



15 September 2017

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Ref: E-F2100/APT

Dear Sirs

Re: 33 Lovedean Lane, Waterlooville

We have reviewed the flood risk and local sewer network at the site and would advise as follows:

Flood Risk

The site is less than 1Ha and in FZ1 with no record of sewer floods, is not in an area of reservoir flooding and is at low risk of surface water flooding. The proposed development accords with the requirements of the NPPF for flood risk and inherently meets the Sequential Test. A detailed FRA is not required.

Surface Water Drainage

The existing property drains by combined sewer connection to the public sewer affronting the site. Current impermeable surface areas are the roof s and pavements adjacent Lovedean Lane. This part of the site is at some 69m AOD.

Examining SUDS hierarchy, this site is of clay geology and a tier 1 infiltration strategy is not possible. The site contains no watercourse so a tier 2 (watercourse) discharge strategy is not possible. The location of proposed plots 3 and 4 to the rear is at an elevation of some 68m and too low to make gravity connection to the current sewer connection to the frontage so package pump stations will be required. It should also be noted that the current connection is combined which is a tier 4 strategy. It is proposed to drain the all site surface water to the existing public sewer via an attenuation tank and Hydrobrake to regulate flow rate.

Foul Water Drainage

The current connection to the public sewer will continue to serve FW discharge from the site.

Regards,

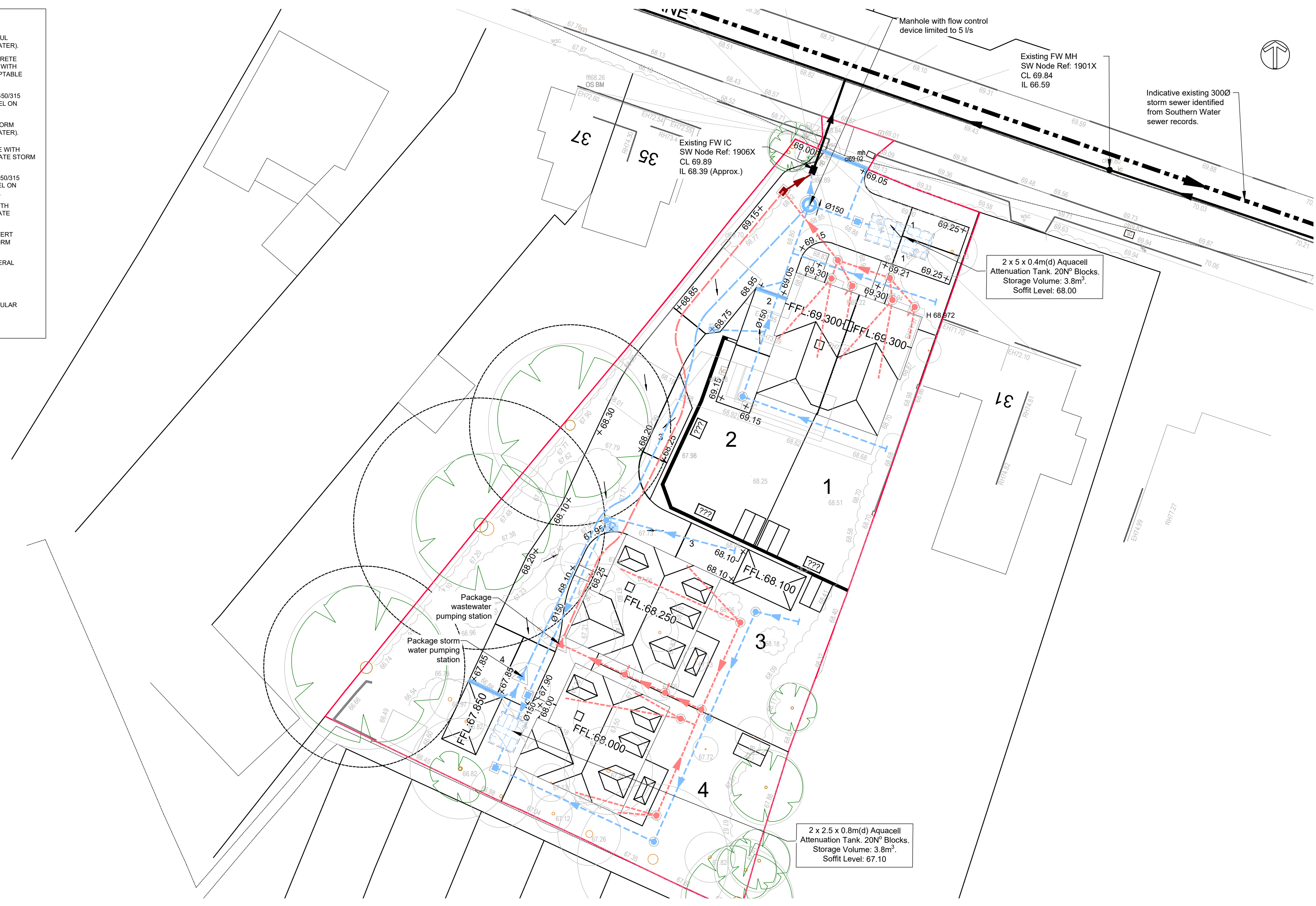
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A P Traves

Enc. Drawing EF2100-C300-P4

LEGEND:

- EXISTING ADOPTED FOUL SEWER (SOUTHERN WATER).
- TYPE 4 600 X 450 CONCRETE INSPECTION CHAMBER WITH INVERT LEVEL ON ADOPTABLE FOUL SEWER.
- TYPE 4 W/AVIN RANGE 450/315 PPIC WITH INVERT LEVEL ON PRIVATE FOUL DRAIN.
- EXISTING ADOPTED STORM SEWER (SOUTHERN WATER).
- TYPE 2 1200Ø MANHOLE WITH INVERT LEVEL ON PRIVATE STORM SEWER.
- TYPE 4 W/AVIN RANGE 450/315 PPIC WITH INVERT LEVEL ON PRIVATE STORM DRAIN.
- CATCHPIT CHAMBER WITH INVERT LEVEL ON PRIVATE STORM DRAIN.
- RODDING EYE WITH INVERT LEVEL ON PRIVATE STORM DRAIN.
- ROAD GULLY WITH LATERAL STORM DRAIN.
- ACO CHANNEL DRAIN.
- WAVIN AQUACELL CELLULAR ATTENUATION TANK.



- STANDARD NOTES:**
- This drawing is to be read in conjunction with all other OPUS drawings, and with all relevant Architect's and Engineer's drawings and specification.
 - No dimensions are to be scaled from this drawing. Unless noted otherwise all dimensions are in millimeters and all levels are in metres from the sea datum. All dimensions to be checked on site. All details and dimensions relating to sub-Contractors work must be checked and agreed between the sub-Contractor or supplier and the general Contractor.
 - The electronic information from this drawing cannot be guaranteed as dimensionally drawn exact. Figured dimensions must be used for setting out and detailing. OPUS logos and company information must be removed from copies if information is re-used.
 - The main Contractor is responsible for the design of all temporary works, and is also responsible for the safe maintenance and stability of existing buildings at all times.
 - The main Contractor is responsible for the mitigation of all occurrences of ground water during the construction period.
 - Any information given regarding existing underground services is given in good faith after consultation with the relevant authority, however accuracy is not guaranteed. The main Contractor is responsible for checking all information on site prior to work commencing and taking due care and attention while undertaking the works.
 - The contractor must comply with all current legislation relating to Health & Safety.
- DRAINAGE NOTES:**
- All works to be conducted in strict accordance with specification of the Local Authority, BS8301 1985 & BSEN 752-1.
 - All pipe runs near buildings to comply with the Building Regulations 2002 Part H1. Where a pipe is within 1m of a foundation the trench shall be filled with class GEN3 concrete up to the lowest level of the foundation. Where the trench is further than 1m from the foundation, the trench shall be filled with class GEN3 concrete to a level below the lowest level for the foundation equal to the distance from the foundation less 150mm. In both cases the pipe shall be bedded and surrounded in 150mm thick class GEN3 concrete.
 - Where pipes, external to the structures, have a depth to soffit from ground level of less than 450mm they shall have a class GEN3 concrete encasement (150mm thick).
 - Where a pipe, under a carriageway, has a depth of cover of less than 1.2m the pipe shall be laid in a class Z bedding.
 - Where pipes are bedded and surrounded in concrete, flexible joints should be provided. Compressible boards (fibreglass or polystyrene) shall be provided at a maximum of 8m centres (coinciding with pipe joints). The boards shall be pre-cut to pipe diameter and to a height and width equal to the concrete cross section. A board thickness of 8mm for pipes up to 450mm nominal diameter and 36mm for pipes over 450mm nominal diameter.
 - All private building drainage shall be constructed in strict accordance with BSEN 752-1.
 - Unless otherwise specified, building drainage to be 100mm internal diameter.
 - Minimum gradient for Ø100mm surface drainage pipes is 1:60, and Ø150mm is 1:100.
 - Minimum gradients for foul drainage pipes:
Ø100mm: 1:40 where flow is less than 1l/s, or where no WCs are connected.
Ø100mm: 1:78 where flow is 1l/s or greater, or where at least 1No. WC is connected.
Ø150mm: 1:135 where flow is less than 5l/s, or where up to 5No. WCs are connected.
Ø150mm: 1:150 where flow is 5l/s or greater, or where 5No. or more WCs are connected.
 - All gullies not connected to inspection chambers are to be roddable.
 - All gully connections other than those at manholes to be made via "Y" junctions.
 - Gullies coincident with pedestrian/drive crossings to have pedestrian type gully covers.
 - All road gully connections to be 150mm diameter.
 - All sub stacks to be fitted with air admittance valves where branch drain exceeds 12m except at the head of the run. Soil vent pipes located at the head of a run to be installed with roof tile vent.
 - All connections to be made from soffit to soffit.
 - Trench temporary formwork is required to all excavations exceeding 1.2m depth to provide adequate support and stability at all times.
 - Sewers are to be constructed in single sections between manholes only. Trenches to be backfilled prior to excavating the succeeding sewer run.
 - All concrete and concrete products to be in accordance with BRE 363 for sulphates.
 - Where sewer or drains are to be abandoned they shall be removed or infilled by grouting in accordance with the Civil Engineer Specification for the Water Industry 7th Edition, clause 5.23.

BACKGROUND IS BASED ON THE ARCHITECT'S GA DRAWING

ANY DISCREPANCIES OR UNCERTAINTY WITH THE CONTENT OF THIS DRAWING ARE TO BE REPORTED TO THE ENGINEER PRIOR TO CONSTRUCTION.

-BURIED PRIVATE SERVICES		
Construction Risks	Maintenance/Cleaning Risks	Demolition/Adaption Risks
The table above is provided to assist the Principal Contractor to fulfil his obligations under the Construction (Design & Management) Regulations 2015. It does not include residual risks that a competent Contractor will be aware of nor does it absolve the Principal Contractor of his legal responsibilities.		
SAFETY HEALTH AND ENVIRONMENTAL INFORMATION BOX		

1:1 @ A1
1:2 @ A3
0 10 20 30 40 50 60 70 80 90 100 mm

Revision	Amendment	Approved	Revision Date
P1	PRELIMINARY ISSUE	APT	05.08.2017
P2	DRAINAGE AMENDED	APT	31.07.2017
P3	SW & FW DRAINAGE AMENDED	APT	12.09.2017
P4	DRAINAGE AMENDED	APT	15.09.2017



Drawn	Designed	Approved	Revision Date
JPS	JPS	APT	15.09.2017

Project No.	Scale
FA E-F2100.00	1:200

Project		
33 LOVEDEAN LANE WATERLOOVILLE		
Sheet		
DRAINAGE		
Drawing No.	Sheet No.	Revision
C300	S01	P4