

APPLICANT: DAVID FALLON

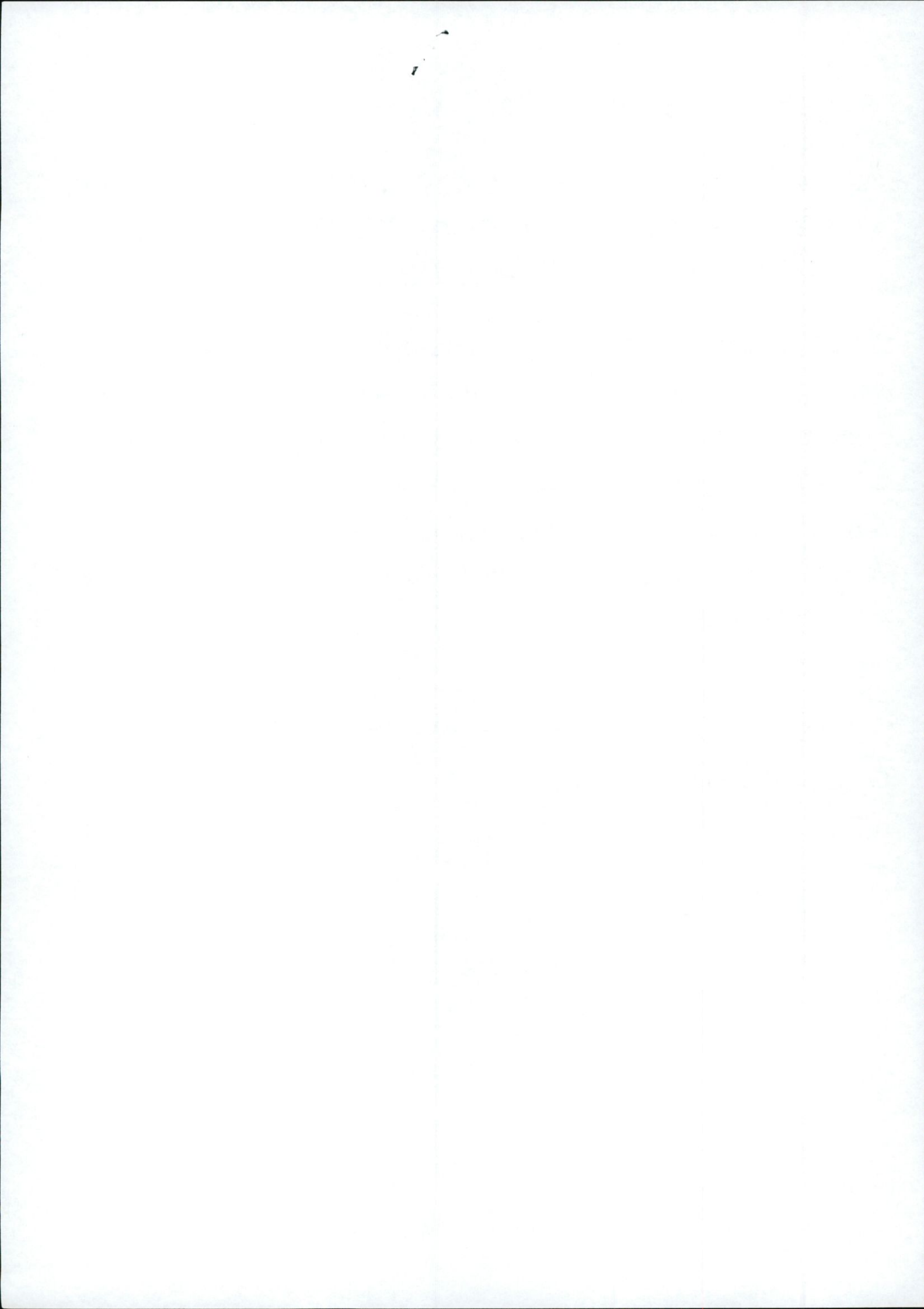
RE: PROPOSED DWELLING HOUSE & GARAGE IN SIDE GARDEN  
OF EXISTING FAMILY HOME AT BALDONNELL ROAD.  
BALDONNELL MAPED - DUBLIN 22.

PLANNING PERMISSION WAS GRANTED ON THE 4<sup>TH</sup> MAY 2021 FOR  
A TWO STOREY DWELLING HOUSE ON THE SITE - REG. REFNO S0209/0200.  
ENCLOSED PLEASE FIND PERCOLATION TEST REPORT PREPARED  
BY JMG ENGINEERING SERVICES LTD. FOR SAME.

THIS NEW PLANNING APPLICATION IS IN RESPECT OF A CHANGE OF  
HOUSE TYPE TOGETHER WITH PROPOSED DOMESTIC GARAGE  
AT THE SIDE

SIGNED: PETER MCGILLEN. B.Sc. - DUP ARCH.

DATE - 10<sup>TH</sup> AUGUST 2022



# Green Site Eco Solutions Ltd

Astral House,  
Eyre Street,  
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David Fallon  
Baldonnell Road,  
Baldonnell Upper,  
Dublin 22.

The results of these systems are excellent with running costs on average of €13 per year / person. It is economical and pumps on a clock, which is set when commissioning. The Solido SMART conforms to the cleaning category C, N and D (Carbon and Nitrogen degradation as well as additional denitrification) and can keep the following requirements: BOD5: ≤ 20 mg/l from a grab sample, homogenised COD: ≤ 90 mg/l from a grab sample, homogenised NH4-N: ≤ 10 mg/l from a 24 h composite sample, filtrated Nanorg: ≤ 25 mg/l from a 24 h composite sample, filtrated. This is far ahead of other systems.

It is one of the best systems on the market. It is easy to desludge and has single chamber technology. We have installed systems in locations, where nature and streams are vulnerable, but the smart solido is the greenest system we are aware of, so it suits everyone's needs.

**Green Site Eco Solutions is the smart choice for safe and clean effluent treatment.**

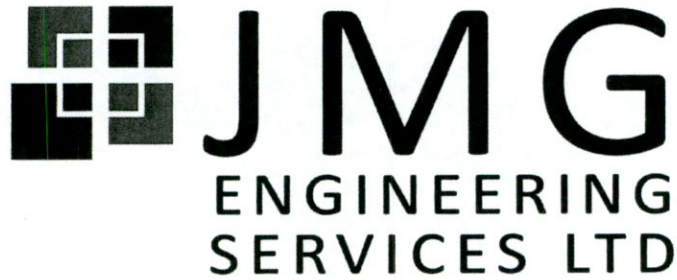
Regards

***John Mc Guinness***

John Mc Guinness B.Eng (Hons), C.Eng, MSc Econ, Dip Con, Fetac, M.I.E.I., M.I.I.I.  
(For & On Behalf of JMG Engineering Services Ltd)







**Astral House, Eyre Street, Newbridge, Co. Kildare.**

**Telephone: 045 - 436053 / 086 - 6097429**

**Email: john@jmg.ie**

**Certificates of Compliance with Planning / Building, Percolation Tests, Property Building Inspections, Building Pathology, Snag Lists, Mortgage Stage Payments, Insurance Claims, Loss Assessing & Project Management.**

**Professionally Insured & Regulated by The Central Bank of Ireland**

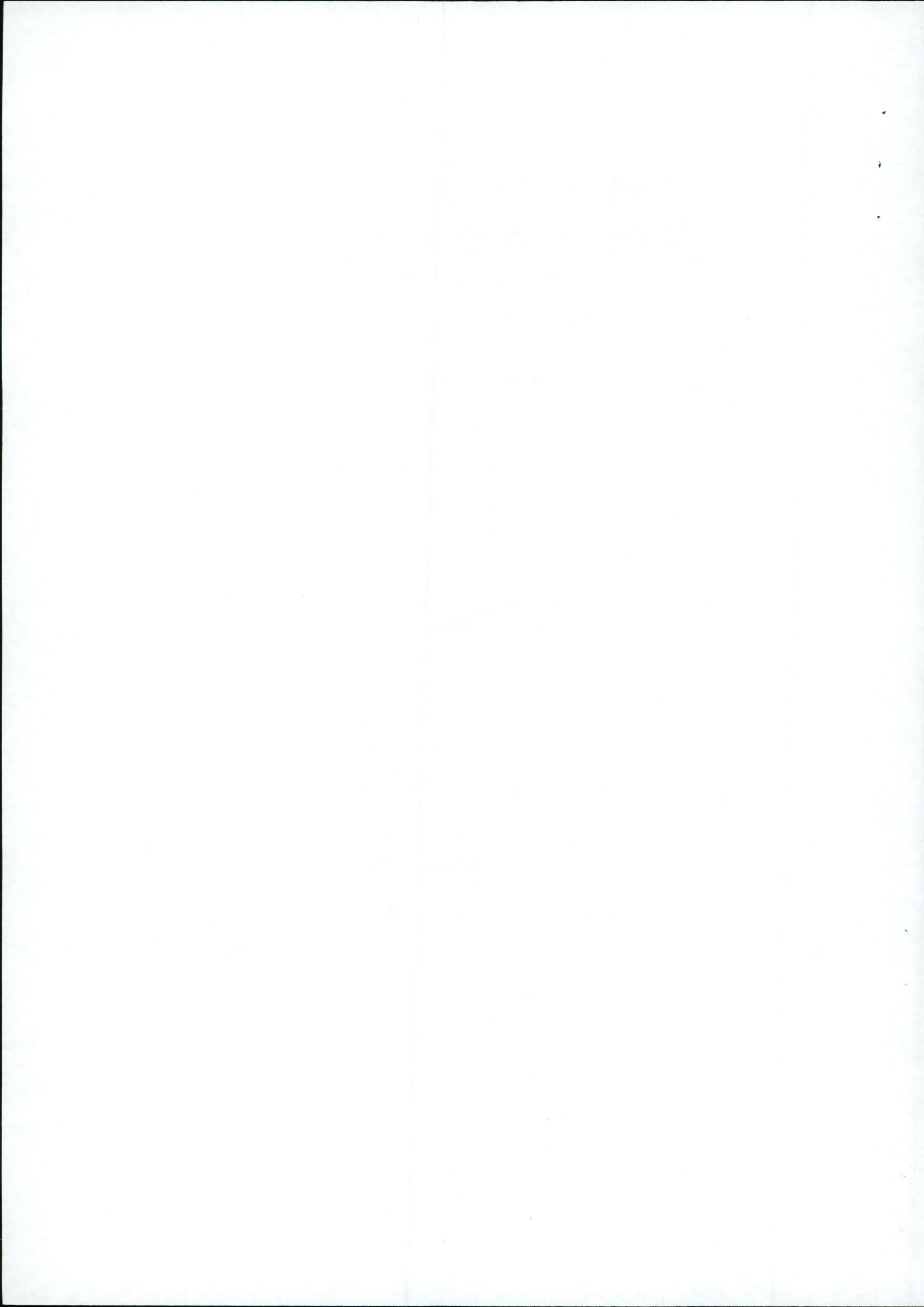
## **PERCOLATION TEST REPORT**

**For**

**Client: David Fallon**

**Site: Baldonnell Road, Baldonnell Upper, Dublin 22.**

**Date: 10<sup>th</sup> of June 2020**



# SITE CHARACTERISATION FORM

File Reference:

## 1.0 GENERAL DETAILS (From planning application)

Prefix:  First Name:  Surname:

Address:  Site Location and Townland:

Telephone No:  Fax No:

E-Mail:

Maximum no. of Residents:  No. of Double Bedrooms:  No. of Single Bedrooms:

Proposed Water Supply: Mains  Private Well/Borehole  Group Well/Borehole

## 2.0 GENERAL DETAILS (From planning application)

Soil Type, (Specify Type):  Subsoil:

Aquifer Category: Regionally Important  Locally Important  Poor

Vulnerability: Extreme  High  Moderate  Low  High to Low  Unknown

Bedrock Type:

Name of Public/Group Scheme Water Supply within 1 km:

Groundwater Protection Scheme (Y/N):  Source Protection Area: SI  SO

Groundwater Protection Response:

Presence of Significant Sites (Archaeological, Natural & Historical):

Past experience in the area:

Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, and/or any potential site restrictions).

Site is to be serviced by mains water. Passing mains water supply at rear of site running through casement aerodrome. Septic tank serving house on LHS is 3M from LHS boundary and 7m from rear boundary. Septic tank serving house on RHS is C.30M from site boundary. Ample separation distance between neighboring house & this proposed Smart Solido in rear RHS discharging to a Tertiary Filter.

Note: Only information available at the desk study stage should be used in this section.



### 3.0 ON-SITE ASSESSMENT

#### 3.1 Visual Assessment

Landscape Position:

Slope: Steep (>1:5)  Shallow (1:5-1:20)  Relatively Flat (<1:20)

Surface Features within a minimum of 250m (Distance To Features Should Be Noted In Metres)

Houses:

Existing Land Use:

Vegetation Indicators:

Groundwater Flow Direction:

Ground Condition:

Site Boundaries:  Roads:

Outcrops (Bedrock And/Or Subsoil):

Surface Water Ponding:  Lakes:

Beaches/Shellfish:  Areas/Wetlands:

Karst Features:  Watercourse/Stream\*:

Drainage Ditches\*:  Springs / Wells\*:

#### Comments:

(Integrate the information above in order to comment on: the potential suitability of the site, potential targets at risk, the suitability of the site to treat the wastewater and the location of the proposed system within the site).

Proposed to place a Solido Smart 6PE WWTS and a tertiary filter on-site. No ponding of water on site. This is favorable. Separation distance between neighbors treatment system is very easily achieved. Nearest system is C.3m to LHS of this site. Can easily achieve separation distance with neighboring systems and proposed system. No back-land developments as it is aerodrome.

Low density development. This is favorable. House is serviced by mains water. This is favorable.

Neighboring septic tanks and 1 no well are well away from this site. Separation distances as per regulation are easily achievable in regard to sewage treatment systems and well. Min separation distances are easily achievable.

Proposed to place a Smart Solido 6PE WWTS discharging to a tertiary filter. Site is suitable for same.

\*Note and record water level

**3.2 Trial Hole** (should be a minimum of 2.1m deep (3m for regionally important aquifers))

To avoid any accidental damage, a trial hole assessment or percolation tests should not be undertaken in areas, which are at or adjacent to significant sites (e.g. NHAs, SACs, SPAs, and/or Archaeological etc.), without prior advice from National Parks and Wildlife Service or the Heritage Service.

Depth of trial hole (m):

Depth from ground surface to bedrock (m) (if present):

Depth from ground surface to water table (m) (if present):

Depth of water ingress:  Rock type (if present):

Date and time of excavation:   Date and time of examination:

Depth of P/T Test*	Soil/Subsoil Texture & Classification**	Plasticity and dilatancy***	Soil Structure	Density/ Compactness	Colour****	Preferential flowpaths
0.1 m	CLAY. Topsoil. Good quality clay. Constant over 0.5m depth. Rolls well.	Dilatent	Massive	Very Stiff	Brown	Random
0.2 m						
0.3 m	Trds: 3, 4 & 4. Max 70mm. Rbns: 5, 4 & 5.					
0.4 m						
0.5 m						
0.6 m	Sub-soil. Clay. Silty Clay. Very compact and hard to scratch. Very tightly bound.	Dilatent	Prismatic	HARD	Brown with some Grey & gold mottling	
0.7 m						
0.8 m						
0.9 m	Has a fine texture when rolled.					
1.0 m						
1.1 m	Ground is well compacted and hard to dig.					
1.2 m						
1.3 m	Rolls. Trds: 4, 3 & 4 max 40mm.					
1.4 m						
1.5 m	Rbns: 4, 4 & 3.					
1.6 m						
1.7 m	Water table encountered at 1.45m deep.					
1.8 m						
1.9 m	Mottling noted a 0.7M deep.					
2.0 m						
2.1 m	Bedrock encountered at 2.3m deep. Could not dig through rock.					
2.2 m						
2.3 m						
2.4 m						
2.5 m	ROCK. BEDROCK. Could not dig through.	ROCK. BEDROCK. Could not dig through.	ROCK. BEDROCK. Could not dig through.	ROCK. BEDROCK. Could not dig through.	ROCK. BEDROCK. Could not dig through.	
2.6 m						
2.7 m						
2.8 m						
2.9 m						
3.0 m						

**Evaluation:**

Good dry site. Suitable for percolation. Suitable for percolation with a Raised Premier Tech Ecoflo tertiary Treatment Filter & 6 PE Solido Smart Tank

Water table encountered at 1.45m deep & Bedrock encountered at 2.3m deep. Mottling noted at 0.7M deep.

Likely T value:

Note: \*Depth of percolation test holes should be indicated on log above. (Enter P or T at depths as appropriate).  
 \*\* See Appendix E for BS 5930 classification.  
 \*\*\* 3 samples to be tested for each horizon and results should be entered above for each horizon.  
 \*\*\*\* All signs of mottling should be recorded.



### 3.3(a) Percolation ("T") Test for Deep Subsoils and/or Water Table

#### Step 1: Test Hole Preparation

Percolation Test Hole	1		2		3	
Depth from ground surface to top of hole (mm) (A)	600		600		600	
Depth from ground surface to base of hole (mm) (B)	1,000		1,000		1,000	
Depth of hole (mm) [B - A]	400		400		400	
Dimensions of hole [length x breadth (mm)]	300 x	300	300 x	300	300 x	300

#### Step 2: Pre-Soaking Test Holes

Date and Time pre-soaking started	09/06/2020	10:00	09/06/2020	10:00	09/06/2020	10:00
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Each hole should be pre-soaked twice before the test is carried out. Each hole should be empty before refilling.

#### Step 3: Measuring $T_{100}$

Percolation Test Hole No.	1		2		3	
Date of test	10/06/2020		10/06/2020		10/06/2020	
Time filled to 400 mm	07:00		07:04		07:10	
Time water level at 300 mm	07:59		08:18		08:21	
Time to drop 100 mm ( $T_{100}$ )	59.00		74.00		71.00	
Average $T_{100}$						68.00

If  $T_{100} > 300$  minutes then T-value  $>90$  – site unsuitable for discharge to ground

If  $T_{100} \leq 210$  minutes then go to Step 4;

If  $T_{100} > 210$  minutes then go to Step 5;

**Step 4: Standard Method** (where  $T_{100} \leq 210$  minutes)

Percolation Test Hole	1			2			3		
Fill no.	Start Time (at 300 mm)	Finish Time (at 200 mm)	$\Delta t$ (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	$\Delta t$ (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	$\Delta t$ (min)
1	07:59	09:24	85.00	08:18	09:53	95.00	08:21	10:02	101.00
2	09:29	11:27	118.00	09:58	12:14	136.00	10:07	12:28	141.00
3	11:31	14:22	171.00	12:20	15:18	178.00	12:34	15:34	180.00
Average $\Delta t$ Value	124.67			136.33			140.67		
	Average $\Delta t/4 =$ [Hole No.1] 31.17 ( $t_1$ )			Average $\Delta t/4 =$ [Hole No.2] 34.08 ( $t_2$ )			Average $\Delta t/4 =$ [Hole No.3] 35.17 ( $t_3$ )		

Result of Test:  $T =$   (min/25 mm)

Comments:

The value of 33.47 is a pass rate. These results are fine to work from. We will work from the "T" test results as these are a pass

**Step 5: Modified Method** (where  $T_{100} > 210$  minutes)

Percolation Test Hole No.	1				2				3			
Fall of water in hole (mm)	Time Factor $= T_f$	Time of fall (mins) $= T_m$	$K_{fs} = T_f / T_m$	T - Value $= 4.45 / K_{fs}$	Time Factor $= T_f$	Time of fall (mins) $= T_m$	$K_{fs} = T_f / T_m$	T - Value $= 4.45 / K_{fs}$	Time Factor $= T_f$	Time of fall (mins) $= T_m$	$K_{fs} = T_f / T_m$	T - Value $= 4.45 / K_{fs}$
300 - 250	8.1	0			8.1	0			8.1	0		
250 - 200	9.7				9.7				9.7			
200 - 150	11.9				11.9				11.9			
150 - 100	14.1				14.1				14.1			
Average T- Value	T- Value Hole 1= ( $t_1$ ) 0.00				T- Value Hole 1= ( $t_2$ ) 0.00				T- Value Hole 1= ( $t_3$ ) 0.00			

Result of Test:  $T =$   (min/25 mm)

Comments:

We have not used step 5 as step 4 is our option

### 3.3(b) Percolation ("P") Test for Shallow Soil / Subsoils and/or Water Table

#### Step 1: Test Hole Preparation

Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm)	0	0	0
Depth from ground surface to base of hole (mm)	400	400.00	400
Depth of hole (mm)	400	400	400
Dimensions of hole [length x breadth (mm)]	300 x 300	300 x 300	300 x 300

#### Step 2: Pre-Soaking Test Holes

Date and Time pre-soaking started	09/06/2020	10:40	09/06/2020	10:40	09/06/2020	10:40

Each hole should be pre-soaked twice before the test is carried out. Each hole should be empty before refilling.

#### Step 3: Measuring $P_{100}$

Percolation Test Hole No.	1	2	3
Date of test	10/06/2020	10/06/2020	10/06/2020
Time filled to 400 mm	07:17	07:20	07:25
Time water level at 300 mm	08:25	08:25	08:31
Time to drop 100 mm ( $P_{100}$ )	68.00	65.00	66.00
Average $P_{100}$			66.33

If  $P_{100} > 300$  minutes then T-value  $>90$  – site unsuitable for discharge to ground

If  $P_{100} \leq 210$  minutes then go to Step 4;

If  $P_{100} > 210$  minutes then go to Step 5;



**Step 4: Standard Method** (where  $P_{100} \leq 210$  minutes)

Percolation Test Hole	1			2			3				
	Start Time (at 300 mm)	Finish Time (at 200 mm)	$\Delta p$ (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	$\Delta p$ (min)	Start Time (at 300 mm)	Finish Time (at 200 mm)	$\Delta p$ (min)		
1	08:25	09:53	88.00	08:25	09:42	77.00	08:31	09:53	82.00		
2	09:58	11:34	96.00	09:46	11:26	100.00	09:59	12:06	127.00		
3	11:39	13:54	135.00	11:31	13:25	114.00	12:11	14:33	142.00		
Average $\Delta p$ Value	106.33			97.00			117.00				
Average $\Delta p/4 =$ [Hole No.1]			26.58 ( $p_1$ )	Average $\Delta p/4 =$ [Hole No.2]			24.25 ( $p_2$ )	Average $\Delta p/4 =$ [Hole No.3]			29.25 ( $p_3$ )

Result of Test:  $P =$   (min/25 mm)

Comments:

The "P" result is 26.69. It is fine, but we will work from the "T" value as it is a pass. The value we will use in design is the 33.47 "T" Value. The value is slower as the depth of the T test is close to the water table and the wetter ground (High water table).

**Step 5: Modified Method** (where  $P_{100} > 210$  minutes)

Percolation Test Hole No.	1				2				3			
	Time Factor $= T_f$	Time of fall (mins) $= T_m$	$K_{fs} = T_f / T_m$	P-Value $= 4.45 / K_{fs}$	Time Factor $= T_f$	Time of fall (mins) $= T_m$	$K_{fs} = T_f / T_m$	P-Value $= 4.45 / K_{fs}$	Time Factor $= T_f$	Time of fall (mins) $= T_m$	$K_{fs} = T_f / T_m$	P-Value $= 4.45 / K_{fs}$
300 - 250	8.1	0			8.1	0			8.1	0		
250 - 200	9.7				9.7				9.7			
200 - 150	11.9				11.9				11.9			
150 - 100	14.1				14.1				14.1			
Average P- Value	P- Value Hole 1= ( $p_1$ )				P- Value Hole 1= ( $p_2$ )				P- Value Hole 1= ( $p_3$ )			
	0.00				0.00				0.00			

Result of Test:  $P =$   (min/25 mm)

Comments:

We have not used step 5 as step 4 is our option

**3.4 The following associated Maps, Drawings and Photographs should be appended to this site characterisation form.**

1. Discovery Series 1:50,000 Map indicating overall drainage, groundwater flow direction and housing density in the area.
2. Supporting maps for vulnerability, aquifer classification, soil, bedrock.
3. North point should always be included.
4. (a) Sketch of site showing measurements to Trial Hole location and
  - (b) Percolation Test Hole locations,
  - (c) wells and
  - (d) direction of groundwater flow (if known),
  - (e) proposed house (incl. distances from boundaries)
  - (f) adjacent houses,
  - (g) watercourses,
  - (h) significant sites
  - (i) and other relevant features.
5. Cross sectional drawing of the site and the proposed layout<sup>1</sup> should be submitted.
6. Photographs of the trial hole, test holes and site (date and time referenced).

<sup>1</sup> The calculated percolation area or polishing filter area should be set out accurately on the site layout drawing in accordance with the code of practice's requirements.



## 4.0 CONCLUSION of SITE CHARACTERISATION

Integrate the information from the desk study and on-site assessment (i.e. visual assessment, trial hole and percolation tests) above and conclude the type of system(s) that is (are) appropriate. This information is also used to choose the optimum final disposal route of the treated wastewater.

Not Suitable for Development

### Suitable for <sup>1</sup>

- |   |                          |
|---|--------------------------|
| 1. Septic tank system (septic tank and percolation area)                      | <input type="checkbox"/> |
| 2. Secondary Treatment System   |                          |
| a. septic tank and filter system constructed on-site and polishing filter; or | <input type="checkbox"/> |
| b. packaged wastewater treatment system and polishing filter                  | <input type="checkbox"/> |

### Discharge Route

## 5.0 RECOMMENDATION

Propose to install: **Advised to install a Solido Smart 6PE Wastewater Treatment System and discharge to a Raised Premier Tech Ecoflo Tertiary Treatment Filter at 0.3M below GL, sitting on 0.3M of gravel.**

and discharge to:

Trench Invert level (m):

Site Specific Conditions (e.g. special works, site improvement works testing etc.

We will work from the "T" test values. "T" Test value = 33.47. It is advised to install a Solido Smart 6PE Wastewater treatment System and discharge to a Premier Tech Ecoflo tertiary Treatment Filter.

The area is calculated from table 10.4 of the EPA COP. Taking a "T" value of 33.47 x 0.125 = 4.19 x 5 persons = 20.95M<sup>2</sup> of a Gravel bed of depth 300mm. (Six persons is taken for 4 bedrooms from clarification document (Waste Water Treatment & Disposal serving single houses)

It is Proposed to locate a Solido Smart 6 PE WWTS tank at min of 7m from the dwelling & placed in the rear garden. It is also advised to place a Premier Tech Ecoflo tertiary Treatment Filter. The Raised Premier Tech Ecoflo tertiary Treatment Filter should be 3m from the rear boundary & placed in the rear RHS of the garden & 4m from rear boundary & 4m from the RHS. The tertiary filter & solido smart tank must be no closer than 6m from large trees. The Premier Tech Ecoflo tertiary Treatment Filter should be a minimum of 10m from the building, & 14m from the rear boundary & 4m from the RHS boundary.

The bottom layer of the draining unit is to be laid on a clean gravel layer of 20.95m<sup>2</sup>, with a depth 300mm of 10mm to 20mm Pea Gravel. An inspection sample chamber should be installed. The gravel bed size Area is 4.53m x 4.53m = 20.95m<sup>2</sup>.

The bottom of the gravel bed should be placed at 0.6M below ground level. The Premier Tech Ecoflo tertiary Treatment Filter should sit on the 0.3M Gravel Bed. The gravel bed should finish 0.3M below GL & should be covered with top-soil

<sup>1</sup> note: more than one option may be suitable for a site and this should be recorded

<sup>2</sup> A discharge of sewage effluent to "waters" (definition includes any or any part of any river, stream, lake, canal, reservoir, aquifer, pond, watercourse or other inland waters, whether natural or artificial) will require a licence under the Water Pollution Acts 1977-90. Refer to Section 2.6.2.

## 6.0 TREATMENT SYSTEM DETAILS

**SYSTEM TYPE:** Septic Tank System

Tank Capacity (m <sup>3</sup> )	<input type="text"/>	Percolation Area	<input type="text"/>	Mounded Percolation Area	<input type="text"/>
		No. of Trenches	<input type="text"/>	No. of Trenches	<input type="text"/>
		Length of Trenches (m)	<input type="text"/>	Length of Trenches (m)	<input type="text"/>
		Invert Level (m)	<input type="text"/>	Invert Level (m)	<input type="text"/>

**SYSTEM TYPE:** Secondary Treatment System

### Filter Systems

Media Type	Area (m <sup>2</sup> )*	Depth of Filter	Invert Level
Sand/Soil	<input type="text"/>	<input type="text"/>	<input type="text"/>
Soil	<input type="text"/>	<input type="text"/>	<input type="text"/>
Constructed Wetland	<input type="text"/>	<input type="text"/>	<input type="text"/>
Other	<input type="text"/>	<input type="text"/>	<input type="text"/>

### Package Treatment Systems

Type	<input type="text" value="Solido Smart 6PE WWTS"/>
Capacity PE	<input type="text" value="6.00"/>
Sizing of Primary Compartment	<input type="text" value="5.30"/> m <sup>3</sup>

**SYSTEM TYPE:** Tertiary Treatment System

<b>Polishing Filter:</b> Surface Area (m <sup>2</sup> )*	<input type="text" value="20.95"/>	<b>Package Treatment System:</b> Capacity (pe)	<input type="text" value="6.00"/>
or <b>Gravity Fed:</b>		<b>Constructed Wetland:</b> Surface Area (m <sup>2</sup> )*	<input type="text"/>
No. of Trenches	<input type="text"/>		
Length of Trenches (m)	<input type="text"/>		
Invert Level (m)	<input type="text"/>		

### DISCHARGE ROUTE:

Groundwater	<input checked="" type="checkbox"/>	Hydraulic Loading Rate * (l/m <sup>2</sup> .d)	<input type="text" value="600.00"/>
Surface Water **	<input type="checkbox"/>	Discharge Rate (m <sup>3</sup> /hr)	<input type="text"/>

### TREATMENT STANDARDS:

Treatment System Performance Standard (mg/l)	BOD	SS	NH <sub>3</sub>	Total N	Total P
<input type="text"/>	<input type="text" value="8.00"/>	<input type="text" value="10.00"/>	<input type="text" value="7.70"/>	<input type="text" value="29.00"/>	<input type="text" value="3.30"/>

### QUALITY ASSURANCE:

#### Installation & Commissioning

Unit to be installed and commissioned by supplier

#### On-going Maintenance

Maintenance contract signed. See attached.

\* Hydraulic loading rate is determined by the percolation rate of subsoil

\*\* Water Pollution Act discharge licence required



## 7.0 SITE ASSESSOR DETAILS

Company: J M G Engineering Services Ltd

Prefix: Mr. First Name: John Surname: Mc Guinness (JMG Engineering Services Ltd)

Address: Astral House, Eyre Street, Newbridge, Co. Kildare

Qualifications/Experience: B.Eng (Hons), C.Eng, MSc Econ, Dip Con, Fetac, C.I.P., M.I.E.I., M.I.I.I.

Date of Report: 10/06/2020

Phone: 086-6097429 Fax: 045-436053 e-mail john@jmg.ie

Indemnity Insurance Number: (See attached Fetac Cert and Insurance Cert)

Signature: \_\_\_\_\_

*John Mc Guinness*

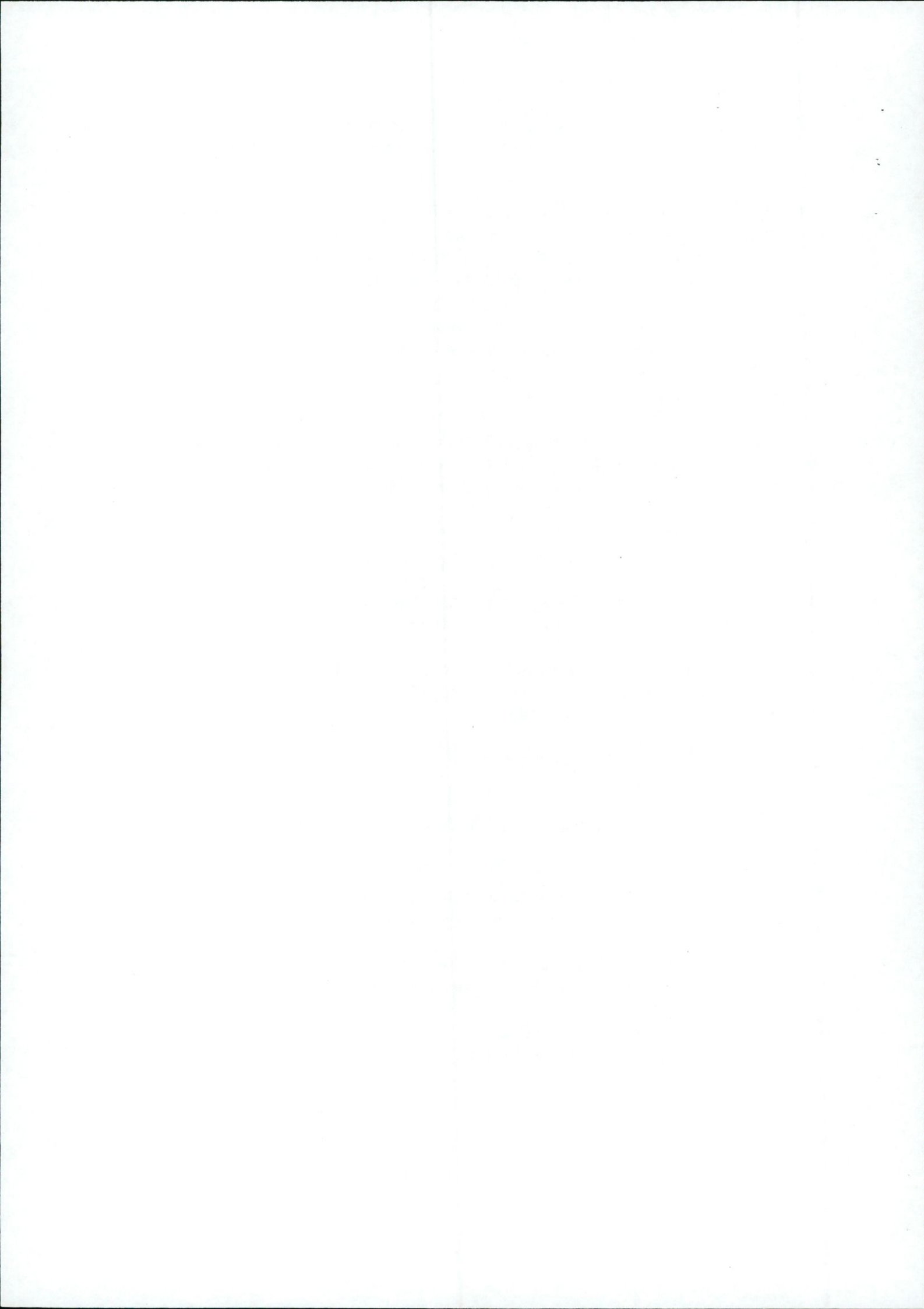


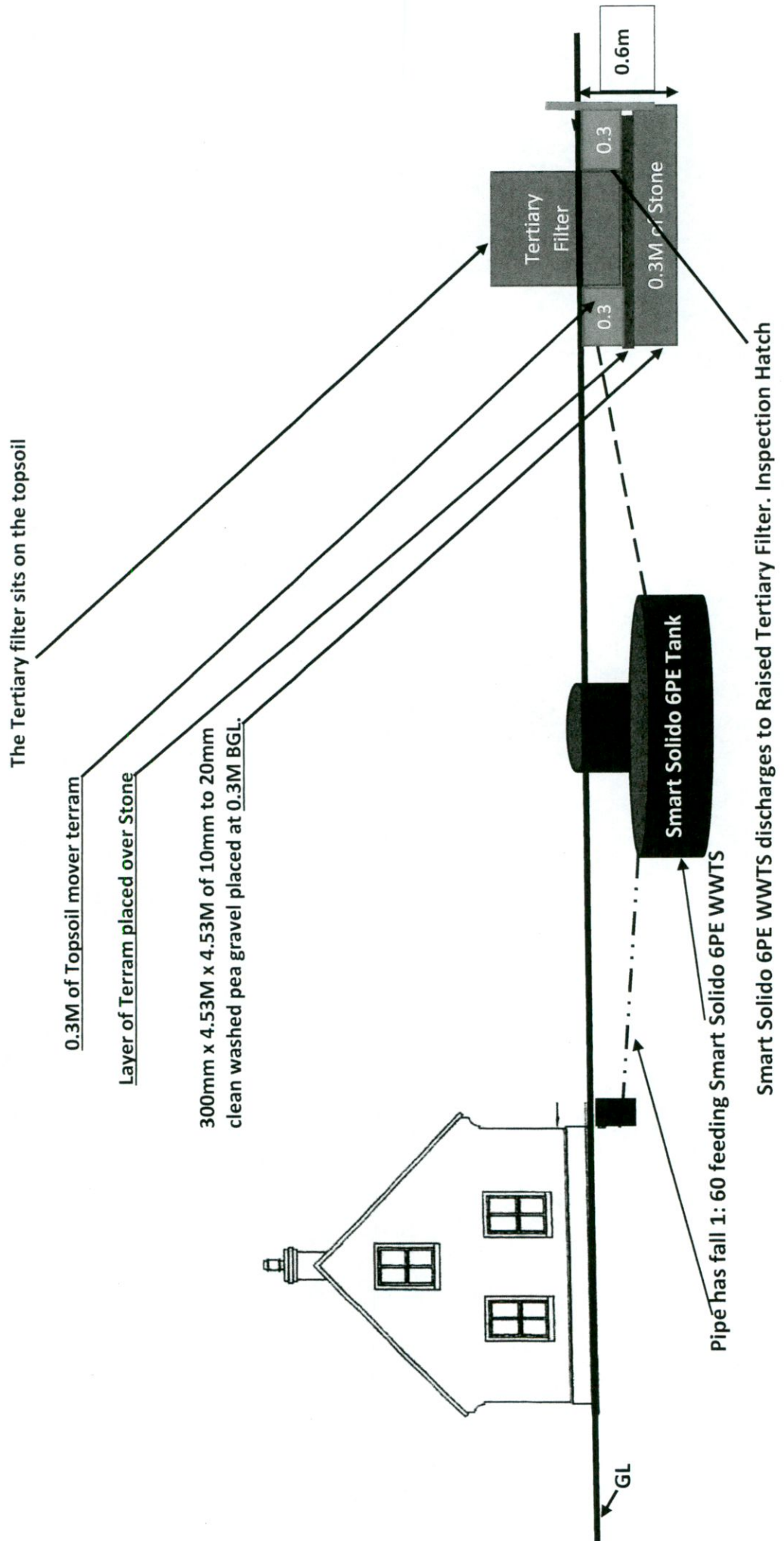
**Sewage Treatment Guidelines**  
**Donal Fallon, Baldonnell Road, Baldonnell Upper, Dublin 22**

1. The system to be used on the site is a **Solido Smart 6P.E. Wastewater Sewage Treatment System** which is to be discharged to a **Premier Tech Ecoflo Coco Tertiary Treatment Filter**. The **Premier Tech Ecoflo Coco Tertiary Treatment Filter** is to be placed on a 0.3M bed of gravel, finishing at 0.3M below Ground Level.
2. A gravel distribution layer is required as we are using a Tertiary Filter. The bottom layer of the draining unit is to be laid on a clean gravel layer of 20.95M<sup>2</sup>, with a depth 300mm of 10mm to 20mm Pea Gravel, placed at 0.6M below GL. An inspection sample chamber should be installed.
3. There should be 300mm of 10mm to 20mm new washed Pea gravel in a 20.95 M<sup>2</sup> area, placed at 0.6M below Ground Level. The **Premier Tech Ecoflo Coco Tertiary Treatment Filter** sits on the 300mm gravel bed, which should finish at 0.3m BGL.
4. The gravel bed should be 4.53M x 4.53M in size with 300mm of 10mm to 20mm new washed Pea gravel. The invert of the gravel bed should be 0.6M below Ground Level.
5. The **Premier Tech Ecoflo Coco Tertiary Treatment Filter** must be placed on the gravel bed. The bottom of the gravel bed must be at 0.6M below GL & should be 300mm thick
6. The **Smart Solido 6 P.E. Wastewater Sewage Treatment System & the Premier Tech Ecoflo Coco Tertiary Treatment Filter** is to be installed with manufactures instructions and in accordance with E.P.A. guidelines.
7. The **Smart Solido 6 P.E. Wastewater Sewage Treatment System** must be a minimum of 7m from the Dwelling House.
8. The **Premier Tech Ecoflo Coco Tertiary Treatment Filter** must be a min of 10m from the Dwelling House.
9. The **Smart Solido 6 PE Wastewater Sewage Treatment System** must be a minimum of 7m from the Dwelling House & 14m from the rear boundary & 4M from the RHS
10. The **Premier Tech Ecoflo Coco Tertiary Treatment Filter** must be a minimum of 10m from the Dwelling House & 4m from the rear boundary & 4M from the RHS

**NOTE:** The water table **was** encountered at a depth of 1.45M below the ground. Bedrock **was** located at 2.3M deep. Mottling **was** noted at 0.7M deep.







**Cross Section of Site**



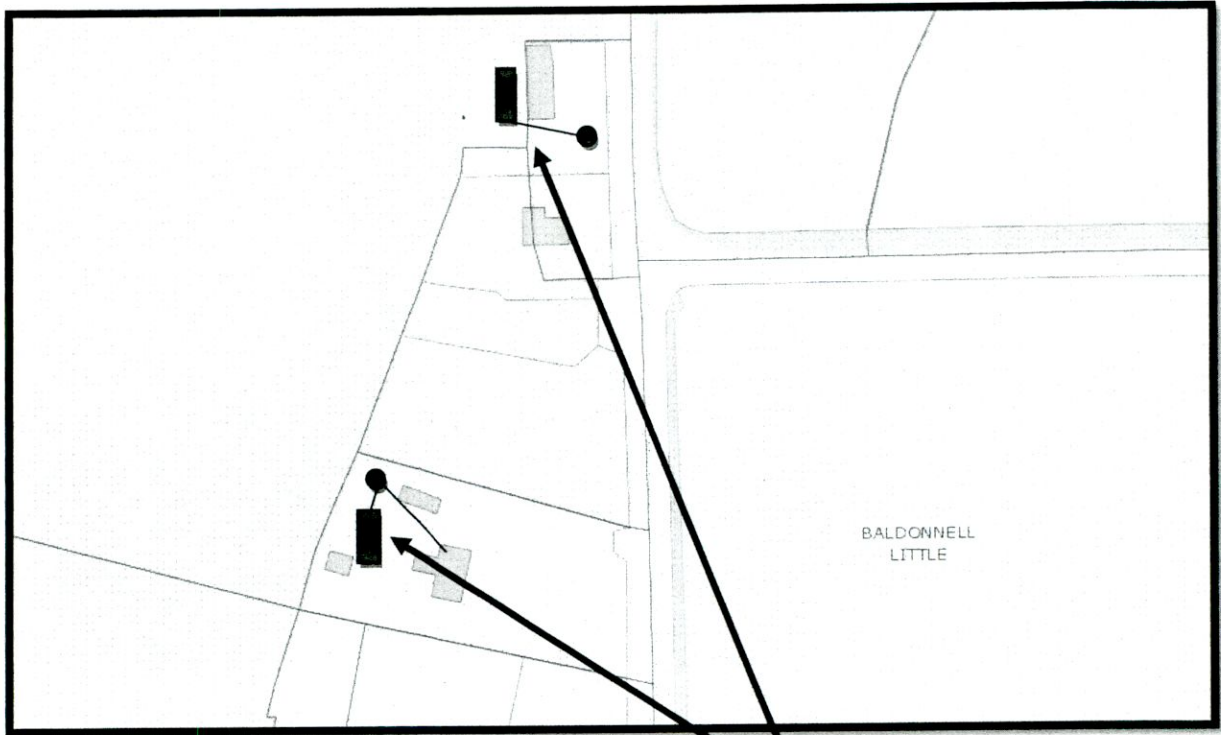


Photo No 1: The Site. Neighbouring tanks & perc areas

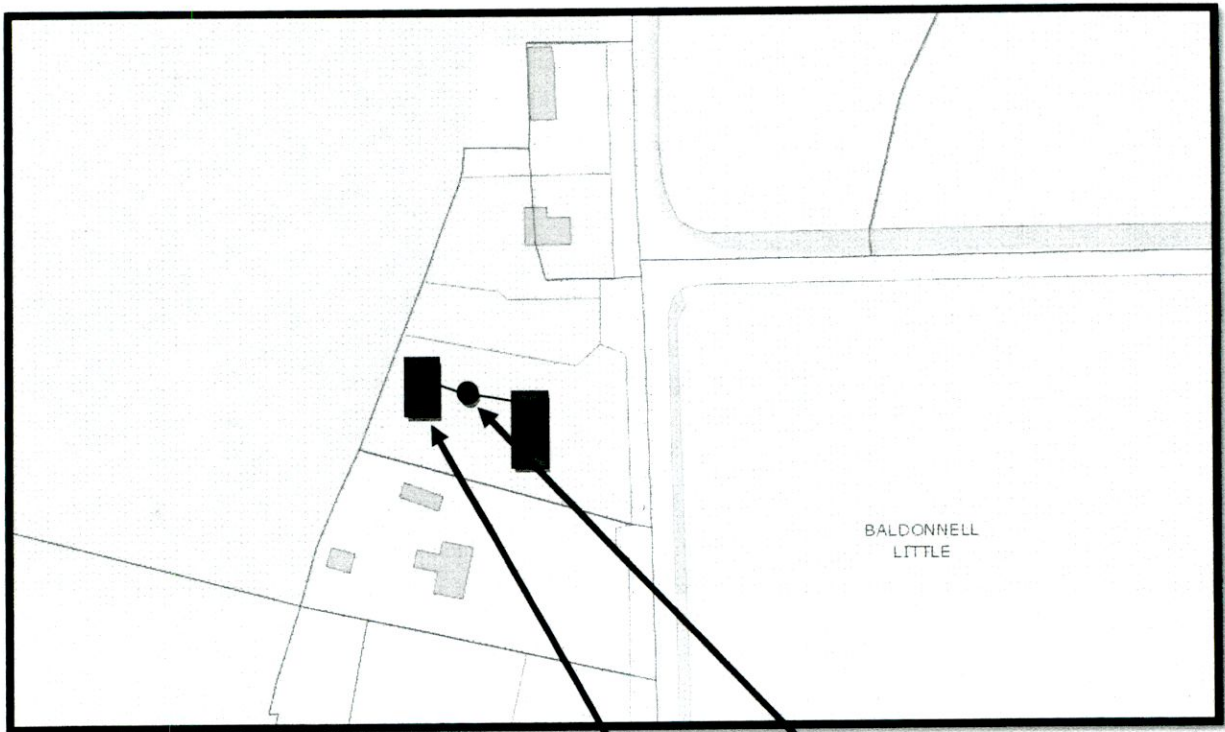


Photo No 2: Proposed tertiary filter & smart solids tank.



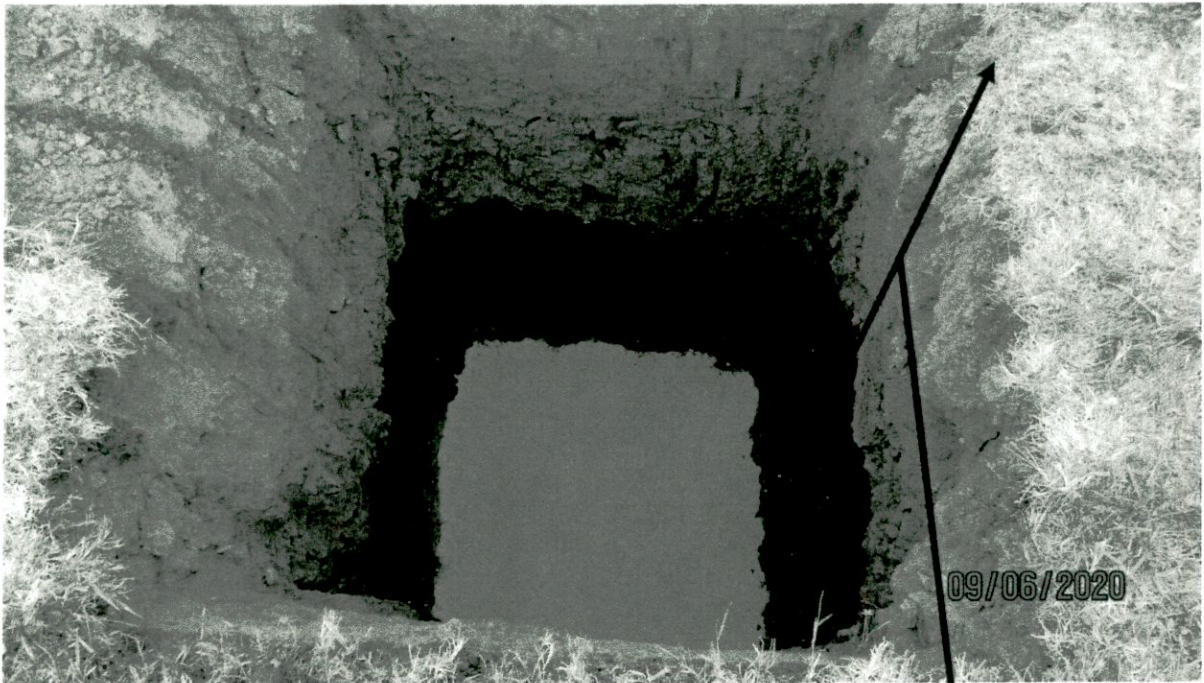


Photo No 3: Large Trial Hole (2.3M deep). Water located at 1.45M BGL



Photo No 4: Large Trial Hole (2.3M deep).



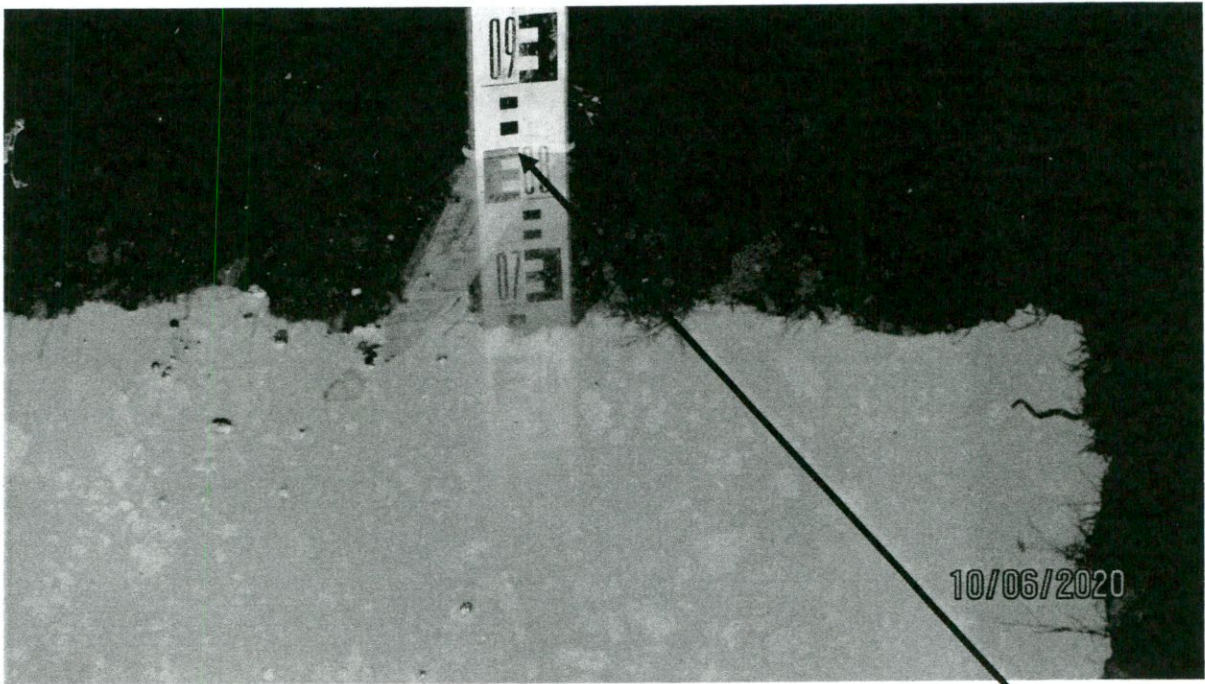


Photo No 5: Large Trial Hole (2.3M deep). Water located at 1.45M BGL (0.85M deep)

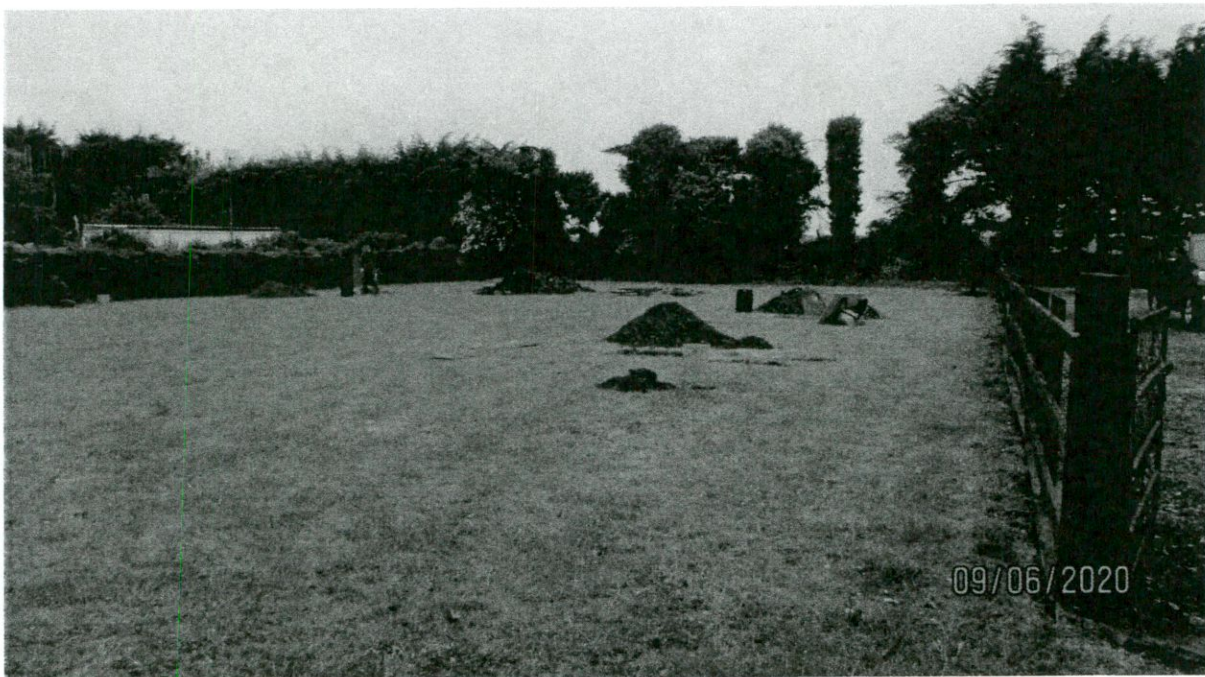
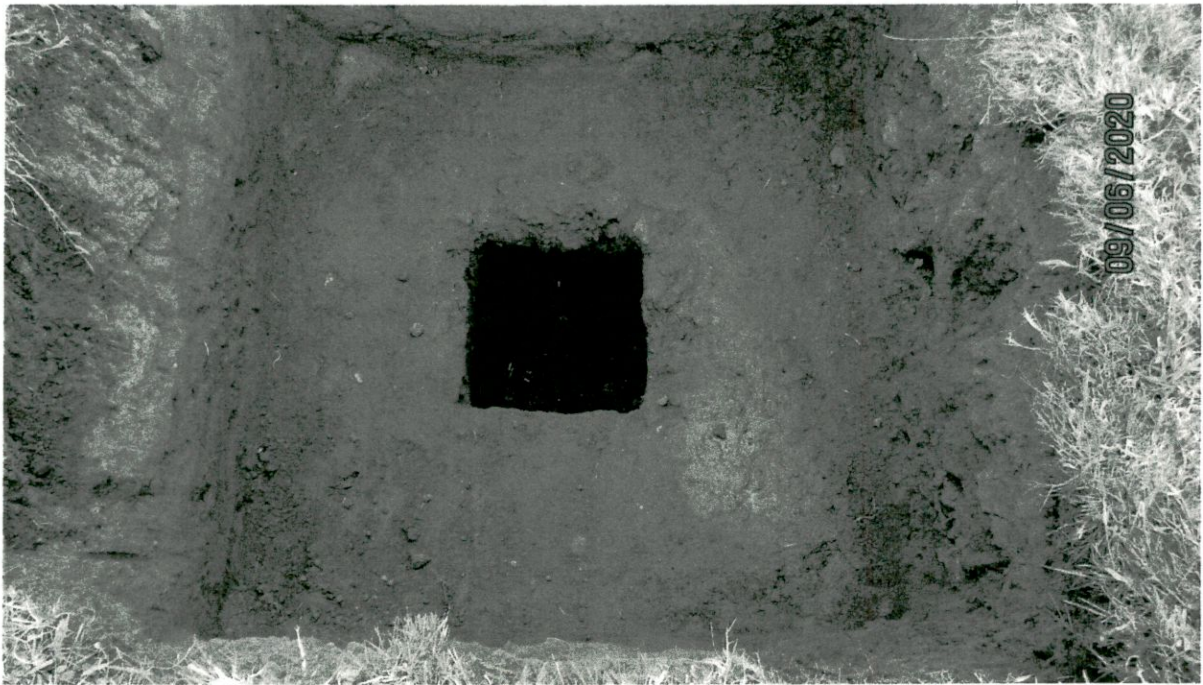


Photo No 6: Site



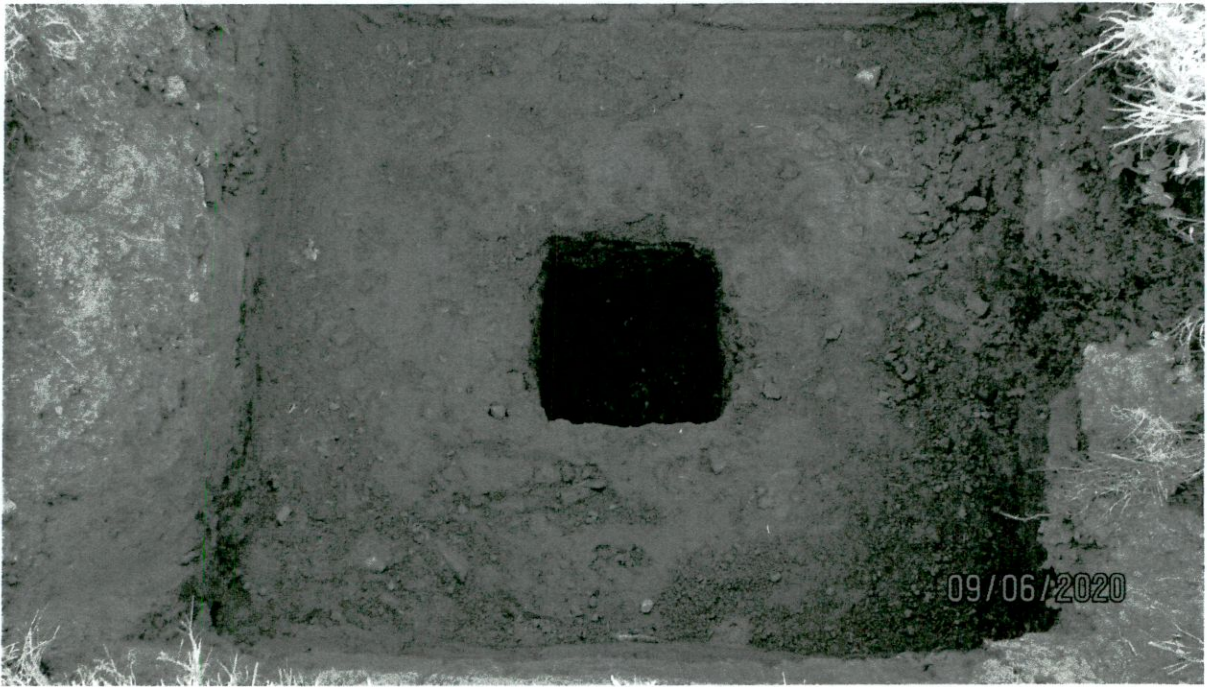


**Photo No 7: T-Test Hole No 1**

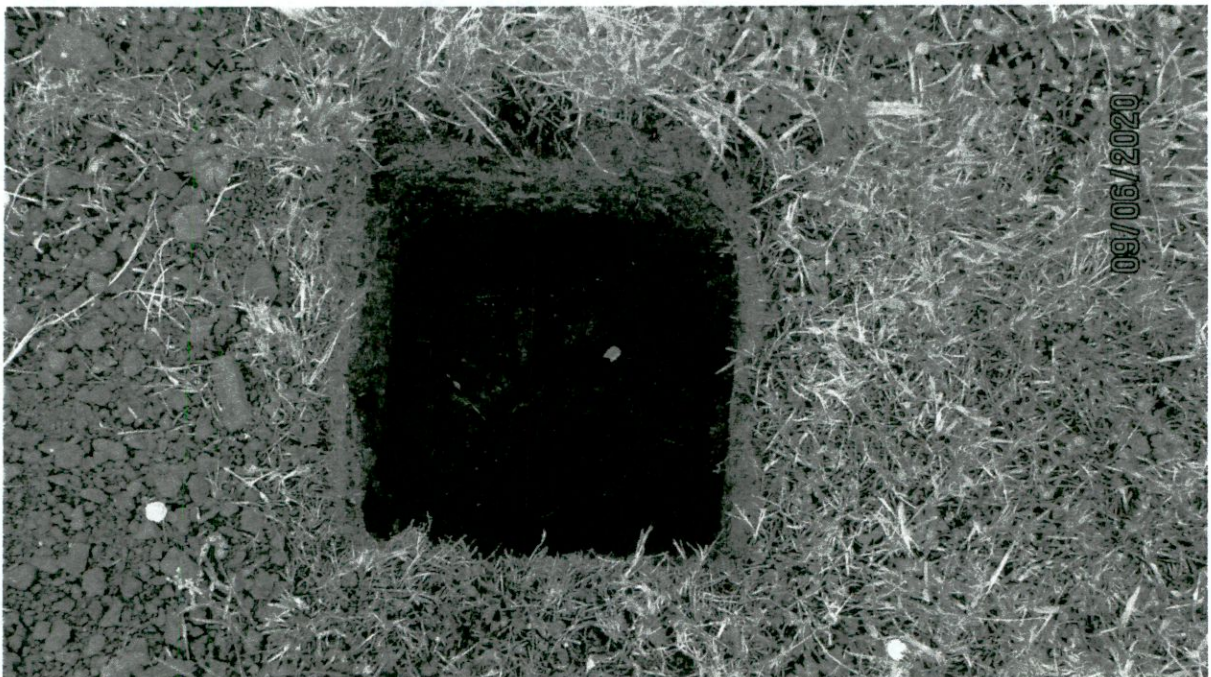


**Photo No 8: T-Test Hole No 2**



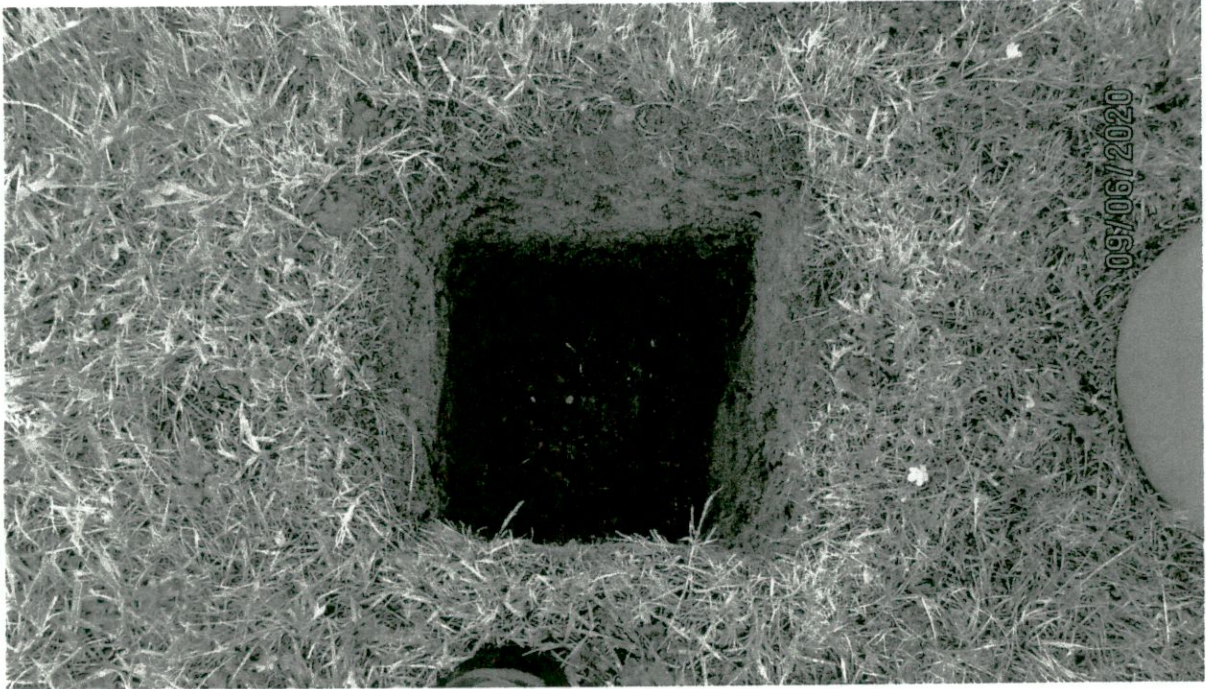


**Photo No 9: T-Test Hole No 3**

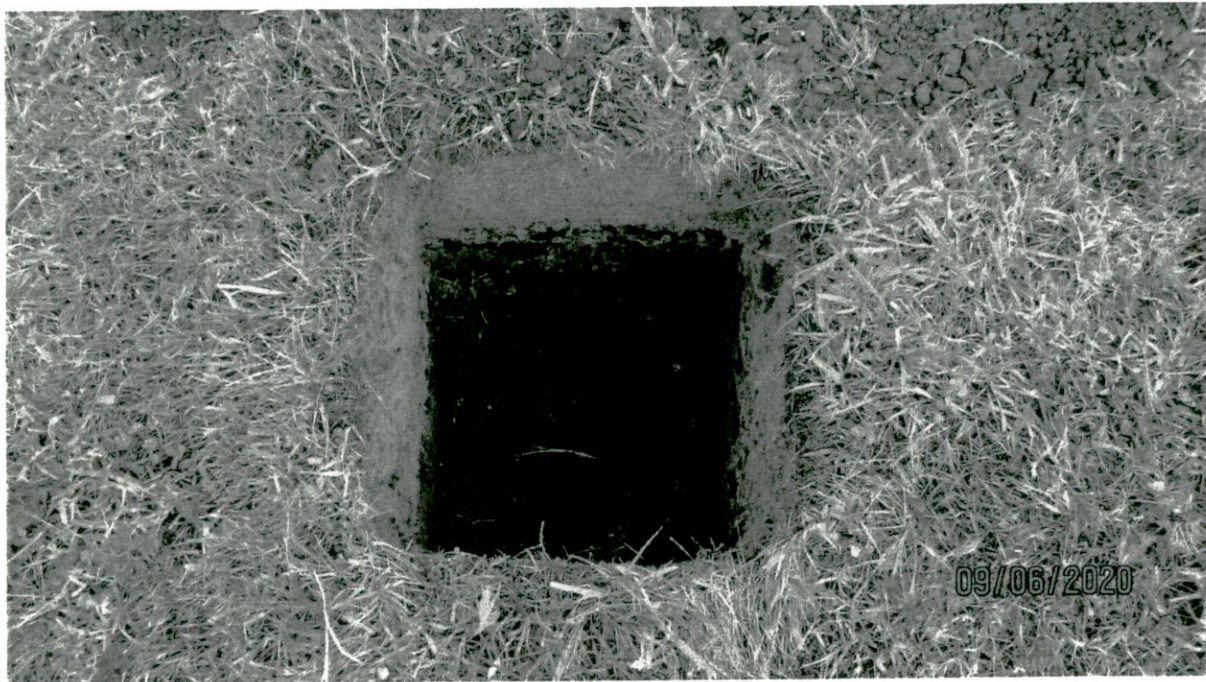


**Photo No 10: P-Test Hole No 1**





**Photo No 11: P-Test Hole No 2**



**Photo No 12: P-Test Hole No 3**



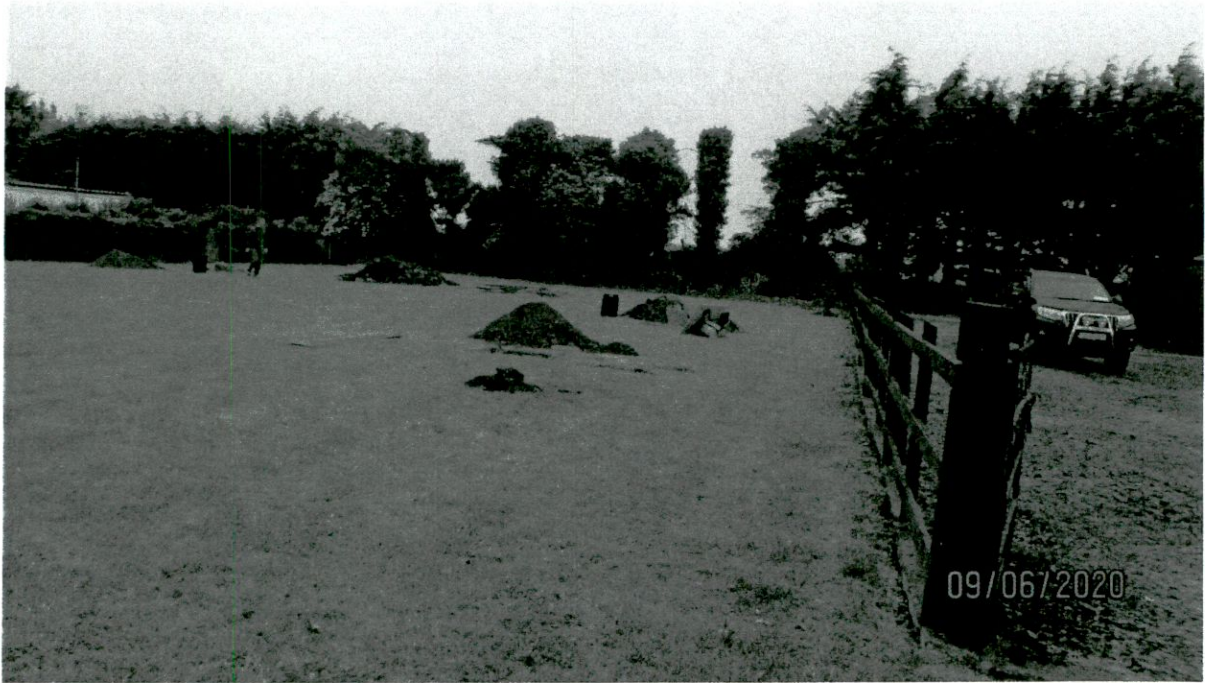


Photo No 13: Site



Photo No 14: Rock. Rock encountered at 2.3M deep. Could not dig through. Bedrock.









Photo No 3: Site. Subsoil Name: Limestone Till (Carboniferous)

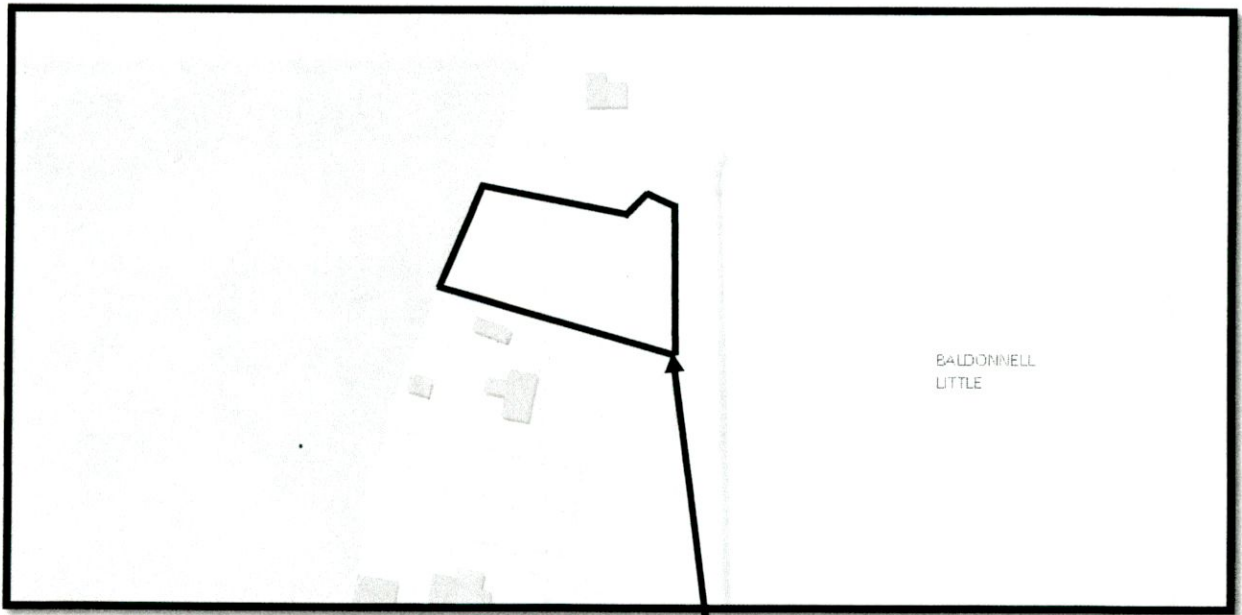
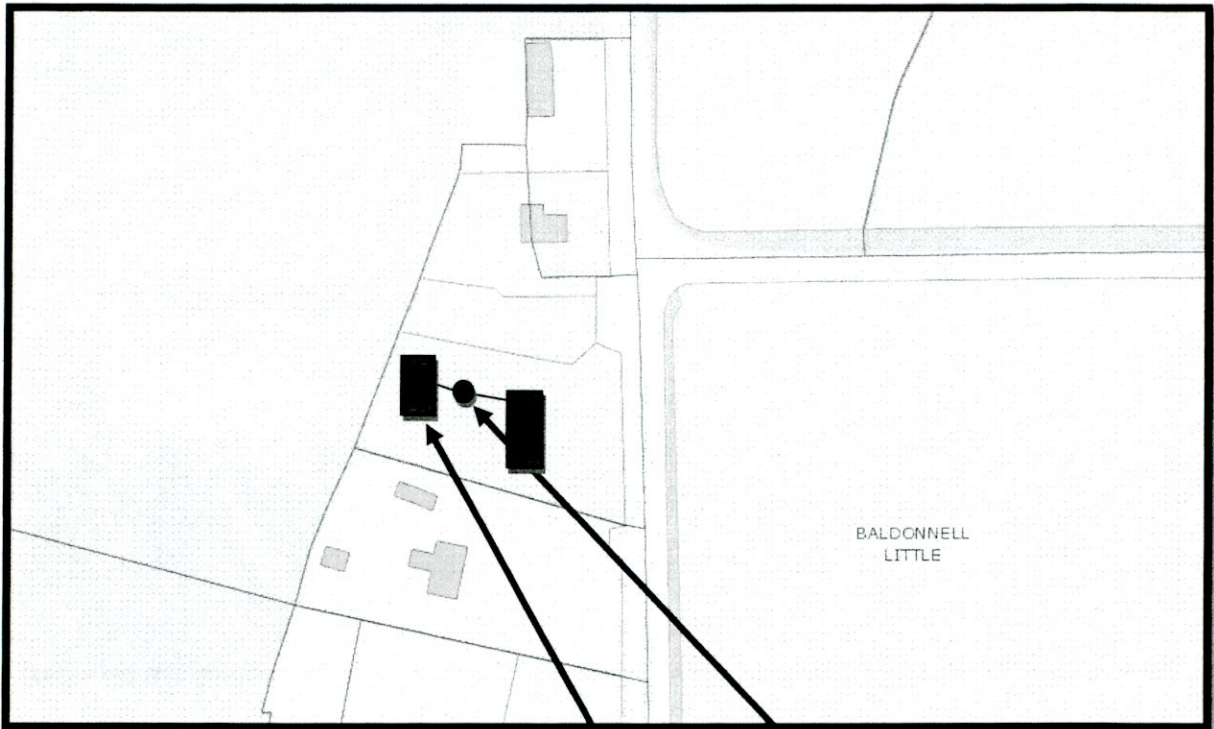
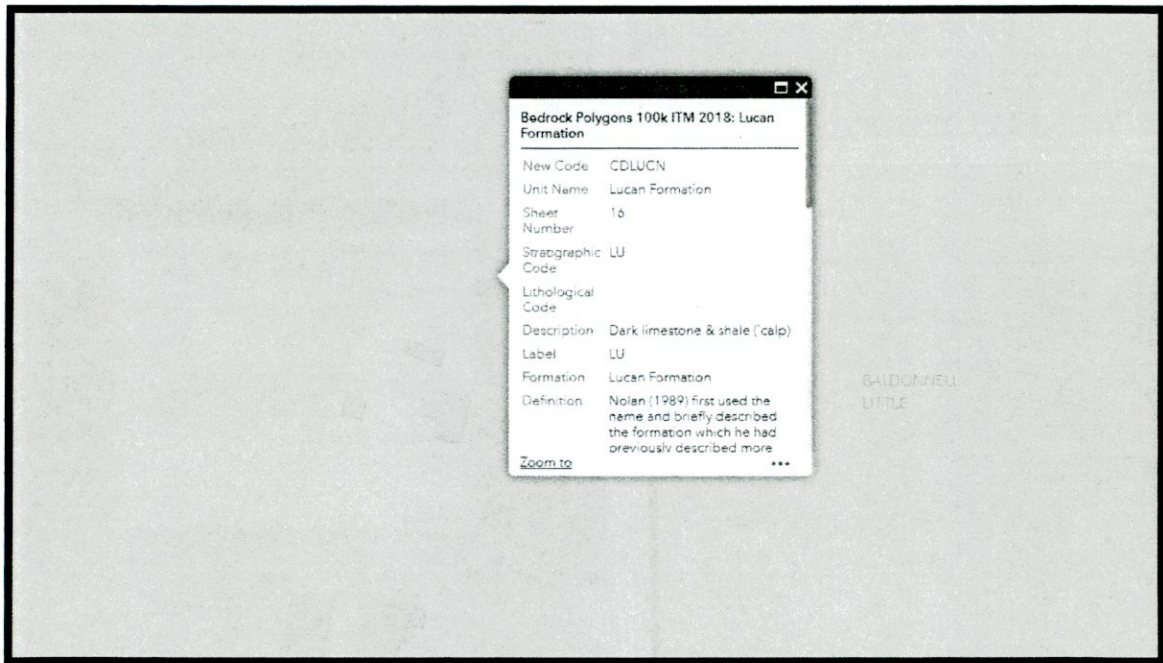


Photo No 4: The Site





**Photo No 1: Proposed tertiary filter & smart solido tank.**



**Photo No 2: Bedrock: CDLUCN (Lucan Formation)**



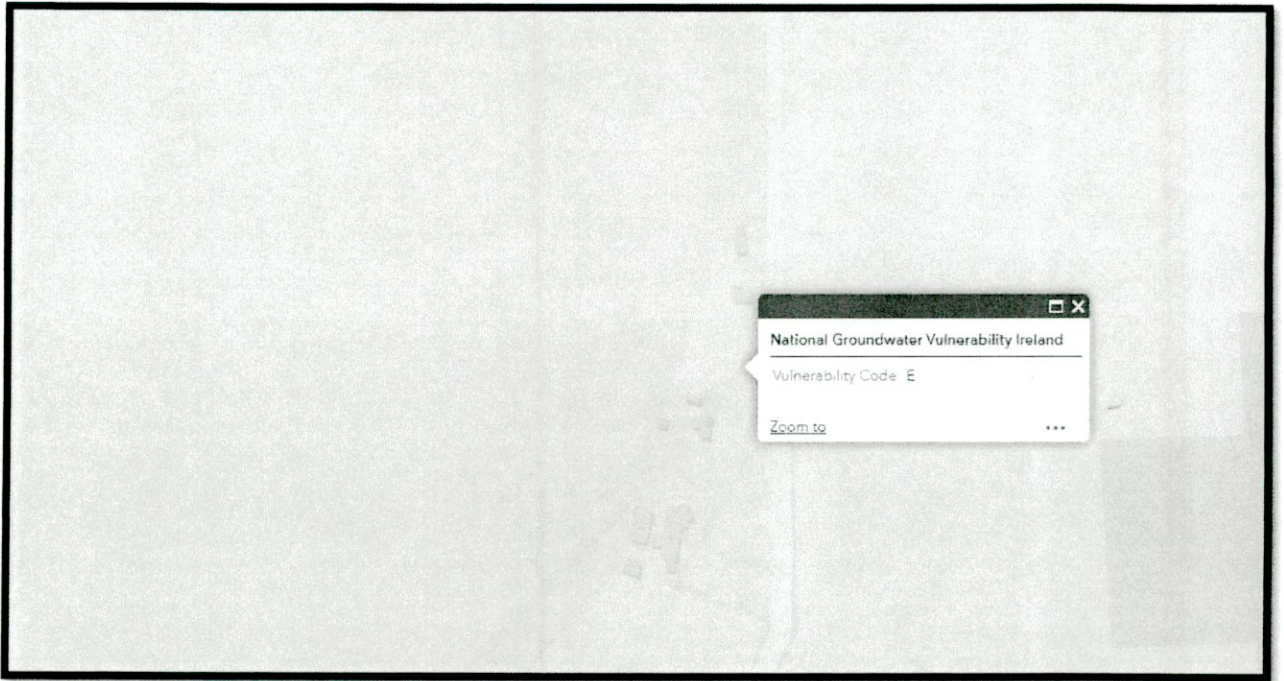


Photo No 3: Site (Vulnerability: Extreme)

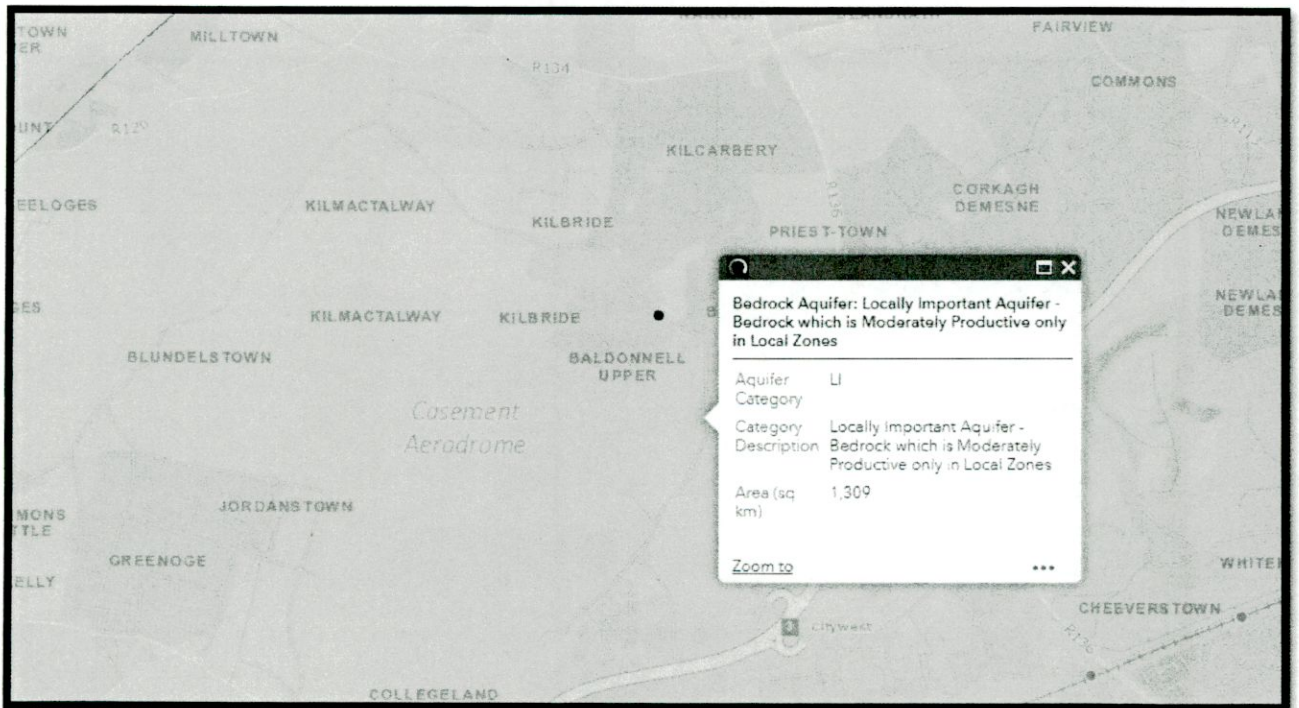


Photo No 4: Site: Aquifer: LI (Locally Important Aquifer)



# Maintenance Agreement for the Premier Tech Aqua Ltd Waste Water Treatment Unit

6PE/8PE/12PE/16PE/20PE/25

**Client:** David Fallon

**Our Ref:** MA200611(2)

**Location:** Baldonnell Road, Baldonnell Upper, Dublin 22

The Premier Tech Aqua Solido 6PE Unit requires ongoing maintenance. To ensure the unit operates there are three important criteria which must be adhered to:

1. Compressor must run constantly and be positioned where it is not subject to flooding/ground water.
2. The unit must be desludged every 1-3 years (depending on the population served)
3. Excessive use of detergents and cleaners must be avoided. (Premier Tech Aqua strongly recommend the use of phosphate free detergents and cleaning agents)

In addition to this Premier Tech Aqua Ltd., shall visit the plant once yearly (see charges below) to carry out maintenance by checking:

- **Quality of Effluent** - Visual Check
- **Quality of Aeration** - Visual Check
- **Air Compressor**
- **Electrical Connect**
- **Pump** (Where Fitted)

The first 18 months carries our manufacturer's warranty from the date of commissioning and provided that the unit has been checked and desludged accordingly, Premier Tech Aqua shall then repair/replace any defective parts. Local Authorities require the customer to hold a maintenance agreement.

**Payment Terms:** *Paid in-full, in advance.*

**Cost:** Premier Tech Aqua will undertake to carry out this service for a fee of €200.00 (incl. VAT) yearly (Parts Excluded). Emergency calls will be charged at our standard rates plus materials and mileage.

\*\*Please note Premier Tech Aqua will return a signed copy once we receive the original copy of the maintenance contract signed complete with payment from the client

**Material Parts Price List: - Available on Request**

Client,  
Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Phone No: \_\_\_\_\_

Premier Tech Aqua Ltd  
Signed:

Date: \_\_\_\_\_

**Payment Type Included:** (Please tick as appropriate)

Cash                      Cheque                      Credit Card Details

**Disclaimer:** Premier Tech Aqua Ltd cannot be responsible for equipment damage owing to unfavourable site conditions. Premier Tech Aqua cannot guarantee the long-term operation of the plant unless it is serviced regularly. Terms and conditions subject to change.





## Premier Tech Aqua Solido Wastewater Treatment Unit

Designed and tested in accordance with EN12566-3 and  
with the EPA Code of Practice and Flows and Loads

### 1.0 Description

The Premier Tech Aqua Solido sewage treatment plant has an inner central chamber and an outer settlement tank. The plant treats sewage using the extended aeration principle in the central bio-zone chamber. A simple coarse bubble diffuser, housed in a draft tube, introduces the air that provides the oxygen to the bacteria that then treats the sewage. The bio-zone retains the mixture of water, sewage and air until a level of treatment has been achieved. The treated effluent then enters the conical clarifier tank where settlement takes place and the settled solids are drawn back towards the draft tube with the diffuser in it and returned to the bio-zone. The effluent finally leaves the plant over a weir that extends around the circumference of the tank at the outlet level. The movement of fluid through the whole system is by gravity displacement. There are no moving parts in the treatment plant.

### 1.1 Specifications

Premier Tech Aqua Ltd will be responsible for the supply and mechanical and electrical installation of:

- 1.1.1. One Premier Tech Solido treatment system, complete with safety cover.
- 1.1.2. One compressor kit, to be supplied when the unit is ready for commissioning.
- 1.1.3. Commissioning of the Premier Tech Aqua Solido unit. The time and date of the commissioning shall be agreed between the two parties.
- 1.1.4. It is the client's responsibility to do any preparatory work prior to commissioning of the system by Premier Tech Aqua.

### 1.2 Client Responsibilities

The client is responsible for the following:

- 1.2.1. The placing of the Premier Tech Aqua Solido in the area agreed in the Site Suitability Assessment and in accordance with the "Installation, Operation and Maintenance Manual" provided when the unit is delivered to the site and supervised accordingly.
- 1.2.2. The provision of a 3 x 2.5 SWA cable from the dwelling house or garage to the Premier Tech Aqua Solido unit, allowing an excess of 2 meters at the tank.

### 1.3 Quality of Treated Effluent

The Premier Tech Aqua Solido unit will provide final effluent, prior to percolation to the following standard

B.O.D. mg/l	20
Total Suspended Solids mg/l	30
Ammonia mg/l	20





## **2.0 Maintenance**

The Premier Tech Aqua Solido unit is designed to ensure minimal maintenance requirement. Premier Tech Aqua Ltd does offer customers the option of an annual Service Agreement which involves a visit by one of our service engineers. They will check the system as per enclosed Service Agreement. The price for this service is €200.00 per year and is inclusive of VAT. This is not included in the overall unit price.

## **3.0 Commercial Details**

### **1.2 Copyright and Confidentiality**

All technical and financial information provided in this document, submitted by Premier Tech Aqua Ltd or provided in subsequent related correspondence or contract documentation is the intellectual property and copyright of Premier Tech Aqua Ltd and shall be treated as confidential by the Company and by its servants and agents. No such information shall be divulged to other persons, companies and organisations for any reason or purpose whatsoever without the express prior permission in writing of Premier Tech Aqua Ltd. and all reasonable care shall be taken by the company and its servants or agents to prevent such information being lost or inadvertently transmitted to or acquired by other parties or organisations.

### **1.3 Payment Terms**

Gross including VAT, to be paid in full by cheque upon delivery to site.

### **1.4 Validity**

Our offer will remain open for a period of six months from date of Quotation.

### **1.5 Prices**

All prices are quoted in euros, unless otherwise stated and will remain fixed for the validity and completion period indicated.

### **1.6 Despatch Period**

Despatch period to be agreed by both parties.

### **1.7 Programme of Works**

Time schedule to be agreed by both parties.

## **4.0 Calculations**

Please see attached Site Suitability Assessment.

**5.0** Premier Tech Aqua has a policy of continual product development thus the above information may be subject to change without notice.

## Site Suitability Assessment

Ref: SSA200611 (2)

### 1.0 Applicant Details

Name of Applicant: David Fallon

Telephone No: 086-0750441

Address of Applicant: Baldonnell Road, Baldonnell Upper, Dublin 22

Site Location and Townland: Baldonnell Road, Baldonnell Upper, Dublin 22

Proposed Water Supply: Mains

Maximum No. of Residents: 5

Engineer / Requested By: John Mc Guinness

### 2.0 Desk Study

Soil Type: Elton. Elton. Fine Loamy Drift with Limestones

Subsoil: Limestone Till

Bedrock Type: CDLUCN. (Lucan Formation)

Vulnerability Class: Extreme

Aquifer Type: LI

Groundwater Protection Class: R2<sup>1</sup>

Presence of Significant Sites: Casement Aerodrome is behind the site boundary

Past Experience in the area: Good ground. Firm & dry. Very suitable for percolation.

#### Soil Profile:

0 mm – 0500 mm	Brown CLAY
0500 mm – 2300 mm	Brown Sub-soil

### 3.0 Visual assessment

Landscape: Site is level and flat as is surrounding lands.

Slope of Site: Steep (>1:5)

Shallow (1:5 - 1:20)

Relatively Flat (1:20) V

Site Boundaries: None hindering development





#### 4.0 Test Result

T-Value: 33.47 P-Value: 26.69

Depth from ground surface to bedrock (bgl): 0.00

Depth from ground surface to water table (bgl): 1.45

Date test carried out: 10/06/2020

#### 5.0 Recommendations

Premier Tech Aqua recommend the following:

To install a Premier Tech Aqua Solido 6PE Wastewater Treatment Plant and discharge to a Premier Tech Ecoflo tertiary Treatment filter as per engineer recommendation.

Construction is to be carried out as per Code of Practice, Wastewater Treatment and Disposal Systems Serving Single Houses (P.E.≤ 10) and as per Site Assessors recommendations.

#### Clients Responsibility:

It is the clients responsibility to provide a 3 x 2.5 SWA cable from the dwelling / garage to the unit with 2 meters to spare at the tank.

Date: 11/06/2020







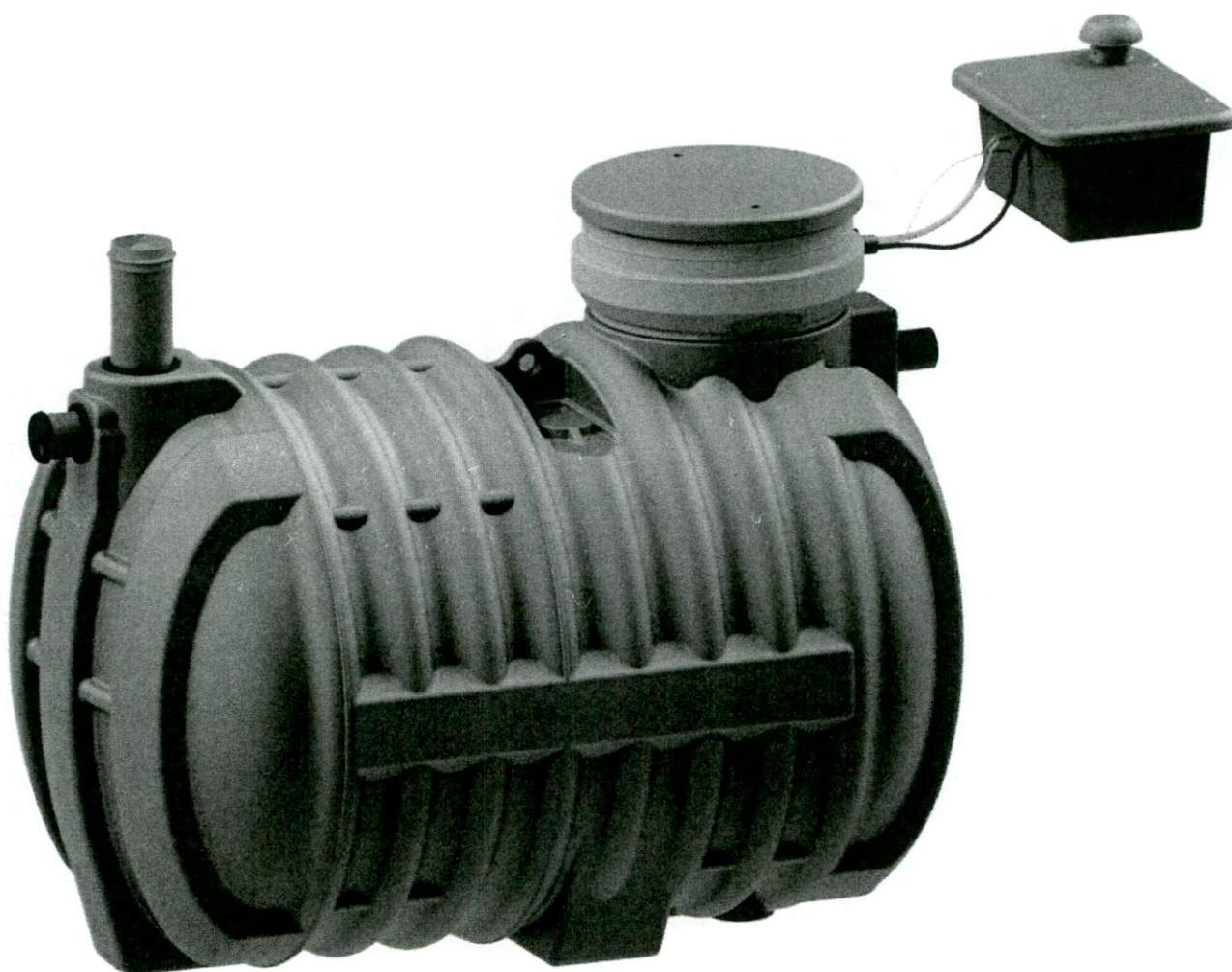






# **PREMIER TECH** AQUA

THE PARTNER OF CHOICE



## **Solido<sup>®</sup>** **SMART**

The NEW generation in decentralised  
wastewater treatment



# The NEW Generation in Decentralised Wastewater Treatment.

The Solido® SMART from Premier Tech Aqua, is a decentralised wastewater treatment plant that is the perfect solution for residential and commercial projects where mains drainage is unavailable. Serving a population of up to 8PE and fast becoming the industry's system of choice; this low-profile unit offers a reliable design and low installation costs.

Installed to treat wastewater with minimal impact on the environment, typical applications include single dwellings, small communities or due to its very high performance, sites of special scientific interest (SSSI).

## Superior Technical Performance

The highly successful Solido SMART is designed and tested in accordance with EN12566-3:2009 and in compliance with S.R. 66:2015. This plant will produce a final effluent quality better than 10:20:5 (BOD:SS:NH3) with a CE mark for 5:13:0.7

**Solido**®  
**SMART**

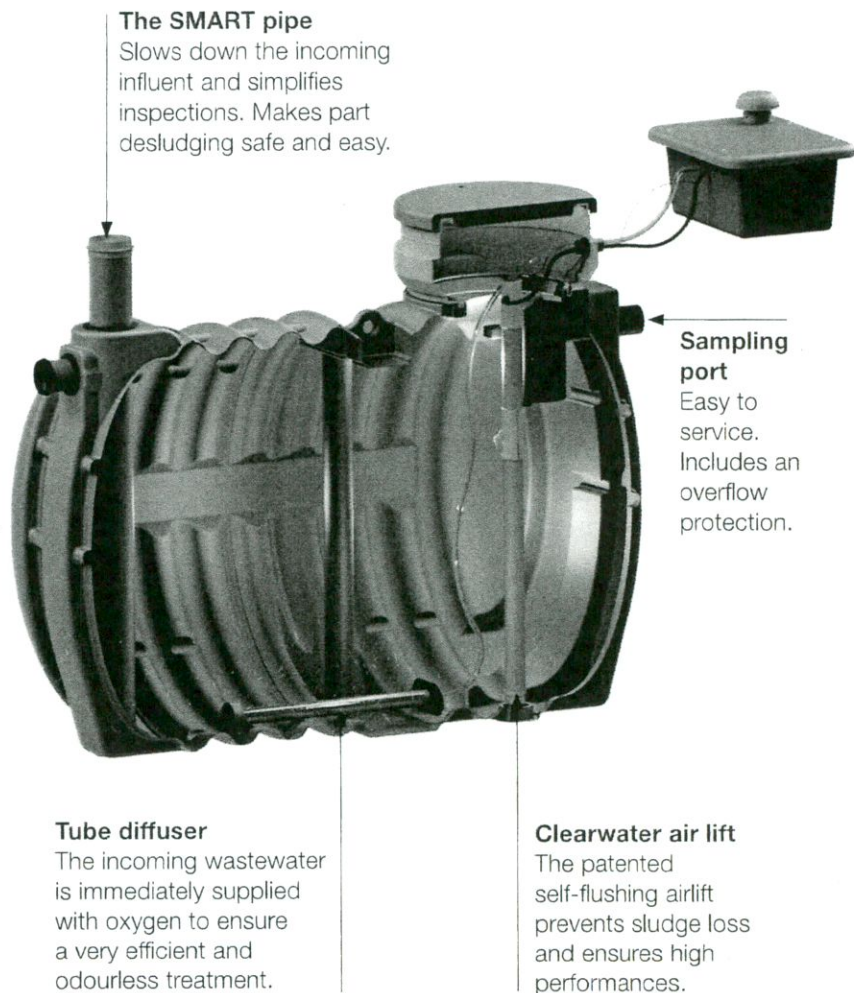


# Solido<sup>®</sup> SMART - State of the art SBR Treatment

## Advanced Technical Qualities

The Solido SMART solution makes decentralised wastewater treatment easier and more efficient than ever. Trust its high-quality design and durable components to provide long-term performances and peace of mind for you and your family.

- Low operational cost, offering you long term savings.
- Discrete and silent treatment plant.
- Reduced installation and maintenance costs, Solido SMART tanks are lightweight, compact and have low installation depth requirements.
- Fully CE marked. Designed and tested in accordance with EN 12566-3 and S.R. 66:2015.
- HDPE material - durable, recyclable and impact resistant.



**The SMART pipe**  
Slows down the incoming influent and simplifies inspections. Makes part desludging safe and easy.

**Sampling port**  
Easy to service. Includes an overflow protection.

**Tube diffuser**  
The incoming wastewater is immediately supplied with oxygen to ensure a very efficient and odourless treatment.

**Clearwater air lift**  
The patented self-flushing airlift prevents sludge loss and ensures high performances.

## How it works

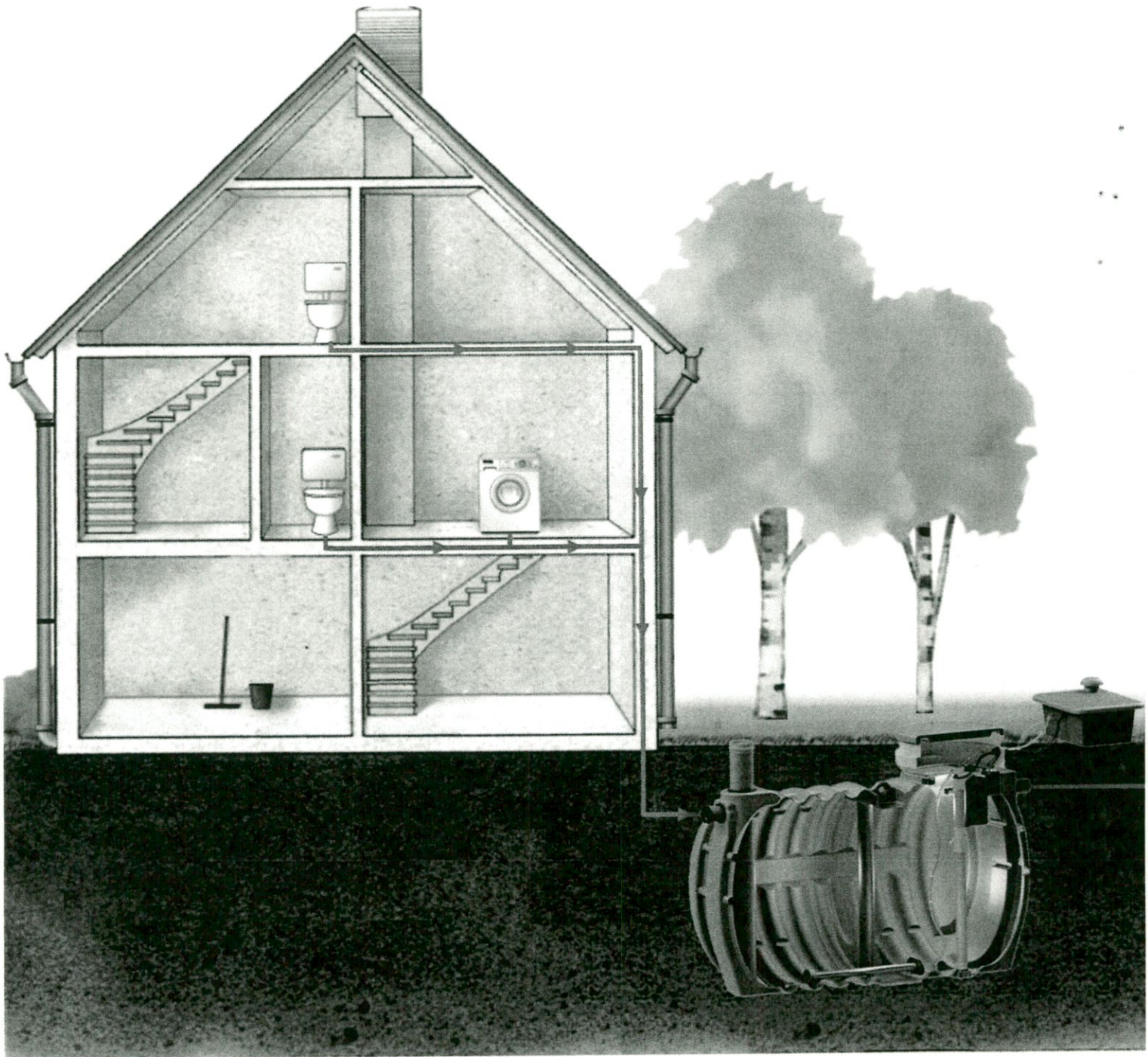
Solido SMART combines the benefits of an ultra-compact solution with the trusted performances of Solido technology. Integrating with SBR technology comparable to large municipal applications, the proven technology operates with direct aeration of the wastewater and without the need for primary treatment. This simple principle provides efficient wastewater treatment results without the emission of any odours.

## Peripherals available

### Extension Kit

Deeper inverts can be accommodated by means of extension shafts. Extension shafts available can be supplied in 150mm and 300mm increments to give a maximum crown of tank burial depth of 1000mm.





	Length (m)	Width (m)	Height (m)	Weight (kg)	ø access (mm)	INLET height to base (m)	OUTLET height to base (m)	Pipe Diameter (mm)	Height (m)
m <sup>3</sup> (6 - 8 PE)	2.42 m	1.47 m	1.50 m	150 kg	600 mm	1.34 m	1.32 m	100 mm	0.3 m

## Installation

The Solido SMART Sewage Treatment Plant requires a relatively low cost and easy installation process. As the tank is super reinforced, concrete is not needed and the tank can be fully installed in free flowing granular backfill.

Premier Tech Aqua work closely with a nationwide network of installation partners and detailed installation guidelines are provided with each product.

All electric work should be carried out in accordance with current regulations.

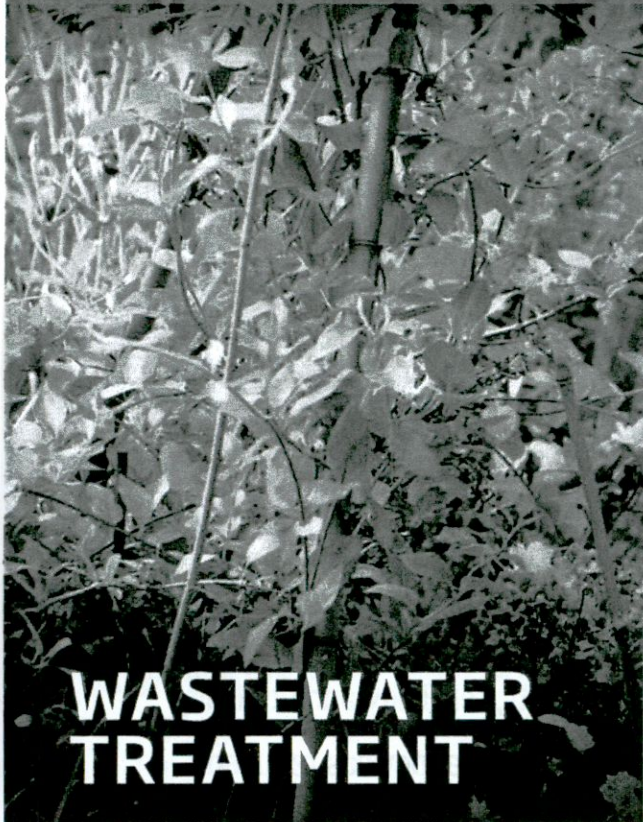
**WASTEWATER | RAINWATER HARVESTING | STORMWATER | STORAGE | PUMP STATIONS**



# Ecoflo<sup>®</sup> *Coco Filter*

## Secondary Treatment Filter

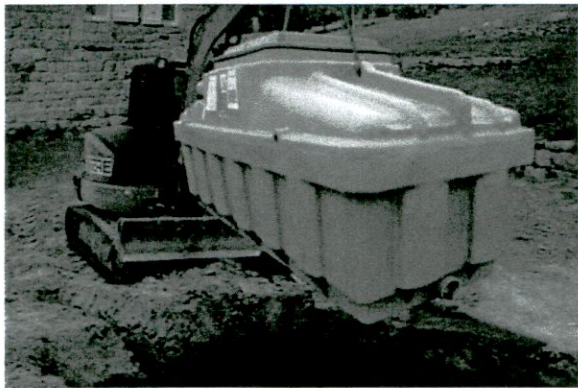
Domestic and commercial applications



**20**  
year  
WITH YOU

**100,000**  
SYSTEMS INSTALLED!

## WASTEWATER TREATMENT



Protecting the value of properties  
and the ecological health of lakes,  
waterways and groundwater.

**Sustainable Treatment**

**Permanent and  
Durable Solution**

**Reliability  
under all Conditions**

**Compact and  
All-Purpose Installation**

Designed for new homes, cottages  
as well as the the replacement  
of defective existing systems.



# SPECIFICATIONS

Use the specifications tables below to help you choose the correct Ecoflo Coco Filter for your project.

- All applications must be specified to comply with the EPA Code of Practice.
- Further advice and assistance is available from our experienced internal and external sales teams.
- Site visits and assessments are recommended prior to installation to ensure the correct equipment is proposed.
- The installation, use and operation of the system must be carried out as per the manufacturer's instructions (User Guide and Owner's Manual).
- The first table presents the corresponding capacity for the Ecoflo Coco Filter for both applications (secondary and tertiary treatment).

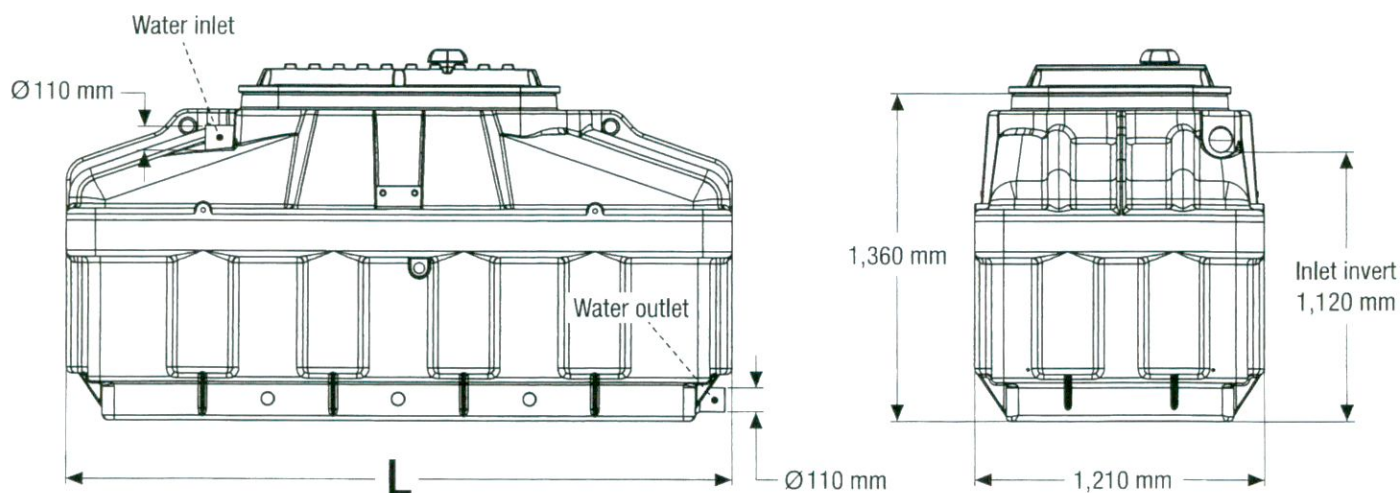


## Ecoflo<sup>®</sup> Coco Filter MODELS AND CAPACITIES

Filter Surface	Capacity	
	Secondary Treatment	Tertiary Treatment
2.60 m <sup>2</sup>	4 PE	10 PE
3.25 m <sup>2</sup>	5 PE	13 PE
3.90 m <sup>2</sup>	6 PE	15 PE
5.20 m <sup>2</sup>	8 PE (2 X 4 PE)	20 PE
6.50 m <sup>2</sup>	10 PE (2 X 5 PE)	26 PE

### TECHNICAL DATA (gravity effluent)

Parameters	4 PE	5 PE	6 PE	8 PE	10 PE
Filter surface	2.60 m <sup>2</sup>	3.25 m <sup>2</sup>	3.90 m <sup>2</sup>	5.20 m <sup>2</sup>	6.50 m <sup>2</sup>
Length (L)	2,420 mm	2,750 mm	3,320 mm	2,550 mm	2,750 mm
Capacity for polishing application	10 PE	13 PE	15 PE	20 PE	26 PE







Prüfinstitut für  
Abwassertechnik  
GmbH

# TREATMENT PERFORMANCE RESULTS

**Premier Tech Aqua Ltd.**

Quartertown Industrial Estate, Mallow, Co. Cork, Ireland

**EN 12566-3**

Results corresponding to EN 12566-3 and S.R. 66

PIA-SR66-1706-1052

**SOLIDO Smart**

One chamber SBR in PE tanks

Nominal organic daily load	0.30 kg/d	
Nominal hydraulic daily load	0.90 m <sup>3</sup> /d	
Material	Polyethylene	
Watertightness	Pass	
Structural behaviour (Pit Test)	Pass (also wet conditions)	
Durability	Pass	
Treatment efficiency (nominal sequences)		
	Efficiency	Effluent
	COD 95.1 %	39 mg/l
	BOD <sub>5</sub> 98.5 %	5 mg/l
	NH <sub>4</sub> -N 98.0 %	0.7 mg/l
	SS 97.1 %	13 mg/l
Number of desludging	Not more than once	
Electrical consumption	0.81 kWh/d	

Performance tested by:

**PIA – Prüfinstitut für Abwassertechnik GmbH**  
**CERTIPRO – Service de certification et de contrôle, Vito**  
**CSTB – Centre Scientifique et technique du Batiment**

This document replaces neither the declaration of performance nor the CE marking.



Notified Body  
No.: 1739



Certified according to  
ISO 9001:2008

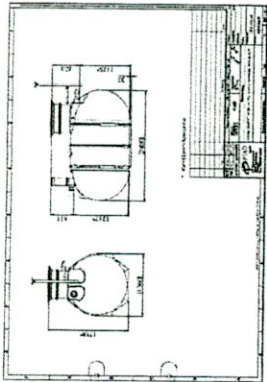
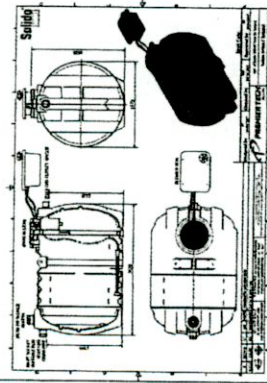
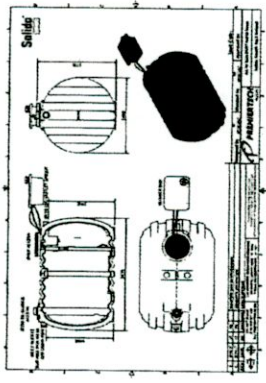


Prüfinstitut für Abwassertechnik GmbH  
  
 geprüft - tested - testé

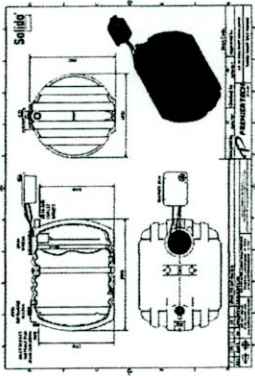
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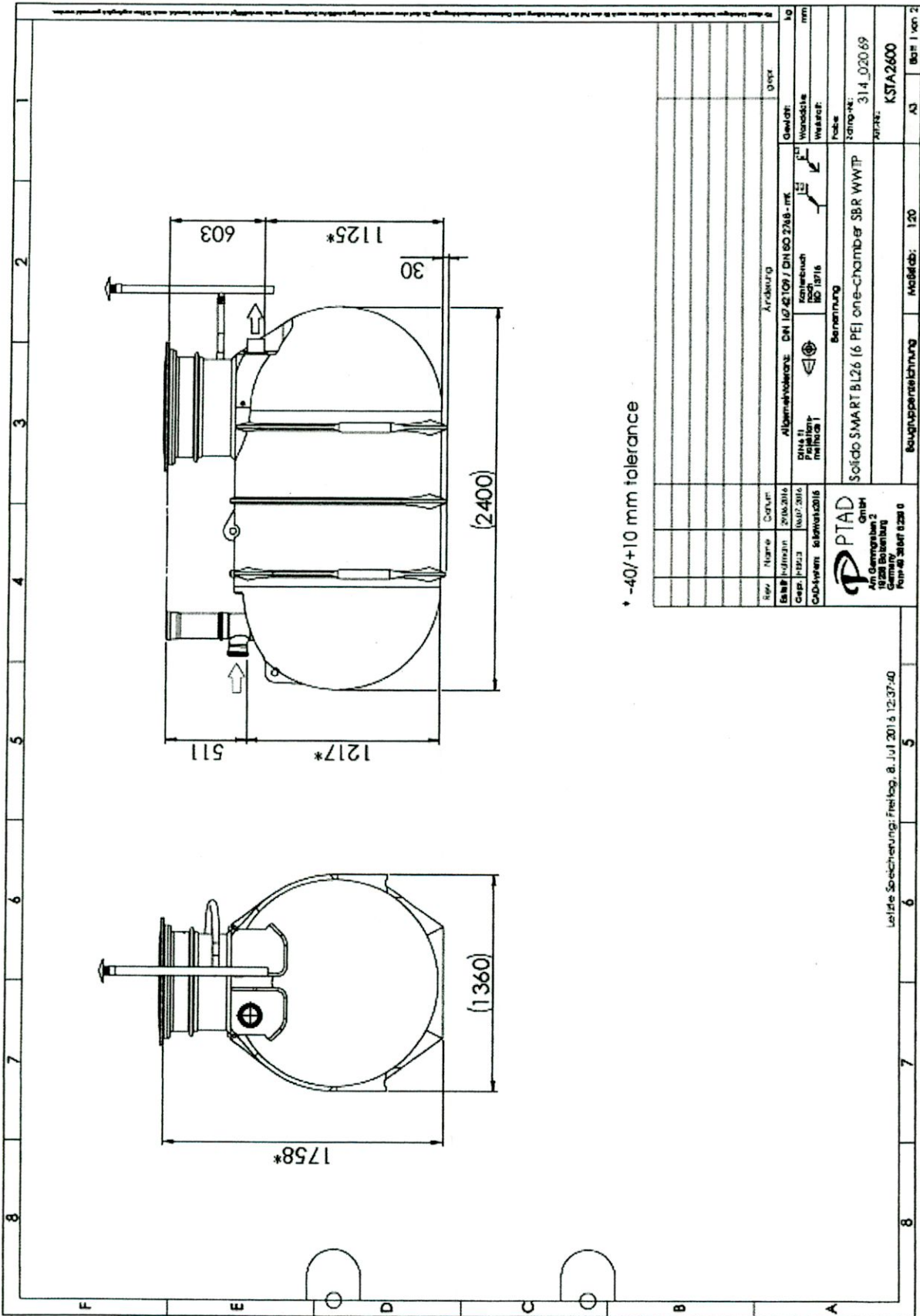
July 2017

Solido Smart range and its referring test reports:

Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
Initial Type Test (ITT) 6		Pass PIA2007-WD-003	Pass PIA2015-239B22.e	Pass PIA2015-ST-PIT-1406-1043.01  For wet ground conditions also, 0.95 m installation depth from inlet invert	Pass PIA2016-DH-1510-1052.01
8		Pass BES/N9902/PP/pp/04.235	Pass Range conformity according to S.R. 66:2015	Pass For wet ground conditions also, 1.15 m installation depth from inlet invert	Pass Cape AT 14-143
10		BES/N9902/PP/pp/04.235	Pass Range conformity according to S.R. 66:2015	Pass BES/N9902/PP/pp/0.09 2  For wet ground conditions also, 1.15 m installation depth from inlet invert	Pass Cape AT 14-143



Population equivalent (PE)	Drawing of model of the range	Watertightness (EN 12566-3 Annex A)	Treatment Efficiency (EN 12566-3 Annex B)	Structural Behaviour (EN 12566-3 Annex C)	Durability
12		BES/N9902/PP/pp/04.235	Pass  Range conformity according to S.R. 66:2015	Pass  BES/N9902/PP/pp/0.09 2  For wet ground conditions also, 1.51 m installation depth from inlet invert	Pass  Cape AT 14-143



\* -40/+10 mm tolerance

Rev.	Name	Datum	Arbeitsg.	Druck
01	Hydrant	20/06/2016	Arbeitsg.	Druck
02	Hydrant	10/07/2016	Arbeitsg.	Druck
03	Hydrant	10/07/2016	Arbeitsg.	Druck
04	Hydrant	10/07/2016	Arbeitsg.	Druck
05	Hydrant	10/07/2016	Arbeitsg.	Druck
06	Hydrant	10/07/2016	Arbeitsg.	Druck
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PTAD GmbH  
Am Gammelsberg 2  
10225 Berlin  
Telefon: 030 240 0220  
Fax: 030 240 0220

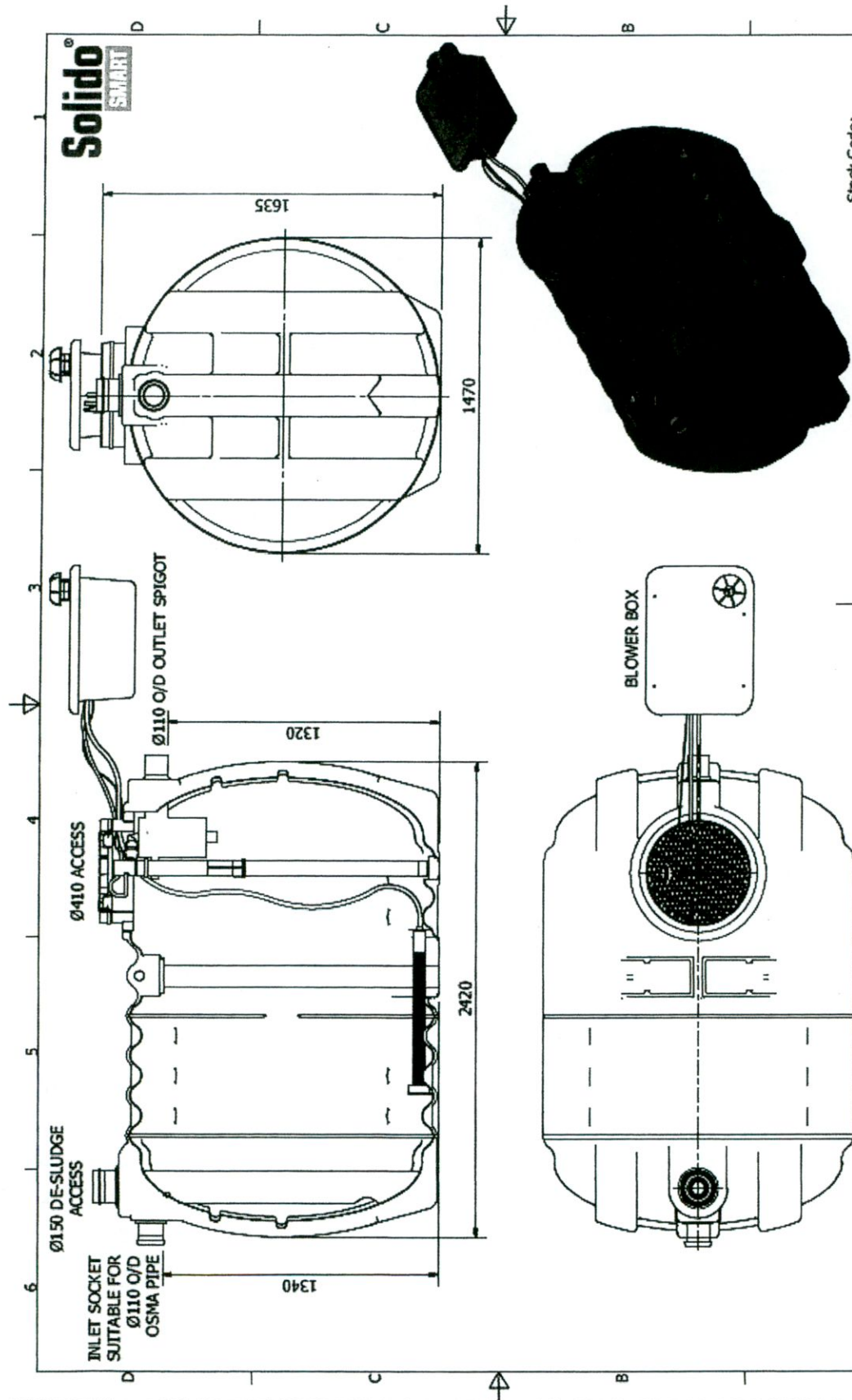
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Zeichn.-Nr.: 314\_020 69  
Modell-Nr.: KSTA2600

Bezeichnung: Solids SMART BL26 16 PEJ one-chamber SBR WWTP  
Modell-Nr.: KSTA2600

Modell-Nr.: KSTA2600

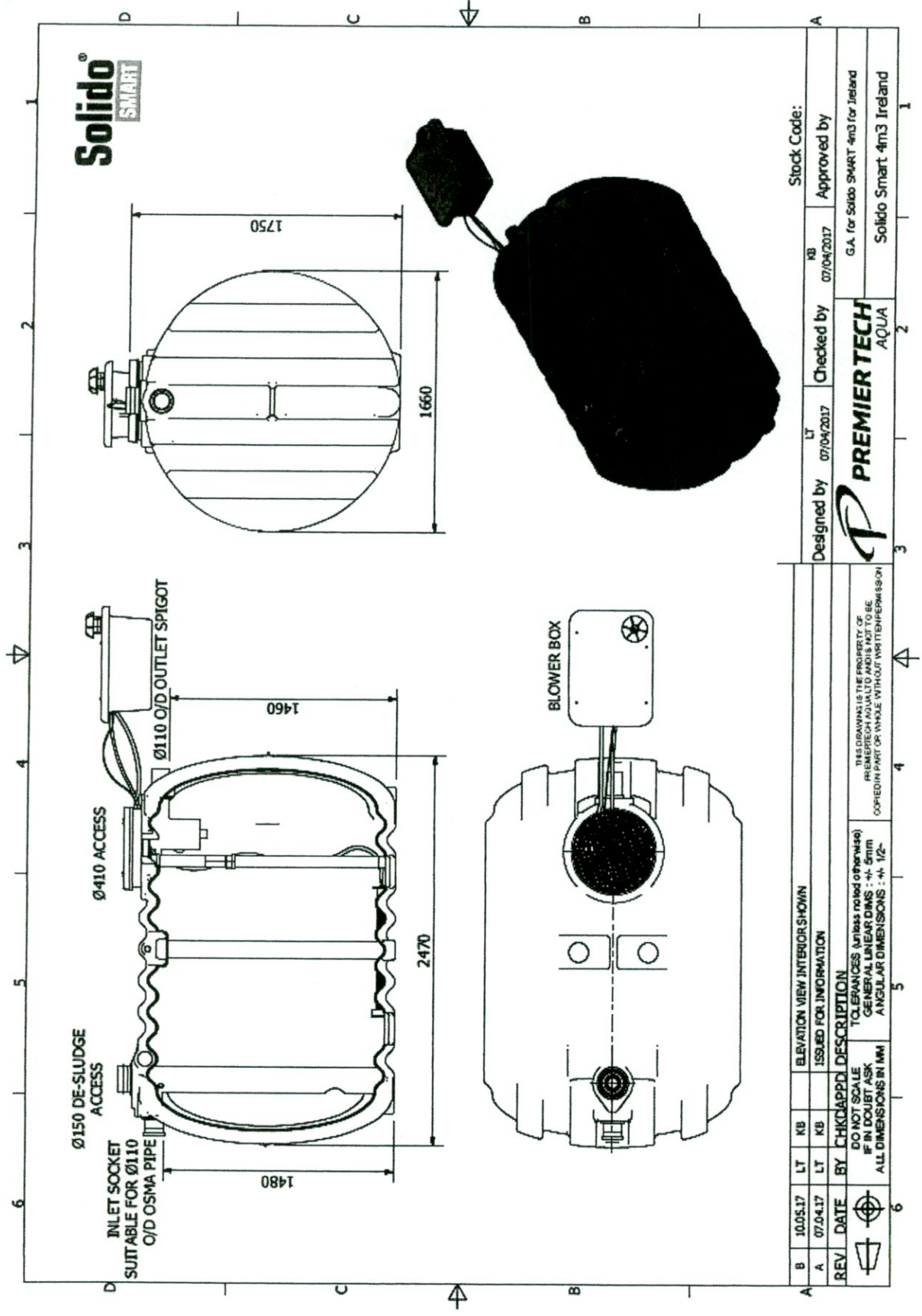
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					TOLERANCES (unless noted otherwise) GENERAL LINEAR DIMS : ± 0.5mm ANGULAR DIMENSIONS : ± 1/2°	4
					THIS DRAWING IS THE PROPERTY OF PREMIERTECH AQUA LTD AND IS NOT TO BE COPIED IN PART OR WHOLE WITHOUT PERMISSION	5
					DESIGNED BY <b>PREMIERTECH AQUA</b>	6
					CHECKED BY NW	1
					APPROVED BY DE	2
					DATE 04/04/2017	3
					APPROVED BY G.A. of Solido SMART Tank for Ireland	4
					DATE 04/04/2017	5
					DESIGNED BY LT	6
					DATE 04/04/2017	1
					APPROVED BY DE	2
					DATE 04/04/2017	3
					APPROVED BY G.A. of Solido SMART Tank for Ireland	4
					DATE 04/04/2017	5
					DESIGNED BY LT	6
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					APPROVED BY DE	2
					DATE 04/04/2017	3
					APPROVED BY G.A. of Solido SMART Tank for Ireland	4
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					DESIGNED BY LT	6
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					APPROVED BY G.A. of Solido SMART Tank for Ireland	4
					DATE 04/04/2017	5
					DESIGNED BY LT	6

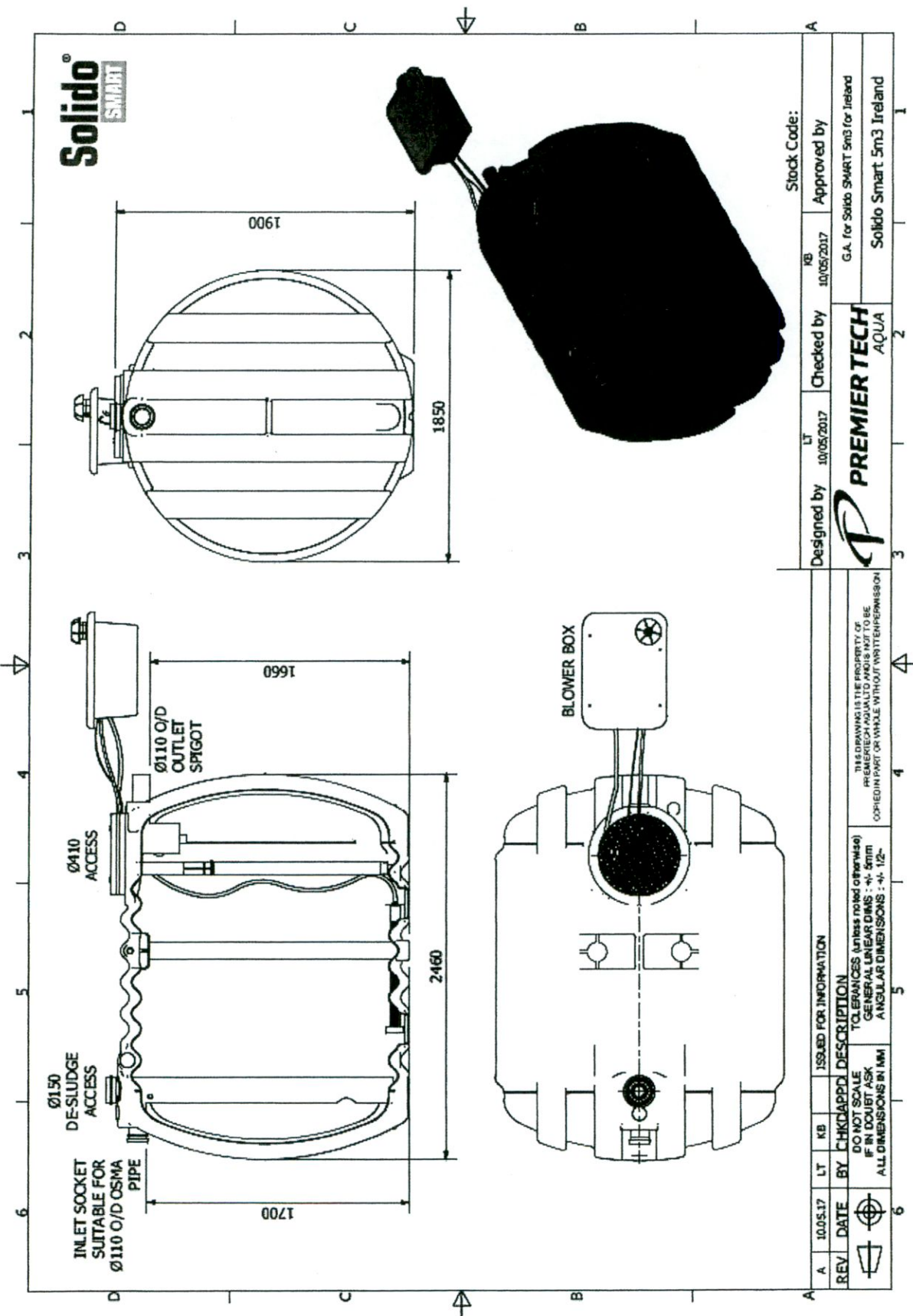
**Solido<sup>®</sup>**  
**SMART**



A		B		C		D		E		F	
REV	DATE	BY	CHKD	APPD	DESCRIPTION	ELEVATION VIEW INTERIOR SHOWN					
B	10.05.17	LT	KB			ISSUED FOR INFORMATION					
A	07.04.17	LT	KB			DO NOT SCALE TO LEAVES (unless noted otherwise)					
						IF IN DOUBT ASK					
						ALL DIMENSIONS IN MM					
						GENERAL LINEAR DIMS : ± 0mm					
						ANGULAR DIMENSIONS : ± 1/2°					
DESIGNED BY						L <sup>T</sup>		CHECKED BY		KB	
07/04/2017						07/04/2017		07/04/2017		07/04/2017	
APPROVED BY						G.A. for Solido SMART 4m3 for Ireland					
PREMIER TECH						AQUA					
SOLIDO SMART 4m3 IRELAND						SOLIDO SMART 4m3 IRELAND					



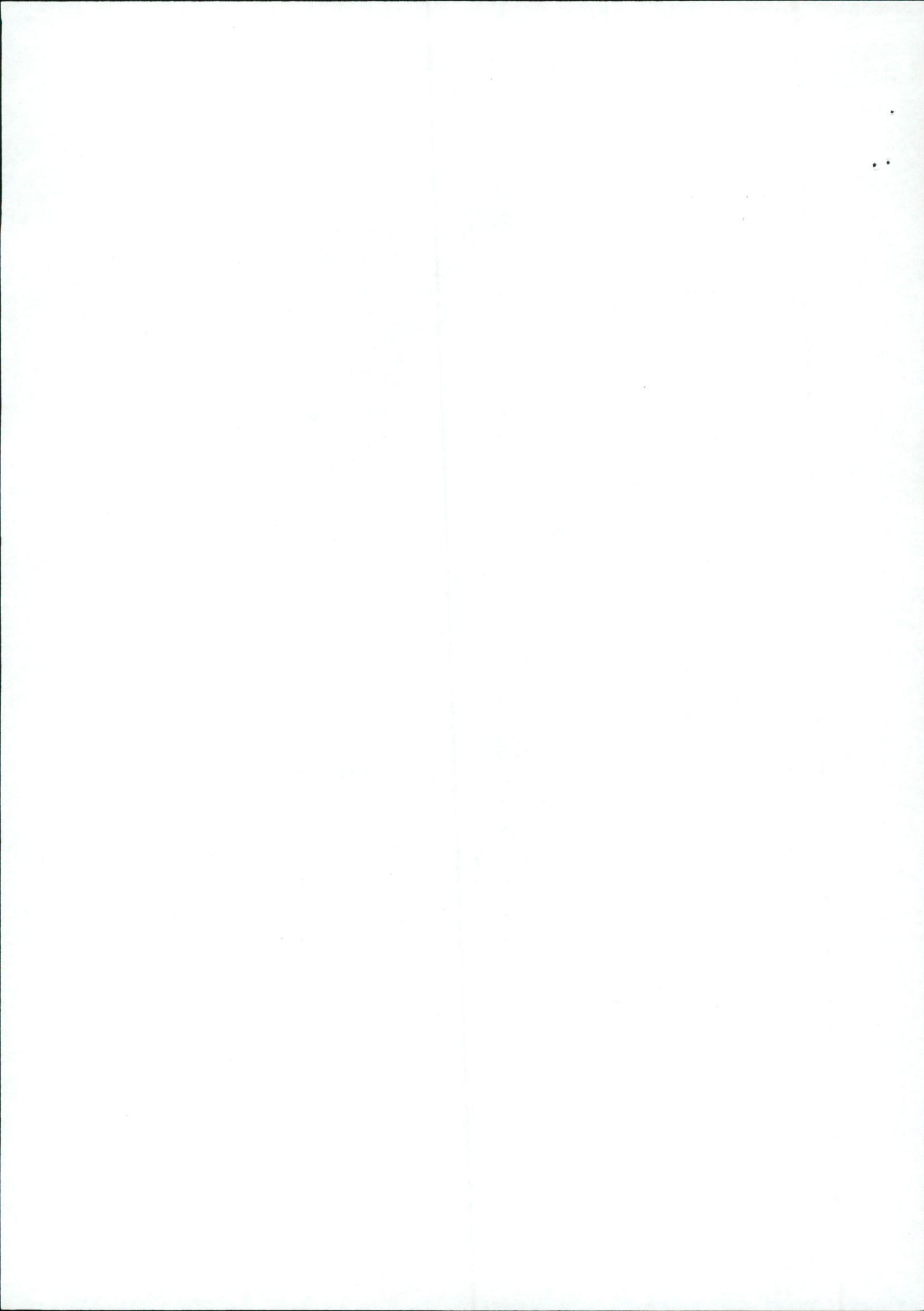
**Solido<sup>®</sup>**  
SMART



Stock Code:	
Designed by	LT 10/05/2017
Checked by	KB 10/05/2017
Approved by	
G.A. for Solido SMART 5m3 for Ireland Solido Smart 5m3 Ireland	

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REV	DATE	BY	ISSUED FOR INFORMATION	DESCRIPTION
A	10.05.17	LT	KB	DO NOT SCALE TOLERANCES (unless noted otherwise) IF IN DOUBT ASK ALL DIMENSIONS IN MM







20<sup>th</sup> March 2020

**RE: PROFESSIONAL INDEMNITY INSURANCE CERTIFICATE**

Certificate Holder: JMG Engineering Services Ltd.  
Astral House, Eyre Street, Newbridge, Co. Kildare

Dear Sir/Madam,

We act as Insurance Broker to the above certificate holder and I wish to confirm the holder has in force the following Professional Indemnity Insurance:

Insurer: Lloyds  
Policy No: API0003228  
Policy Period: 25/03/2020 to 24/03/2021  
Limit of Indemnity: €1,500,000 any one claim  
Business Description: Consulting Engineers

The following conditions apply to these Insurances:

- a) Excess €5,000 each and every claim increasing to €10,000 for any claim arising from Defamation.
- b) Excluding cover for any work and/or claim arising from Valuation(s) and/or valuation work for lending and/or balance sheet purposes.
- c) Retroactive Date: 7<sup>th</sup> April 2010.
- d) Geographical Limits: Worldwide ex. USA and Canada
- e) Jurisdiction Limits: Republic of Ireland
- f) Defence costs payable in addition to the policy limit.
- g) RICS / SCSi approved policy wording.

If you have any queries on these Insurances please contact the undersigned.

Signed by:

Sharon Devereux C.I.P.  
Commercial Accounts Handler



**FETAC**

Further Education and  
Training Awards Council  
Comhairle na nDámhachtainí  
Breitheachlaís agus Oilína

**Level 6 Specific Purpose Certificate  
Teastas Cuspóra Shainiúil Leibhéal 6**

**Site Suitability On-Site Wastewater Treatment**

Awarded to  
Bronnta ar

**John Mc Guinness**

12/12/2007

*David O'Rourke*

Chair/Cathaoirleach FETAC

*Stam Uile Hynes*

Chief Executive/Príobháilíochtíneannair FETAC





