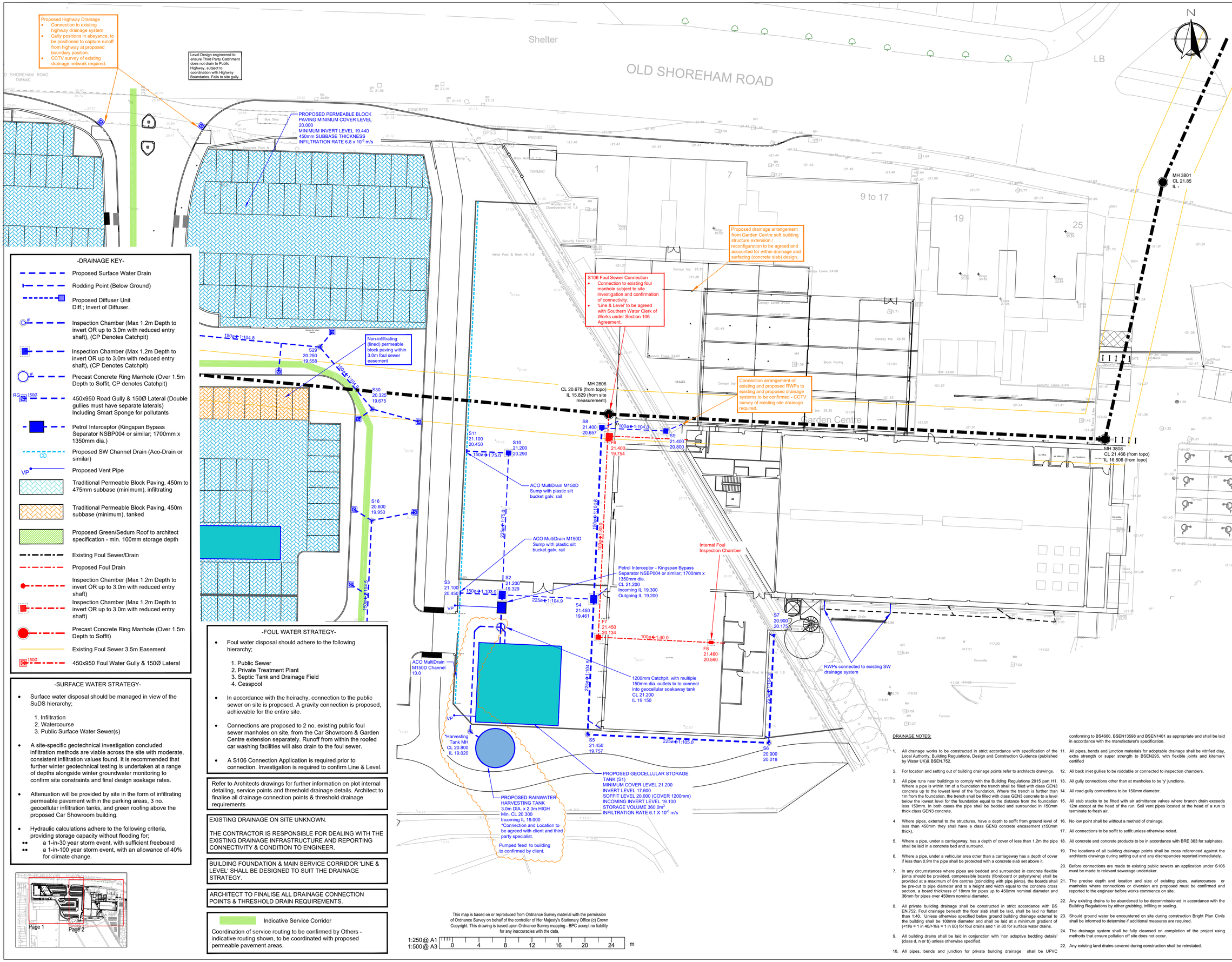


-DRAINAGE KEY-

- Proposed Surface Water Drain
- Rodding Point (Below Ground)
- Proposed Diffuser Unit Diff.; Invert of Diffuser.
- Inspection Chamber (Max 1.2m Depth to invert OR up to 3.0m with reduced entry shaft), (CP Denotes Catchpit)
- Inspection Chamber (Max 1.2m Depth to invert OR up to 3.0m with reduced entry shaft), (CP Denotes Catchpit)
- Precast Concrete Ring Manhole (Over 1.5m Depth to Soffit, CP denotes Catchpit)
- 450x950 Road Gully & 150Ø Lateral (Double gullies must have separate laterals) Including Smart Sponge for pollutants
- Petrol Interceptor (Kingspan Bypass Separator NSBP004 or similar; 1700mm x 1350mm dia.)
- Proposed SW Channel Drain (Aco-Drain or similar)
- Proposed Vent Pipe
- Traditional Permeable Block Paving, 450m to 475mm subbase (minimum), infiltrating
- Traditional Permeable Block Paving, 450m subbase (minimum), tanked
- Proposed Green/Sedum Roof to architect specification - min. 100mm storage depth
- Existing Foul Sewer/Drain
- Proposed Foul Drain
- Inspection Chamber (Max 1.2m Depth to invert OR up to 3.0m with reduced entry shaft)
- Inspection Chamber (Max 1.2m Depth to invert OR up to 3.0m with reduced entry shaft)
- Precast Concrete Ring Manhole (Over 1.5m Depth to Soffit)
- Existing Foul Sewer 3.5m Easement
- 450x950 Foul Water Gully & 150Ø Lateral

-SURFACE WATER STRATEGY-

- Surface water disposal should be managed in view of the SuDS hierarchy;
  1. Infiltration
  2. Watercourse
  3. Public Surface Water Sewer(s)
- A site-specific geotechnical investigation concluded infiltration methods are viable across the site with moderate, consistent infiltration values found. It is recommended that further winter geotechnical testing is undertaken at a range of depths alongside winter groundwater monitoring to confirm site constraints and final design soakage rates.
- Attenuation will be provided by site in the form of infiltrating permeable pavement within the parking areas, 3 no. geocellular infiltration tanks, and green roofing above the proposed Car Showroom building.
- Hydraulic calculations adhere to the following criteria, providing storage capacity without flooding for;
  - a 1-in-30 year storm event, with sufficient freeboard
  - a 1-in-100 year storm event, with an allowance of 40% for climate change.

-FOUL WATER STRATEGY-

- Foul water disposal should adhere to the following hierarchy;
  1. Public Sewer
  2. Private Treatment Plant
  3. Septic Tank and Drainage Field
  4. Cesspool
- In accordance with the heirachy, connection to the public sewer on site is proposed. A gravity connection is proposed, achievable for the entire site.
- Connections are proposed to 2 no. existing public foul sewer manholes on site, from the Car Showroom & Garden Centre extension separately. Runoff from within the roofed car washing facilities will also drain to the foul sewer.
- A S106 Connection Application is required prior to connection. Investigation is required to confirm Line & Level.

Refer to Architects drawings for further information on plot internal detailing, service points and threshold drainage details. Architect to finalise all drainage connection points & threshold drainage requirements

EXISTING DRAINAGE ON SITE UNKNOWN.

THE CONTRACTOR IS RESPONSIBLE FOR DEALING WITH THE EXISTING DRAINAGE INFRASTRUCTURE AND REPORTING CONNECTIVITY & CONDITION TO ENGINEER.

BUILDING FOUNDATION & MAIN SERVICE CORRIDOR 'LINE & LEVEL' SHALL BE DESIGNED TO SUIT THE DRAINAGE STRATEGY.

ARCHITECT TO FINALISE ALL DRAINAGE CONNECTION POINTS & THRESHOLD DRAIN REQUIREMENTS.

Indicative Service Corridor

Coordination of service routing to be confirmed by Others - indicative routing shown, to be coordinated with proposed permeable pavement areas.

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1:250 @ A1
1:500 @ A3
0 4 8 12 16 20 24 m

DRAINAGE NOTES:

1. All drainage works to be constructed in strict accordance with specification of the Local Authority, Building Regulations, Design and Construction Guidence (published by Water UK)& BSEN 752.
2. For location and setting out of building drainage points refer to architects drawings.
3. All pipe runs near buildings to comply with the Building Regulations 2015 part H1. Where a pipe is within 1m of a foundation the trench shall be filled with class GEN3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN3 concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN3 concrete.
4. Where pipes, external to the structures, have a depth to soffit from ground level of less than 450mm they shall have a class GEN3 concrete encasement (150mm thick).
5. Where a pipe, under a carriageway, has a depth of cover of less than 1.2m the pipe shall be laid in a concrete bed and surround.
6. Where a pipe, under a vehicular area other than a carriageway has a depth of cover if less than 0.9m the pipe shall be protected with a concrete slab set above it.
7. In any circumstances where pipes are bedded and surrounded in concrete flexible joints should be provided, compressible boards (fibreboard or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). the boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. a board thickness of 18mm for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.
8. All private building drainage shall be constructed in strict accordance with BS EN.752. Foul drainage beneath the floor slab shall be laid, shall be laid no flatter than 1:40. Unless otherwise specified below ground building drainage external to the building shall be 100mm diameter and shall be laid at a minimum gradient of (<1⅛ = 1 in 40/>1⅛ = 1 in 80) for foul drains and 1 in 80 for surface water drains.
9. All building drains shall be laid in conjunction with 'non adoptive bedding details' (class d, n or b) unless otherwise specified.
10. All pipes, bends and junction for private building drainage shall be UPVC conforming to BS4660, BSEN13598 and BSEN1401 as appropriate and shall be laid in accordance with the manufacturer's specification.
11. All pipes, bends and junction materials for adoptable drainage shall be vitrified clay, extra strength or super strength to BSEN295, with flexible joints and kitemark certified
12. All back inlet gullies to be roddable or connected to inspection chambers.
13. All gully connections other than at manholes to be 'y' junctions.
14. All road gully connections to be 150mm diameter.
15. All stub stacks to be fitted with air admittance valves where branch drain exceeds 12m except at the head of the run. Soil vent pipes located at the head of a run to terminate to fresh air.
16. No low point shall be without a method of drainage.
17. All connections to be soffit to soffit unless otherwise noted.
18. All concrete and concrete products to be in accordance with BRE 363 for sulphates.
19. The locations of all building drainage points shall be cross referenced against the architects drawings during setting out and any discrepancies reported immediately.
20. Before connections are made to existing public sewers an application under S106 must be made to relevant sewerage undertaker.
21. The precise depth and location and size of existing pipes, watercourses or manholes where connections or diversion are proposed must be confirmed and reported to the engineer before works commence on site.
22. Any existing drains to be abandoned to be decommissioned in accordance with the Building Regulations by either grubbing, infilling or sealing.
23. Should ground water be encountered on site during construction Bright Plan Civils shall be informed to determine if additional measures are required.
24. The drainage system shall be fully cleansed on completion of the project using methods that ensure pollution off site does not occur.
22. Any existing land drains severed during construction shall be reinstated.

NOTES

A1

1. This drawing is to be read in conjunction with all other BPC drawings, and with all relevant Architect's and Engineer's drawings and specification. Any discrepancies found are to be reported immediately to the Engineer.
2. BPC accepts no responsibility for inaccuracies in data provided by third parties such as topographic surveys or Ordnance Survey mapping.
3. Do not scale, work to figured dimensions only. All dimensions are in millimeters unless noted otherwise and all levels are in metres from the topographic survey datum.
4. Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not certain.
5. All dimensions to be checked on site. All details and dimensions relating to sub-contractors work must be checked and agreed between the sub-contractor or supplier and the general contractor.
6. The electronic information from this drawing can not be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. BPC logos and company information must be removed from copies if information is re-used.
7. The main contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
8. The main contractor is responsible for dealing with all occurrences of ground water during the construction period.
9. The contractor must comply with all current legislation relating to health & safety.
10. All products specified shall be installed in strict accordance with the manufacturers recommendations and instructions. If there are discrepancies between that information and the details on any BPC drawings, the manufacturers instructions must be used.
11. Contractor to confirm all invert levels where connections are proposed prior to commencing any drainage works. Contractor to commence drainage works at the point of discharge.

RESIDUAL HAZARDS

In addition to the hazards/risks normally associated with the type of work detailed on this drawing, note the following:

1. Buried services. Contractor to refer to locate existing services and undertake necessary precautions and investigation prior to excavating.
2. Site access with live traffic. Contractor to ensure traffic management is designed, erected and maintained to protect the workforce and the public. Contractor to undertake necessary precautions and ensure suitable traffic management is in place prior to commencement.
3. Working in live sewers. Contractor to ensure operatives are familiar and competent with the dangers of working in live sewers.
4. Excavations close to existing structures. Contractor to prepare method statement to ensure stability of existing structure.
5. Excavations close to existing earth embankments. Contractor to prepare method statement to ensure stability of existing and proposed landscaping.

It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved risk assessment and method statement

FOR APPROVAL
NOT FOR CONSTRUCTION

Rev.	Amendments	Date
C	Revised Issue	05/10/2022
B	Revised Issue - Layout Amendments	19/08/2022
A	Revised Issue - Geotechnical Information	01/08/2022
-	Original Issue	25/07/2022

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Drawing Status: FOR APPROVAL

Client: Tate Bros Ltd

Project: Mayberry Garden Centre & Eastbrook Car Showroom

Drawing Title: Engineering Layout: Foul & Surface Water Drainage Design Page 2 of 2

Scale	Date	Drawn By	Checked By
1:250	Oct 2022	DJL	MJA

Drawing No.: D2099-104

Rev.: C