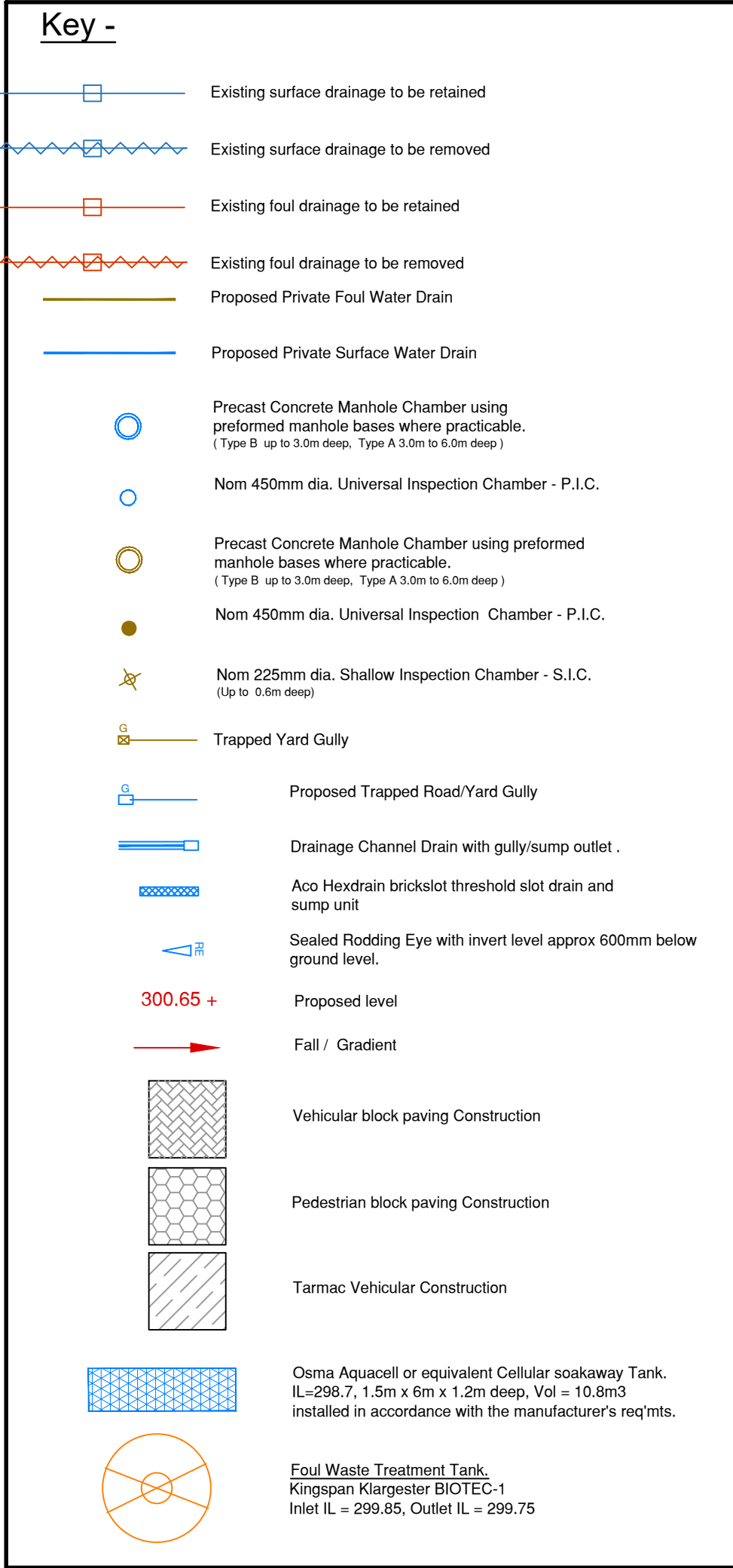




The Contractor shall check all tie-ins for line and level with existing before commencing any works. The Engineer shall be notified immediately in writing, should any errors be found.

B. Any discrepancies, of whatever nature, must be reported to the Engineer prior to the commencement or continuance of any further works. It is the responsibility of the contractor to locate any service apparatus in the vicinity of the works. Engineer will accept no claims whatsoever in respect of any losses or damage caused in respect of such apparatus, however caused.

C. It is the responsibility of the Contractor to execute the works at all times in strict accordance with the requirements of the Health and Safety Act Work Act 1974, and CDM regulations 2007. The contractor will be deemed line to have allowed for full compliance, including full liaison with the planning supervisor, within his rates.

D. All private drainage works to be in accordance with the requirements of Building Regulations 2000, Part H, "Drainage and waste disposal".

E. Should any departure from the slab level be considered, agreement shall be sought from the Engineer immediately and prior to commencement or continuance of any works, and should take full account of all restrictions to the slab level.

11. This drawing is to be read in conjunction with all other relevant Engineering and Architects details.

12. All work is to be carried out in accordance with the current British Standards, Building Regulations and 'Sewers for Adoption' (latest edition).

Highway construction materials and workmanship shall be in accordance with the Highway Authority's current general specification for roadworks. The Principal Contractor shall be responsible for checking the design line and invert levels of any connection points for both the foul and surface water systems, prior to undertaking installation of any new drainage works. Any deviation to the levels and positions indicated on the drawing should be brought to the immediate attention of the Project Engineer.

3. For details of ground conditions refer to the Ground Investigation Report.

4. The following pipe strengths shall be adopted unless noted otherwise:-
Clay Class 120 or 28kN/m crushing strength to BS EN 295-1 (1500),
Clay Class 160 or 36kN/m crushing strength to BS EN 295-1 (2250),
Clay Class 160 or 48kN/m crushing strength to BS EN 295-1 (3000),
Clay Class 120 (H) concrete to BS EN 1916 / BS 5911 (3750 >)

Alternative PVCU or BS EN 1401-1 may be used >-
Polypropylene 'Polysewer' to similar pipes may be used up to 300mm dia, Polypropylene 'Rigidsewer' or similar pipes 450mm dia - 900mm dia,
subject to approval by the engineer / adopting authority .

5. All pipe runs to be laid with flexible joints.

6. All pipes entering and exiting manholes are to be connected with pipe soffits level unless noted otherwise.

7. All connections to be turned in direction of flow using pipe bends.

8. All inverts specified are outgoing based on largest pipe size (except backdrop)

9. All connections to be made by purpose made junctions as far as practicable.

10. Bedding and surround to be Class "S" unless noted otherwise.

11. First flexible joint in pipes adjacent to a manhole shall be a maximum of 600mm from inside face of manhole, connecting to a rocker pipe.

12. All drains to be tested prior to backfilling, after backfilling and upon completion of hard landscaping. In addition all drains to be inspected by CCTV methods prior to hard landscaping.

13. The concrete mixes are to be class C10 GEN1 / C 20 GEN3
(all in accordance with BS5328)

The above concrete mixes have been selected for BS 5328 Class 2 Sulphates. All precast concrete products (ie pipes, manholes rings etc.) shall be of suitable concrete mix to cater for Class 2 sulphates.

14. Manhole covers and frames to be as follows:-

Use	BS Reference
Service yards/Stn's & Access Roads	BS EN 124 Class D400
Kerbside drainage	BS EN 124 Class C250
Footways, pedestrian & car parking	BS EN 124 Class B125
Landscaping	BS EN 124 Class A15

15. Pre-formed channels are to be used in manholes where applicable.

16. Granolithic channels to be benching to be steel trowelled to a dense smooth face neatly shaped and finished to all branch connections.

17. Manholes with outgoing pipes greater than 600mm diameter shall be fitted with guard bars, safety chains of other safety devices.

18. Internal inspection chambers & access fittings to be provided with lockable double sealed manhole cover & frames grade A15, B125 or D400 to BS EN 124 to suit loading conditions.

19. Road gully connections to be 150mm dia. laid at a minimum gradient of 1:150 unless noted otherwise.

20. All petrol interceptors are to be installed strictly in accordance with the manufacturers recommendations.

21. All drainage works and the zone of influence of trees are to be constructed in accordance with the NHEC Standards and tree preservation offices requirements.

22. All SVP's & RWP's to have a vertical rodding access positioned above ground level. Exact position to be agreed with SVP's & RWP's and setting out of these items to be confirmed by Architect.

Size and position of Syphonic Rainwater pipes and connections to be confirmed by specialists prior to construction.

 **CONSULTING ENGINEERS LTD**
CIVIL | STRUCTURAL | DESIGN

The Old Church Offices
Shelton New Road
Hartshill
Stoke-on-Trent
ST4 6DP

Tel: 01782 980330
Email: mail@c2cconsulting.co.uk