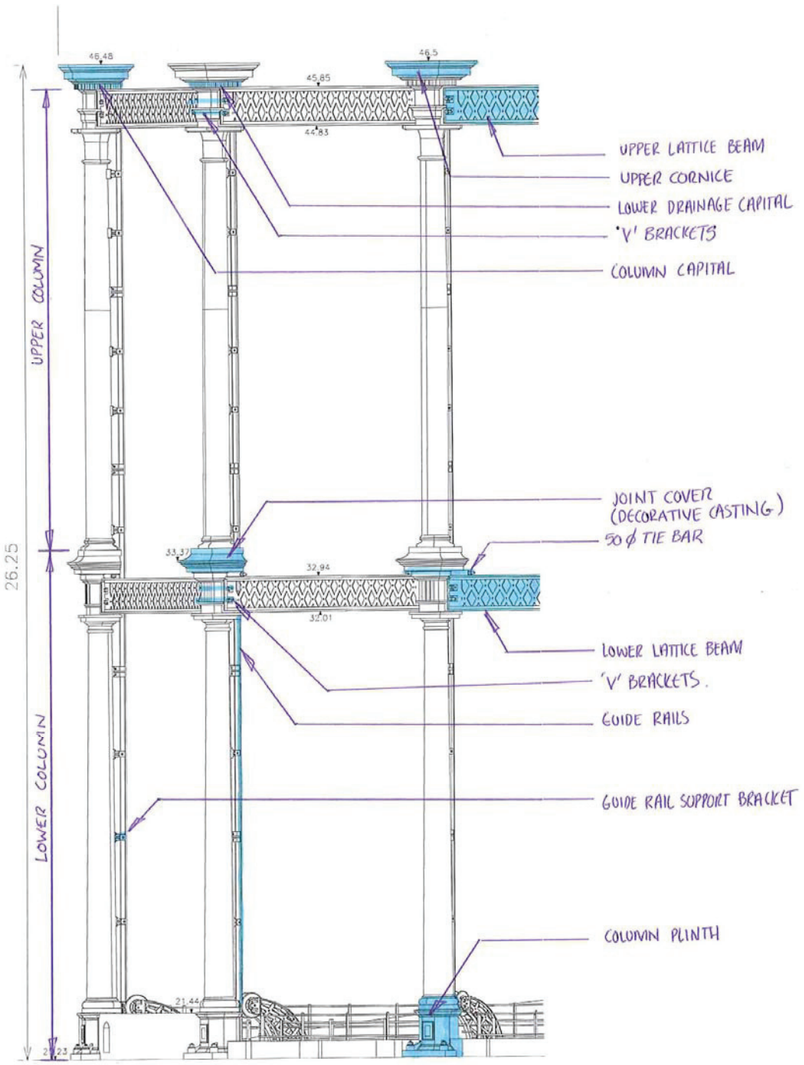

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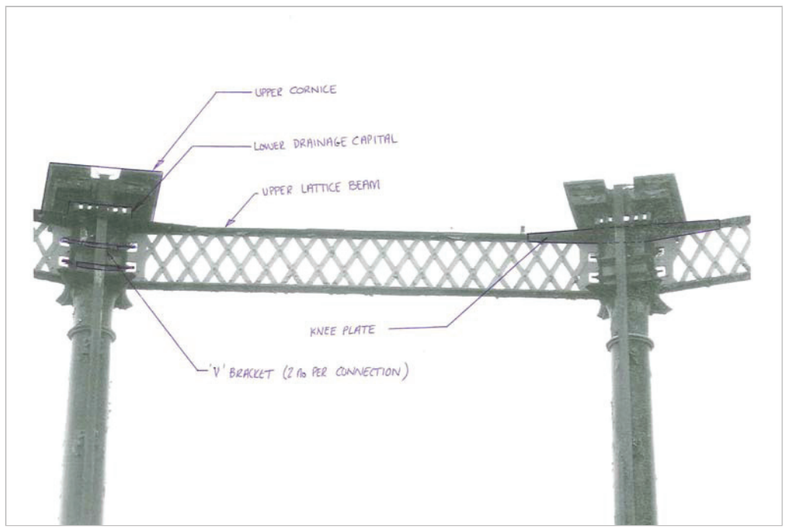

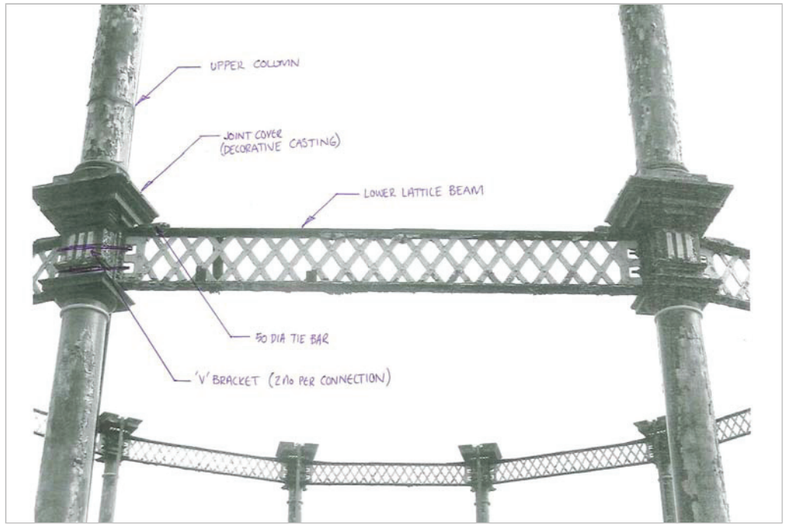

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APPENDIX B
Sequence of Erection

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Re-Erection Sequence – Method Statement

This sequence for the re-erection works is to be read in conjunction with ‘sketches’ – Re-Erection Sequence – Stages 1-6 inclusive.
This method statement principally details the re-erection works sequence of operations. For the detailed assembly of components see the Erection Method Statement.

1. Erect lower columns over HD bolts cast in rc piers to their required 3D setting out positions.
2. Preliminary fix all lower lattice beams. Adjust all lattice beams prior to final fix of central lattice beam including end connections to adjacent lattice beams. Check subsequent to final fix of central lattice beam that the position of adjacent lattice beams remains satisfactory.
3. Erect upper columns on lower columns to their required 3D setting out positions.
4. Preliminary fix top lattice beam.
5. Install two further columns, one each side of those previously erected, to their required 3D setting out positions.
6. Preliminary fix the lower lattice beams labelled 6.
7. Adjust both pairs of lattice beams (labelled as 6 & 7) prior to final fix of lattice beams labelled 7 at connection with lattice beams labelled 8.
8. Check subsequent to final fix of lattice beams labelled 7 that the position of adjacent lattice beam (labelled 8) remains satisfactory.
9. Erect upper columns on lower columns to their required 3D setting out positions.
10. Preliminary fix upper lattice beams labelled 10.
11. Adjust both pairs of lattice beams (labelled as 10 & 11) prior to final fix of lattice beams labelled 11 at connection with lattice beams labelled 10.
12. Check subsequent to final fix of lattice beams labelled 11 that the position of adjacent lattice beam (labelled 10) remains satisfactory.
13. Grout base plates to columns.
14. Install top capital ‘lower drainage capital and upper cornice’ prior to the removal of the upper column erection frames.
15. Install joint covers and the ‘central’ guide rail section prior to removal of the lower column erection frames.
16. Utilising the ‘newly’ available lower erection frames, install two further columns, one each side of those previously erected, to their required 3D setting out positions.
17. Preliminary fix the lower lattice beams labelled 17.
18. Adjust both pairs of lattice beams (labelled as 18 & 19) prior to final fix of lattice beams labelled 18 at connection with lattice beams labelled 19.
19. Check subsequent to final fix of lattice beams labelled 18 that the position of adjacent lattice beam (labelled 19) remains satisfactory.
20. Erect upper columns on lower columns to their required 3D setting out positions.
21. Preliminary fix upper lattice beams labelled 21.
22. Adjust both pairs of lattice beams (labelled as 10 & 11) prior to final fix of lattice beams labelled 11 at connection with lattice beams labelled 10.
23. Check subsequent to final fix of lattice beams labelled 11 that the position of adjacent lattice beam (labelled 10) remains satisfactory.
24. Grout base plates to columns.
25. Install top capital ‘lower drainage capital and upper cornice’ prior to the removal of the upper column erection frames.
26. Install joint covers and the ‘central’ guide rail section prior to removal of the lower column erection frames.
27. Utilising the ‘newly’ available lower erection frames, install two further columns, one each side of those previously erected, to their required 3D setting out positions.
28. Preliminary fix the lower lattice beams labelled 28.
29. Adjust both pairs of lattice beams (labelled as 28 & 29) prior to final fix of lattice beams labelled 29 at connection with lattice beams labelled 28.
30. Check subsequent to final fix of lattice beams labelled 29 that the position of adjacent lattice beam (labelled 28) remains satisfactory.
31. Erect upper columns on lower columns to their required 3D setting out positions.

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32. Preliminary fix upper lattice beams labelled 32.
33. Adjust both pairs of lattice beams (labelled as 32 & 33) prior to final fix of lattice beams labelled 33 at connection with lattice beams labelled 32.
34. Check subsequent to final fix of lattice beams labelled 33 that the position of adjacent lattice beam (labelled 32) remains satisfactory.
35. Grout base plates to columns.

The sequence continues following the same pattern until the structure re-erection is complete.

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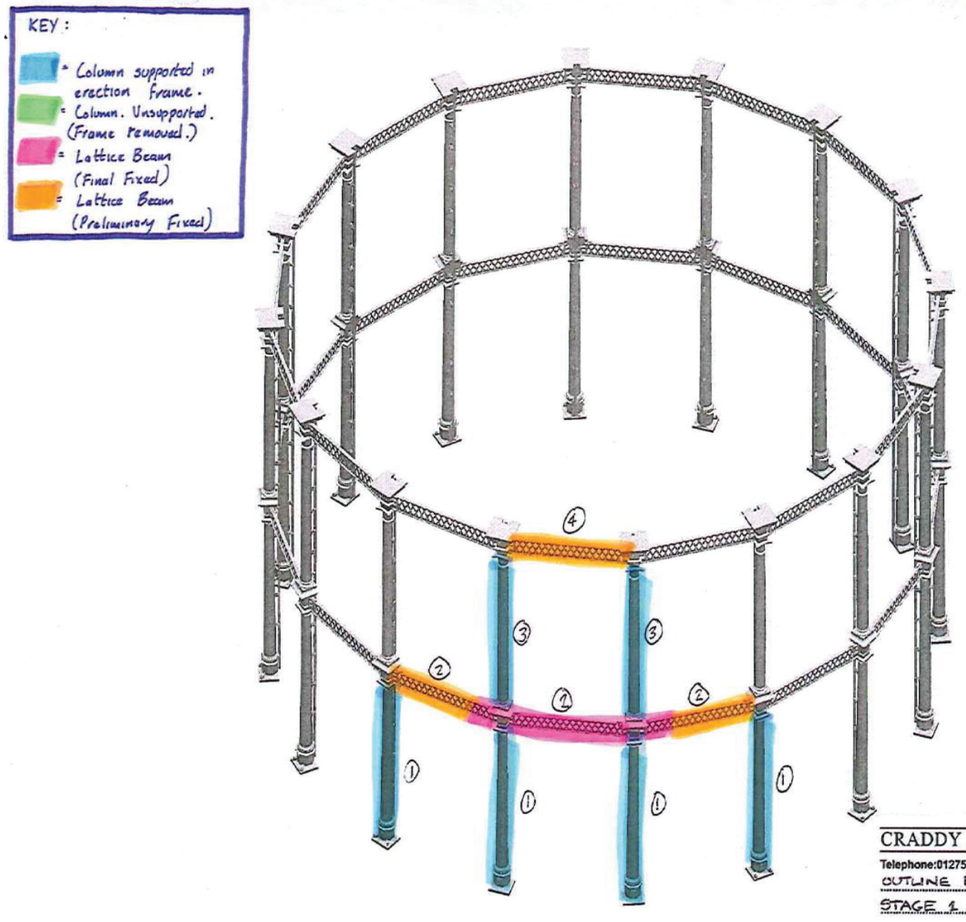

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OUTLINE RE-ERECTION SEQUENCE
STAGE 1

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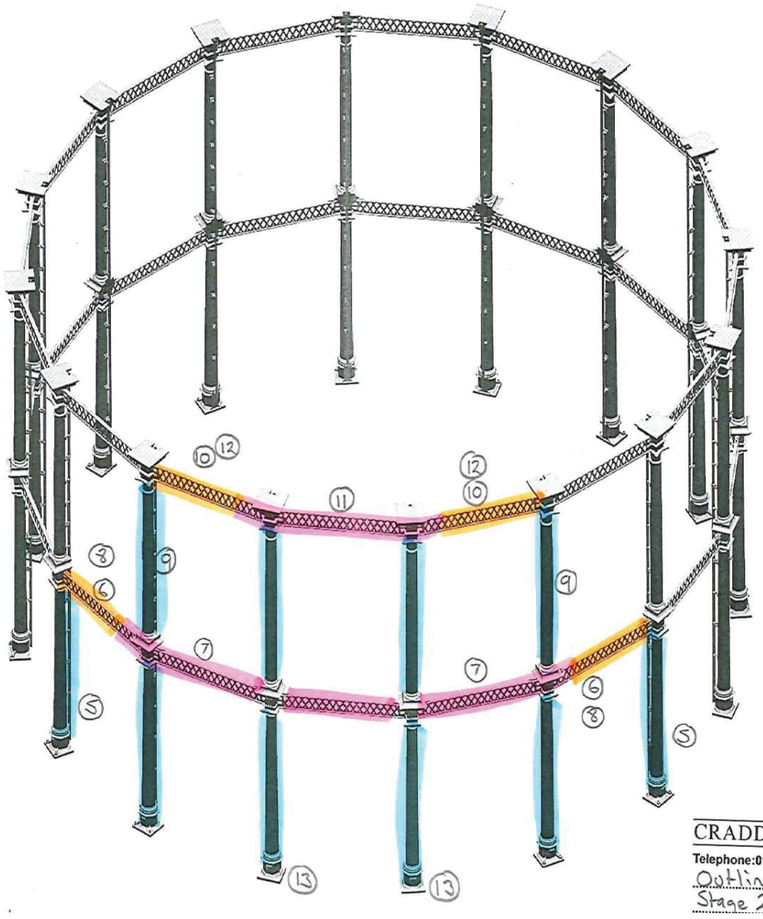

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Outline Re-Erection Sequence
Stage 2

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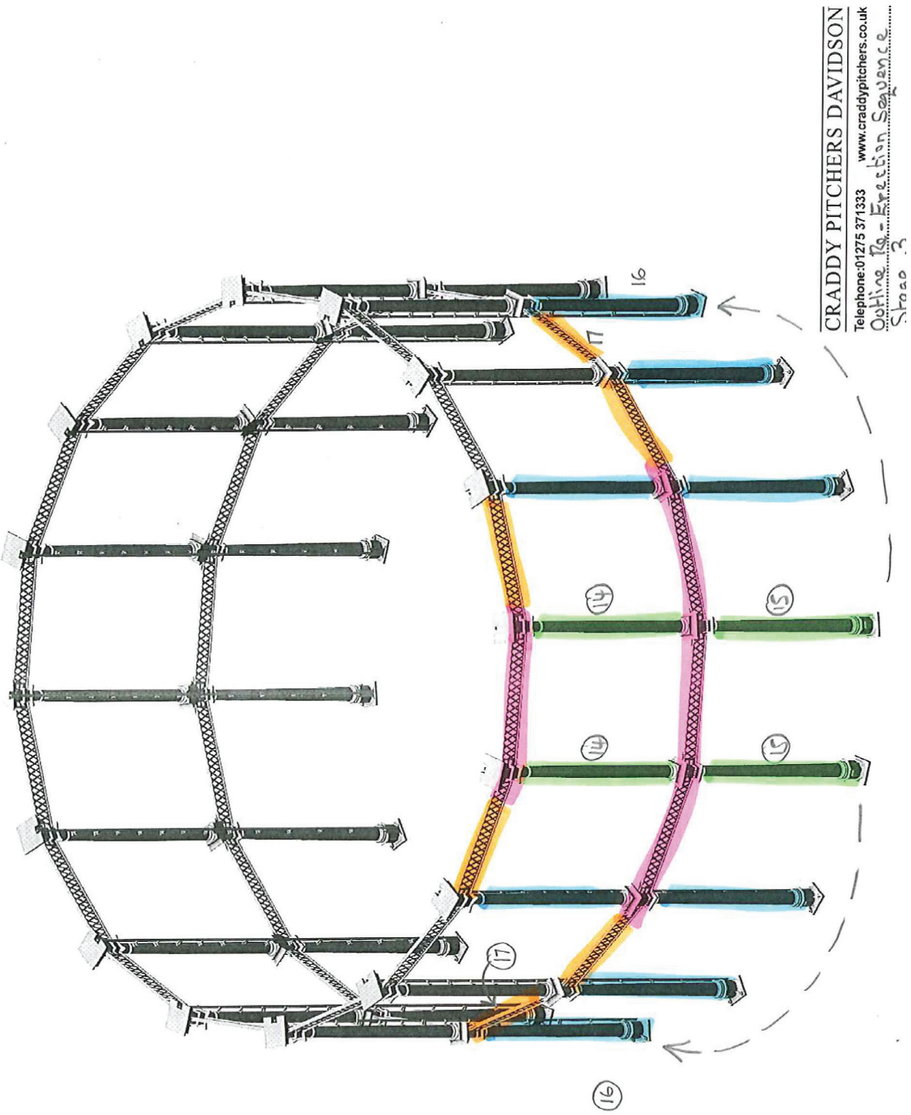

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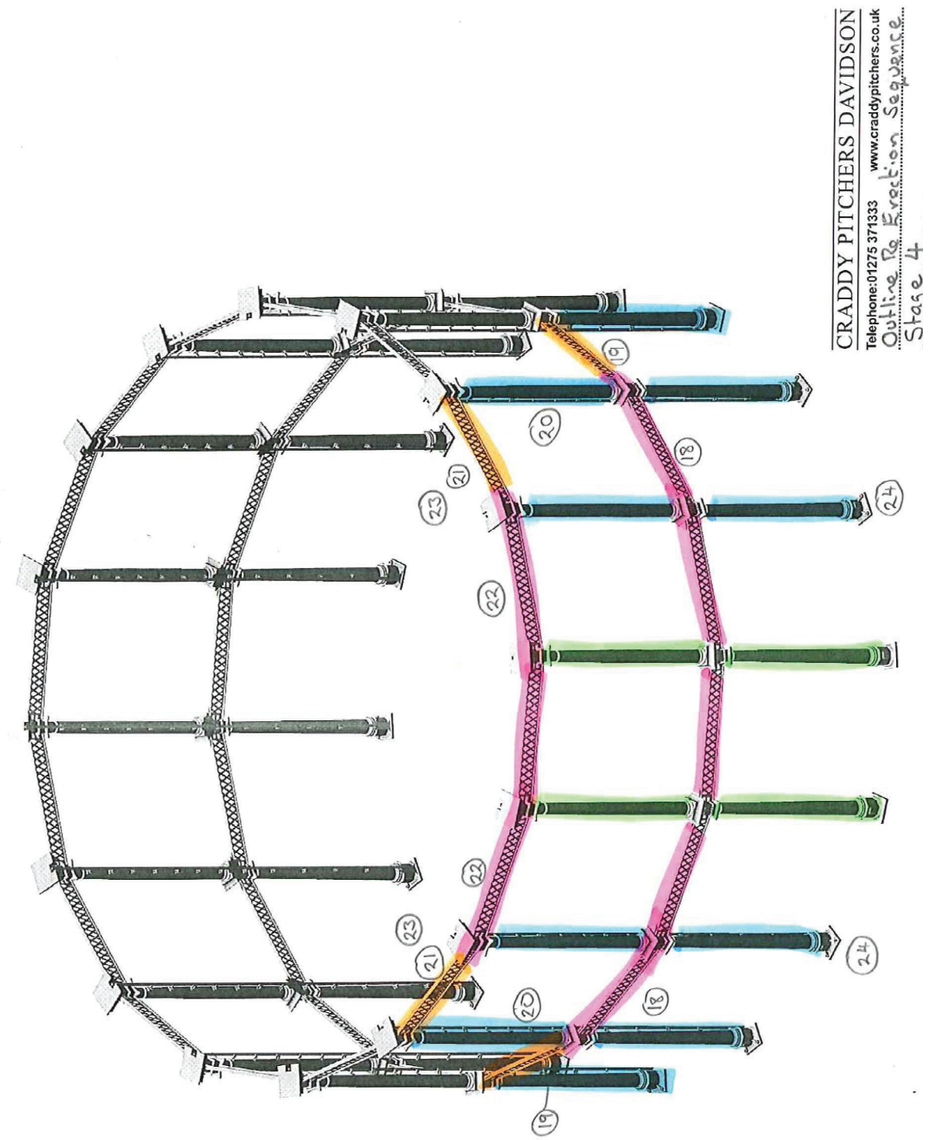

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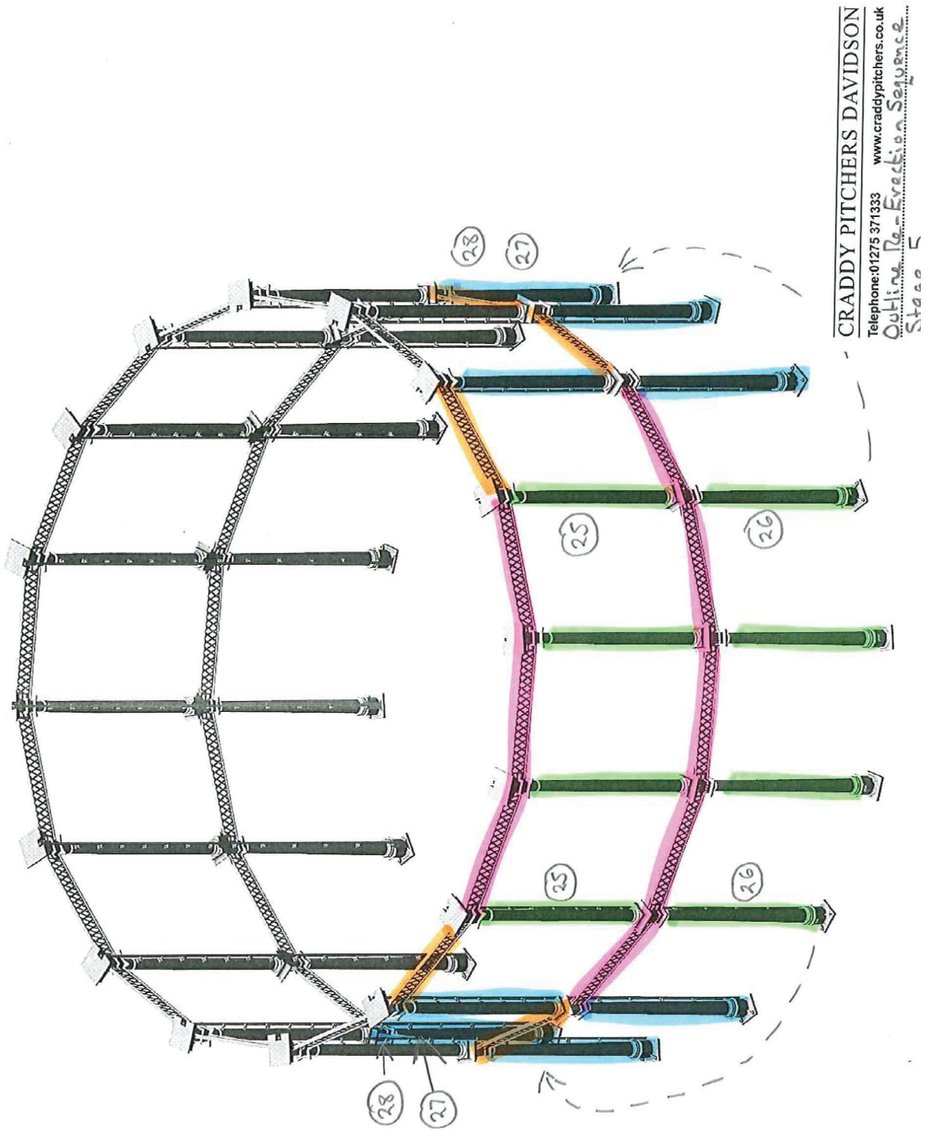

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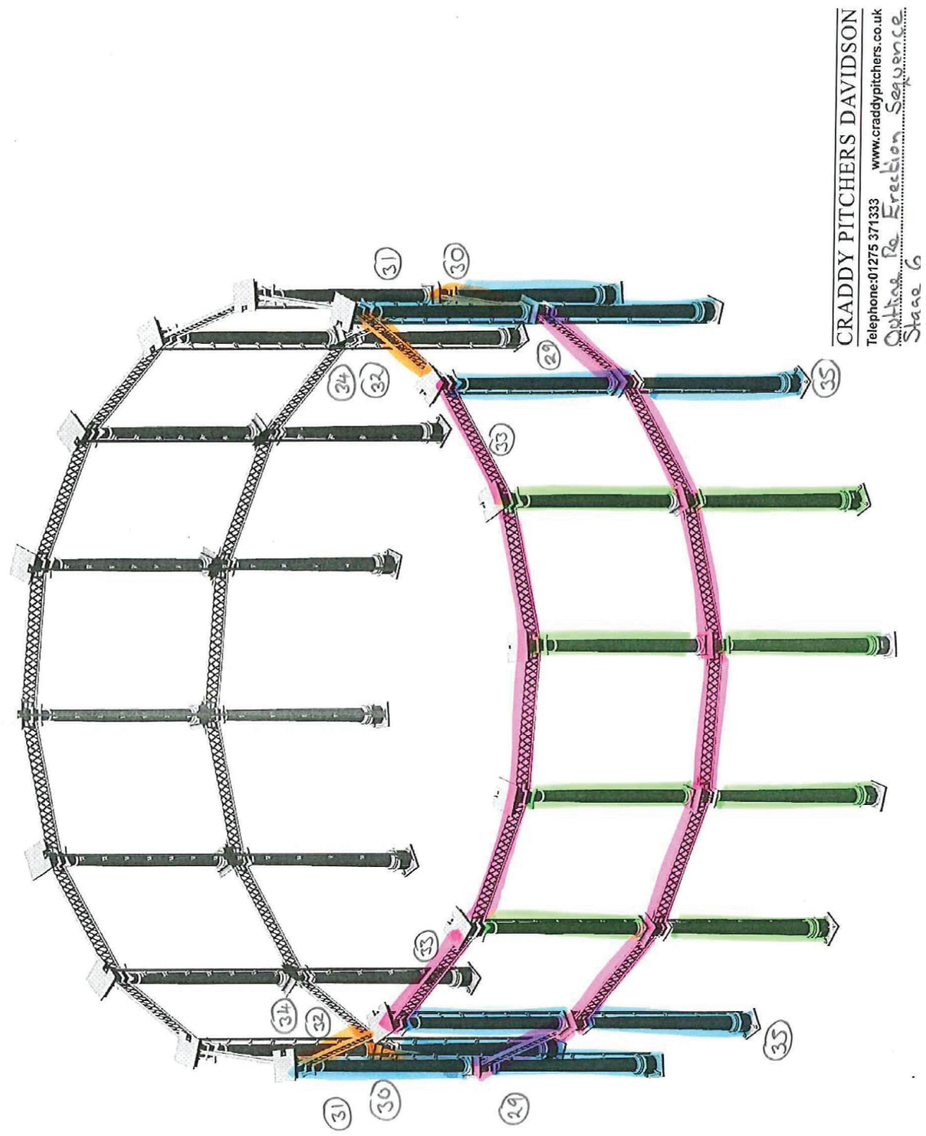

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