1. DO NOT SCALE OFF THIS DRAWING. ALL DIMENSIONS MUST BE CHECKED / VERIFIED ON SITE. IF IN DOUBT ASK.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS', ENGINEERS' AND OTHER SPECIALISTS' DRAWINGS AND SPECIFICATIONS.
3. THE BASE SPECIFICATION FOR DRAINAGE WORKS SHALL BE THE WATER AUTHORITY ASSOCIATION'S "SEWERS FOR ADOPTION" (LATEST EDITION).
4. THE FOLLOWING PIPE STRENGTHS SHALL BE ADOPTED UNLESS NOTED OTHERWISE:–
   – PIPES UP TO AND INCLUDING 150mm ø TO BE PVC–U TO BS EN 1329, OR CLAYWARE TO BS EN 295 CLASS 160.
   – PIPES 150mm ø UP TO AND INCLUDING 225mm TO BE CLAYWARE TO BS EN 295 CLASS 160.
   – 300mm ø TO BE CLAY TO BS EN 295 CLASS 160 OR CONC. TO BS 5911 CLASS M.
   – PIPES OVER 300mm ø TO BE CONCRETE TO BS 5911 CLASS M.
5. ALL PIPES ENTERING AND EXITING MANHOLES ARE TO BE CONNECTED WITH PIPE SOFFITS LEVEL UNLESS NOTED OTHERWISE.
6. BEDDING AND SURROUND TO BE AS FOLLOWS:

Location	Cover to Soffit	Bedding
Roads.	>1.2m	CLASS "S"
	<1.2m	CLASS "Z"
Hard and soft landscaping.	>0.6m	CLASS "S"
	<0.6m	CLASS "Z"

7. THE FOLLOWING CONC. MIXES ARE TO BE USED (IN ACCORDANCE WITH BS 8500):

Location	Mix Reference.
Concrete surround to pipes	ST4
Concrete base and surround to manholes	ST4

8. ALL PRECAST CONCRETE PRODUCTS (I.E. PIPES, MANHOLE RINGS, ETC.) SHALL BE OF SUITABLE CONCRETE MIX TO CATER FOR CLASS 2 SULPHATES.
9. PRE–FORMED CHANNELS ARE TO BE USED IN MANHOLES WHERE APPLICABLE.
10. GRANOLITHIC CONCRETE BENCHING TO BE STEEL TROWELLED TO A DENSE SMOOTH FACE NEATLY SHAPED AND FINISHED TO ALL BRANCH CONNECTIONS AND LAID IN ACCORDANCE WITH THE SPECIFICATION.
11. ALL CONNECTIONS TO BE TURNED IN DIRECTION OF FLOW USING PIPE BENDS.
12. MANHOLE COVERS AND FRAMES TO BE DUCTILE IRON MEDIUM DUTY GRADE B125 RECTANGULAR TO BS EN 124 POSITIONS OUTSIDE VEHICULAR–TRAFFICKED AREAS, AND HEAVY DUTY GRADE D400 IN VEHICULAR–TRAFFICKED AREAS.
13. MANHOLE COVERS AND FRAMES TO BE DUCTILE IRON MEDIUM DUTY GRADE A15 COVERS IN SOFT LANDSCAPING.
14. FIRST FLEXIBLE JOINT IN PIPES ADJACENT TO A MANHOLE SHALL BE A MAXIMUM OF 600mm FROM INSIDE FACE OF MANHOLE, CONNECTING TO ROCKER PIPE.
15. THE LENGTH OF ROCKER PIPE IS AS FOLLOWS:

Pipe Diameter	Length of Rocker Pipe
150mm–600mm	600mm
675mm–750mm	1000mm
825mm & over	1250mm

16. THE PRINCIPLE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING THE EXISTING 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 ATTENTION OF THE PROJECT ENGINEER.
17. FALL INVERTS SPECIFIED ARE OUTGOING (EXCEPT BACKDROP). ALL PIPE ARE TO BE LAID SOFFITS LEVELS UNLESS NOTIFIED OTHERWISE.
18. ALL FOUL CONNECTIONS TO BE 150mm DIA. LAID AT A MINIMUM GRADIENT OF 1:40 UNLESS NOTED OTHERWISE. SURFACE WATER PIPE SIZES AS INDICATED.
19. FOUL PIPES TO BE EXTERNALLY VENTED (SVP) AT HEAD OF RUN.
20. THE DRAINAGE INSTALLATION IS TO BE COMPLIANT WITH BUILDING REGS. (PART H).
21. INTERNAL FOUL DRAINAGE CONNECTIONS / POSITIONS AND SETTING OUT INFORMATION TO BE CONFIRMED BY THE M&E CONSULTANT / ARCHITECT.
22. ALL FOUL CONNECTIONS TO BE 100mm ø LAID AT A MINIMUM GRADIENT OF 1/40 UNLESS NOTED OTHERWISE. ALL SURFACE WATER PIPES TO BE 150mm ø U.N.O.
23. ALL CONNECTIONS TO BE MADE BY PURPOSE–MADE JUNCTIONS AS FAR AS PRACTICABLE.

NOTES

A1

24. TOPOGRAPHICAL SURVEY CARRIED OUT BY GREENHATCH, DRAWING No. 15559b_T_REV3 TOPOGRAPHICAL SURVEY (DATED 02/03/2017).
25. PROPOSED SITE LAYOUT TAKEN FROM A.J.A. ARCHITECTS, DRAWING No. 6050 – 202 C1 SITE LAYOUT (DATED 13/11/2017).
26. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE FOLLOWING DRAWINGS:
    - BMP DRAWING No. 12313–112 (EXTERNAL CONSTRUCTION DETAILS).
    - BMP DRAWING No. 12313–113 (TYPICAL DRAINAGE CONSTRUCTION DETAILS).
    - BMP DRAWING No. 12313–117 (MANHOLE SCHEDULE).

KEY:

- SITE BOUNDARY.
- 150ø PROPOSED FOUL WATER DRAINAGE.
- 300ø PROPOSED SURFACE WATER DRAINAGE.
- SUMP PROPOSED DRAINAGE CHANNEL & SUMP
- CATCHPIT PROPOSED PERFORATED PIPE.
- R.E. PROPOSED 100ø PERFORATED TREE PIT DRAINAGE PIPE, RODDING EYE AND OUTLET CATCHPIT.
- PROPOSED CELLULAR STORAGE TANK.
- PROPOSED POROUS STONE BENEATH CAR PARKING SPACES.
- x 75.540 PROPOSED LEVEL.
- BN1 125mm x 255mm TYPE BN1 BULLNOSED KERB.
- DK 125mm x 255mm LEFT/RIGHT TAPER DROP–KERBS.

DRAINAGE & LEVELS – SITE OVERVIEW
SCALE 1:500

DRAINAGE & LEVELS – ACCESS ROAD
SCALE 1:100

FOR CONSTRUCTION

Rev	Date	Description	By	Chkd By
N	17/04/18	ARCHITECTS LAYOUT UPDATED.	GH	N.S.B.
M	04/01/18	INTERNAL FOUL DRAINAGE CONNECTIONS UPDATED.	K.M.	N.S.B.
L	07/12/17	FOUL DRAINAGE UPDATED.	J.D.	N.S.B.
K	24/11/17	ARCHITECT'S LAYOUT UPDATED. DRAINAGE & LEVELS UPDATED.	K.M.	N.S.B.
J	31/10/17	INTERNAL FOUL DRAINAGE UPDATED. FMH3 & FMH4 UPDATED.	K.M.	N.S.B.
H	18/10/17	FOUL DRAINAGE REFERENCES UPDATED.	K.M.	N.S.B.
G	29/09/17	EXTENT OF FINISHES UPDATED. ADDITIONAL VENTED MANHOLE ADDED.	K.M.	N.S.B.
F	11/09/17	EXTENT OF PERMEABLE PAVING REVISED. DRAINAGE REVISED TO SUIT.	K.M.	N.S.B.
E	08/06/17	DRAWING ISSUED FOR TENDER.	K.M.	N.S.B.
D	18/05/17	INTERNAL FOUL DRAINAGE UPDATED TO SUIT FOUNDATIONS.	J.D.	N.S.B.
C	05/05/17	ARCHITECT'S LAYOUT UPDATED. LEVELS AND DRAINAGE UPDATED.	J.D.	N.S.B.
B	06/04/17	ARCHITECT'S LAYOUT UPDATED. DRAINAGE UPDATED TO SUIT.	G.H.	N.S.B.
A	01/03/17	ARCHITECT'S LAYOUT UPDATED. DRAINAGE UPDATED.	G.H.	N.S.B.

Revision Schedule

Project Title
HATFIELD BUSINESS PARK
PLOT 5000

Drawing Title
PROPOSED LEVELS AND DRAINAGE PLAN

Drawn by	Checked by	Project Engineer
K.M.	P.T.	N.S.B.

Date	Scale	Project No	Drawing No	Rev
FEB 2017	AS SHOWN	12313	106	N

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