



- Notes**
- The Contractor shall check all lines for line and level with existing before commencing any works. The Engineer shall be notified immediately, in writing, should any errors be found.
 - Any discrepancies of whatever nature, must be reported to the Engineer prior to the commencement or continuation of any further works.
 - It is the responsibility of the Contractor to ensure the works at all times in strict accordance with the requirements of the Health and Safety at Work Act 1974, and the C.M. Regulations 2015. The Contractor will be deemed to have allowed for full compliance, including full liaison with the principle designer, within his rates.
 - All private drainage works to be in accordance with the requirements of Building Regulations 2000, Part H, 'Drainage and waste disposal'. Pipes with less than 600mm cover to be protected in accordance with Part H, Diagram 11.
 - All pipes to be 100 or 110mm dia. All foul to be laid at 1 in 80 unless stated otherwise. All storm to be laid at minimum 1 in 100 unless stated otherwise.
 - All pipes, chambers and fittings to be installed, bedded and backfilled in accordance with the manufacturers instructions.
 - Pipes which run adjacent to buildings shall be installed in strict accordance with Part H, Clauses 2.23 to 2.25.
 - All manholes and inspection chambers situated in areas subject to vehicular loading to have man covers EN25 covers and frames to BS EN124. CS200 will be required in paved drive and court yard areas (advice should be sought from BHL Engineer). Those not subject to vehicular loading are to have class A15 covers and frames.
 - All drains in the vicinity of existing or proposed trees to be constructed in accordance with the requirements of NHBC Practice Note 3.
 - Private drainage frames must be tied to manhole risers by use of manufacturers tie (eg. Polypropylene FR300 Ring tie and FR300 Black tie). The ground works contractor will be held fully responsible for any accidents due to incorrect fitting or failure to use the correct manufacturers fitting equipment.
 - All existing land drains encountered on site during construction to be re-connected.
 - Should any departure from the slab level be considered, agreement shall be sought from the Engineer immediately and prior to commencement or continuation of any work, and should take full account of all restrictions to the slab level.
 - Where a drive slopes towards a garage there is to be a 20mm upstand to the garage slab.
 - All dimensions in metres unless otherwise stated.

- Key - Refer to Bovis Homes Standard Details**
- 310mm dia shallow inspection chamber (Max depth to invert 600mm)
 - Foul access inspection chamber (Non man entry 300mm recessed access required for depths greater than 1m)
 - Foul backstop manhole
 - Surface water 400mm dia inspection chamber (Non man entry 300mm recessed access required for depths greater than 1m)
 - Surface water backstop manhole
 - ACO Drainage Channel (refer to standard details drawing for specification)
 - Roofing Edge
 - Land Drain (CP refers to subsoil set 300mm deep sump (refer to standard details drawing))
 - Retaining Wall Drain - 80mm dia perforated pipe (refer to standard details drawing)
 - External wall protected by tanking. Face backwork to 150mm above retained level.
 - External wall where showing more than 150mm of exposed brickwork. Max. dimension from FFL to external ground level.
 - Double Damp Proof course. See standard tanking detail.
 - Brickwork Retaining Wall (RW 750) number denotes retained height
 - Data represent handrails where falls are greater than 1:10. Handrail minimum 1100mm high above the pitch line of the lift and extend 300mm beyond the top and bottom nosings.
 - Slab on Edge (SE 450) number denotes retained height
 - Gravel Board (GB 450) number denotes retained height
 - Stops. Each stop to have a rise of 150mm with a going of 280mm. Every flight with 3 or more steps to have a suitable handrail to BS EN 135. The grippable handrail to be 850-1000mm above the pitch line of the lift and extend 300mm beyond the top and bottom nosings.
 - Garden or drive gradient
 - Proposed spot level
 - Banking works 1:3 unless stated otherwise

- FFL 95.70** Finished Floor level
LSL 94.10 Garage slabs are given as Lowest Slab Level (LSL) and relate to the finished level of concrete at the front entrance of the garage.
- Infiltration Key - Refer to PJS Details**
- Indicates location of Polypropylene Soakaway (Refer to PJS drawing 117 Private drainage infiltration details. Manhole upstream of soakaway units to be a catchpit with 300mm sump)
 - Indicates location of Permeable Diffuser (Refer to PJS drawing 117 Private drainage infiltration details. Manhole upstream of diffuser units to be a catchpit with 300mm sump)
 - 100mm x 700mm diffuser to be used on multiple connections.
 - 700mm x 350mm to be used on single connections.

- Rainwater pipe positions are assumed - Bovis Homes to confirm**
- Soakaway 1**
 Total Impermeable Area = 1591m²
 Infiltration Rate = 6.7x10⁻⁵ = 0.241 (m/hr)
 Soakaway Footprint Area = 136m²
 Soakaway Volume = 54m³
 Soakaway Dims = 8m x 17m x 0.4m
 Soakaway Soffit Level = 72.60
 Pipes in (outfall) Invert Level = 72.40
 Soakaway Invert Level = 72.20
- Soakaway 2**
 Total Impermeable Area = 1791m²
 Infiltration Rate = 3.3x10⁻⁵ = 0.137 (m/hr)
 Soakaway Footprint Area = 190m²
 Soakaway Volume = 72m³
 Soakaway Dims = 10m x 18m x 0.4m
 Soakaway Soffit Level = 72.66
 Pipes in (outfall) Invert Level = 72.46
 Soakaway Invert Level = 72.26
- Soakaway 3**
 Total Impermeable Area = 1779m²
 Infiltration Rate = 5.4x10⁻⁵ = 0.194 (m/hr)
 Soakaway Footprint Area = 90m²
 Soakaway Volume = 72m³
 Soakaway Dims = 9m x 10m x 0.8m
 Soakaway Soffit Level = 72.25
 Pipes in (outfall) Invert Level = 72.05
 Soakaway Invert Level = 71.45

Ref	Date	Description	By	Check
E	Mar 18	Drainage removed from LIP	TM	PS
D	Feb 18	Soakaway sizes amended following further infiltration tests	TM	PS
C	Jan 18	Updated to add lifted housing layout	TM	PS
B	Jan 18	Final volume added. Soakaway dimensions added. Diffuser sizes added	TM	PS
A	Jan 18	Soakaway removed from LIP	TM	PS
Rev	Date	Amendments	By	Check

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Client: **BOVIS HOMES**

Project: **BICESTER KME**

Drawing Title: **PRIVATE DRAINAGE & EXTERNAL WORKS**

Drawn	Checked	Status	Scale
TM	PS	TENDER	As @ 1:200
Date: 10 OCT 17			
Project No: PJS17-06	Drawing No: 118	Revision: E	

RC15	4527516.042	221954.227	72.788
LSB15	4527544.293	222104.939	72.570
LS1	4527127.571	222104.709	72.5684
LS2	4527239.336	2221984.374	72.584
LS3	4527369.216	2221904.181	72.954
LS4	4527496.171	2221904.829	71.906
LS5	4527455.368	222160.829	71.641

2m HIGH TIMBER FENCING ADJACENT TO COMMERCIAL BUILDINGS TO BE IN ACCORDANCE WITH COUNTRYSIDE PROPERTIES APPROVED DETAILS.