



- Do not scale this drawing. All dimensions must be checked / verified on site. If in doubt ask.
- This drawing is to be read in conjunction with all relevant Architects, Engineers and Specialists drawings and specifications.
- All dimensions in millimetres unless stated otherwise. All levels in metres unless noted otherwise.
- Any discrepancies noted on site are to be reported to the Engineer immediately.
- The above specification for drainage works shall be the Water Authority Association 'Sewers for Adoption' (7th Edition).
- For details of ground conditions refer to the Ground Investigation Report.
- The following pipe strengths shall be adopted unless noted otherwise:
 - Pipes 150mm diameter up to and including 225mm to be concrete to BS EN 206 Class 160
 - Pipes over 300mm diameter to be concrete to BS EN 124 Class M
 - All pipes are to be laid with flexible joints.
 - All pipes entering and exiting manholes are to be connected with pipe levels unless noted otherwise.
- Roofing and surfacing to be as follows:

Location	Cover to Surface	Bedding
Roads	+1.2m	Class 'S' granular bed surround
	+1.2m	Class 'X' Concrete surround
Hard and soft landscaping	+0.6m	Class 'S' granular bed and surround
	+0.6m	Class 'X' Concrete surround
- The following concrete mixes are to be used (all in accordance with BS 5800):

Location	Mix Reference
Concrete surfacing to pipes	St1
Concrete base and surround to manholes	St2

- The above concrete mixes have been selected for BS 5800 Class 2 Subphases.
- All precast concrete products (ie pipes, manholes rings etc) shall be of suitable concrete mix to call for Class 2 subphases.
- Pipe-timed manholes are to be used in manholes where applicable.
- Concrete concrete bedding to be steel bedded to a dense smooth fibre neatly shaped and finished to all branch connections and laid in accordance with the Specification.
- All connections to be made in direction of low using pipe beds.
- Manhole covers and frames to be ductile iron medium duty Grade D400 circular or rectangular to BS EN124 positions inside vehicle trafficked areas.
- First feasible joint in pipes adjacent to a manhole shall be a maximum of 600mm from inside face of manhole, connecting to rocker pipe.
- The length of rocker pipe is as follows:

Pipe Diameter	Length of Rocker pipe
150mm-400mm	600mm
- Manholes with outgoing pipes greater than 600mm diameter shall be fitted with guard bars, safety chains or other safety devices.
- The Principal Contractor shall be responsible for checking the existing live and over-levels of any connection pipes 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.
- All invert specified are outgoing (except backdrops). All pipes are to be laid with falls towards U.O.D.
- All connections to be 150mm dia. with a minimum gradient of 1:100 unless noted otherwise. All surface water pipes to be 225mm dia. U.O.D.
- All connections to be made by purpose made junctions as far as practicable.
- Manhole covers in block paved areas to be recessed to receive required surface finish.

KEY

- PROPOSED STORM ---
- PROPOSED CHANNEL DRAINAGE ---
- PROPOSED PERMEABLE PAVING
- PROPOSED PERFORATED LAND DRAINAGE ---
- PROPOSED TUBESIDER ATTENUATION SYSTEM
- PROPOSED FOUL ---
- PROPOSED LEVELS 75.500 +
- PROPOSED PETROL INTERCEPTOR
- PROPOSED RAIN WATER PIPE - TBC ●
- PROPOSED SYPHONIC RAINWATER PIPE - TBC ●
- PROPOSED SOIL VENT PIPE - TBC ●

ALL MANHOLES RECEIVING SYPHONIC FLOW TO HAVE VENTED COVER
ANY MANHOLES WITHIN AREA OF BLOCK PAVING FINISH TO BE RECESSED
SRWP, RWP AND SVP POSITIONS TO BE CONFIRMED

FOR TENDER

Rev	Date	Description	By	Chkd By
F	05/12/2020	REVISED TO SUIT LATEST LAYOUT.	J.H.	G.L.
E	06.04.2020	REVISED TO SUIT LATEST LAYOUT.	J.H.	G.L.
D	06.12.2019	DETAIL DESIGN, ISSUED FOR TENDER.	J.H.	G.L.
C	25.11.2019	DETAIL DESIGN.	J.H.	G.L.
B	19.09.2019	AMENDED TO SUIT UPDATED ARCHITECTS LAYOUT.	J.H.	G.L.
A	05.09.2019	AMENDED TO SUIT PLANNING COMMENTS.	J.H.	G.L.
-	22.02.2019	First Issue	J.H.	G.L.

Revision Schedule

Project Title
**PLOT 5100
HATFIELD BUSINESS PARK**

Drawing Title
PROPOSED DRAINAGE AND LEVELS PLAN

Drawn by JH	Checked by GL	Project Engineer GL
Date FEB 19	Scale 1:250	Project No 12690
		Drawing No 104
		Rev F

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