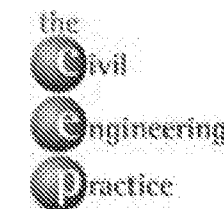


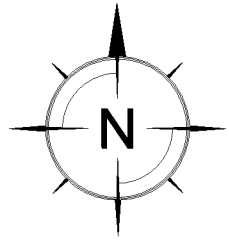
**Appendix 1**  
**Site Location Plan**  
**Existing and Proposed Site Layouts**



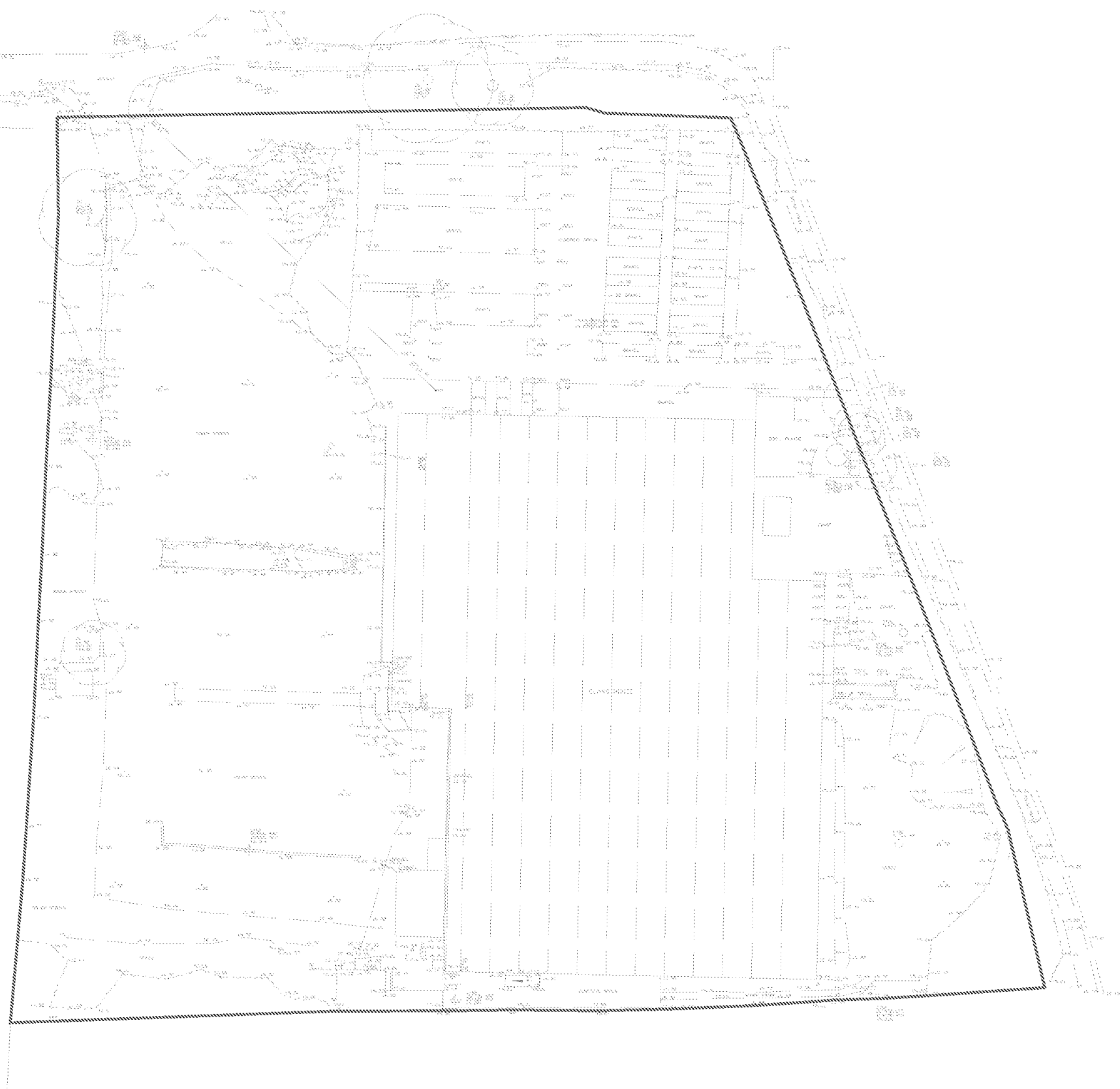
SCALE

1:10000 @ A3

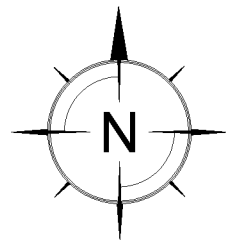
DAG, No.



-10m 0 10m 20m 30m 40m  
Scale 1:1000



|       |  |                    |            |
|-------|--|--------------------|------------|
| TITLE |  | Existing Site Plan |            |
| SCALE |  | NTS @ A3           | DRG. No. 2 |



-10m 0 10m 20m 30m 40m  
Scale 1:1000



|       |  |                    |            |
|-------|--|--------------------|------------|
| TITLE |  | Proposed Site Plan |            |
| SCALE |  | NTS @ A3           | DRG. No. 3 |

## **Appendix 2**

### **British Geological Society Borehole logs**



British  
Geological Survey

NATURAL ENVIRONMENT RESEARCH COUNCIL

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Surface  
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3D  
Models

Borehole  
Scans

Earthquake  
Time-line

## Borehole Scans

Click on a borehole to view  
scan.

### Borehole depth

- 0 - 10m
- 10 - 30m
- 30m+
- Unknown
- Confidential  
or Restricted

[More on boreholes](#)

Go to  
Location

Switch  
Basemap

100% 0%

Geology Transparency

Grid Ref: 507309, 104107

BN164AW

0 0.5 1.0 km

# RECORD OF WELL (SHAFT OR BORE)

For Survey use only  
N. 11271

317/401

EXACT SITE  
OF WELL

At Roundstone Lane

TP 073 036

Town or Village East Twicken

Licence No. 4/22/34

County Surrey

Six-inch quarter sheet LXIIIE/D. 6356w.

For

State whether owner, tenant, builder, contractor, consultant, etc.:— Owner

Address (if different from above)

Level of ground surface above sea-level (O.D.) +28 1/2 ft.

If well-top is not at ground level, state how far { above: below; } ft.

SHAFT 1 ft.; diameter 1 ft.; Full details of headings (dimensions and directions)

BORE 20 ft.; diameter of bore: at top 6 ins.; at bottom 6 ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.)

Plain 8" surface - 4' 1'; Plain 8" - surface to 4' 5'; slotted 4' 5' - 5' 6'.

Annular cement grouted

Water struck at depths of 20' at top ft. below well-top.

TEST  
CONDITIONS

Rest level of water 17 ft. above below well-top. Suction at 33 ft. Yield on 8 hours' test pumping at 700 galls. per hour with depression to 21' 6" ft. below well-top.

Recovery to rest-level in mins. hours Capacity of pump 1600 g.p.h. Date of measurements March

NORMAL  
CONDITIONS

DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:

Make and/or type Summa 7 C.L.S. Motive power under

Capacity 2400 gallons per hour. Suction at 33 ft.

Amount pumped 2400 galls. per day. Estimated consumption 2400 galls. per week.

Well made by [redacted] Date of well March 1965

Information from [redacted]

## ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

Done by O on 6" Summa 6356w. 68

## LOG OF STRATA OVERLEAF.

| GEOLOGICAL SURVEY AND MUSEUM,<br>SOUTH KENSINGTON,<br>London, S.W.7. | Section 6. | Date<br>Received | 1" O.S. Map<br>No. | Site marked<br>on 1" Map | (use symbol)<br>on 6" Map |
|----------------------------------------------------------------------|------------|------------------|--------------------|--------------------------|---------------------------|
|                                                                      |            | <u>28.6.65.</u>  |                    | <u>0</u>                 | <u>0</u>                  |

(1982) D63574/WL17588 12.400 8/54 JC 85 GP488

(For Survey use only)  
GEOLOGICAL  
CLASSIFICATION

NATURE OF STRATA

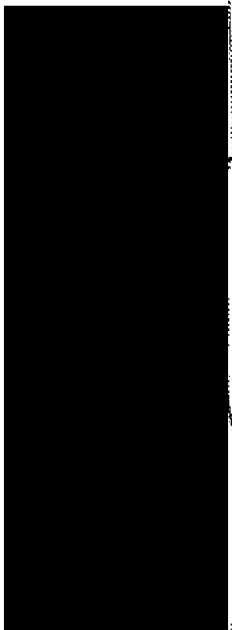
If measurements start below  
ground surface, state how far ...

THICKNESS

Feet Inches

DEPTH

Feet Inches



Brown clay } Bicknarth  
Brown clay and fine }  
Green sand & ballast } Brighton Ravine Beach  
Yellow rock chalk  
White rock chalk  
Hard yellow chalk  
Soft yellow chalk  
White chalk

5  
13 3.9  
23 7.0  
30  
33  
36  
38  
80 24.1



8.11.80

TQ00 SE 4  
071 043

31/201

ANGMERING

Angmering Garage. Old well. Cleared out Dec. 1903 by Duke & Ockenden.  
Depth 156 1/2 ft., with 8 1/2 ft. of water. Pressure 18 inches from  
the bottom yielding about 1000 gallons per hour. in RWL 148'65.

6" Corrug 63 SE/W.

Exact site not determined, but probably on south side of High Street  
about half way between Roundstone Lane and Station Road. OD 46

S. Buchan  
27.2.41

Estimated classification

|                       |   |         |
|-----------------------|---|---------|
| Drift (valley gravel) | } | 156 1/2 |
| Upper chalk           |   |         |

DATA Bank

W. S. 52. 11E p. 154

317  
201

TQ 072 043

ANGMERING

TQ 00/106

Angmering Cottage. Old well. Cleaned out Dec. 1903 by Juke & Delander.  
Depth 156½ ft., with 8½ ft. of water. Fissure 18 inches from  
the bottom yielding about 1000 gallons per hour. i.RWL 148'65.

6" Luxrex 63 SE/W.

Exact site not determined, but probably on south side of High Street  
about half way between Roundstone Lane and Station Road. OD 46

S. Beahan  
27.2.91

Estimated classification

|                       |   |      |
|-----------------------|---|------|
| Drift (valley gravel) | } | 156½ |
| Upper Chalk           |   |      |

DATA Bank



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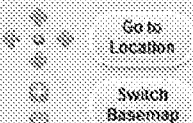
## Surface Geology

- ☐ Superficial only
- ☐ Bedrock only
- ☐ Bedrock and Superficial

Visible geology:  
1:50 000 scale

Geology  
Key

More on digital geology



100% 0%  
Geology Transparency

Grid Ref: 50471Z, 10468J

Map Key (close this window to activate map)

## Bedrock geology

- ☐ LONDON CLAY FORMATION - SAND
- ☐ LONDON CLAY FORMATION - CLAY, SILT AND SAND
- ☐ LAMBETH GROUP - CLAY, SILT AND SAND
- ☐ SPETISBURY CHALK MEMBER - CHALK
- ☐ TARRANT CHALK MEMBER - CHALK
- ☐ NEWHAVEN CHALK FORMATION - CHALK
- ☐ SEAFORD CHALK FORMATION - CHALK
- ☐ LEWES NODULAR CHALK FORMATION - CHALK
- ☐ LEWES NODULAR CHALK FORMATION, SEAFORD CHALK FORMATION, NEWHAVEN CHALK FORMATION AND PORTSDOWN CHALK FORMATION (UNDIFFERENTIATED) - CHALK
- ☐ NEW PIT CHALK FORMATION - CHALK

## Bedrock geology

### 1:50 000 scale bedrock geology description:

Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation And Portsdown Chalk Formation (undifferentiated) - Chalk. Sedimentary bedrock formed approximately 72 to 94 million years ago in the Cretaceous Period. Local environment previously dominated by warm chalk seas.

**Setting:** warm chalk seas. These sedimentary rocks are shallow-marine in origin. They are biogenic and detrital, generally comprising carbonate material (coccoliths), forming distinctive beds of chalk.

[Further details](#) [What is Bedrock Geology?](#)

[To purchase detailed geological reports for this area, try our GeoReports service](#)

0 0.5 1 km



British  
Geological Survey  
NATURAL ENVIRONMENT RESEARCH COUNCIL

# Geology of Britain viewer

Try the Beta version of our 3D Geology of Britain viewer



Show 1073 map viewers



## Surface Geology

- ☐ Superficial only  
☐ Bedrock only  
☐ Bedrock and Superficial

Visible geology:  
1:50 000 scale

Geology  
Key

More on digital geology

Go to  
Location

Switch  
Basemap

100% 0%

Geology Transparency

Grid Ref: 504724, 105272

BN164AW

## Superficial geology

**1:50 000 scale superficial deposits description:**  
River Terrace Deposits (undifferentiated) - Sand, Silt And Clay. Superficial Deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by rivers (U).

**Setting:** rivers (U). These sedimentary deposits are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting).

Further details [What are Superficial Deposits?](#)

To purchase detailed non-burial reports for this area, try our [GeoReports](#) service

## Map Key (close this window to activate map)

1:50 000 scale geology

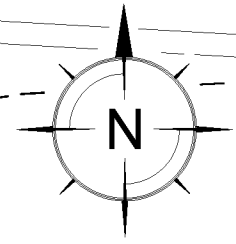
### Superficial deposits

- ☐ ALLUVIUM - CLAY, SILT, SAND AND PEAT
- ☐ ALLUVIUM - CLAY, SILT, SAND AND GRAVEL
- ☐ BEACH AND TIDAL FLAT DEPOSITS
- ☐ (UNDIFFERENTIATED) - CLAY, SILT, SAND AND GRAVEL
- ☐ HEAD - CLAY, SILT, SAND AND GRAVEL
- ☐ HEAD - 1 - CLAY, SILT, SAND AND GRAVEL
- ☐ RAISED BEACH DEPOSITS - 1 - SAND AND GRAVEL
- ☐ RAISED MARINE DEPOSITS - CLAY, SILT, SAND AND GRAVEL
- ☐ RIVER TERRACE DEPOSITS (UNDIFFERENTIATED) - SAND, SILT AND CLAY
- ☐ STORM BEACH DEPOSITS - GRAVEL

0 0.5 1.0km

**Appendix 3**

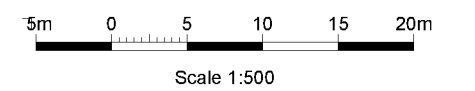
**Proposed Site Catchments Area Plan**



# KEY

- ROAD AREA (TOTAL=1664m<sup>2</sup>)
- ROOF AREA (TOTAL=2430m<sup>2</sup>)
- DRIVEWAY AREA (TOTAL=733m<sup>2</sup>)
- FOOTPATH AREA (TOTAL=182m<sup>2</sup>)
- GARAGE AREA (TOTAL=528m<sup>2</sup>)
- PARKING AREA(TOTAL=189m<sup>2</sup>)

TOTAL IMPERMEABLE AREA = 5800m<sup>2</sup>



|                                            |               |
|--------------------------------------------|---------------|
| TITLE<br>Proposed Site Catchment Area Plan |               |
| SCALE<br>1:500 @ A3                        | DRG. No.<br>4 |

**Appendix 4**

**Surface Water Drainage Calculations**

## PRIVATE SOAKAWAY 1

### Design of Aquacell Trench Soakaways including 10% Urban Creep

**Project Name:** Manor Nursery, Angmering  
**Project Number:** 22995

#### Soakaway No

**Cover Level** 16.300 m AOD  
**Invert of pipe** 15.300 m AOD  
**Pipe Invert Depth** 1.000 m  
**Depth to top of Soakaway** 0.500 m  
**Depth to Permeable Strata** 1.500 m  
**Soakaway Width** 2.000 m (Crate Size 1m x 0.5m)  
**Depth to Base** 2.100 m 4 crates  
**Impermeable Area** 1,300 m<sup>2</sup>  
**Void Ratio** 95 %

**Allow Drainage Through Base?** Yes (Default No)

#### Storm Profiles

**Return Period** 100 years (10years-BRE 365)  
**M5-60** 20 mm  
**Ratio r1** 0.35

**Consider Storms Beyond 6 hour duration?** Yes

#### Soil Characteristics

**Soil Infiltration Rate** 200.00 x10<sup>-6</sup>m/s  
**Soil Description** Gravel

Calculations based on BRE Digest 365 - September 1991.

Return Storm Period Assessments available are: 1, 2, 5, 10, 20, 25, 50, 100 years.

Ratio r1 in the range 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30-0.45

40% Additional Rainfall to account for Climate Change (Where Appropriate)

Crate Depth 400 mm each

#### Soakaway Results

**Width** 2.000 m  
**Excavation Depth** 2.100 m  
**Storage Depth** 1.600 m  
**Effective Outflow Depth** 0.600 m  
**Length of Soakaway** 14.87 m  
**ts50** 0.79 hrs

Design OK

## SOAKAWAY 2

### Design of Aquacell Trench Soakaways

**Project Name:** Manor Nursery, Angmering  
**Project Number:** 22995

#### Soakaway No

**Cover Level** 16.300 m AOD  
**Invert of pipe** 15.300 m AOD  
**Pipe Invert Depth** 1.000 m  
**Depth to top of Soakaway** 1.100 m  
**Depth to Permeable Strata** 1.500 m  
**Soakaway Width** 3.000 m (Crate Size 1m x 0.5m)  
**Depth to Base** 2.700 m 4 crates  
**Impermeable Area** 1,700 m<sup>2</sup>  
**Void Ratio** 95 %

**Allow Drainage Through Base?** No (Default No)

#### Storm Profiles

**Return Period** 100 years (10years-BRE 365)  
**M5-60** 20 mm  
**Ratio r1** 0.35

**Consider Storms Beyond 6 hour duration?** Yes

#### Soil Characteristics

**Soil Infiltration Rate** 200.00 x10<sup>-6</sup>m/s  
**Soil Description** Gravel

Calculations based on BRE Digest 365 - September 1991.

Return Storm Period Assessments available are: 1, 2, 5, 10, 20, 25, 50, 100 years.

Ratio r1 in the range 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30-0.45

40% Additional Rainfall to account for Climate Change (Where Appropriate)

Crate Depth 400 mm each

#### Soakaway Results

**Width** 3.000 m  
**Excavation Depth** 2.700 m  
**Storage Depth** 1.600 m  
**Effective Outflow Depth** 1.200 m  
**Length of Soakaway** 17.89 m  
**ts50** 2.26 hrs

Design OK

## SOAKAWAY 3

### Design of Aquacell Trench Soakaways

**Project Name:** Manor Nursery, Angmering  
**Project Number:** 22995

#### Soakaway No

**Cover Level** 16.300 m AOD  
**Invert of pipe** 15.300 m AOD  
**Pipe Invert Depth** 1.000 m  
**Depth to top of Soakaway** 0.500 m  
**Depth to Permeable Strata** 1.500 m  
**Soakaway Width** 1.500 m (Crate Size 1m x 0.5m)  
**Depth to Base** 2.100 m 4 crates  
**Impermeable Area** 400 m<sup>2</sup>  
**Void Ratio** 95 %

**Allow Drainage Through Base?**  (Default No)

#### Storm Profiles

**Return Period** 100 years (10years-BRE 365)  
**M5-60** 20 mm  
**Ratio r1** 0.35

**Consider Storms Beyond 6 hour duration?**

#### Soil Characteristics

**Soil Infiltration Rate** 200.00 x10<sup>-6</sup>m/s  
**Soil Description** Gravel

Calculations based on BRE Digest 365 - September 1991.

Return Storm Period Assessments available are: 1, 2, 5, 10, 20, 25, 50, 100 years.

Ratio r1 in the range 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30-0.45

40% Additional Rainfall to account for Climate Change (Where Appropriate)

Crate Depth 400 mm each

#### Soakaway Results

**Width** 1.500 m  
**Excavation Depth** 2.100 m  
**Storage Depth** 1.600 m  
**Effective Outflow Depth** 0.600 m  
**Length of Soakaway** 8.39 m  
**ts50** 2.24 hrs

Design OK

## SOAKAWAY 4

### Design of Aquacell Trench Soakaways

**Project Name:** Manor Nursery, Angmering  
**Project Number:** 22995

#### Soakaway No

**Cover Level** 16.300 m AOD  
**Invert of pipe** 15.300 m AOD  
**Pipe Invert Depth** 1.000 m  
**Depth to top of Soakaway** 0.500 m  
**Depth to Permeable Strata** 1.500 m  
**Soakaway Width** 2.000 m (Crate Size 1m x 0.5m)  
**Depth to Base** 2.100 m 4 crates  
**Impermeable Area** 850 m<sup>2</sup>  
**Void Ratio** 95 %

**Allow Drainage Through Base?**  (Default No)

#### Storm Profiles

**Return Period** 100 years (10years-BRE 365)  
**M5-60** 20 mm  
**Ratio r1** 0.35

**Consider Storms Beyond 6 hour duration?**

#### Soil Characteristics

**Soil Infiltration Rate** 200.00 x10<sup>-6</sup>m/s  
**Soil Description** Gravel

Calculations based on BRE Digest 365 - September 1991.

Return Storm Period Assessments available are: 1, 2, 5, 10, 20, 25, 50, 100 years.

Ratio r1 in the range 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30-0.45

40% Additional Rainfall to account for Climate Change (Where Appropriate)

Crate Depth 400 mm each

#### Soakaway Results

**Width** 2.000 m  
**Excavation Depth** 2.100 m  
**Storage Depth** 1.600 m  
**Effective Outflow Depth** 0.600 m  
**Length of Soakaway** 14.63 m  
**ts50** 3.10 hrs

Design OK

## PRIVATE SOAKAWAY 5

### Design of Aquacell Trench Soakaways including 10% Urban Creep

**Project Name:** Manor Nursery, Angmering  
**Project Number:** 22995

#### Soakaway No

**Cover Level** 16.300 m AOD  
**Invert of pipe** 15.300 m AOD  
**Pipe Invert Depth** 1.000 m  
**Depth to top of Soakaway** 0.500 m  
**Depth to Permeable Strata** 1.500 m  
**Soakaway Width** 2.000 m (Crate Size 1m x 0.5m)  
**Depth to Base** 2.100 m 4 crates  
**Impermeable Area** 500 m<sup>2</sup>  
**Void Ratio** 95 %

**Allow Drainage Through Base?**  (Default No)

#### Storm Profiles

**Return Period** 100 years (10years-BRE 365)  
**M5-60** 20 mm  
**Ratio r1** 0.35

**Consider Storms Beyond 6 hour duration?**

#### Soil Characteristics

**Soil Infiltration Rate** 200.00 x10<sup>-6</sup>m/s  
**Soil Description** Gravel

Calculations based on BRE Digest 365 - September 1991.

Return Storm Period Assessments available are: 1, 2, 5, 10, 20, 25, 50, 100 years.

Ratio r1 in the range 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30-0.45

40% Additional Rainfall to account for Climate Change (Where Appropriate)

Crate Depth 400 mm each

#### Soakaway Results

**Width** 2.000 m  
**Excavation Depth** 2.100 m  
**Storage Depth** 1.600 m  
**Effective Outflow Depth** 0.600 m  
**Length of Soakaway** 8.42 m  
**ts50** 2.84 hrs

Design OK

## Design of Perforated Concrete Ring Soakaways including 10% for Urban Creep

**Project Name:** Manor Nursery, Angmering - Private House Soakaways  
**Project Number:** 22995

**Soakaway No** RSA1-7  
**Cover Level** 18.000 m AOD  
**Pipe Invert Level** 18.000 m (lowest pipe)  
**Depth to Invert** 1.000  
**Depth from Cover to first perforated ring** 1.300 m

Calculations based on BRE Digest 365 - September 1991  
 Effective cross section for soakaway taken as internal diameter  
 Return Storm Period Assessments available are:  
 1, 2, 5, 10, 20, 25, 50, 100 years.  
 Ratio  $r_1$  in the range 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30-0.45  
 40% increase due to Climate Change (1:100 year storms)

**Impermeable area** 120 m<sup>2</sup>  
**Gravel Surround Void Ratio** 30 % (normally 30%)  
**Gravel Surround** 150 mm  
**Allow Drainage Through Base?** ☐ No ☒ Default No

**Storm Profiles**  
**Return Period** 100 years (10years-BRE 365)  
**M5-60** 30 mm  
**Ratio  $r_1$**  0.35  
**Consider Storms Beyond 6 hour duration?** ☐ Yes ☒

**Soil Characteristics**  
**Soil Infiltration Rate** 200.00 x10<sup>-6</sup> m/s  
**Soil Description** Gravel

| Ring Size<br>(m) | Approx Ring<br>Wall Thickness<br>(mm) | Excavation<br>Size<br>(m) | Required<br>Storage<br>Depth<br>(m) | Unsurcharged<br>Storage Provided<br>(m <sup>3</sup> ) | Total Depth of<br>Soakaway for<br>Design Return<br>Period (m) | 100 yr +CC<br>Additional Storage<br>Required<br>(m <sup>3</sup> ) | Storage Above<br>Soakaway<br>Effective Depth<br>(m <sup>3</sup> ) | Additional<br>Depth<br>Required<br>(m) | Total<br>Soakaway<br>Depth<br>(m) | $t_{50}$<br>(hrs)<br>(max 24) | Design<br>OK? |
|------------------|---------------------------------------|---------------------------|-------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------|-----------------------------------|-------------------------------|---------------|
| 0.900            | 70                                    | 1.340                     | 2.021                               | 1.927                                                 | 3.321                                                         | 0.771                                                             | 0.827                                                             | 0.000                                  | 3.321                             | 0.25                          | YES           |
| 1.050            | 80                                    | 1.510                     | 1.619                               | 2.022                                                 | 2.919                                                         | 0.809                                                             | 1.126                                                             | 0.000                                  | 2.919                             | 0.29                          | YES           |
| 1.200            | 90                                    | 1.680                     | 1.350                               | 2.140                                                 | 2.650                                                         | 0.856                                                             | 1.470                                                             | 0.000                                  | 2.650                             | 0.33                          | YES           |
| 1.350            | 95                                    | 1.840                     | 1.150                               | 2.249                                                 | 2.450                                                         | 0.900                                                             | 1.861                                                             | 0.000                                  | 2.450                             | 0.37                          | YES           |
| 1.500            | 105                                   | 2.010                     | 0.988                               | 2.343                                                 | 2.288                                                         | 0.937                                                             | 2.297                                                             | 0.000                                  | 2.288                             | 0.41                          | YES           |
| 1.800            | 115                                   | 2.330                     | 0.757                               | 2.504                                                 | 2.057                                                         | 1.002                                                             | 3.308                                                             | 0.000                                  | 2.057                             | 0.49                          | YES           |
| 2.100            | 125                                   | 2.650                     | 0.598                               | 2.633                                                 | 1.898                                                         | 1.053                                                             | 4.503                                                             | 0.000                                  | 1.898                             | 0.58                          | YES           |
| 2.400            | 140                                   | 2.980                     | 0.489                               | 2.773                                                 | 1.789                                                         | 1.109                                                             | 5.881                                                             | 0.000                                  | 1.789                             | 0.66                          | YES           |
| 2.700            | 150                                   | 3.300                     | 0.412                               | 2.915                                                 | 1.712                                                         | 1.166                                                             | 7.443                                                             | 0.000                                  | 1.712                             | 0.74                          | YES           |
| 3.000            | 165                                   | 3.630                     | 0.351                               | 3.038                                                 | 1.651                                                         | 1.215                                                             | 9.189                                                             | 0.000                                  | 1.651                             | 0.83                          | YES           |

## Design of Perforated Concrete Ring Soakaways including 10% for Urban Creep

**Project Name:** Manor Nursery, Angmering  
**Project Number:** 22995

**Soakaway No** RSA 8-11  
**Cover Level** 18.000 m AOD  
**Pipe Invert Level** 18.000 m (lowest pipe)  
**Depth to Invert** 1.000  
**Depth from Cover to first perforated ring** 1.300 m

Calculations based on BRE Digest 365 - September 1991  
 Effective cross section for soakaway taken as internal diameter  
 Return Storm Period Assessments available are:  
 1, 2, 5, 10, 20, 25, 50, 100 years.  
**Ratio  $r_1$  in the range 0.12, 0.15, 0.18, 0.21, 0.24, 0.27, 0.30-0.45**  
 40% increase due to Climate Change (1:100 year storms)

**Impermeable area** 188 m<sup>2</sup>  
**Gravel Surround Void Ratio** 30 % (normally 30%)  
**Gravel Surround** 150 mm  
**Allow Drainage Through Base?** ☐ No ☒ Default No

**Storm Profiles**  
**Return Period** 100 years (10years-BRE 365)  
**M5-60** 30 mm  
**Ratio  $r_1$**  0.35  
**Consider Storms Beyond 6 hour duration?** ☐ Yes ☒

**Soil Characteristics**  
**Soil Infiltration Rate** 200.00 x10<sup>-6</sup> m/s  
**Soil Description** Gravel

| Ring Size<br>(m) | Approx Ring<br>Wall Thickness<br>(mm) | Excavation<br>Size<br>(m) | Required<br>Storage<br>Depth<br>(m) | Unsurcharged<br>Storage Provided<br>(m <sup>3</sup> ) | Total Depth of<br>Soakaway for<br>Design Return<br>Period (m) | 100 yr +CC<br>Additional Storage<br>Required<br>(m <sup>3</sup> ) | Storage Above<br>Soakaway<br>Effective Depth<br>(m <sup>3</sup> ) | Additional<br>Depth<br>Required<br>(m) | Total<br>Soakaway<br>Depth<br>(m) | $t_{50}$<br>(hrs)<br>(max 24) | Design<br>OK? |
|------------------|---------------------------------------|---------------------------|-------------------------------------|-------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------|-----------------------------------|-------------------------------|---------------|
| 0.900            | 70                                    | 1.340                     | 2.779                               | 2.649                                                 | 4.079                                                         | 1.060                                                             | 0.827                                                             | 0.366                                  | 4.445                             | 0.25                          | YES           |
| 1.050            | 80                                    | 1.510                     | 2.226                               | 2.780                                                 | 3.526                                                         | 1.112                                                             | 1.126                                                             | 0.000                                  | 3.526                             | 0.29                          | YES           |
| 1.200            | 90                                    | 1.680                     | 1.856                               | 2.943                                                 | 3.156                                                         | 1.177                                                             | 1.470                                                             | 0.000                                  | 3.156                             | 0.33                          | YES           |
| 1.350            | 95                                    | 1.840                     | 1.582                               | 3.092                                                 | 2.882                                                         | 1.237                                                             | 1.861                                                             | 0.000                                  | 2.882                             | 0.37                          | YES           |
| 1.500            | 105                                   | 2.010                     | 1.358                               | 3.222                                                 | 2.658                                                         | 1.289                                                             | 2.297                                                             | 0.000                                  | 2.658                             | 0.41                          | YES           |
| 1.800            | 115                                   | 2.330                     | 1.040                               | 3.443                                                 | 2.340                                                         | 1.377                                                             | 3.308                                                             | 0.000                                  | 2.340                             | 0.49                          | YES           |
| 2.100            | 125                                   | 2.650                     | 0.822                               | 3.620                                                 | 2.122                                                         | 1.448                                                             | 4.503                                                             | 0.000                                  | 2.122                             | 0.58                          | YES           |
| 2.400            | 140                                   | 2.980                     | 0.673                               | 3.813                                                 | 1.973                                                         | 1.525                                                             | 5.881                                                             | 0.000                                  | 1.973                             | 0.66                          | YES           |
| 2.700            | 150                                   | 3.300                     | 0.566                               | 4.008                                                 | 1.866                                                         | 1.603                                                             | 7.443                                                             | 0.000                                  | 1.866                             | 0.74                          | YES           |
| 3.000            | 165                                   | 3.630                     | 0.482                               | 4.178                                                 | 1.782                                                         | 1.671                                                             | 9.189                                                             | 0.000                                  | 1.782                             | 0.83                          | YES           |

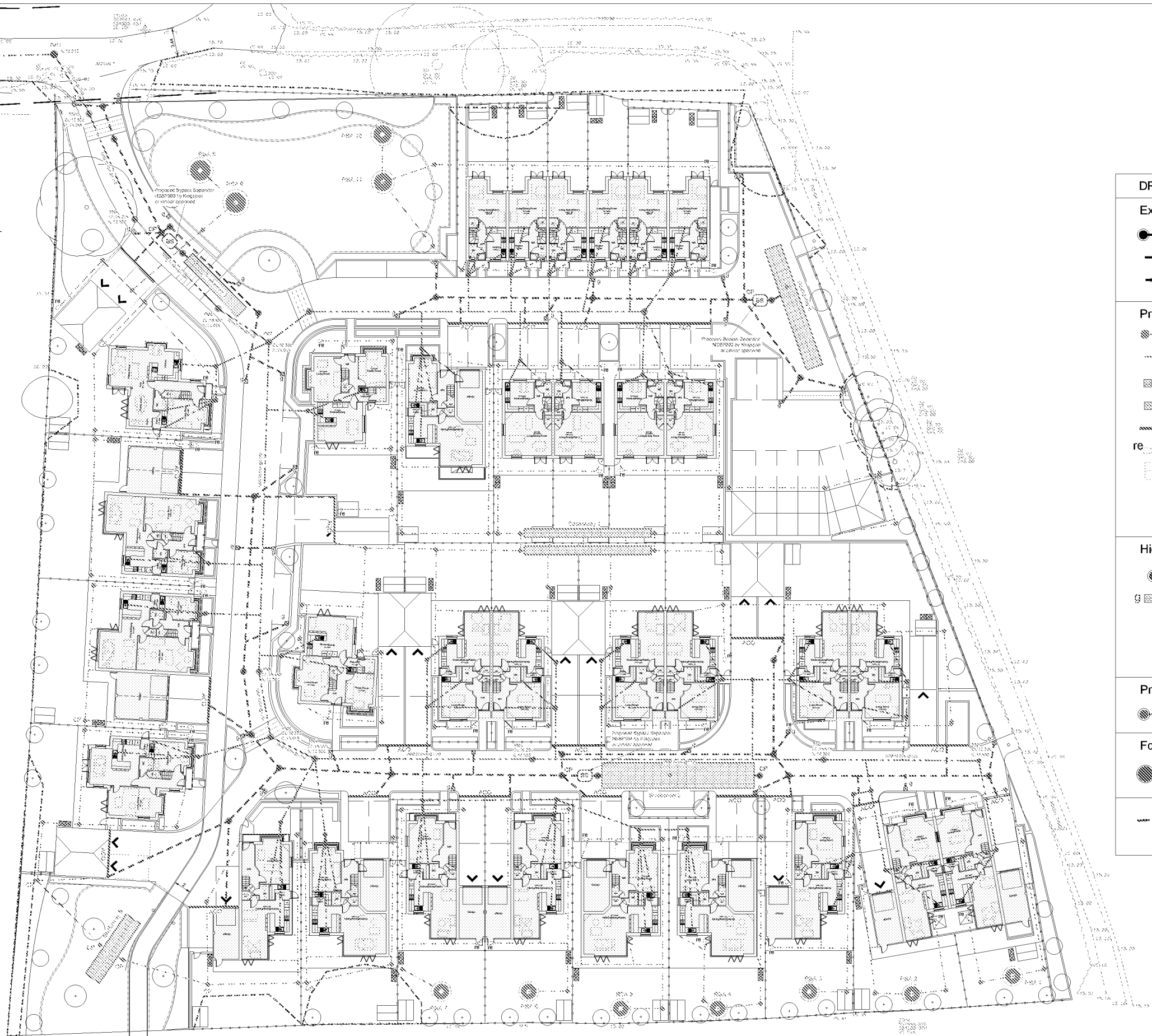
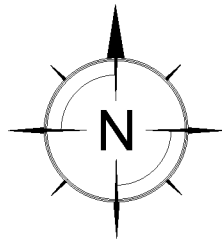
**Appendix 5**

**Southern Water Infrastructure Record**



## **Appendix 6**

### **Proposed Surface and Foul Water Drainage Layout**



| DRAINAGE KEY:            |                                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------------------------------------|
| Existing Adopted Sewers  |                                                                                                                 |
|                          | Existing Foul                                                                                                   |
|                          | Existing Storm                                                                                                  |
|                          | Existing drainage to be removed                                                                                 |
| Private Storm Drainage   |                                                                                                                 |
|                          | Inspection Chambers                                                                                             |
|                          | Catchpit Manhole                                                                                                |
|                          | Road Gully                                                                                                      |
|                          | Yard Gully                                                                                                      |
|                          | ACO Channel                                                                                                     |
|                          | Rodding Eye                                                                                                     |
|                          | Storage Crate/Cellular Soakaway                                                                                 |
|                          | Precast Concrete Soakaway                                                                                       |
| Highway Drainage         |                                                                                                                 |
|                          | Concrete Manhole                                                                                                |
|                          | Road Gully                                                                                                      |
|                          | Proposed Bypass Separator                                                                                       |
|                          | Proposed Catchpit Manhole                                                                                       |
| Private Foul Drainage    |                                                                                                                 |
|                          | Inspection Chambers                                                                                             |
| Foul Sewers For Adoption |                                                                                                                 |
|                          | Type 1 / Type 2 Precast Concrete Manhole                                                                        |
|                          | Tree Protection Zone reproduced based on Lizard Landscape Design and Ecology drawing number LLD1275-ARB-DWG-002 |