



SW Pump Station
Chamber Size TBC
Flow Rate: 2.0 l/s max
Design Head: 2.05m
CL 39.425
IL 37.150 - BD
IL 35.950 - 225 in
BL TBC

SW Attenuation Tank
Size: 16.0 x 10.0 x 2.0m deep
CL 39.300
Top of Tank = 38.000
IL 36.000
Area Served = 0.456 ha
(10% has been added to the roof areas for Urban Creep)
Design Storm Event: 1:100 year + 45% CC

FWMH
Combined
CL 38.955
IL 37.655

Ex-FWMH
Ref: 3501
CL 39.090
IL 37.600 - New 150
IL 37.550 - Ex 150
Note:
Proposed new combined drainage lateral connection to the existing public foul water chamber 3501 under a Section 106 agreement With Southern Water. Existing invert level to be checked by lifting chamber cover and measuring the depth prior to any works beginning on-site

Foul Water Drainage Strategy
The proposed new foul water drainage will drain via gravity to a new chamber at the front of the site. It will then combine with the proposed surface water drainage before discharging to the existing 150mm diameter Public Foul Water Sewer that runs within Nords Way under a Section 106 application with Southern Water.
Peak Foul Water Flow Calculation:
Flow per plot = 225 lts/day x 3 persons
= 675 lts / day / household
Total flow = 675 x 25 Households
= 16,875 lts / day
Peak Flow Rate = 16,875 / 24 hours
= 0.1953 l/s (x6)
= 1.1719 l/s

Surface Water Drainage Strategy
The surface water run-off will attenuated on-site within a cellular storage tank and some areas of Type-C permeable paving. The flows will then be controlled and managed by a surface water pump station which will lift and carry the surface water drainage to a new outfall chamber at the front of the site. The surface water will then combine with the proposed foul water drainage before discharging to the existing 150mm diameter Public Foul Water Sewer that runs within Nords Way.
The on-site pump station will control the flows discharging from the site to a maximum flow rate of 2.0 l/s. In the event of pump failure the attenuation tank will also function to provide emergency storage allowing time for the pump station to be inspected and repaired.
Total Run-off area served = 0.456 ha
(This includes a 10% increase to the roof areas for Urban Creep)
Proposed Peak Flow Rate = 2.0 l/s
Peak Design Storm Event = 1:100 year + 45% Climate Change

Drainage Legend

- Existing Private SW Sewer (& Manhole)
- Existing Private FW Sewer (& Manhole)
- Existing Public SW Sewer (& Manhole)
- Existing Public FW Sewer (& Manhole)
- Proposed SW Sewer (& Manhole)
- Proposed FW Sewer (& Manhole)
- Proposed Suspended SW Drain
- RG 4500 Trapped Road Gully
- YE Square Trapped Yard Gully + Shallow Bucket
- RE Rodding Eye (Refer to plan for invert level)
- Rainwater Collection Pipe (At High Level)
- (R) Rainwater Collection Pipe
- (R)* Rainwater collection Pipe (with Access)
- SU Drainage Channel (with Sump Unit)
- Threshold Drainage Channel (to Architects Spec)
- Gravel Drainage Strip
- (S) Soil & Vent Pipe / Stub Stack
- Rising Main - Surface Water
- Pipeline with Concrete Surround
- Perforated Distributor / Collection Pipe
- Pipeline to be Removed / Abandoned
- Permeable Block Paving
- Localised Trench with Perforated Collector Pipe

Refer to architects / M/E drawings for exact positions of internal connections and RWPS.

- Notes:**
- This drawing is to be read in conjunction with all of the relevant architects, engineers and specialist sub-contractor drawings and specifications.
 - Any discrepancies between the engineers and the architects drawings to be referred to the architect before proceeding. Drawings must not be scaled.
 - All private drainage is to be in accordance with BS EN 752-1-2-3-4, BS EN 1295-1, BS EN 1610 and all relevant sections of approved document H of the building regulations (2015 Edition).
 - All adoptable drainage is to be in accordance with Design and construction guidelines for foul & surface water sewers offered for adoption, where appropriate.
 - All materials for adoptable drainage are to be Kitemarked as appropriate.
 - All adoptable manhole covers and frames are to be 150mm deep minimum and the covers badged as appropriate i.e. 'FW' or 'SW'.
 - Pipework Type - Flexibly jointed extra strength vitrified clay, to BS EN 295-1, Hepworth 'Supersleve' or equivalent.
 - Pipework Type - Plastic i.e. PVC-U, to BS EN 1401-1 Osma or equivalent. (Private pipework to be type SN4 and all adoptable pipework to be type SN8)
 - Precast concrete manholes and fittings shall be to BS 5911 parts 3 and 4 and BS EN 1917.
 - The rising main within the highway should be laid no closer than 1.0m from the kerb face. Minimum Cover, 1.2m in the road and 0.9m in the footpath.
 - The private rising main trench is to have a warning tape fitted. Allow for 1.0m of tape coiled inside the pump chamber at the upstream end.
 - Whenever pipework passes through foundations, walls or connects to manholes, flexible pipe joints are to be provided within 150mm of the face of the structure. 600mm pipe length to then be used to form a rocker pipe.
 - Whenever pipework passes through screen walls, footings or retaining walls, lintels are to be provided.
 - Where pipelines pass within 1.0m of buildings or walls the foundations are to be taken down below the bottom of the trench. Where pipelines are more than 1.0m away from foundations the trench shall be backfilled with concrete up to a point that meets a 45° angle line taken from the bottom corner of the nearest foundation.
 - The contractors attention is drawn to the need to ensure that any trenches excavated through previously compacted or filled areas, in particular under the building footprint and immediately around the outside, are re-compacted to ensure that localised differential settlement does not occur.
 - Where pipelines cross with less than 300mm of clearance, each is to be surrounded with grade ST4 mass concrete for a distance not less than 1.0m centred on the crossing point. The length of surround should be extended as necessary to within 150mm of the next nearest flexible joints.
 - For private drainage, concrete protection is to be provided where the effective cover to the crown of the pipe(s) is less than 1.2m in trafficked areas and 0.6m in soft landscaped or pedestrianised areas. (Applies during and after construction).
 - The contractor is to ensure that suitable protective measures are taken to ensure that the drainage pipework and fittings are not damaged by site traffic prior to any over-site filling operations being completed.
 - Chamber annotation references are as follows:
AC - Denotes a polypropylene or vitrified clay access chamber, depth not exceeding 600mm, diameter not exceeding 300mm.
IC - Denotes a polypropylene inspection chamber, depth not exceeding 3.0m, diameter not exceeding 600mm. Standard diameter 450mm unless specified otherwise.
MH - Denotes a manholes constructed from either brick, polypropylene or P.C.C. sections. Chamber depth to be in excess of 1.2m.
 - The top run of each private foul drainage network is to be laid to falls no slacker than 1:40, the head of each run is to be vented to atmosphere in accordance with approved document H.
 - All foul and surface water drainage pipelines are to be 100mm dia min and laid at a gradient no slacker than 1:80, unless stated otherwise.
 - The contractor is to ensure that all pipework connections are arranged to direct flows down or into the main channel in the direction of the main flow. Any oblique or perpendicular chamber connections are to be directed into the mainline channel via appropriate benching. All chambers must include a connection via the main channel to ensure that a flush through is achieved.
 - The contractor is to ensure that when preformed polypropylene manhole bases are used, they are orientated such that the main flow is directed through the main channel of the base. This should be achieved by using long radius bends outside of the manhole when necessary.
 - Where new connections are to be made into existing manholes or sewers, all invert levels, pipe orientation and sizes should be checked on-site prior to the commencement of the works, with any variance reported to the engineer once identified. Where new connections are to be made either on or off-site, the contractor is to check the line and level of any existing services / mains, to ensure that no clashes exist prior to the works commencing.
 - Any and all new connections into a public sewer are to be inspected by the local water authority and carried out fully in accordance with their requirements. The contractor is to allow for obtaining the appropriate 'Section Applications' as well as paying all necessary fees.
 - The contractor is to allow for obtaining the appropriate road opening licence from the local highway authority and paying all necessary fees. All reinstatement works within the public highway are to be carried out in accordance with the requirements of the local highway authority.
 - Package pumping station(s) to be 'a specialist design element'. For installation guidance refer to manufacturer's specification. Any vent pipes to be taken to a position agreed with the architect. A three phase electricity supply is required to provide power to the pumping station control panel. The control panel, if external, is to be located inside a kiosk with close proximity of the pumping station. If internally located within a building, the control panel may be positioned on a wall. An informative notice plaque should be located on or near the control panel stating 'in the event of the alarm sounding or warning light flashing please contact the number below insert contact telephone number'.
 - Drainage channel(s) to be 'Acq' or equivalent. For installation guidance refer to the manufacturer's specification. Refer to landscape architects details for surface treatments around units where applicable. All drainage channels are to be constructed with in-built falls where possible. Relevant units are to be incorporated to provide the necessary length of channel gradient from the head of the run to the sump unit.
 - Permeable paving surface finish to the architects spec. Any alteration to the extents of the permeable paving may have an adverse affect upon the Surface Water drainage design and must therefore be discussed with the engineer.
 - Modular crate attenuation tank system(s) to be 'Wavin Aquacell' or 'Polypipe Polystorm'. Any other system offered will need to be provided with a separate warranty for design and installation.

Note:
The proposed foul and surface water drainage strategy is subject to approval by Southern Water

P1 10.02.23 Drawn
Rev Date Description

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Client
AJC Homes

Project Title
Orchard Gate, Dibden Purlieu

Drawing Title
Proposed Drainage Strategy Drawing

Drawing Status
For Approval

Originator No.	Rev by	Chk by	Scale
114290	GEB	GEB	1:200 @A1

PROJECT | ORIGINATOR | ZONE | LEVEL | TYPE | ROLE | NO.

114290-CAL-XX-XX-DR-D-004

Revision
P1