



- 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 work.
 - 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 at Work Act 1974, and the CDM Regulations 2015. The Contractor will be deemed to have accepted full compliance, including full liaison with the principle designer, with his rates.
 - All private drainage works to be in accordance with the requirements of Building Regulations 2000, Part H: Change 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 150mm dia. All to be laid at 1 in 100 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 shall have class B25 covers and frames to BS EN 24. C250 will be required in shared drive and court yard areas (advice should be sought from PJS, Engineer). Those not subject to vehicular loading shall 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 NIBIC Practice Note 3.
 - Private drainage frames must be laid to manhole risers by use of manufacturers (see PJS) or approved frames to BS EN 24. C250 will be required in shared drive and court yard areas (advice should be sought from PJS, Engineer). Those not subject to vehicular loading shall have class A15 covers and frames.
 - An existing land drain encountered on site during construction to be reconnected.
 - 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 200mm upstand to the garage slab.

- Key - Refer to Bovis Homes Standard Details**
- FFL 30mm dia shallow inspection chamber (Max depth to level 600mm)
 - FFL 400mm dia inspection chamber (Non man entry 350mm restricted access required for depths greater than 1m)
 - Foul backflow manhole
 - Surface water 400mm dia inspection chamber (Non man entry 350mm restricted access required for depths greater than 1m)
 - Surface water backflow manhole
 - ACD Drainage Channel (refer to standard details drawing for specification)
 - Rodding Eye
 - Yard Gully (refer to standard details drawing for specification)
 - Land Drain
 - CP refers to catch pit 300mm deep sump (refer to standard details drawings)
 - Retaining Wall Drain - 50mm dia perforated pipe (refer to standard details drawings)
 - External wall protected by tanking. Face brickwork to 150mm above retained level.
 - External wall where showing more than 150mm of exposed brickwork. Max. dimension from FFL to external ground level.
 - Double Dump Proof course. See standard tanking details.
 - Brickwork Retaining Wall (RW 750) number denotes retained height. Data represent handrails where face are greater than 600mm. Handrail minimum 1100mm high.
 - Slab on Edge (SE 450) number denotes retained height.
 - Gravel Board (GB 450) number denotes retained height.
 - Steps. Each step to have a rise of 150mm with a going of 280mm. Every flight with 3 or more steps to have a suitable handrail to one side. This grabrail handrail to be 850-1000mm above the pitch line of the flight and extend 300mm beyond the top and bottom nosings.
 - Garden or drive gradient.
 - Proposed spill level.
 - Banking works. 1:3 unless stated otherwise.
 - Finished Floor level.
 - Garage slabs are given as Lowest Slab Level (LSL) and relate to the finished level of concrete at the foot of the wall of the garage.

- Infiltration Key - Refer to PJS Details**
- Indicates location of Polystyrene Soakaway. Refer to PJS drawing 117 Private drainage infiltration details. Maximum length of soakaway units to be a catchpit with 300mm sump.
 - Indicates location of Permeable Diffuser wrapped in 2mm mesh. Refer to PJS drawing 117 Private drainage infiltration details. Maximum upstream of diffuser units to be a catchpit with 300mm sump.
 - 160mm x 700mm diffuser to be used on multiple connections.
 - 700mm x 350mm to be used on single connections.

- Soakaway 4**
- Total Impermeable Area = 2246m²
 - Infiltration Rate = 3.3x10⁻⁵ = 0.119 (m/hr)
 - Soakaway Footprint Area = 225m²
 - Soakaway Volume = 800m³
 - Soakaway Dims = 9m x 25m x 0.4m
 - Soakaway Soffit Level = 71.29
 - Pipe in (outfall) Invert Level = 71.09
 - Soakaway Invert Level = 70.89

- Soakaway 5**
- Total Impermeable Area = 1119m²
 - Infiltration Rate = Nearest 4 rates below 4.0x10⁻⁶
 - 1.9x10⁻⁶
 - 2.8x10⁻⁶
 - 1.4x10⁻⁵
 - Average = 5.679x10⁻⁶ = 0.020 (m/hr)
 - Soakaway Footprint Area = 73.5m²
 - Soakaway Volume = 88m³
 - Soakaway Dims = 3.5m x 2.1m x 1.2m
 - Soakaway Soffit Level = 71.75
 - Pipe in (outfall) Invert Level = 71.55
 - Soakaway Invert Level = 70.55

- Soakaway 6**
- Total Impermeable Area = 2973m²
 - Infiltration Rate = 1.4 x 10⁻⁵ = 0.050 (m/hr)
 - Soakaway Footprint Area = 218m²
 - Soakaway Volume = 174m³
 - Soakaway Dims = 22m x 8m x 0.8m + 6m x 7m x 0.8m
 - Soakaway Soffit Level = 70.97
 - Pipe in (outfall) Invert Level = 70.77
 - Soakaway Invert Level = 70.17

Rev	Date	Description	By	Check
1	18/08/20	Drawn	TS	PS
2	18/08/20	Soakaway sizes amended following further infiltration calculations	TS	PS
3	18/08/20	Updated to add lined leaching layer	TS	PS
4	18/08/20	Final notes added. Soakaway dimensions added. Diffuser sizes added.	TS	PS
5	18/08/20	Soakaway removed from LP.	TS	PS
6	18/08/20	Amendments	TS	PS

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PJS CONSULTING ENGINEERS

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 Registered Engineer 2019/18181
 Registered Structural Engineer 2019/18181

Client: **BOVIS HOMES**

Project: **BICESTER KME**

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

Drawn	Checked	Status	Scale
TS	PS	TENDER	A0 @ 1:200
Date: 18/08/20	Date: 18/08/20	Project No: PJS17-06	Revision: E