

OAK TREE FARM, LUDGERSHALL,
WILTSHIRE
DRAINAGE DESIGN TECHNICAL NOTE

1.0 Summary

- 1.1 Condon Drew Associates Ltd (CDA) have been appointed by Howard Scruse to provide drainage design services for a propose residential redevelopment at Oak Tree Farm in Ludgershall, Wiltshire.
- 1.2 This Technical Note has been prepared, along with the appended drawings and calculations, in response to a planning condition from Wiltshire Council for planning consent 20/07754/FUL.
- 1.3 The development is the proposed Demolition of poultry shed and agricultural store and erection of five dwellings with access and parking, and the erection of new agricultural store.
- 1.4 All surface water from within the site will be discharged by permeable paving and soakaways which have been sized based on infiltration rates established during a ground investigation.

2.0 Introduction

- 2.1 Condon Drew Associates Ltd (CDA) have been appointed by Mr Howard Scruse to prepare a Sustainable Drainage Design to support a proposed redevelopment at Oak Tree Farm, Ludgershall, Wiltshire (the Site).
- 2.2 A full planning submission was made in September 2020 (Ref: 20/07754/FUL), for the development. A response was received from Wiltshire Council approving the development pursuant to planning conditions. The Decision Notice is included as **Appendix A** for reference, with Condition 12, relating to surface water drainage as below:

12. No part of the development hereby approved shall be first occupied until a scheme for the discharge of surface water from the site (including surface water from the access/driveway), incorporating sustainable drainage details, has been submitted to and approved in writing by the Local Planning Authority. The development shall not be first brought into occupied [sic] until surface water drainage has been constructed in accordance with the approved scheme.

REASON: To ensure that the development can be adequately drained.

- 2.3 This drainage design has been prepared in response to the above Condition.
- 2.4 This issue of the Drainage Technical Note has been completed following comments from the Lead

Local Flood Authority (LLFA), included in **Appendix G**, and summarised below:

- Rainwater collection should be considered, or an explanation as to why it is not included.
- A Factor of Safety of 10 should be used on all infiltration devices.
- Conveyance routes should be shown for exceedance events.
- A drainage maintenance programme should be submitted.

These points are addressed in this issue, with the amended paragraphs outlined in **Table 2.1** below:

Table 2.1: Revision Summary

Paragraph Number	Summary
2.4	Reference to LLFA response
4.3	Addition of Rainwater Butts
4.4	Reference to Factor of Safety of 10, and addition of crate storage below permeable paving.
Table 4.2	Values added / amended for design update
5.0 - 5.3	Maintenance information added

3.0 Proposed Site Details

- 3.1 The existing site is a poultry farm comprising a large farm building, outbuilding and silos. Based on the topographical survey of the site, included as **Appendix B**, the existing impermeable areas measure 1,766m².
- 3.2 Proposals for the site comprise two accesses, serving two and three new dwellings each. The site layout is included in **Appendix C**. The proposed impermeable areas for the site measure as 1,795m², an increase of 29m², or 1.6%.
- 3.3 A surface water drainage strategy has been designed for the site to ensure that this small increase does not increase flood risk as a result of the development.

4.0 Surface Water Drainage Design

- 4.1 The bedrock at the site is Seaford Chalk Formation, with no superficial deposits recorded. Infiltration Testing has been undertaken at the site, complying with BRE 365 over three trial pits. A Plan showing the testing locations, site data and calculations converting the data to infiltration rates are included as **Appendix D**. Rates calculated for the site are shown in **Table 4.1** overleaf, with the lowest rate of

each trial pit used.

Table 4.1: Infiltration Rates

Trial Pit	Infiltration Rates
Trial pit 1	$3.97 \times 10^{-5} \text{ ms}^{-1}$
Trial pit 2	$3.54 \times 10^{-5} \text{ ms}^{-1}$
Trial pit 3	$3.66 \times 10^{-5} \text{ ms}^{-1}$

- 4.2 As can be seen, infiltration rates are suitable for soakaways or other infiltration devices as a mode of surface water discharge.
- 4.3 It is proposed that rainwater butts are included for each dwelling. This will promote the reuse of surface water. While the storage of rainwater butts can vary, and aid in the reduction of the storage requirements for the Site, they have not been included in the calculations as there is no guarantee that they will be empty at the beginning of any storm.
- 4.4 Due to the permeability of the Site, infiltration is proposed as the mode of surface water discharge, with permeable paving and soakaways the SuDS feature to be used. The site will drain via a mix of permeable paving and soakaways. The areas of permeable paving are located within the private parking areas of each dwelling. As a factor of safety of 10 has been used, additional storage below the permeable paving is required. Where required, this is provided in crates linked to the permeable paving. These have been designed in accordance with best practice to account for the 1 in 100-year storm event with an allowance of 40% for climate change.
- 4.5 While guidance states that there should be no flooding in the Q30 event, and contained flooding is permitted in the Q100+40% event, the whole drainage system has been designed to accommodate the Q100 + 40% climate change event with no flooding on site. This is because levels on the site fall towards the accesses on Crawlboys Lane, so retaining the water within the paving minimises the risk of flood water leaving the site as surface water runoff.
- 4.6 Due to the levels on the site falling towards Crawlboys Lane, interception channels located at the accesses will prevent water from running off onto the public highway. These channels will drain to shallow soakaways. The infiltration devices are detailed in **Table 4.2**, below:

Table 4.2: SuDS Details

Area Served	Impermeable Area (Ha)	SuDS	Dimension	Half Drain Time (mins)
Plot 1	0.048	Soakaway	12m x 4m, 0.8m deep, 95% Void	45
Plot 2	0.030	Permeable Paving & Soakaway	Paving: 75m ² , 375mm deep, 30% Void Soakaway: 4m x 3m, 0.8m deep, 95% Void	Paving: 135 Soakaway: 1220
Plot 3	0.034	Soakaway	10m x 3m, 0.8m deep, 95% Void	1260
Plot 4	0.028	Permeable Paving & Soakaway	Paving: 100m ² , 375mm deep, 30% Void Soakaway: 2.5m x 2m, 0.8m deep, 95% Void	Paving: 67 Soakaway: 1006
Plot 5	0.029	Permeable Paving & Soakaway	Paving: 100m ² , 375mm deep, 30% Void Soakaway: 2.5m x 2m, 0.8m deep, 95% Void	Paving: 67 Soakaway: 1006
Northern Access	0.006	Soakaway	3m x 3m x 0.4m, 95% Void	706
Southern Access	0.005	Soakaway	2.5m x 2m x 0.4m, 95% Void	636

4.7 Full calculations can be seen in **Appendix E**, while **Appendix F** contains the drainage layout including the soakaways and a 10m offset from all buildings, as well as the impermeable areas used in the calculations. Additionally, the existing and proposed impermeable areas are shown in **Appendix F**.

4.8 As can be seen on the drainage layout, all soakaways are 10m from any building. While guidance states that 5m clearance from any buildings is required, in medium or low-density chalk, a 10m offset is necessary. As the density of the chalk is unknown at this point, the 10m clearance has been included as a measure of safety.

4.9 All half drain times are less than the required 24 hours (1,440 minutes).

5.0 Maintenance

5.1 At the time of writing, it is expected that a management company (ManCo) will maintain the surface water drainage elements of the site. All features are accessible from the site access road.

5.2 It is recommended that as a minimum. The maintenance guidance from the SuDS Manual, Ciria 753 is followed. The below tables outline the maintenance requirements for soakaways and permeable paving.

Figure 5.1: Maintenance Guidelines for Soakaways

CIRIA SuDS Manual 2015

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect for sediment and debris in pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole-rings	Annually
	Cleaning of gutters and any filters on downpipes	Annually (or as required based on inspections)
	Trimming any roots that may be causing blockages	Annually (or as required)
Occasional maintenance	Remove sediment and debris from pre-treatment components and floor of inspection tube or chamber and inside of concrete manhole-rings	As required, based on inspections
Remedial actions	Reconstruct soakaway and/or replace or clean void fill, if performance deteriorates or failure occurs	As required
	Replacement of clogged geotextile (will require reconstruction of soakaway)	As required
Monitoring	Inspect all traps and note rate of sediment accumulation	Monthly in the first year and then annually
	Check soakaway to ensure emptying is occurring	Annually

Figure 5.2: Maintenance Guidelines for Permeable Paving

CIRIA SuCS Manual 2015

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard) cosmetic sweep-over whole surface	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
	Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48-h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

5.3 It is expected that a full maintenance programme will be developed on confirmation of the ManCo but will be based on the above guidance.

6.0 Report Summary

6.1 This Technical Note has been prepared in response to a planning condition from Wiltshire Council for planning application 20/07754/FUL relating to sustainable drainage design.

6.2 Surface water has been designed to discharge to ground via permeable paving in private drives and two soakaways, sized to accommodate the Q100+40% event with no flooding on site.

Appendix A

Wiltshire Council Decision Notice

Town & Country Planning Act 1990

Notification of Full Planning

Application Reference Number: 20/07754/FUL

Agent Fowler Architecture & Planning Ltd 19 High Street Pewsey SN9 5AF	Applicant Mr Howard Scruse Oak Tree Farm Crawlboys Lane Ludgershall SP11 9PL
Particulars of Development: Demolition of poultry shed and agricultural store and erection of 5 no. dwellings with access and parking. Erection of new agricultural store.	
At: Oak Tree Farm, Crawlboys Lane, Ludgershall, SP11 9PL	

In pursuance of its powers under the above Act, the Council hereby grant **PLANNING PERMISSION** for the above development to be carried out in accordance with the application and plans submitted (listed below).

In accordance with paragraph 38 of the National Planning Policy Framework, Wiltshire Council has worked proactively to secure this development to improve the economic, social and environmental conditions of the area.

Subject to the following conditions:

- 1 The development hereby permitted shall be begun before the expiration of three years from the date of this permission.

REASON: To comply with the provisions of Section 91 of the Town and Country Planning Act 1990 as amended by the Planning and Compulsory Purchase Act 2004.

- 2 The development hereby permitted shall be carried out in accordance with the following approved plans:
170336 -16 Rev A (Site Plan) dated 13/11/2019, received 09/09/2020
170336 -108 Rev B (Barn Plans) dated 12/11/2019, received 09/09/2020
179336 -10 (Location Plan) dated Feb 2018, received 09/09/2020
179336 -17 (Scheme Design Plot 1) dated Oct 2019, received 09/09/2020
179336 -18 (Scheme Design Plot 2 & 4) dated Oct 2019, received 09/09/2020
179336 -19 (Scheme Design Plot 3) dated Oct 2019, received 09/09/2020
179336 -20 (Scheme Design Plot 5) dated Oct 2019, received 09/09/2020
SWS11174topo (Topographical Survey) dated 30/01/2018, received 09/09/2020

REASON: For the avoidance of doubt and in the interests of proper planning.

- 3 The development hereby approved shall not commence until a Construction and

Environmental Management Plan (CEMP) has been submitted to and approved in writing by the local planning authority. The CEMP shall include details of the following relevant measures:

- i. An introduction consisting of construction phase environmental management plan, definitions and abbreviations and project description and location;
- ii. A description of management responsibilities;
- iii. A description of the construction programme;
- iv. Site working hours and a named person for residents to contact;
- v. Detailed Site logistics arrangements;
- vi. Details regarding parking, deliveries, and storage;
- vii. Details regarding dust mitigation;
- viii. Details of the hours of works and other measures to mitigate the impact of construction on the amenity of the area and safety of the highway network
- ix. Communication procedures with the LPA and local community regarding key construction issues - newsletters, fliers etc.

Construction hours shall be limited to 08000 to 1800 hrs Monday to Friday, 08000 to 1300 hrs Saturday and no working on Sundays or Bank Holidays.

REASON: To protect the local amenity from any adverse effects of noise, dust, smoke and odour.

- 4 No development shall commence above ground floor slab level until the exact details and samples of the materials to be used for the external walls and roofs have been submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved details.

REASON: The matter is required to be agreed with the Local Planning Authority before development commences in order that the development is undertaken in an acceptable manner, in the interests of visual amenity and the character and appearance of the area.

- 5 No railings, fences, gates, walls, bollards and other means of enclosure development shall be erected in connection with the development hereby permitted until details of their design, external appearance and decorative finish have been submitted to and approved in writing by the Local Planning Authority. Development shall be carried out in accordance with the approved details prior to the development being occupied.

REASON: In the interests of visual amenity and the character and appearance of the area.

- 6 No development shall commence above ground floor slab level until a landscaping scheme based upon the draft landscaping plan ref ACLA/BKI 01 dated Oct 2019 received 09/09/2020 has been submitted to and approved in writing by the Local Planning Authority. The landscaping shall be carried out in the first planting and seeding season following occupation of the building(s) or the completion of the development, whichever is the sooner within that particular phase; any trees or plants which within a period of five years, die, are removed, or become seriously damaged or diseased, shall be replaced in the next planting season with others of a similar size and species.

REASON: The application contained insufficient information to enable this matter to be considered prior to granting planning permission and the matter is required to be agreed with the Local Planning Authority before development commences in order that the development is undertaken in an acceptable manner, to ensure a satisfactory landscaped setting for the development.

- 7 No demolition, site clearance or development shall commence on site, and; no equipment, machinery or materials shall be brought on to site for the purpose of

development, until a Tree Protection Plan showing the exact position of each tree/s and their protective fencing in accordance with British Standard 5837: 2012: "Trees in Relation to Design, Demolition and Construction - Recommendations"; has been submitted to and approved in writing by the Local Planning Authority, and; The protective fencing shall be erected in accordance with the approved details. The protective fencing shall remain in place for the entire development phase and until all equipment, machinery and surplus materials have been removed from the site. Such fencing shall not be removed or breached during construction operations. No retained tree/s shall be cut down, uprooted or destroyed, nor shall any retained tree/s be topped or lopped other than in accordance with the approved plans and particulars. Any topping or lopping approval shall be carried out in accordance British Standard 3998: 2010 "Tree Work - Recommendations" or arboricultural techniques where it can be demonstrated to be in the interest of good arboricultural practice.

REASON: In the interests of ensuring the construction phase of development does not result in the loss of any trees on the site.

- 8 If any retained tree is removed, uprooted, destroyed or dies, another tree shall be planted at the same place, at a size and species and planted at such time, that must be agreed in writing with the Local Planning Authority. No fires shall be lit within 15 metres of the furthest extent of the canopy of any retained trees or hedgerows or adjoining land and no concrete, oil, cement, bitumen or other chemicals shall be mixed or stored within 10 metres of the trunk of any tree or group of trees to be retained on the site or adjoining land. [In this condition "retained tree" means an existing tree which is to be retained in accordance with the approved plans and particulars; and paragraphs above shall have effect until the expiration of five years from the first occupation or the completion of the development, whichever is the later].

REASON: The application contained insufficient information to enable this matter to be considered prior to granting planning permission and the matter is required to be agreed with the Local Planning Authority before development commences in order that the development is undertaken in an acceptable manner, to enable the Local Planning Authority to ensure the retention of trees on the site in the interests of visual amenity.

- 9 No dwelling shall be occupied, until details of screen walls and/or fences have been submitted to and approved in writing by the Local Planning Authority, and; the screen walls and/or fences in respect of each dwelling have been erected in accordance approved details. The approved screen walls and/or fences shall be retained and maintained as such at all times thereafter.

REASON: To prevent overlooking & loss of privacy to neighbouring property.

- 10 No part of the development shall be first occupied until the visibility splays shown on the approved plans have been provided. The visibility splays shall be maintained free of obstruction at all times thereafter.

REASON: In the interests of highway safety

- 11 No dwelling hereby approved shall be first occupied until the parking area for that dwelling shown on the approved plans has been consolidated, surfaced and laid out in accordance with the approved details. This area shall be maintained and remain available for this use at all times thereafter.

REASON: To ensure that adequate provision is made for parking within the site in the interests of highway safety.

- 12 No part of the development hereby approved shall be first occupied until a scheme for the discharge of surface water from the site (including surface water from the access/driveway), incorporating sustainable drainage details, has been submitted to and approved in writing by the Local Planning Authority. The development shall not be first brought into occupied until surface water drainage has been constructed in accordance with the approved scheme.

REASON: To ensure that the development can be adequately drained.

- 13 No development shall commence above ground floor slab level of the dwellings hereby approved until details of nest/roosting places for building dependent bird species that will be incorporated into the building shall be submitted to, and approved in writing by the Local Planning Authority and thereafter implemented and retained.

REASON: To provide enhancements in line with NPPF (2019) and CP50.

- 14 No new external artificial lighting shall be installed at the development site unless otherwise agreed in writing by the local planning authority.

REASON: Many species active at night (bats) are sensitive to light pollution. The introduction of artificial light might mean such species are disturbed and/or discouraged from using their breeding and resting places, established flyways or foraging areas. Such disturbance can constitute an offence under relevant wildlife legislation

- 15 No development of the dwellings hereby approved shall commence on site until an investigation of the history and current condition of the site to determine the likelihood of the existence of contamination arising from previous uses has been carried out and all of the following steps have been complied with to the satisfaction of the Local Planning Authority:

Step (i) A written report has been submitted to and approved by the Local Planning Authority which shall include details of the previous uses of the site for at least the last 100 years and a description of the current condition of the site with regard to any activities that may have caused contamination. The report shall confirm whether or not it is likely that contamination may be present on the site.

Step (ii) If the above report indicates that contamination may be present on or under the site, or if evidence of contamination is found, a more detailed site investigation and risk assessment should be carried out in accordance with DEFRA and Environment Agency's "Model Procedures for the Management of Land Contamination CLR11" and other authoritative guidance and a report detailing the site investigation and risk assessment shall be submitted to and approved in writing by the Local Planning Authority.

Step (iii) If the report submitted pursuant to step (i) or (ii) indicates that remedial works are required, full details have been submitted to the Local Planning Authority and approved in writing and thereafter implemented prior to the commencement of the development or in accordance with a timetable that has been agreed in writing by the Local Planning Authority as part of the approved remediation scheme. On completion of any required remedial works the applicant shall provide written confirmation to the Local Planning Authority that the works have been completed in accordance with the agreed remediation strategy.

REASON: To ensure that land contamination can be dealt with adequately prior to the use of the site hereby approved by the Local Planning Authority.

INFORMATIVE:

The applicant is advised that the development hereby approved may represent chargeable development under the Community Infrastructure Levy Regulations 2010 (as amended) and Wiltshire Council's CIL Charging Schedule. If the development is

determined to be liable for CIL, a Liability Notice will be issued notifying you of the amount of CIL payment due. If an Additional Information Form has not already been submitted, please submit it now so that we can determine the CIL liability. In addition, you may be able to claim exemption or relief, in which case, please submit the relevant form so that we can determine your eligibility. The CIL Commencement Notice and Assumption of Liability must be submitted to Wiltshire Council prior to commencement of development. Should development commence prior to the CIL Liability Notice being issued by the local planning authority, any CIL exemption or relief will not apply and full payment will be required in full and with immediate effect. Should you require further information or to download the CIL forms please refer to the Council's Website <https://www.wiltshire.gov.uk/dmcommunityinfrastructurelevy>.

Signed

Sam Fox

Director Economic Development & Planning

Dated: 2nd March 2021

Town and Country Planning Act 1990
PERMISSION FOR DEVELOPMENT
NOTES

1. **Other Necessary Consents.** This document only conveys permission for the proposed development under Part III of the Town and Country Planning Act 1990 and the applicant must also comply with all the byelaws, regulations and statutory provisions in force in the area and secure such other approvals and permissions as may be necessary under other parts of the Town and Country Planning Act 1990 or other legislation.

In particular the applicant is reminded of the following matters:-

- 1.1 the need in appropriate cases to obtain approval under Building Regulations. **(The Building Regulations may be applicable to this proposal. Please contact the Council's Building Control team before considering work on site);**
 - 1.2 the need to obtain an appropriate order if the proposal involves the stopping up or diversion of a public right of way or other highway (including highway verge);
 - 1.3 the need to obtain a separate "Listed Building Consent" to the demolition, alteration or extension of any listed building of architectural or historic interest;
 - 1.4 the need to make any appropriate arrangements under the Highways Act 1980, in respect of any works within the limits of a highway. The address of the Highway Authority is County Hall, Trowbridge, BA14 8JD (It is the responsibility of the applicant to ascertain whether the proposed development affects any listed building or public right of way / other highway, including highway verge).
2. **Appeals.** If the applicant is aggrieved by the decision of the local planning authority to grant permission subject to conditions, he may appeal to the Secretary of State for the Environment in accordance with Section 78(1) of the Town and Country Planning Act 1990 within six months of the date of this decision. (Information and forms relating to the appeals process can be found at the Planning Portal - <http://www.planningportal.gov.uk/planning/appeals>). The Secretary of State has the power to allow a longer period for the giving of a notice of appeal but he will not normally be prepared to exercise this power unless there are special circumstances which excuse the delay in giving notice of appeal. The Secretary of State is not required to entertain an appeal if it appears to him that permission of the proposed development could not have been so granted otherwise than subject to the conditions imposed by the local planning authority, having regard to the statutory requirements, to the provisions of the development order, and to any directions given under the order. He does not in practice refuse to entertain appeals solely because the decision of the Local Planning Authority was based on a direction given by him.

If the applicant wishes to have any further explanation of the reasons for the conditions imposed on this permission it will be given on request and a meeting arranged if necessary.

Appeals where an enforcement notice has been issued. Article 33 (2) (b) & (c) of the Town and Country Planning (Development Management Procedure) (England) Order 2010, provides that a shorter time limit to appeal to the Secretary of State shall apply where an enforcement notice has been served, as follows:-

'Type A appeal', 28 days from— the date of the notice of the decision or determination giving rise to the appeal; or

expiry of the specified period;

'Type B appeal', 28 days from the date on which the enforcement notice is served;

['Type A appeal' means an appeal in respect of an application relating to land and development which are the same or substantially the same as the land and development in respect of which an enforcement notice—

(a) was served no earlier than 2 years before the application is made;

(b) was served before— (i) the date of the notice of the decision or determination giving rise to the appeal; or (ii) the expiry of the specified period; and

(c) is not withdrawn before the expiry of the period of 28 days from the date specified in sub-paragraph (b);

'Type B appeal' means an appeal in respect of an application relating to land and development which are the same or substantially the same as the land and development in respect of which an enforcement notice—

(a) is served on or after— (i) the date of the notice of the decision or determination giving rise to the

appeal, or (ii) the expiry of the specified period;

(b) is served earlier than 28 days before the expiry of the time limit specified— (i) in the case of a householder appeal, in paragraph (2)(a) of the Order; or (ii) in any other case, in paragraph (2)(d) of the Order; and

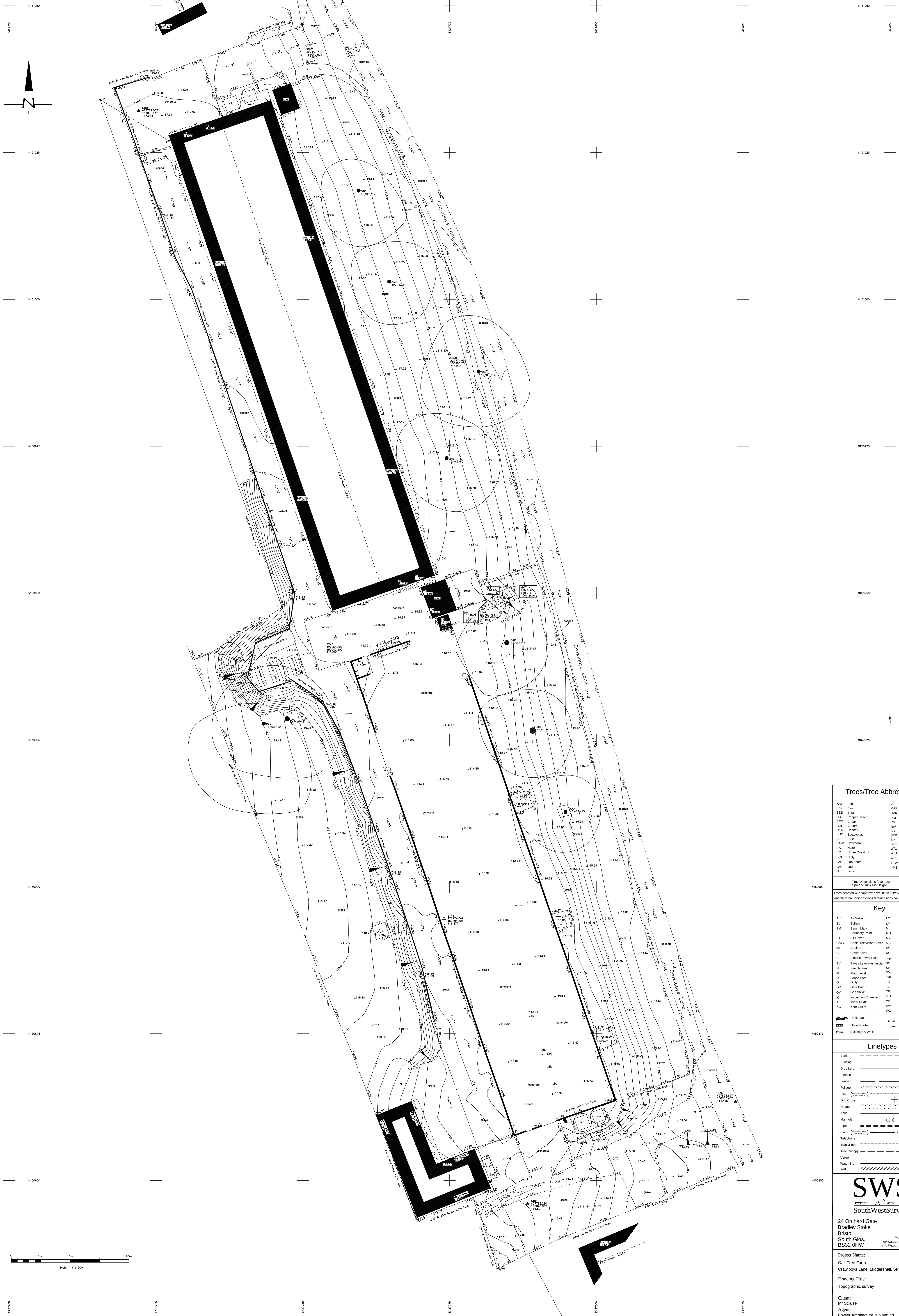
(c) is not withdrawn before the expiry of the period of 28 days from the date on which the enforcement notice is served.]”

3. **Purchase Notices.** If permission to develop land is granted subject to conditions, whether by the local planning authority or by the Secretary of State for Communities and Local Government, and the owner of the land claims that the land has become incapable of reasonably beneficial use in its existing state and cannot be rendered capable of reasonably beneficial use by the carrying out of any development which has been or would be permitted, he may serve on the Council a purchase notice requiring the Council to purchase his interest in the land in accordance with the provisions of Part VI of the Town and Country Planning Act 1990.
4. **Compensation.** In certain circumstances, a claim may be made against the local planning authority for compensation, where permission is refused or granted subject to conditions by the Secretary of State on appeal or on a reference of the application to him. The circumstances in which such compensation is payable are set out in Section 114 of the Town and Country Planning Act 1990.
5. **Discharge of Conditions.** There is now a fee for applications to discharge planning conditions, details of which are set out on the Council’s website. The fee is payable per request and not per condition. The fee must be paid when the request is made, and cannot be received retrospectively. It does not matter when the permission was granted as long as it remains extant. The request, identifying the permission (with reference number) and the conditions concerned, should be made by using the 1 APP forms which are available on the Councils Website or the Planning Portal.

You are advised that the local planning authority has up to 12 weeks to consider the request, that you apply well in advance of when you intend to start work
6. **Street naming and numbering.** If this permission relates to the creation of new dwellings/commercial units or conversion of buildings into dwellings/commercial units, you are required to apply for street naming and numbering to ensure that the new buildings are allocated accurate addresses and registered with the Royal Mail. Relevant application forms, guidance notes and fee sheets are available to download at <http://www.wiltshire.gov.uk/planninganddevelopment/streetnaming> or you can contact the Address Information Team on 01225 770508 or by email at streetnaming@wiltshire.gov.uk
7. **Informative** There is a legal duty of care incumbent on the customer and contractor that all commercial waste generated as a result of the works hereby authorised is safely contained, transported and disposed of lawfully in line with the Environmental Protection Act 1990 and Environmental Permitting Regulations 2016 (as well as any other related legislation). Failing to do so can lead to individuals or organisations being prosecuted for unlawful waste management.

Appendix B

Topographical Survey



Trees/Tree Abbreviations

ASH	Ash	LP	London Plane
BAY	Bay	MAP	Maple
BEE	Beech	OAK	Oak
CB	Copper Beech	POP	Poplar
CED	Cedar	RM	Road Maple
CH	Cherry	RW	Roadside
CON	Conifer	SB	Silver Birch
EUC	Eucalyptus	SER	Service Tree
FR	Fruit	SP	Spindle Tree
HAW	Hawthorn	SYC	Sycamore
HAZ	Hazel	WAL	Walnut
HC	Horse Chestnut	WILL	Willow
HOL	Holly	WP	Weeping Willow
LAB	Laburnum	YEW	Yew
LAU	Laurel	YWB	Young Weeping Willow
LI	Lime		

Key

AV	Air Valve	LC	Basement Light
BL	Ballard	LP	Lamp Post
BM	Boundary Mark	M	Manhole
BP	Boundary Point	MH	Manhole Cover
BT	BT Cover	MK	Marker
CATV	Cable Television Cover	MS	Manhole Sign
cab	Cabinet	RG	Ridge Level
CL	Cover Level	RS	Road Sign
EP	Electric Power Pole	rep	Rain Water Pipe
EV	Eaves Level (wh fascia)	SC	Stop Cock
FI	Fire Hydrant	SV	Stop Valve
FL	Flare Level	SV	Stop Valve
FP	Fence Post	SP	Soil Vent Pipe
O	Orchard	TH	Threshold Level
GP	Gate Post	TL	Traffic Light
GV	Gas Valve	TP	Telephone Pole
IC	Inspection Chamber	UTL	Utility Trench
IL	Inlet Level	VP	Vent Pipe
KO	Kerb Outlet	WM	Water Meter
		WOC	Water Out

Linetypes

Bank	---
Building	=====
Drop kerb	-----
Electric	-----
Fence	-----
Foliage	-----
FWS (Fence/Wall Sign)	-----
Grid Cross	+
Hedge	-----
Kerb	-----
Manhole	○
Pipe	-----
SPS (Sewer Pipe Sign)	-----
Telephone	-----
Track/Path	-----
Tree Canopy	-----
Verge	-----
Water line	-----
Wall	-----

SWS

SouthWestSurveys

24 Orchard Gate
Bradley Stoke
Bristol
South Glos.
BS32 0HW

Tel: 01454 501683
Mobile: 0755944695
www.southwestsurveys.co.uk
info@southwestsurveys.co.uk

Project Name:
Oak Tree Farm
Crawboys Lane, Ludgershall, SP11 9PL

Drawing Title:
Topographic survey

Client:
Mr. Scuse
Agent:
Fowler Architecture & planning

Date: 30th January 2018
Scale: 1:200 @ A0

Grid Orientation
north GPS

Sheet ID
29511174000

Rev
rev

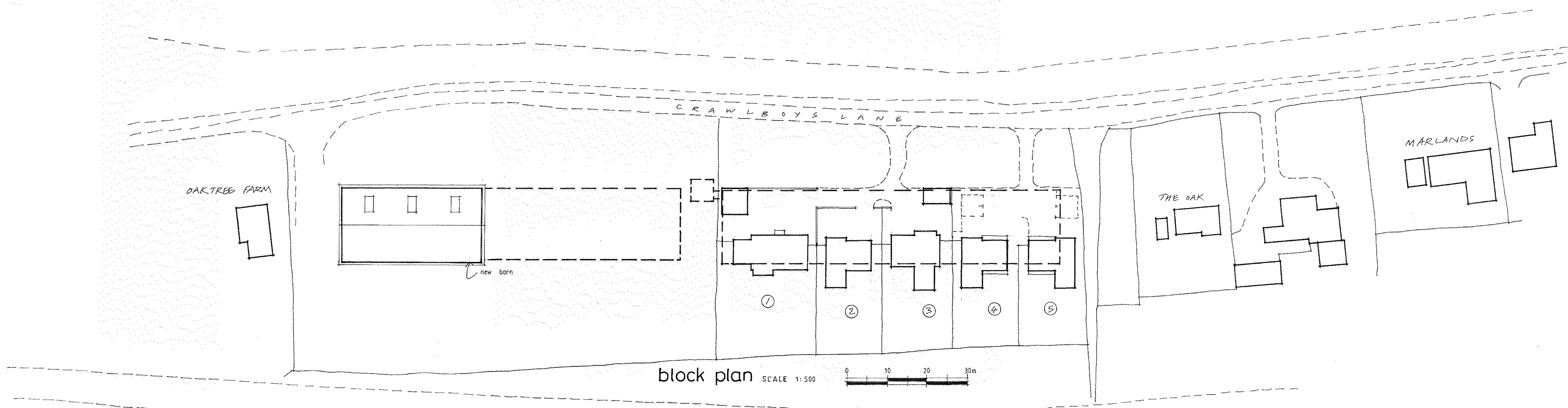
Site Level Datum
OS GPS

Surveyed By
SW

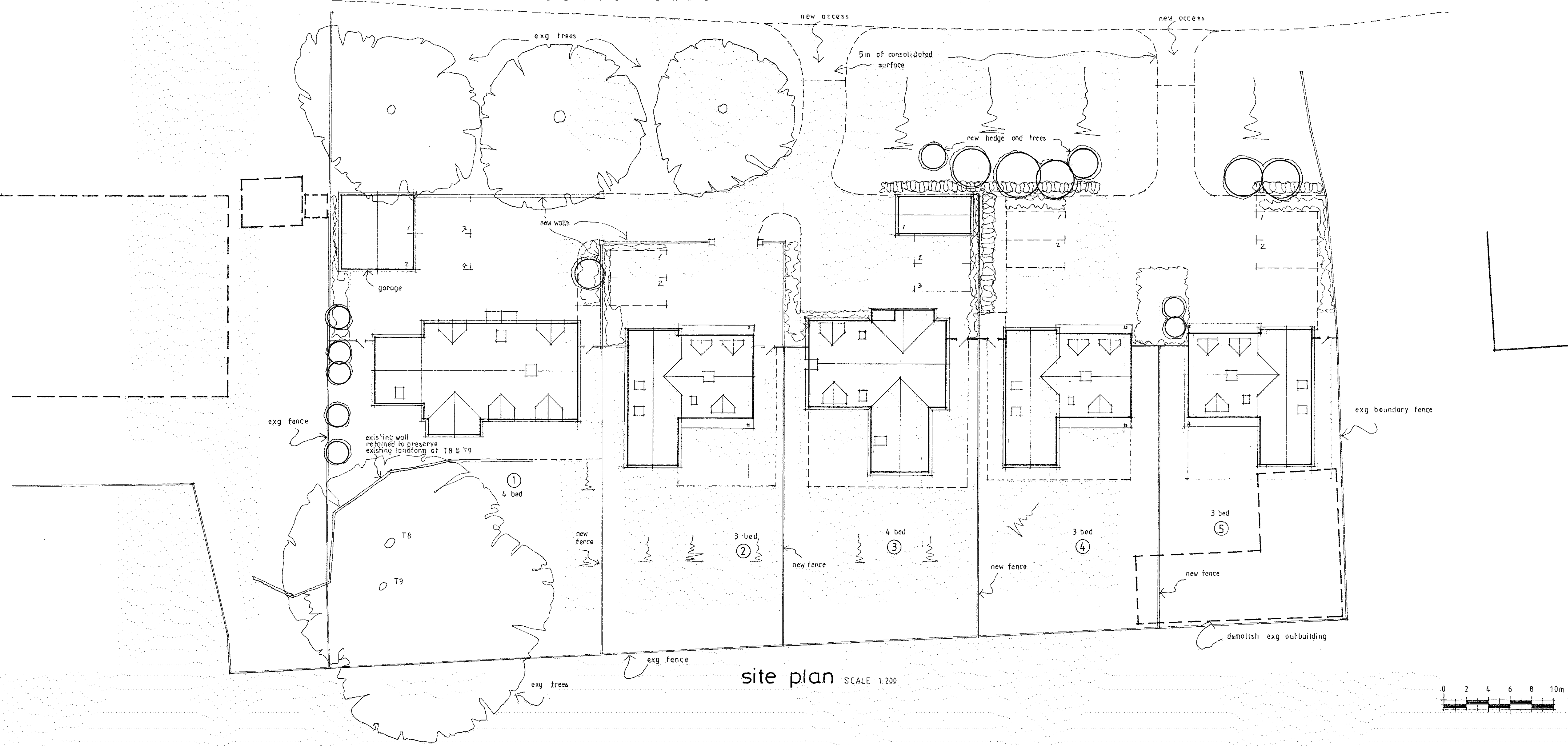
Drawn By
SW

Appendix C

Site Layout



block plan SCALE 1:500



site plan SCALE 1:200

- revisions
- | no | description | int | date |
|----|--|-----|----------|
| 1 | CHANGEMENTS TO REAR GARDENS AMENDED TO SUIT LANDSCAPE PROPOSALS. | SB | 13/11/19 |
| 2 | NEW BARN FOOTPRINT REVISED. | | |

Contractors, Sub Contractors and Suppliers are to check all relevant dimensions and levels of site and buildings before commencing any shop drawings or building work.

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project
OAK TREE FARM
LUDGERSHALL

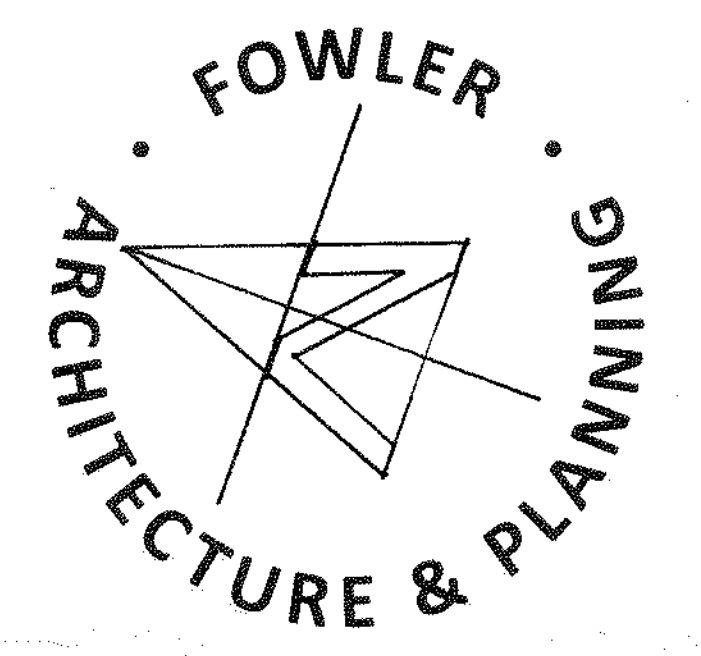
drawing site plan

scale
1:200 @ A1

date
OCT '19

170336-16
drawing no

A
rev



19 High Street
Pewsey
Wiltshire
SN9 5AF

01672 569444
enquiries@faap.co.uk

Appendix D

Infiltration Testing

Percolation test results sheet

 Site name: Oaktree Farm

 Location (Post Code): SP11 9PL

Contact Telephone number:

Storm Event (Normally 1:100 Yr):

Climate Change % (Usually 40%):

 (Once development has been completed) Roof area.....m² Hard standing.....m²

Test Pit 1

Length	Width	Depth
1.15	0.7	1.2

Percolation Test (date/start time)	Time taken to drain from 75%-25%
¹ 4.12.19 / 14.00	1 hour
² 4.12.19 / 15.45	55 minutes
³ 5.12.19 / 14.20	1 hour 7 minutes

Test Pit 2

Length	Width	Depth
1.3	0.6	1.2

Percolation Test (date/start time)	Time taken to drain from 75%-25%
¹ 4.12.19 / 14.10	58 minutes
² 4.12.19 / 15.55	1 hour 4 minutes
³ 5.12.19 / 14.25	1 hour 12 minutes

Test Pit 3

Length	Width	Depth
1.25	0.6	1.2

Percolation Test (date/start time)	Time taken to drain from 75%-25%
¹ 4.12.19 / 14.15	1 hour 5 minutes
² 4.12.19 / 16.00	56 minutes
³ 5.12.19 / 14.30	1 hour 9 minutes

 Send to: janw@rainwaterharvesting.co.uk

Rainwater Harvesting Ltd. 01733 405104

	TP1-1	TP1-2	TP1-3		TP2-1	TP2-2	TP2-3		TP3-1	TP3-2	TP3-3
Length (m)	1.15	1.15	1.15		1.3	1.3	1.3		1.25	1.25	1.25
Width (m)	0.7	0.7	0.7		0.6	0.6	0.6		0.6	0.6	0.6
Depth (m)	1.2	1.2	1.2		1.2	1.2	1.2		1.2	1.2	1.2
Total Volume (m ³)	0.966	0.966	0.966		0.936	0.936	0.936		0.9	0.9	0.9
Volume Available between 25% and 75% Water Levels (m ³)	<u>0.483</u>	<u>0.483</u>	<u>0.483</u>		<u>0.468</u>	<u>0.468</u>	<u>0.468</u>		<u>0.45</u>	<u>0.45</u>	<u>0.45</u>
Internal Surface Area (half height) (m ²)	<u>3.025</u>	<u>3.025</u>	<u>3.025</u>		<u>3.06</u>	<u>3.06</u>	<u>3.06</u>		<u>2.97</u>	<u>2.97</u>	<u>2.97</u>
Time for water level to drop 75% - 25% level (Minutes)	60	55	67		58	64	72		65	56	69
Time for water level to drop 75% - 25% level (Hours)	<u>1</u>	<u>0.916667</u>	<u>1.116667</u>		<u>0.966667</u>	<u>1.066667</u>	<u>1.2</u>		<u>1.083333</u>	<u>0.933333</u>	<u>1.15</u>
Infiltration Rate (calculated in Flow Software) m/hour	0.15967	0.17412	0.14294		0.15816	0.14334	0.12745		0.1399	0.1624	0.13175
Infiltration Rate m/sec	4.44E-05	4.84E-05	3.97E-05		4.39E-05	3.98E-05	3.54E-05		3.89E-05	4.51E-05	3.66E-05

Appendix E Calculations

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	40	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Plot 1	0.018	5.00	117.000	427767.504	150932.305	1.000
Garage 1	0.005	5.00	116.900	427772.054	150935.115	0.900
Paving 1	0.025	5.00	116.800	427771.778	150931.864	1.400
Paving 1-Dummy			120.000	427773.778	150933.864	0.200
Plot 2	0.013	5.00	117.100	427772.580	150913.895	1.100
Paving 2	0.017		117.000	427775.210	150914.891	1.400
Plot 3	0.015	5.00	117.000	427781.960	150893.753	0.600
Garage 3	0.003	5.00	116.900	427789.320	150893.615	0.500
Paving 3	0.016	5.00	116.800	427784.124	150894.390	1.400
Paving 3-Dummy			120.000	427786.124	150896.390	0.200
Plot 4	0.013	5.00	117.000	427783.732	150881.211	0.600
Paving 4	0.015		116.800	427786.616	150882.097	1.200
Plot 5	0.013	5.00	117.000	427792.669	150854.907	1.300
Paving 5	0.016		116.900	427795.922	150856.109	1.235
Access A	0.006	5.00	114.800	427803.130	150906.215	1.300
Soakaway A			114.850	427797.647	150913.532	1.441
Access B	0.005	5.00	114.650	427813.229	150875.455	1.300
Soakaway B			114.750	427812.840	150867.617	1.478

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	Access A	Soakaway A	9.143	0.600	113.500	113.409	0.091	100.0	100	5.20	50.0
4.000	Access B	Soakaway B	7.848	0.600	113.350	113.272	0.078	100.0	100	5.17	50.0
6.000	Garage 1	Paving 1	3.263	0.600	116.000	115.400	0.600	5.4	100	5.02	50.0
5.000	Plot 1	Paving 1	4.297	0.600	116.000	115.400	0.600	7.2	100	5.02	50.0
9.000	Plot 2	Paving 2	2.812	0.600	116.000	115.600	0.400	7.0	100	5.02	50.0
3.000	Plot 3	Paving 3	2.256	0.600	116.400	115.400	1.000	2.3	100	5.01	50.0
2.000	Garage 3	Paving 3	5.253	0.600	116.400	115.400	1.000	5.3	100	5.03	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.769	6.0	1.1	1.200	1.341	0.006	0.0	29	0.587
4.000	0.769	6.0	0.9	1.200	1.378	0.005	0.0	27	0.560
6.000	3.338	26.2	0.9	0.800	1.300	0.005	0.0	13	1.556
5.000	2.907	22.8	3.4	0.900	1.300	0.018	0.0	26	2.092
9.000	2.934	23.0	2.5	1.000	1.300	0.013	0.0	22	1.921
3.000	5.190	40.8	2.8	0.500	1.300	0.015	0.0	18	2.948
2.000	3.396	26.7	0.6	0.400	1.300	0.003	0.0	11	1.387

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
8.000	Plot 4	Paving 4	3.017	0.600	116.400	115.600	0.800	3.8	100	5.01	50.0
7.000	Plot 5	Paving 5	3.468	0.600	115.700	115.665	0.035	100.0	100	5.08	50.0
5.001	Paving 1	Paving 1-Dummy	2.828	0.600	116.750	119.800	-3.050	-0.9	50	5.07	50.0
2.001	Paving 3	Paving 3-Dummy	2.828	0.600	116.750	119.800	-3.050	-0.9	50	5.07	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
8.000	4.011	31.5	2.5	0.500	1.100	0.013	0.0	19	2.399
7.000	0.769	6.0	2.5	1.200	1.135	0.013	0.0	44	0.727
5.001	1.000	2.0	9.1	0.000	0.150	0.048	0.0	50	0.000
2.001	1.000	2.0	6.5	0.000	0.150	0.034	0.0	50	0.000

Pipeline Schedule

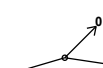
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	9.143	100.0	100	Circular	114.800	113.500	1.200	114.850	113.409	1.341
4.000	7.848	100.0	100	Circular	114.650	113.350	1.200	114.750	113.272	1.378
6.000	3.263	5.4	100	Circular	116.900	116.000	0.800	116.800	115.400	1.300
5.000	4.297	7.2	100	Circular	117.000	116.000	0.900	116.800	115.400	1.300
9.000	2.812	7.0	100	Circular	117.100	116.000	1.000	117.000	115.600	1.300
3.000	2.256	2.3	100	Circular	117.000	116.400	0.500	116.800	115.400	1.300
2.000	5.253	5.3	100	Circular	116.900	116.400	0.400	116.800	115.400	1.300
8.000	3.017	3.8	100	Circular	117.000	116.400	0.500	116.800	115.600	1.100
7.000	3.468	100.0	100	Circular	117.000	115.700	1.200	116.900	115.665	1.135
5.001	2.828	-0.9	50	Circular	116.800	116.750	0.000	120.000	119.800	0.150
2.001	2.828	-0.9	50	Circular	116.800	116.750	0.000	120.000	119.800	0.150

Link	US Node	Node Type	DS Node	Node Type
1.000	Access A	Junction	Soakaway A	Junction
4.000	Access B	Junction	Soakaway B	Junction
6.000	Garage 1	Junction	Paving 1	Junction
5.000	Plot 1	Junction	Paving 1	Junction
9.000	Plot 2	Junction	Paving 2	Junction
3.000	Plot 3	Junction	Paving 3	Junction
2.000	Garage 3	Junction	Paving 3	Junction
8.000	Plot 4	Junction	Paving 4	Junction
7.000	Plot 5	Junction	Paving 5	Junction
5.001	Paving 1	Junction	Paving 1-Dummy	Junction
2.001	Paving 3	Junction	Paving 3-Dummy	Junction

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)	
Plot 1	427767.504	150932.305	117.000	1.000		0	5.000	116.000	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)	
Garage 1	427772.054	150935.115	116.900	0.900		0	6.000	116.000	100
Paving 1	427771.778	150931.864	116.800	1.400		1	6.000	115.400	100
						2	5.000	115.400	100
						0	5.001	116.750	50
Paving 1-Dummy	427773.778	150933.864	120.000	0.200		1	5.001	119.800	50
Plot 2	427772.580	150913.895	117.100	1.100		0	9.000	116.000	100
Paving 2	427775.210	150914.891	117.000	1.400		1	9.000	115.600	100
Plot 3	427781.960	150893.753	117.000	0.600		0	3.000	116.400	100
Garage 3	427789.320	150893.615	116.900	0.500		0	2.000	116.400	100
Paving 3	427784.124	150894.390	116.800	1.400		1	3.000	115.400	100
						2	2.000	115.400	100
						0	2.001	116.750	50
Paving 3-Dummy	427786.124	150896.390	120.000	0.200		1	2.001	119.800	50
Plot 4	427783.732	150881.211	117.000	0.600		0	8.000	116.400	100
Paving 4	427786.616	150882.097	116.800	1.200		1	8.000	115.600	100
Plot 5	427792.669	150854.907	117.000	1.300		0	7.000	115.700	100
Paving 5	427795.922	150856.109	116.900	1.235		1	7.000	115.665	100

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Connections	Link	IL (m)	Dia (mm)	
Access A	427803.130	150906.215	114.800	1.300					
					0	1.000	113.500	100	
Soakaway A	427797.647	150913.532	114.850	1.441		1	1.000	113.409	100
Access B	427813.229	150875.455	114.650	1.300					
					0	4.000	113.350	100	
Soakaway B	427812.840	150867.617	114.750	1.478		1	4.000	113.272	100

Simulation Settings

Rainfall Methodology	FSR	Drain Down Time (mins)	3600
FSR Region	England and Wales	Additional Storage (m³/ha)	0.0
M5-60 (mm)	20.000	Check Discharge Rate(s)	✓
Ratio-R	0.400	1 year (l/s)	0.2
Summer CV	0.750	30 year (l/s)	0.5
Winter CV	0.840	100 year (l/s)	0.6
Analysis Speed	Normal	Check Discharge Volume	x
Skip Steady State	x		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	40	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	2.40
Greenfield Method	IH124	Growth Factor 100 year	3.19
Positively Drained Area (ha)	1.000	Betterment (%)	0
SAAR (mm)	769	QBar	0.2
Soil Index	1	Q 1 year (l/s)	0.2
SPR	0.10	Q 30 year (l/s)	0.5
Region	7	Q 100 year (l/s)	0.6
Growth Factor 1 year	0.85		

Node Paving 1 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.12745	Invert Level (m)	115.400	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.12745	Time to half empty (mins)	1065	Inf Depth (m)	
Safety Factor	10.0	Pit Width (m)	4.000	Number Required	1
Porosity	0.95	Pit Length (m)	12.000		

Node Paving 2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.12745	Invert Level (m)	116.500	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.12745	Time to half empty (mins)	135	Depth (m)	0.375
Safety Factor	10.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	15.000		

Node Paving 2 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.12745	Invert Level (m)	115.600	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.12745	Time to half empty (mins)	1220	Inf Depth (m)	
Safety Factor	10.0	Pit Width (m)	3.000	Number Required	1
Porosity	0.95	Pit Length (m)	4.000		

Node Paving 3 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.12745	Invert Level (m)	114.600	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.12745	Time to half empty (mins)	1260	Inf Depth (m)	
Safety Factor	10.0	Pit Width (m)	3.000	Number Required	1
Porosity	0.95	Pit Length (m)	10.000		

Node Paving 4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.13175	Invert Level (m)	116.400	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.13175	Time to half empty (mins)	67	Depth (m)	0.375
Safety Factor	10.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node Paving 4 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.13175	Invert Level (m)	115.600	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.13175	Time to half empty (mins)	1006	Inf Depth (m)	
Safety Factor	10.0	Pit Width (m)	2.000	Number Required	1
Porosity	0.95	Pit Length (m)	2.500		

Node Paving 5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.13175	Invert Level (m)	116.500	Slope (1:X)	500.0
Side Inf Coefficient (m/hr)	0.13175	Time to half empty (mins)	67	Depth (m)	0.375
Safety Factor	10.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node Paving 5 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.13175	Invert Level (m)	115.665	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.13175	Time to half empty (mins)	1006	Inf Depth (m)	
Safety Factor	10.0	Pit Width (m)	2.000	Number Required	1
Porosity	0.95	Pit Length (m)	2.500		

Node Soakaway A Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.12745	Invert Level (m)	113.409	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.12745	Time to half empty (mins)	706	Inf Depth (m)	
Safety Factor	10.0	Pit Width (m)	3.000	Number Required	1
Porosity	0.95	Pit Length (m)	3.000		

Node Soakaway B Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.13175	Invert Level (m)	113.272	Depth (m)	0.400
Side Inf Coefficient (m/hr)	0.13175	Time to half empty (mins)	636	Inf Depth (m)	
Safety Factor	10.0	Pit Width (m)	2.000	Number Required	1
Porosity	0.95	Pit Length (m)	2.500		

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	Plot 1	10	116.026	0.026	3.3	0.0000	0.0000	OK
15 minute winter	Garage 1	11	116.013	0.013	0.9	0.0000	0.0000	OK
480 minute winter	Paving 1	456	115.572	0.172	1.0	7.8276	0.0000	OK
15 minute summer	Paving 1-Dummy	1	119.800	0.000	0.0	0.0000	0.0000	OK
600 minute winter	Plot 2	555	116.110	0.110	0.2	0.0000	0.0000	SURCHARGED
600 minute winter	Paving 2	555	116.110	0.510	1.3	5.8185	0.0000	OK
15 minute winter	Plot 3	10	116.418	0.018	2.7	0.0000	0.0000	OK
15 minute winter	Garage 3	11	116.410	0.010	0.5	0.0000	0.0000	OK
480 minute winter	Paving 3	456	114.811	-0.589	0.7	6.0111	0.0000	OK
15 minute summer	Paving 3-Dummy	1	119.800	0.000	0.0	0.0000	0.0000	OK
480 minute winter	Plot 4	320	116.435	0.034	1.1	0.0000	0.0000	OK
480 minute winter	Paving 4	320	116.432	0.832	1.6	4.4585	0.0000	OK
480 minute winter	Plot 5	328	116.523	0.823	0.3	0.0000	0.0000	SURCHARGED
480 minute winter	Paving 5	328	116.523	0.858	0.5	4.2053	0.0000	OK
15 minute winter	Access A	10	113.529	0.029	1.1	0.0000	0.0000	OK
120 minute winter	Soakaway A	118	113.508	0.099	0.3	0.8500	0.0000	OK
720 minute winter	Access B	465	113.426	0.076	0.1	0.0000	0.0000	OK
600 minute winter	Soakaway B	405	113.426	0.154	0.1	0.7293	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	Plot 1	5.000	Paving 1	3.3	2.038	0.144	0.0159	
15 minute winter	Garage 1	6.000	Paving 1	0.9	1.301	0.034	0.0118	
480 minute winter	Paving 1	5.001	Paving 1-Dummy	0.0	0.000	0.000	0.0000	0.0
480 minute winter	Paving 1	Infiltration		0.2				
600 minute winter	Plot 2	9.000	Paving 2	1.1	0.203	0.047	0.0220	
600 minute winter	Paving 2	Infiltration		0.0				
600 minute winter	Paving 2	Infiltration		0.1				
15 minute winter	Plot 3	3.000	Paving 3	2.7	2.969	0.066	0.0020	
15 minute winter	Garage 3	2.000	Paving 3	0.5	1.315	0.019	0.0020	
480 minute winter	Paving 3	2.001	Paving 3-Dummy	0.0	0.000	0.000	0.0000	0.0
480 minute winter	Paving 3	Infiltration		0.1				
480 minute winter	Plot 4	8.000	Paving 4	1.3	0.254	0.042	0.0154	
480 minute winter	Paving 4	Infiltration		0.2				
480 minute winter	Paving 4	Infiltration		0.0				
480 minute winter	Plot 5	7.000	Paving 5	0.2	0.026	0.034	0.0271	
480 minute winter	Paving 5	Infiltration		0.2				
480 minute winter	Paving 5	Infiltration		0.0				
15 minute winter	Access A	1.000	Soakaway A	1.1	0.779	0.180	0.0212	
120 minute winter	Soakaway A	Infiltration		0.0				
720 minute winter	Access B	4.000	Soakaway B	0.1	0.329	0.019	0.0556	
600 minute winter	Soakaway B	Infiltration		0.0				

Results for 30 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	Plot 1	10	116.036	0.036	6.2	0.0000	0.0000	OK
15 minute winter	Garage 1	10	116.017	0.017	1.7	0.0000	0.0000	OK
480 minute winter	Paving 1	456	115.752	0.352	1.8	16.0607	0.0000	OK
15 minute summer	Paving 1-Dummy	1	119.800	0.000	0.0	0.0000	0.0000	OK
960 minute winter	Plot 2	645	116.542	0.542	0.3	0.0000	0.0000	SURCHARGED
960 minute winter	Paving 2	645	116.542	0.942	1.6	9.7252	0.0000	OK
15 minute winter	Plot 3	10	116.424	0.024	5.2	0.0000	0.0000	OK
15 minute winter	Garage 3	11	116.413	0.013	1.0	0.0000	0.0000	OK
960 minute winter	Paving 3	915	115.018	-0.382	0.8	11.9163	0.0000	OK
15 minute summer	Paving 3-Dummy	1	119.800	0.000	0.0	0.0000	0.0000	OK
240 minute winter	Plot 4	184	116.528	0.128	2.1	0.0000	0.0000	SURCHARGED
240 minute winter	Paving 4	184	116.528	0.928	3.0	7.3307	0.0000	OK
240 minute winter	Plot 5	188	116.616	0.916	0.8	0.0000	0.0000	SURCHARGED
240 minute winter	Paving 5	188	116.616	0.951	2.0	6.9937	0.0000	OK
360 minute winter	Access A	328	113.619	0.119	0.3	0.0000	0.0000	SURCHARGED
360 minute winter	Soakaway A	328	113.620	0.210	0.3	1.7995	0.0000	OK
240 minute winter	Access B	232	113.581	0.231	0.3	0.0000	0.0000	SURCHARGED
240 minute winter	Soakaway B	232	113.581	0.309	0.3	1.4655	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	Plot 1	5.000	Paving 1	6.2	2.205	0.271	0.0220	
15 minute winter	Garage 1	6.000	Paving 1	1.7	1.311	0.064	0.0142	
480 minute winter	Paving 1	5.001	Paving 1-Dummy	0.0	0.000	0.000	0.0000	0.0
480 minute winter	Paving 1	Infiltration		0.2				
960 minute winter	Plot 2	9.000	Paving 2	1.3	0.218	0.054	0.0220	
960 minute winter	Paving 2	Infiltration		0.2				
960 minute winter	Paving 2	Infiltration		0.1				
15 minute winter	Plot 3	3.000	Paving 3	5.2	3.599	0.127	0.0033	
15 minute winter	Garage 3	2.000	Paving 3	1.0	1.623	0.037	0.0032	
960 minute winter	Paving 3	2.001	Paving 3-Dummy	0.0	0.000	0.000	0.0000	0.0
960 minute winter	Paving 3	Infiltration		0.1				
240 minute winter	Plot 4	8.000	Paving 4	2.0	0.426	0.063	0.0236	
240 minute winter	Paving 4	Infiltration		0.4				
240 minute winter	Paving 4	Infiltration		0.0				
240 minute winter	Plot 5	7.000	Paving 5	1.0	0.234	0.166	0.0271	
240 minute winter	Paving 5	Infiltration		0.4				
240 minute winter	Paving 5	Infiltration		0.0				
360 minute winter	Access A	1.000	Soakaway A	0.3	0.484	0.050	0.0715	
360 minute winter	Soakaway A	Infiltration		0.0				
240 minute winter	Access B	4.000	Soakaway B	0.3	0.449	0.045	0.0614	
240 minute winter	Soakaway B	Infiltration		0.0				

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	Plot 1	585	116.112	0.112	1.0	0.0000	0.0000	SURCHARGED
600 minute winter	Garage 1	585	116.112	0.112	0.3	0.0000	0.0000	SURCHARGED
600 minute winter	Paving 1	585	116.112	0.712	2.7	32.4841	0.0000	OK
15 minute summer	Paving 1-Dummy	1	119.800	0.000	0.0	0.0000	0.0000	OK
480 minute winter	Plot 2	440	116.849	0.849	1.5	0.0000	0.0000	FLOOD RISK
480 minute winter	Paving 2	440	116.849	1.249	3.1	16.6379	0.0000	OK
15 minute winter	Plot 3	10	116.433	0.033	9.4	0.0000	0.0000	OK
15 minute winter	Garage 3	10	116.418	0.018	1.9	0.0000	0.0000	OK
600 minute winter	Paving 3	585	115.605	0.205	2.0	22.8143	0.0000	OK
15 minute summer	Paving 3-Dummy	1	119.800	0.000	0.0	0.0000	0.0000	OK
360 minute winter	Plot 4	288	116.764	0.364	2.1	0.0000	0.0000	FLOOD RISK
360 minute winter	Paving 4	288	116.764	1.164	2.3	14.4168	0.0000	OK
240 minute winter	Plot 5	232	116.863	1.163	1.5	0.0000	0.0000	FLOOD RISK
240 minute winter	Paving 5	232	116.863	1.198	3.3	14.3962	0.0000	OK
720 minute winter	Access A	675	113.974	0.474	0.3	0.0000	0.0000	SURCHARGED
720 minute winter	Soakaway A	675	113.974	0.565	0.3	3.4243	0.0000	OK
600 minute winter	Access B	555	114.309	0.958	0.3	0.0000	0.0000	SURCHARGED
600 minute winter	Soakaway B	555	114.309	1.036	0.3	1.9024	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	Plot 1	5.000	Paving 1	1.0	0.836	0.044	0.0336	
600 minute winter	Garage 1	6.000	Paving 1	0.3	0.134	0.011	0.0255	
600 minute winter	Paving 1	5.001	Paving 1-Dummy	0.0	0.000	0.000	0.0000	0.0
600 minute winter	Paving 1	Infiltration		0.3				
480 minute winter	Plot 2	9.000	Paving 2	2.4	0.841	0.103	0.0220	
480 minute winter	Paving 2	Infiltration		0.3				
480 minute winter	Paving 2	Infiltration		0.1				
15 minute winter	Plot 3	3.000	Paving 3	9.4	4.261	0.230	0.0050	
15 minute winter	Garage 3	2.000	Paving 3	1.9	1.960	0.071	0.0051	
600 minute winter	Paving 3	2.001	Paving 3-Dummy	0.0	0.000	0.000	0.0000	0.0
600 minute winter	Paving 3	Infiltration		0.2				
360 minute winter	Plot 4	8.000	Paving 4	1.5	0.446	0.047	0.0236	
360 minute winter	Paving 4	Infiltration		0.4				
360 minute winter	Paving 4	Infiltration		0.0				
240 minute winter	Plot 5	7.000	Paving 5	1.4	0.367	0.233	0.0271	
240 minute winter	Paving 5	Infiltration		0.4				
240 minute winter	Paving 5	Infiltration		0.0				
720 minute winter	Access A	1.000	Soakaway A	0.3	0.416	0.045	0.0715	
720 minute winter	Soakaway A	Infiltration		0.0				
600 minute winter	Access B	4.000	Soakaway B	0.3	0.329	0.042	0.0614	
600 minute winter	Soakaway B	Infiltration		0.0				

Appendix F

Drainage Strategy and Impermeable Areas Plan



NOTES

- Do not scale from this drawing.
- This drawing is for illustrative purposes only and not for construction.
- This drawing is to be read and printed in colour.
- All dimensions are shown in metres, unless specified otherwise.

KEY

- Permeable Paving
- Channel Drain
- Surface Water Sewer
- Soakaway
- Rain Water Butt
- Exceedance Flow Route

REVISIONS

REV	DETAILS	DRAWN	CHECKED	DATE
A	INFILTRATION FEATURES AMENDED RAIN WATER BUTTS ADDED	MRM	MRM	08.09.2021

CLIENT:

Mr. H. Scruse

PROJECT:

Oak Tree Farm

DRAWING TITLE:

Surface Water
Drainage Strategy

SCALES: 1:500 **SHEET SIZE:** A3

DRAWN: MM **CHECKED:** BC **DATE:** 21.05.2021

cd a
Condon Drew
Associates

DRAWING NUMBER: 1528-501 **REVISION:** A



- NOTES
1. Do not scale from this drawing.
 2. This drawing is for illustrative purposes only and not for construction.
 3. This drawing is to be read and printed in colour.
 4. All dimensions are shown in metres, unless specified otherwise.

KEY

	Existing Impermeable Area
	Proposed Impermeable Area (Dwelling)
	Proposed Impermeable Area (Highway)

REV	DETAILS		DRAWN	CHECKED	DATE
CLIENT:					
Mr. H. Scruse					
PROJECT:					
Oak Tree Farm					
DRAWING TITLE:					
Existing and Proposed Impermeable Areas					
SCALES:			SHEET SIZE:		
1:500			A3		
DRAWN:		CHECKED:	DATE:		
MM		BC	21.05.2021		
 Ccondon Drew Associates					
DRAWING NUMBER:					REVISION:
1528-502					-

Appendix G

LLFA Comments

Wiltshire Council Planning Consultation Response

16th July 2021

Wiltshire Council Drainage Engineer
Technical Services Drainage Engineer
Wiltshire Council

Application No: PL/2021/05634

Discharge of conditions 3, 4 and 12 of 20/07754/FUL

OAK TREE FARM, CRAWLBOYS LANE, LUDGERSHALL, ANDOVER, SP11 9PL

Please note the particulars in connection with the above planning application are available to view on the planning website <http://www.wiltshire.gov.uk/planninganddevelopment.htm>

Recommendations:

☐	No Comment
☐	Support
☐	Support subject to conditions (please set out below)
☒	Object (for reasons set out below)
☐	No objections

Matters Considered:

The relevant planning conditions to drainage is condition 12 which states:

"No part of the development hereby approved shall be first occupied until a scheme for the discharge of surface water from the site (including surface water from the access/driveway), incorporating sustainable drainage details, has been submitted to and approved in writing by the Local Planning Authority. The development shall not be first brought into occupied until surface water drainage has been constructed in accordance with the approved scheme."

After reviewing the Drainage Design Technical Note (Dated May 2021), the drainage team in their capacity as Lead Local Flood Authority object to the discharge of Condition 12, on the grounds that additional information is required to discharge the condition.

In order to discharge the condition, the drainage team require the following comments to be addressed:

1. In accordance with the Sewerage Sector Guidance (paragraph C.3.12), the applicant is required to consider collection of surface water for re-use, or provide justification as to why it cannot be achieved on this site.
2. It is noted that the applicant plans to discharge surface water via infiltration. The applicant has currently used a Factor of Safety of 2 in infiltration calculations; based on the potential consequences of failure, the applicant is required to re-submit infiltration calculations using a Factor of Safety of 10 in accordance with Table 25.2 of the SuDS Manual.
3. The applicant is required to submit drawings showing conveyance routes for flows exceeding the 1 in 100 year plus climate change rainfall event that minimise the risk to people and property.
4. The applicant is required to submit details of the planned drainage maintenance programme (detailing maintenance activities, who will be responsible for these activities, and the frequency these activities will be completed at).

Informatives:

The surface water drainage strategy must comply with [Wiltshire Council's Surface Water Soakaway Guidance](#), which sets out the standards that must be met for planning approval and adoption.

The application states that foul drainage will discharge to a public sewer. This requires consultation with the sewerage undertaker for the area.

Ben Wilding (Atkins working on behalf of Wiltshire Council Drainage).