LRB-2024-04 - 23/00775/FLL - Erection of a dwellinghouse and agricultural shed, land 150 metres north east of Meadowside, Middleton, Milnathort

PLANNING DECISION NOTICE *(included in applicant's submission, pages 82-83)*

REPORT OF HANDLING

REFERENCE DOCUMENTS

REPORT OF HANDLING

DELEGATED REPORT

Ref No	**23/00775/FLL**	
Ward No	**P8- Kinross-shire**	
Due Determination Date	**9th July 2023**	
Draft Report Date	**7th July 2023**	
Report Issued by	**AMB**	**Date 23 October 2023**

PROPOSAL: Erection of a dwellinghouse and agricultural shed

LOCATION: Land 150 Metres North East Of Meadowside Middleton, Milnathort

SUMMARY:

This report recommends **refusal** of a detailed planning application for the erection of a new agricultural shed and dwelling on a rural site to the west of Milnathort as the development is considered to be contrary to the relevant provisions of the Development Plan and there are no material considerations apparent which justify setting aside the Development Plan.

BACKGROUND AND DESCRIPTION OF PROPOSAL

This planning application seeks to obtain a detailed planning application for the erection of a new agricultural building and dwelling, on a broadly triangular area of ground outside Milnathort - next to a small grouping of buildings known as Middleton. The dwelling is to be linked to operational need and would offer living accommodation over three levels, with the upper level within the roofspace via rooflights.

The agricultural building is intended to accommodate livestock.

An almost identical proposal was refused planning permission last year.

The site has been visited by the case officer.

SITE HISTORY

Detailed planning permission (22/00306/FLL) was refused last year for the erection of a dwellinghouse and agricultural shed principally on the grounds that the site was isolated, and that inadequate information on drainage had been submitted.

PRE-APPLICATION CONSULTATION

A pre-application enquiry was made to the Council (21/00514/PREAPP), and that response highlighted concerns over the lack of any established landscape framework.

DEVELOPMENT PLAN

The Development Plan for the area comprises National Planning Framework 4 (NPF4), the Perth and Kinross Local Development Plan 2 (2019) (LDP2) and statutory supplementary planning guidance.

National Planning Framework 4

The National Planning Framework 4 (NPF4) is the Scottish Government's long-term spatial strategy with a comprehensive set of national planning policies. This strategy sets out how to improve people's lives by making sustainable, liveable and productive spaces.

NPF4 was adopted on 13 February 2023. NPF4 has an increased status over previous NPFs and comprises part of the statutory development plan.

The Council's assessment of this application has considered the following policies of NPF4:

Policy 14 – Design, Quality and Place
Policy 16 – Quality Homes
Policy 17 – Rural Homes

Perth and Kinross Local Development Plan 2 – Adopted November 2019

The Local Development Plan 2 (LDP2) is the most recent statement of Council policy and is augmented by Supplementary Guidance.

The site is located within the landward area of the LDP2 and within the environmentally sensitive Loch Leven area, where the following policies are applicable,

Policy 1A: Placemaking
Policy 1B: Placemaking
Policy 5: Infrastructure Contributions
Policy 19: Housing in the Countryside
Policy 46: Loch Leven Catchment Area

Statutory Supplementary Guidance

The following statutory SPG are applicable to this proposal,

- Developer Contributions & Affordable Housing
- Housing in the Countryside
- Placemaking

OTHER PKC POLICIES

Non Statutory Guidance

The following non-statutory PG are applicable to this proposal,

- Planning & Biodiversity

NATIONAL PLANNING GUIDANCE

The Scottish Government expresses its planning policies through Planning Advice Notes, Creating Places, Designing Streets, National Roads Development Guide and a series of Circulars.

Planning Advice Notes

The following Scottish Government Planning Advice Notes (PANs) and Guidance Documents are of relevance to the proposal:

- PAN 40 Development Management
- PAN 51 Planning, Environmental Protection and Regulation
- PAN 61 Planning and Sustainable Urban Drainage Systems
- PAN 68 Design Statements
- PAN 69 Planning and Building standards Advice on Flooding

National Roads Development Guide 2014

This document supports Designing Streets and expands on its principles and is considered to be the technical advice that should be followed in designing and approving of all streets including parking provision.

EXTERNAL CONSULTATION RESPONSES

National Grid Plant Protection Team have confirmed that the site is outwith their high-risk zone and that the development (if approved) can proceed.

HSE online consultation has raised no objection in terms of the proximity of the pipeline.

Scottish Water have commented on the proposal and raised no concerns.

Scottish Environment Protection Agency have raised a holding objection on the grounds that clarification on presentation of the drainage calculation figures should be made, and re-considered.

Perth And Kinross Heritage Trust have commented on the proposal and raised no concerns in terms of local archaeology.

INTERNAL COUNCIL COMMENTS

Environmental Health have commented on the proposal in terms of private water / drainage issues and have recommended conditions and informative notes to be attached to any permission.

Transport Planning have commented on the proposal, and subject to conditions have no objection to the proposal in terms of access or parking related matters.

Development Contributions Officer has commented on the proposal and indicated that developer contribution in relation to Primary Education is required in the event of any approval being forthcoming.

Biodiversity/Tree Officer has commented on the proposal in terms of bio-diversity issues and raised no objections.

REPRESENTATIONS

One general comment has been received from a local Civic Trust group.

The comment raised by the group is that the design and scale of the buildings do not in keeping with the area, and that the development would be the only development on the northern side of the road.

ADDITIONAL STATEMENTS RECEIVED

Screening Opinion	EIA Not Required
Environmental Impact Assessment (EIA): Environmental Report	Not applicable
Appropriate Assessment under Habitats Regulations	AA undertaken by PKC. Providing 125% betterment is proposed, there will be no adverse impact on the integrity of the environmental asset.
Design Statement or Design and Access Statement	Submitted.
Report on Impact or Potential Impact	Labour report, drainage calculations.

APPRAISAL

Sections 25 and 37 (2) of the Town and Country Planning (Scotland) Act 1997 require that planning decisions be made in accordance with the development plan unless material considerations indicate otherwise. The Development Plan comprises NPF4, the LDP2 and statutory SPGs.

The relevant policy considerations are outlined in the policy section above and are considered in more detail below.

In terms of other material considerations, this involves consideration of the site's planning history, and consideration of the Council's other non-statutory guidance and these are discussed were relevant below.

Policy Appraisal

Since the previous refusal, there has been a significant change in the Development Plan, with the adoption of the NPF4. This now forms part of the Development Plan, as well as the LDP2 and statutory supplement planning guidance (SPG).
There are relevant policies within all parts of the Development Plan.

Within the NPF4, support for offered under *Policy 17 (Rural Homes)* for new homes which are linked to viable rural businesses when there is a proven need for (additional) essential need accommodation. Good design for all proposal is also promoted via *Policy 14 (Design, Quality and Place).*

Within the LDP2, *Policies 1 (placemaking), 19 (housing in the countryside) and 46 (Loch Leven)* are all relevant.

Policy 1 seeks to ensure that all new developments do not have an adverse impact on the area in which they are located, whilst *Policy 19* is the LDP2 version of the Housing in the Countryside and needs to be read in conjunction with the 2020 SPG. These policies offer support for new housing in the open countryside subject to certain criteria being met.

Lastly, *Policy 46* of the LDP2 seeks to ensure that all new proposals within the Loch Leven Catchment area provide a 125% betterment in terms of phosphorus loading.

In terms of statutory SPGs, the Council's policies on Housing in the Countryside and Developer Contributions are both applicable.

Land Use

In terms of land use acceptability, there are two parts to consider.

The first is the acceptability of the new agricultural shed, and the second the acceptability of the dwelling. These are accessed separately below.

Farm Building

In isolation, the new farm building itself does not raise any particular issues.

Whilst there would remain some slight concerns regarding the openness of the site, the weighting attached to this would not be as significant as the considerations associated with the siting requirements for the dwelling but it would still potentially result in an incongruous element without significant new landscaping and planting.

New Dwelling

As was the case for the previously refused planning application, the applicant has submitted a labour justification report which is similar to the one submitted for the previously refused application.

It was the view of the Council previously that the labour justification proposed, on balance, did justify an additional new dwelling– on the basis of the combined number of labour units associated across the wider farm – which has both arable assets, and livestock. Whilst the extent of the livestock labour units was less than 0.5 of a full-time worker, it was not considered reasonable at the time to fully discount the arable land labour units.

In total, the combined labour units for the existing farm, including current contract work remains projected as being approx. 3.64 labour units, 1 labour unit of which is for the contracting work. The farm has two properties at present comprising Mawcarse Farmhouse and No 5 Mawcarse, and an existing employee also currently rents off site.

On the basis of the above, the principle of an additional dwelling was considered reasonable and justified when assessing the previous planning application.

However, the wording of the specific text within the HITCG has been reviewed and considered again.

In relation to new homes for farm workers, the HITCG states that for accommodation associated with farm workers, applicants must provide evidence that a new house is essential to the continued operation of the farm for animal welfare reasons.

The HITCG goes onto say that such evidence should be in the form of a business appraisal, prepared by an independent expert, which demonstrates that the farm is financially sound and economically viable, and that the appraisal should be based on labour hours for the existing farming operation and must clearly set out the proportion of labour hours and the types of operations which require a full-time worker or workers to be on-site for the majority of the time.

Whilst the second element remains complete for the applicant, on reflection, taking the approach of not discounting the level of labour units associated with the non-livestock elements is perhaps not something which is explicitly stated within the policy and is considered in hindsight to be an overally favourable interpretation of the HITCG which could set an undesirable precedent for other similar proposals.

It is however noted that the relevant policy in the NPF4 is somewhat silent on what type of ‘farm’ work justifies a dwelling in the context of operational or essential need, and there is no specific restriction requiring livestock to be sole requirement for an essential worker dwelling, however there does remain a conflict with the LDP2, and the HITCG.

In light of this, and the relevantly small number of labour units (0.49) which is accredited to looking after and managing the livestock there is not a labour justification for additional dwelling. 0.49 units equates to less than ½ a full-time worker, and with two other properties already on the farm there is no justification for a third dwelling – on the basis of the Council’s current policies.

It is also noted that one of the properties is occupied by retired farmers who could move off site to ‘free up’ some permanent accommodation – if there was pressure on accommodation.

Whilst this revised interpretation does not alter the recommendation, it does however mean that the proposal is now also considered to be contrary to the key requirements of section 3.3 (Economic Activity) of *Policy 19* of the LDP2, by the HITCG insofar as it has not been proven that there is a justified need for a dwelling.

In addition to this position, the proposal has a number of other concerns – which are the same as the previously refused application.

Firstly, the location of the dwelling is not acceptable.

This position is the same as the previously refused planning application.

As indicated within the pre-application response, this site is extremely open with essentially only one natural boundary to the southwest. The other sides of the site are very open, and the site simply merges into a wider agricultural field on a large proportion of its boundaries.

New dwellings which are supportable under section 3.3 of the HITC policies must have a good land landscape framework with long established boundaries which separate the site naturally from the surrounding ground.

The LDP and SPG on HITC specifically states that the sub-division of a field or other land, for example by post and wire fence or newly planted hedge or tree belt specifically in order to create the site, will not be acceptable and there is nothing within the NPF4 which contradicts this position.

No other potential sites have been thoroughly assessed and discounted, nor is there a robust breakdown of existing properties on the farm within the applicant's current ownership or which have been sold and disposed of over the last 5 years. Whilst considering these additional considerations is not necessary a reason for accepting a site which would otherwise be unacceptable, it would nevertheless have been a consideration to consider.

It is noted that from the previous refusal, some of the background papers supporting this planning application have been amended in terms of the justification to include more 'bio security' emphasis. Again, this alone does not necessary permit development anywhere within the countryside, and just because this site may be suitable for the requirements of the farm (and a good location for a new shed) that does not automatically lead to its acceptability for a new dwelling – if that dwelling can be justified, which in this case it is no.

In all, the openness of the site remains a significant concern and the development does not accord with the principles of *Policy 19* of the LDP2 or the HITCG.

The introduction of the NPF4 does not change this position.

Lastly, the proposed dwelling is very large with the potential for up to 6 bedrooms. Whilst there remain issues concerning a) the justification and b) the siting of the dwelling, a more modest dwelling which still provides for family accommodation would have been more appropriate to have been brought forward.

Visual Amenity, Design and Layout

In isolation, the proposed house and shed would not necessarily look out of character in a rural area.

However, the site has little in the way of a natural site containment to help screen the development, and to provide a landscape setting.

Notwithstanding potential new planting and landscaping, the development (and in particularly the dwelling) would appear incongruous and have a negative impact on the visual amenity of the area. The proposal is therefore contrary to *Policy 1* of the LDP2.

Residential Amenity

In terms of the impact on existing residential amenity, the proposal would have limited impact. There are some dwellings to the west, however these would be a sufficient distance away not to be overlooked etc.

In terms of the use of the agricultural shed for livestock, further details concerning the fabric of the building to reduce noise and odour management from cattle in particular should be sought – in the event of any approval being forthcoming.

In terms of the residential amenity of occupiers of the proposed dwelling, a suitable level of amenity space is provided. The occupiers of the dwelling would be subject to some degree of noise and odours; however this is not unusual for an operational need dwelling and does not raise any particular concerns.

Roads and Access

The proposal raises no issues in terms of access or parking related matters. Some more details regarding the access and a ditch crossing are required, but these matters can be controlled by conditions – in the event of any approval.

Drainage and Flooding

In terms of flooding matters, whilst there is a small ditch to south and west of the site, this is not likely to result in any flooding issues.

In terms of foul drainage, the site is located within the environmentally sensitive Loch Leven catchment area, where there is a requirement for a phosphorous reduction.

Whilst SEPA have lodged a holding objection, this is likely to be resolvable and compliance with *Policy 46* of the LDP2 could be achieved. Their objection is essentially relating to the presentation of the drainage information, not the principal of what is proposed. The previous reason for refusal relating to drainage has been removed, however in the event of any approval being forthcoming this will need to be resolved for any positive decision is issued.

Conservation Considerations

The proposal does not affect any cultural heritage interests.

Natural Heritage and Biodiversity

The Council's bio-diversity officer has reviewed the proposal, and subject to standard conditions being attached to any permission – raised no objection to what is proposed.

Private Water

There are some known private water supplies/private drainage infrastructure in the area.

In the event of any approval being forthcoming, standard conditions and informative notes should be attached to any permission relating to private water / drainage infrastructure.

Developer Contributions

In the event of any approval being forthcoming, a developer contribution in relation to Primary Education (£5164) would be required to be secured before a decision issued.

Economic Impact

The economic impact of the proposal is likely to be minimal and limited to the construction phase of the development.

VARIATION OF APPLICATION UNDER SECTION 32A

An amendment to the drainage calculation was made during the course of the consideration of the application.

PLANNING OBLIGATIONS AND LEGAL AGREEMENTS

None required.

DIRECTION BY SCOTTISH MINISTERS

None applicable to this proposal.

CONCLUSION AND REASONS FOR DECISION

To conclude, the application must be determined in accordance with the Development Plan unless material considerations indicate otherwise. In this respect, the proposal is considered to be contrary to the Development Plan. Account has been taken of the relevant material considerations and none has been found that would justify overriding the Development Plan.

Accordingly the proposal is refused on the grounds identified below.

1 The site is not an identifiable site with long established boundaries which separates the site naturally from the surrounding land. It proposes the sub-

division of a wider field, with new landscaping / boundary treatments. The proposed dwelling is therefore contrary to the specific requirements of Section 3 of the Council's Housing in the Countryside Guide 2020 and Policy 19 (Housing in the Countryside) of the adopted Perth and Kinross Council's Local Development Plan 2 (2019). These policies require acceptable proposals linked to economic need to take place within identifiable sites that have existing and long-established boundaries.

2 As the site does not have an established landscape framework which can absorb the development proposed, it will result in an incongruous development on a site with no natural boundaries. Accordingly, the proposal (both the shed and dwelling) is contrary to Policy 1A of the adopted Perth and Kinross Council's Local Development Plan 2 (2019) which seeks to ensure that all developments contribute positively to the quality of the surrounding built and natural environment.

3 It has not been demonstrated that there is a justified labour need for further residential accommodation on the farm on the basis of an essential need linked to the continued operation of the farm for animal welfare reasons. The proposal is therefore contrary to Section 3 of the Council's Housing in the Countryside Guide 2020 and Policy 19 (Housing in the Countryside) of the adopted Perth and Kinross Council's Local Development Plan 2 (2019), which both require there to be evidenced animal welfare reasons for the new dwelling.

Justification

The proposal is not in accordance with the Development Plan and there are no material reasons which justify departing from the Development Plan.

Informatives

This application was varied prior to determination, in accordance with the terms of section 32A of the Town and Country Planning (Scotland) Act 1997, as amended. The variations incorporate changes to the drainage calculations.

Procedural Notes

Not Applicable.

PLANS AND DOCUMENTS RELATING TO THIS DECISION

01 – 18 *(inclusive)*

Pullar House 35 Kinnoull Street Perth PH1 5GD Tel: 01738 475300 Fax: 01738 475310 Email: onlineapps@pkc.gov.uk

Applications cannot be validated until all the necessary documentation has been submitted and the required fee has been paid.

Thank you for completing this application form:

ONLINE REFERENCE 100538202-004

The online reference is the unique reference for your online form only. The Planning Authority will allocate an Application Number when your form is validated. Please quote this reference if you need to contact the planning Authority about this application.

Type of Application

What is this application for? Please select one of the following: *

☒ Application for planning permission (including changes of use and surface mineral working).

☐ Application for planning permission in principle.

☐ Further application, (including renewal of planning permission, modification, variation or removal of a planning condition etc)

☐ Application for Approval of Matters specified in conditions.

Description of Proposal

Please describe the proposal including any change of use: * (Max 500 characters)

Proposed new farmhouse and agricultural shed.

Is this a temporary permission? * ☐ Yes ☒ No

If a change of use is to be included in the proposal has it already taken place? (Answer 'No' if there is no change of use.) * ☐ Yes ☒ No

Has the work already been started and/or completed? *

☒ No ☐ Yes – Started ☐ Yes - Completed

Applicant or Agent Details

Are you an applicant or an agent? * (An agent is an architect, consultant or someone else acting on behalf of the applicant in connection with this application) ☐ Applicant ☒ Agent

Agent Details

Please enter Agent details

Company/Organisation:	Lothian Built Environment Services		
Ref. Number:		You must enter a Building Name or Number, or both: *	
First Name: *	Keith	Building Name:	
Last Name: *	Hogg	Building Number:	24
Telephone Number: *	[redacted]	Address 1 (Street): *	Seaforth Terrace
Extension Number:		Address 2:	
Mobile Number:		Town/City: *	Bonnyrigg
Fax Number:		Country: *	United Kingdom
		Postcode: *	EH19 2PF
Email Address: *	[redacted]		

Is the applicant an individual or an organisation/corporate entity? *

☐ Individual ☒ Organisation/Corporate entity

Applicant Details

Please enter Applicant details

Title:	Other	You must enter a Building Name or Number, or both: *	
Other Title:	Messyrs	Building Name:	[redacted]
First Name: *	WS	Building Number:	
Last Name: *	Young	Address 1 (Street): *	
Company/Organisation	WS Young & Son	Address 2:	
Telephone Number: *	[redacted]	Town/City: *	
Extension Number:		Country: *	
Mobile Number:		Postcode: *	
Fax Number:			
Email Address: *	[redacted]		

Site Address Details

Planning Authority: Perth and Kinross Council

Full postal address of the site (including postcode where available):

Address 1:

Address 2:

Address 3:

Address 4:

Address 5:

Town/City/Settlement:

Post Code:

Please identify/describe the location of the site or sites

Land @ Middleton

Northing 706699 Easting 312682

Pre-Application Discussion

Have you discussed your proposal with the planning authority? * ☒ Yes ☐ No

Pre-Application Discussion Details Cont.

In what format was the feedback given? *

☐ Meeting ☐ Telephone ☐ Letter ☒ Email

Please provide a description of the feedback you were given and the name of the officer who provided this feedback. If a processing agreement [note 1] is currently in place or if you are currently discussing a processing agreement with the planning authority, please provide details of this. (This will help the authority to deal with this application more efficiently.) * (max 500 characters)

Pre-application inquiry

Title: Mr Other title:

First Name: Andy Last Name: Baxter

Correspondence Reference Number: 21/00514/PREAPP Date (dd/mm/yyyy): 09/11/2021

Note 1. A Processing agreement involves setting out the key stages involved in determining a planning application, identifying what information is required and from whom and setting timescales for the delivery of various stages of the process.

Site Area

Please state the site area: 0.60

Please state the measurement type used: ☒ Hectares (ha) ☐ Square Metres (sq.m)

Existing Use

Please describe the current or most recent use: * (Max 500 characters)

Farmland

Access and Parking

Are you proposing a new altered vehicle access to or from a public road? * ☒ Yes ☐ No

If Yes please describe and show on your drawings the position of any existing. Altered or new access points, highlighting the changes you propose to make. You should also show existing footpaths and note if there will be any impact on these.

Are you proposing any change to public paths, public rights of way or affecting any public right of access? * ☐ Yes ☒ No

If Yes please show on your drawings the position of any affected areas highlighting the changes you propose to make, including arrangements for continuing or alternative public access.

How many vehicle parking spaces (garaging and open parking) currently exist on the application Site? 0

How many vehicle parking spaces (garaging and open parking) do you propose on the site (i.e. the Total of existing and any new spaces or a reduced number of spaces)? * 5

Please show on your drawings the position of existing and proposed parking spaces and identify if these are for the use of particular types of vehicles (e.g. parking for disabled people, coaches, HGV vehicles, cycles spaces).

Water Supply and Drainage Arrangements

Will your proposal require new or altered water supply or drainage arrangements? * ☒ Yes ☐ No

Are you proposing to connect to the public drainage network (eg. to an existing sewer)? *

☐ Yes – connecting to public drainage network

☒ No – proposing to make private drainage arrangements

☐ Not Applicable – only arrangements for water supply required

As you have indicated that you are proposing to make private drainage arrangements, please provide further details.

What private arrangements are you proposing? *

☐ New/Altered septic tank.

☒ Treatment/Additional treatment (relates to package sewage treatment plants, or passive sewage treatment such as a reed bed).

☐ Other private drainage arrangement (such as chemical toilets or composting toilets).

Please explain your private drainage arrangements briefly here and show more details on your plans and supporting information: *

Klargester Biodisc treatment plant discharging to drainage field; shown on plans & manufacturer's information provided. Phosphorous discharge calcs provided in design statement. Details of existing septic tank to be upgraded provided in design statement.

Do your proposals make provision for sustainable drainage of surface water?? * (e.g. SUDS arrangements) * ☒ Yes ☐ No

Note:-

Please include details of SUDS arrangements on your plans

Selecting 'No' to the above question means that you could be in breach of Environmental legislation.

Are you proposing to connect to the public water supply network? *

☒ Yes

☐ No, using a private water supply

☐ No connection required

If No, using a private water supply, please show on plans the supply and all works needed to provide it (on or off site).

Assessment of Flood Risk

Is the site within an area of known risk of flooding? * ☐ Yes ☒ No ☐ Don't Know

If the site is within an area of known risk of flooding you may need to submit a Flood Risk Assessment before your application can be determined. You may wish to contact your Planning Authority or SEPA for advice on what information may be required.

Do you think your proposal may increase the flood risk elsewhere? * ☐ Yes ☒ No ☐ Don't Know

Trees

Are there any trees on or adjacent to the application site? * ☒ Yes ☐ No

If Yes, please mark on your drawings any trees, known protected trees and their canopy spread close to the proposal site and indicate if any are to be cut back or felled.

Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste (including recycling)? * ☒ Yes ☐ No

If Yes or No, please provide further details: * (Max 500 characters)

Ample external amenity space shown on drawings, which would incorporate an area for the storage of waste & recycling receptacles. Hammerhead turning provision also allowed @ parking yard area.

Residential Units Including Conversion

Does your proposal include new or additional houses and/or flats? * ☒ Yes ☐ No

How many units do you propose in total? * 1

Please provide full details of the number and types of units on the plans. Additional information may be provided in a supporting statement.

All Types of Non Housing Development – Proposed New Floorspace

Does your proposal alter or create non-residential floorspace? * ☒ Yes ☐ No

All Types of Non Housing Development – Proposed New Floorspace Details

For planning permission in principle applications, if you are unaware of the exact proposed floorspace dimensions please provide an estimate where necessary and provide a fuller explanation in the 'Don't Know' text box below.

Please state the use type and proposed floorspace (or number of rooms if you are proposing a hotel or residential institution): *

Don't Know

Gross (proposed) floorspace (In square meters, sq.m) or number of new (additional) Rooms (If class 7, 8 or 8a): * 223

If Class 1, please give details of internal floorspace:

Net trading spaces:

Non-trading space:

Total:

If Class 'Not in a use class' or 'Don't know' is selected, please give more details: (Max 500 characters)

General purpose agricultural shed.

Schedule 3 Development

Does the proposal involve a form of development listed in Schedule 3 of the Town and Country Planning (Development Management Procedure (Scotland) Regulations 2013 * ☐ Yes ☒ No ☐ Don't Know

If yes, your proposal will additionally have to be advertised in a newspaper circulating in the area of the development. Your planning authority will do this on your behalf but will charge you a fee. Please check the planning authority's website for advice on the additional fee and add this to your planning fee.

If you are unsure whether your proposal involves a form of development listed in Schedule 3, please check the Help Text and Guidance notes before contacting your planning authority.

Planning Service Employee/Elected Member Interest

Is the applicant, or the applicant's spouse/partner, either a member of staff within the planning service or an elected member of the planning authority? * ☐ Yes ☒ No

Certificates and Notices

CERTIFICATE AND NOTICE UNDER REGULATION 15 – TOWN AND COUNTRY PLANNING (DEVELOPMENT MANAGEMENT PROCEDURE) (SCOTLAND) REGULATION 2013

One Certificate must be completed and submitted along with the application form. This is most usually Certificate A, Form 1, Certificate B, Certificate C or Certificate E.

Are you/the applicant the sole owner of ALL the land? * ☒ Yes ☐ No

Is any of the land part of an agricultural holding? * ☒ Yes ☐ No

Do you have any agricultural tenants? * ☐ Yes ☒ No

Certificate Required

The following Land Ownership Certificate is required to complete this section of the proposal:

Certificate E

Land Ownership Certificate

Certificate and Notice under Regulation 15 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

Certificate E

I hereby certify that –

(1) – No person other than myself/the applicant was the owner of any part of the land to which the application relates at the beginning of the period 21 days ending with the date of the application.

(2) - The land to which the application relates constitutes or forms part of an agricultural holding and there are no agricultural tenants

Or

(1) – No person other than myself/the applicant was the owner of any part of the land to which the application relates at the beginning of the period 21 days ending with the date of the application.

(2) - The land to which the application relates constitutes or forms part of an agricultural holding and there are agricultural tenants.

Name:

Address:

Date of Service of Notice: *

(4) – I have/The applicant has taken reasonable steps, as listed below, to ascertain the names and addresses of the other owners or agricultural tenants and *have/has been unable to do so –

Signed: Keith Hogg

On behalf of: WS Young & Son

Date: 10/05/2023

☒ Please tick here to certify this Certificate. *

Checklist – Application for Planning Permission

Town and Country Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

Please take a few moments to complete the following checklist in order to ensure that you have provided all the necessary information in support of your application. Failure to submit sufficient information with your application may result in your application being deemed invalid. The planning authority will not start processing your application until it is valid.

a) If this is a further application where there is a variation of conditions attached to a previous consent, have you provided a statement to that effect? *

☐ Yes ☐ No ☒ Not applicable to this application

b) If this is an application for planning permission or planning permission in principal where there is a crown interest in the land, have you provided a statement to that effect? *

☐ Yes ☐ No ☒ Not applicable to this application

c) If this is an application for planning permission, planning permission in principle or a further application and the application is for development belonging to the categories of national or major development (other than one under Section 42 of the planning Act), have you provided a Pre-Application Consultation Report? *

☐ Yes ☐ No ☒ Not applicable to this application

Town and Country Planning (Scotland) Act 1997

The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013

d) If this is an application for planning permission and the application relates to development belonging to the categories of national or major developments and you do not benefit from exemption under Regulation 13 of The Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013, have you provided a Design and Access Statement? *

☐ Yes ☐ No ☒ Not applicable to this application

e) If this is an application for planning permission and relates to development belonging to the category of local developments (subject to regulation 13. (2) and (3) of the Development Management Procedure (Scotland) Regulations 2013) have you provided a Design Statement? *

☒ Yes ☐ No ☐ Not applicable to this application

f) If your application relates to installation of an antenna to be employed in an electronic communication network, have you provided an ICNIRP Declaration? *

☐ Yes ☐ No ☒ Not applicable to this application

g) If this is an application for planning permission, planning permission in principle, an application for approval of matters specified in conditions or an application for mineral development, have you provided any other plans or drawings as necessary:

☒ Site Layout Plan or Block plan.
☒ Elevations.
☒ Floor plans.
☒ Cross sections.
☒ Roof plan.
☒ Master Plan/Framework Plan.
☒ Landscape plan.
☒ Photographs and/or photomontages.
☐ Other.

If Other, please specify: * (Max 500 characters)

Provide copies of the following documents if applicable:

A copy of an Environmental Statement. *	☐ Yes	☒ N/A
A Design Statement or Design and Access Statement. *	☒ Yes	☐ N/A
A Flood Risk Assessment. *	☐ Yes	☒ N/A
A Drainage Impact Assessment (including proposals for Sustainable Drainage Systems). *	☐ Yes	☒ N/A
Drainage/SUDS layout. *	☒ Yes	☐ N/A
A Transport Assessment or Travel Plan	☐ Yes	☒ N/A
Contaminated Land Assessment. *	☐ Yes	☒ N/A
Habitat Survey. *	☒ Yes	☐ N/A
A Processing Agreement. *	☐ Yes	☒ N/A

Other Statements (please specify). (Max 500 characters)

Declare – For Application to Planning Authority

I, the applicant/agent certify that this is an application to the planning authority as described in this form. The accompanying Plans/drawings and additional information are provided as a part of this application.

Declaration Name: Mr Keith Hogg

Declaration Date: 10/05/2023

Rural Location Plan - 1:5000@A1

Location Plan - 1:2500@A1

Existing Site Plan - 1:500@A1

Proposed Site Plan Notes

1. Main House located in centre of plot with principal front elevation facing towards Lomond Hills & Loch Leven.
2. Provision of yard area for agricultural & domestic purposes with hammer-head turning area for fire engine access.
3. Existing field entrance with bridge over ditch utilised for proposed entrance. Visibility splays shown & photographs provided showing lines of visibility up & down road (N.B. – no obstructions).
4. Built in hedge, comprising free draining hard-standing leading to house & shed.
5. Proposed general purpose agricultural shed.
6. Extend hard-standing along shed frontage to allow access.
7. Large rear garden & amenity space for house.
8. Allan low level retaining walls to reduce level then edge to slab down to yard area & shed.
9. Surface water soakaway & No.1 treatment + drainage field located to front garden area.

Image 1 - View Down Road to Northwest

Image 2 - View Down Road to Southeast

Site Plan Key

- Site boundary line
- Visibility splay line set 2.4m back from road with 90m line drawn to nearside of road
- Hammerhead turning area for fire engine access
- Parking space
- Low level (<1m) retaining wall comprising rendered block with one-coat coping
- Hard paved area
- Soft landscaped area (grass)
- Free draining hard-standing with retaining edges (no less than 4m W @ any point)
- Existing level
- Proposed level
- Gently sloping surface
- New / enhanced hawthorn hedging

Drainage Abbreviations

BIO BXX = Klargester Bioalox BXX Treatment Plant
DF = Drainage Field
SA = Soakaway
IC = Inspection Chamber

Red = Foul
Blue = Surface

Note [illegible] located min 10m from building, boundary & drainage field.

Drainage field min 15m from building and 10m from drainage ditch (proposed exceeds minimum requirements).

Surface soakaways min 5m from building & boundaries.

N.B. - All drainage routes to be detailed by civil engineer and permit obtained from SEPA at detailed stage.

A Minor updates KH

REVISIONS

- Building Surveying
- Architectural Design
- H&S & CDM Advice
- Rope Access Surveys

CLIENT
Messyrs WS Young & Son

PROJECT TITLE
New Farm House
Land @ Middleton
Perth & Kinross

DRAWING STATUS
Planning

DRAWING TITLE
As Proposed
Site & Location Plans

DRAWING NUMBER	REVISION
LBES515(A)-001	A
SCALE	DATE
As Shown@A1	03/03/23
DRAWN	CHECKED
KH	KH

LBE Services - Chartered Surveyors
24 Seaforth Terrace
Bonnyrigg
EH19 2FF

Tel 0131 281 7761
Mob 07018055704
e-mail lothianbuiltenvironmentservices@outlook.com
Web www.edinburghbuildingsurveyor.com

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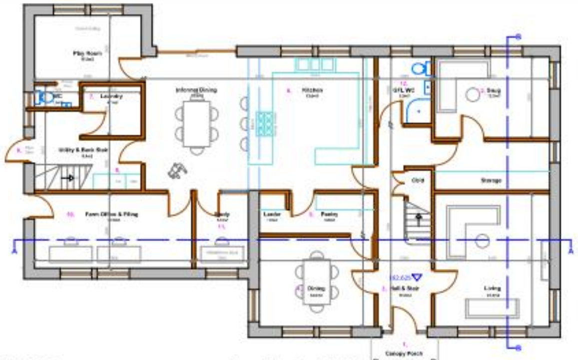
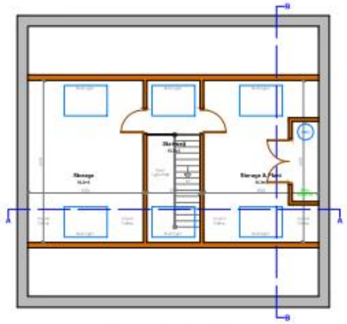


Ground Floor - GIFA = 187m2 & GEA = 213m2

Ground Floor Plan - 1:100@A1



Attic Floor Plan - 1:100@A1

Roof Plan - 1:100@A3

First Floor - GIFA = 177m2 & GEA = 201m2

First Floor Plan - 1:100@A1

Main House - South View

Main House - East View

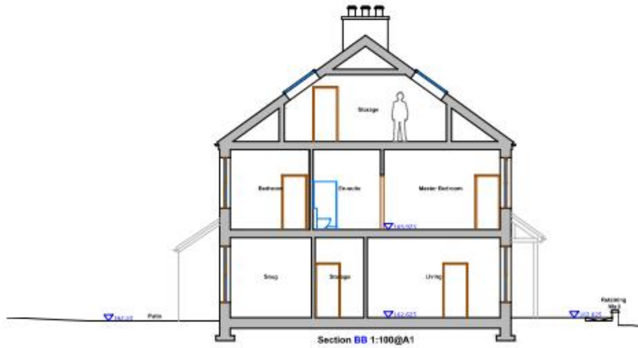
Front (SE) Elevation - 1:100@A1

Side (SW) Elevation - 1:100@A1

Section AA 1:100@A1

Rear (NW) Elevation - 1:100@A1

Side (NE) Elevation - 1:100@A1



Section BB 1:100@A1

- Building Surveying
- Architectural Design
- HSE & CDM Advice
- Rope Access Surveys

CLIENT

Messyrs WS Young & Son

PROJECT TITLE

New Farm House
Land @ Middleton
Perth & Kinross

DRAWING STATUS

Planning

DRAWING TITLE

As Proposed
Plans, Elevations, Sections & 3D

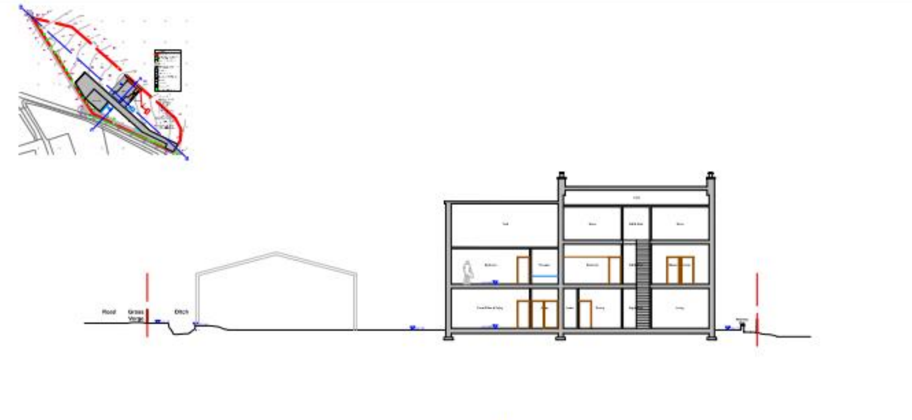
DRAWING NUMBER	REVISION
LBES515(A)-002	A

SCALE	DATE
As Shown@A1	03/03/23

DRAWN	CHECKED
KH	KH

LBE Services - Chartered Surveyors

Tel 0131 281 7761



0m 10m 20m
Scale - 1:200@A1

Section AA (Through Whole Site)
1:200@A1

0m 50m
Scale 1:500@A1

Section BB (Through Whole Site)
1:500@A1

0m 10m 20m
Scale - 1:200@A1

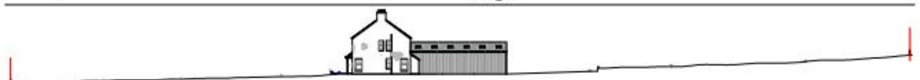
Elevation A - SE View (Whole Site)
1:200@A1

0m 50m
Scale 1:500@A1

Elevation B - SW View (Whole Site)
1:500@A1

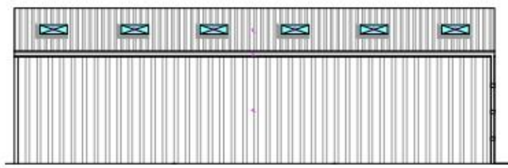
0m 10m 20m
Scale - 1:200@A1

Elevation C - NW View (Whole Site)
1:200@A1

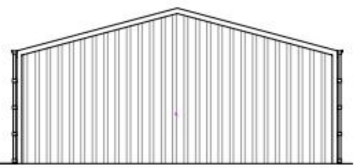


0m 50m
Scale 1:500@A1

Elevation D - NE View (Whole Site)
1:500@A1

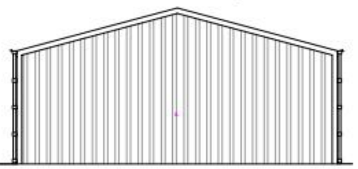


Southwest Elevation - 1:100@A1



Northwest Elevation - 1:100@A1

Northeast Elevation - 1:100@A1



Southeast Elevation - 1:100@A1

Agricultural Shed Elevation Notes

1. Roof Materials - 1000 profile polyester coated box profile steel sheets in slate blue incl ridge & verge flashings.
2. Rooflights - 1525mm GRP class 3 - 10No.
3. Rainwater goods - 160mm Ø PVC rubber sealed guttering with 110mm Ø PVC downpipes.
4. Elevation Cladding - 0.7mm thick polyester coated box profile steel sheets on 150x75 C16 graded tanalised timber sheeting rails.
5. Doorway - 6000Wx4500H (mm) positioned on one side.

Agricultural Shed Roof Plan Notes

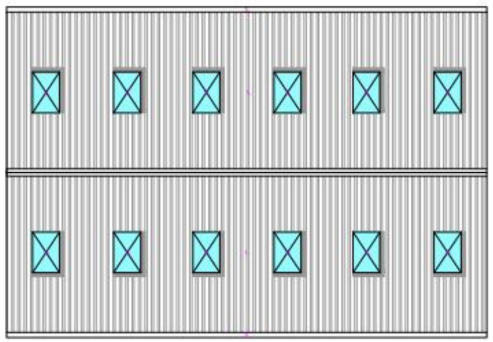
1. Roof Materials - 1000 profile polyester coated box profile steel sheets in slate blue incl ridge & verge flashings.
2. Rooflights - 1525mm GRP class 3 - 12No.
3. Rainwater goods - 160mm Ø PVC rubber sealed guttering with 110mm Ø PVC downpipes.

Agricultural Shed - Floor Plan Dims = 18mx12m & GEA = 216m2

Agricultural Shed - Elevation Dims = Ridge @ 5.85m & Eaves @ 4.84m

It should be noted that the general purpose agricultural shed would not be used for intensive livestock farming or for the storage of slurry; any new livestock coming onto the farm would be kept on a short duration temporary basis on straw with waste removed to midden/farmyard thereafter.

0m 5m 10m
Scale - 1:100@A1



Roof Plan - 1:100@A1

3D Site Context Visual - South View

3D Site Context Visual - East View

3D Site Context Visual - North View

3D Site Context Visual - West View

- Building Surveying
- Architectural Design
- HSE & CDM Advice
- Rope Access Surveys

CLIENT
Messyrs WS Young & Son

PROJECT TITLE
New Farm House
Land @ Middleton
Perth & Kinross

DRAWING STATUS
Planning

DRAWING TITLE
As Proposed
Site Perspectives & Shed

DRAWING NUMBER	REVISION
LBES515(A)-003	A

SCALE	DATE
As Shown@A1	03/03/23

DRAWN	CHECKED
KH	KH

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Web: www.edinburghbuildingsurveyor.com

Aquila Ecology

TOURS | TRAINING | SURVEYS

Proposed Development Land near Middleton, Milnathort
Preliminary Ecological Assessment

Report to: Keith Hogg

January 2022

Aquila Ecology
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Quality Assurance

Prepared by:	Name	Andrea Hudspeth	Title	Principal Ecologists
Checked by:	Name	Terry Williams	Title	Ecologist
Current Status:	FOR COMMENT			
Issue Date:	28.01.2022	Revision number:		
		Revision notes:		

Aquila Ecology

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Mob: 07960 391297

Contents

Executive Summary

- An Extended Phase 1 Habitat Survey was conducted in January of 2022 on land near to Middleton, Milnathort.
- The habitats within the survey area are of limited wildlife interest in a county context. The survey area has limited local ecological value for protected species and breeding birds.
- The grassland habitats are generally species-poor.
- Protected species survey was focussed on the following species groups: bats, badger, breeding birds, reptiles and amphibians.
- The survey area is not known, from existing wildlife records, to support any protected, or Scottish priority species. It has no habitat considered suitable for bats.
- Badger, bats, reptiles and amphibians are considered absent from the survey area.
- General mitigation measures required by the contractor are provided and include following agreed Method Statements to avoid damage and harm to environmental and ecological sensitivities within the survey area.

1. Introduction

1.1. Background

Aquila Ecology was instructed by Mr Keith Hogg of LBE Services to undertake a preliminary ecological survey at land near Middleton, Milnathort, proposed for the development of a house and shed. The site is located at NGR NO 12692 06671 (site centred).

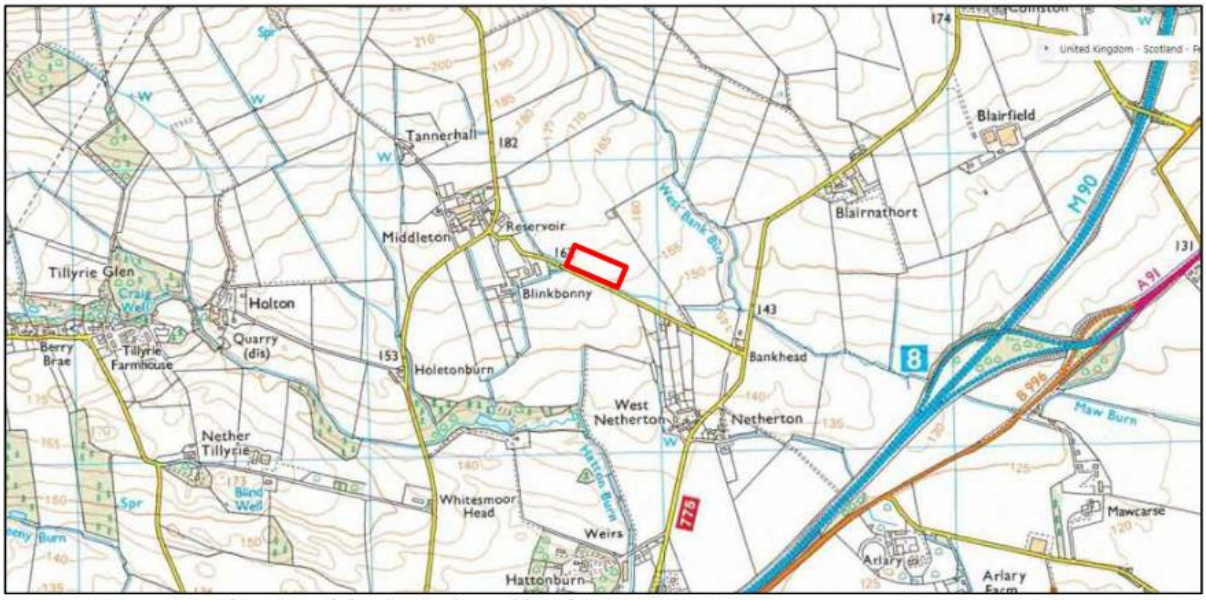

Figure 1: Approximate location of the site in the red box from OS 1:25,000 map

The survey findings are presented in this report, together with an assessment of the ecological status of the survey area.

1.2. Aim & objectives

1.2.1. The survey aimed to:

- To identify the broad habitat types within the survey area to assess the suitability for protected species and breeding birds, and to highlight any areas where high value habitat may be present

1.2.2. The survey objectives include to:

- identify any potentially significant ecological constraints that may affect the scope of proposed works within the survey area,
- assess the ecological value of the survey area, and
- identify any further survey requirements.

1.3. Scope

The scope of this survey and associated investigations were determined in consultation with the client.

1.4. Relevant Legislation

EUROPEAN PROTECTED SPECIES

All bat species found in the UK are European Protected Species (EPS). EPS are those which are protected by the EC Habitats and Species Directive 92/43/EEC. The Conservation (Natural Habitats, &c.) Regulations 1994 translates this European legislation into UK law. This has been amended in Scotland by The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004 and 2007 and the Conservation (Natural Habitats, &c.) Amendment (No. 2) (Scotland) Regulations 2008. In addition to all bat species, EPS includes; otter, wildcat and great crested newt. The regulations make it an offence to deliberately or recklessly:

- capture, injure or kill an EPS
- harass a wild animal or group of wild animals of EPS
- to disturb such an EPS while it is occupying a structure or place it uses for shelter or protection
- to disturb an EPS while it is rearing or otherwise caring for its young
- to obstruct access to a breeding site or resting place of an EPS or to otherwise deny an EPS use of a breeding site or resting place
- to disturb an EPS in a manner that is, or in circumstances which are, likely to significantly affect the local distribution or abundance of the species to which it belongs
- to disturb an EPS in a manner that is, or in circumstances which are, likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young
- to disturb such an animal while it is migrating or hibernating

It is also an offence to:

- damage or destroy a breeding site or resting place of such an animal
- keep transport, sell or exchange or offer for sale or exchange any wild animal or plant EPS or any part or derivative of one (from first May 2007).

In relation to protected species of animal, licences can be issued under Regulation 44 that will permit, only for specific purposes, certain actions that would otherwise be a criminal offence. Nature Scot is the body responsible for all EPS licensing under the Habitats Regulations (with the exception of some areas of licensing for whales and dolphins).

There is no provision for licences for development, however, under Regulation 44 (2e) of the Conservation (Natural Habitats, &c.) Regulations 1994 licences may be granted for:

- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment.

However, a licence will not be granted unless, importantly under 44 (3), the appropriate licensing authority is satisfied:

- That there is no satisfactory alternative; and
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

WILDLIFE AND COUNTRYSIDE ACT 1981

The Wildlife and Countryside Act 1981 provides protection to species and habitats. The Nature Conservation (Scotland) Act 2004 amends the Wildlife and Countryside Act 1981 in Scotland. In April

2012 the Wildlife and Natural Environments (Scotland) Act 2011 (WANE) has further amended the 1981 Act. This is in particular relation to the prevention of release and control of non-native species of animal and plant.

BIRDS

All wild birds receive general protection to their nest and eggs under the Wildlife and Countryside Act 1981, as amended by the Wildlife and Natural Environment (Scotland) Act 2011. Some species receive enhanced statutory protection due to their listing in schedule 1 of the Wildlife and Countryside Act 1981. It is an offence to disturb a Schedule 1 species while it is building a nest or is in, on, or near a nest containing eggs or young.

There are obligations within the Birds Directive 1979 relating both to protection of species and maintenance of habitats. Birds on Annex 1 to the Birds Directive, regularly occurring migratory species, and birds on Schedule 1 to the Wildlife & Countryside Act are recognised in statute as requiring special conservation measures.

A number of bird species have been highlighted in non-statutory lists as priorities of Conservation Concern in the United Kingdom. This includes those listed in Birds of Conservation Concern 3: and those included on the Scottish Biodiversity List as priority species. Birds are assigned according to one of these three categories (Eaton et al. (2009):

- Red List Species - those birds whose populations or range is rapidly declining (recently or historically), and those of global conservation concern;
- Amber List Species - those birds whose populations are in moderate decline, rare breeders, internationally important and localised species and those of an unfavourable conservation status in Europe; and,
- Green List Species - those other birds occurring in the United Kingdom not included in the Red or Amber Lists above. Further details of the appraisal can be found in Eaton et al. (2009).

SCHEDULE 5 ANIMALS

Enhanced protection is provided for species listed on Schedule 5, including Red Squirrel, Water Vole, Pine Marten and Freshwater Pearl Mussel. It is an offence to recklessly kill, injure or take animals listed on Schedule 5, with the exception of Water Vole. Water Voles are protected in respect of section 9(4) only (in Scotland), meaning that water vole habitat is protected, although the animals themselves are not.

It is also an offence to recklessly damage, destroy or obstruct access to any place used for shelter or breeding. Licences are available for development purposes if certain conditions are met. Licences should be applied for from Nature Scot.

HABITATS AND PLANTS

The protection of habitats and plants of national importance is provided under the provisions of the Wildlife & Countryside Act 1981 (as amended). This designates key sites that fulfil the habitat designation criteria as Sites of Special Scientific Interest (SSSI). Certain plant species receive enhanced statutory protection under Schedule 8 of the Act.

NON-NATIVE SPECIES

The WANE Act amended and expanded Section 14 of the Wildlife and Countryside Act 1981. The 1981 Act now contains sections on the release or planting of all non-native species and the keeping, sale and notification of invasive species, in addition to provisions on Species Control Agreements and Species Control Orders. Non-native is re-defined to include native species outwith their natural range and the natural range is further defined as the location in which an animal or plant is indigenous. The 'wild' is also more clearly defined and there is a list of exempted land (Section 5, list 2 of Code of

Practice). The WANE Act also put in place the means to introduce a new code of practice with regard to non-native species. This was done under Section 14C of the amended Wildlife and Countryside Act and came into force in July 2012. The code of practice should be referred to when dealing with any non-native animal or plants. The code outlines the law relating to native and non-native species and explains the main provisions set out in the 1981 Act. Schedule 9 has now been repealed.

PROTECTION OF BADGERS ACT 1992

The Protection of Badgers Act (1992) provides full legal protection to badgers. In Scotland, this legislation was amended by the Nature Conservation (Scotland) Act 2004 and more recently by the Wildlife and Natural Environment (Scotland) Act 2011. It is an offence to recklessly take, injure or kill a badger (or knowingly cause or permit such an offence), or destroy or cause disturbance to their setts. Nature Scot interprets the legislation in such a way that any sett within an active badger territory is afforded legal protection, whether it shows signs of recent use or not. In addition, badgers are afforded protection from cruel ill treatment. All the definition of 'ill treatment' has not been clearly defined; this is likely to include preventing badgers access to their setts as well as causing the loss of significant foraging resources within a badger territory. Licences are available for the disturbance or destruction of setts. Nature Scot must be consulted prior to any works which could cause disturbance to badgers.

UK, SCOTTISH AND LOCAL BIODIVERSITY POST-2010

In October 2010, 192 governments and the European Union met in Nagoya, Aichi Province, Japan and together reached new agreement on global biodiversity. This was the 'Strategic Plan for Biodiversity 2011-2020' and contains five strategic goals and 20 new global targets referred to as the 'Aichi Targets'. In the UK this translates into the 'UK Post-2010 Biodiversity Framework'.

As a consequence of this new strategy the UK BAP partnership no longer operates. The work previously carried out by the partnership will now be focussed within each of the four countries i.e., Scotland, England, Wales and Northern Ireland. This also means that the species and habitats agreed under the UK BAP will now be superseded by each country's own priority list.

The current SBL can be seen by following the link below.

http://www.gov.scot/Topics/Environment/Wildlife-Habitats/16118/Biodiversitylist/SBL

NON-STATUTORY DESIGNATED SITES (INCLUDING LNCS)

Local and district level non-statutory designations, often called Sites of Importance for Nature Conservation (SINCs) or Local Nature Conservation Sites (LNCS), may be identified by Local Planning Authorities. In addition, other sites including those managed by organisations like Royal Society for the Protection of Birds (RSPB), Scottish Wildlife Trust (SWT), National Trust for Scotland (NTS), Woodland Trust (WT) and John Muir Trust (JMT) are also considered, where relevant.

ANCIENT WOODLAND INVENTORY

This is woodland listed on the Ancient and semi-natural woodland inventory (identified by the former Nature Conservancy Council and held/updated by Nature Scot).

2. Methodology

2.1. Introduction

An Extended Phase 1 Habitat Survey was carried out within the survey area following the methods defined in *Guidelines for Baseline Ecological Assessment* (Institute of Environmental Assessment 1995). This comprises the following elements:

- Desk Top Study
- Phase 1 Habitat Survey
- Protected Species Risk Assessment
- Site Evaluation

2.2. Desk Top Study

The desk top study aimed to locate within the survey area and within a 1 km radius:

- any records of protected and priority habitats and species, and
- any statutory and non-statutory sites designated for their biodiversity interest.

Ecological data were obtained from:

- the National Biodiversity Network Atlas Scotland, and
- Nature Scot Interactive Map service.

Only those records since 2012 were considered as relevant to the survey.

2.3. Habitat Surveys

2.3.1. ***Phase 1 Habitat Survey***

The Phase 1 Habitat Survey followed the method prescribed by the Joint Nature Conservation Committee (JNCC) in Handbook for Phase 1 habitat survey (1990 as updated 2010). Target Notes were used to describe habitat areas, patches of atypical vegetation, management activities, and other ecological features. Targets notes can be found in Appendix I.

An assessment of the site was also made for the presence of any statutory invasive species listed under the Wildlife and Natural Environment (Scotland) Act 2011, in particular Japanese knotweed *Fallopia japonica,* Giant hogweed *Heracleum mantegazzianum,* American mink *Neovison neovison and* grey squirrel *Sciurus carolinensis*.

In this report, scientific names are given after the first mention of a species, thereafter, common names only are used. Nomenclature follows Stace (1997) for vascular plant species and Hill *et al.* (2008) for bryophyte species.

2.4. Protected species

The protected species walkover survey was focused on consideration of the following species groups: otter *Lutra lutra,* badger *Meles meles*, bats *Chiroptera*, and the habitat was assessed for its suitability for breeding birds, reptiles and amphibians.

The potential of the survey area to provide habitat for these protected species was assessed by walkover visual survey, combined with the results of the desk top study.

The entire search area was systematically surveyed for field signs of badger following Hill *et al.* (2005), particularly for evidence of badger setts. Other field signs searched for included footprints, dung, latrines and hairs.

Bat assessment methods followed guidance prescribed in *Bat Surveys for Professional Ecologists: Good Practice Guidelines (*2016). All trees were assessed for their potential to be used by roosting bats. Trees that provide possible roost sites include those with obvious cavities and holes, areas of lifted bark and those covered in dense ivy.

Incidental records of birds and other fauna noted during the course of the habitat survey were also compiled.

2.5. Survey Personnel

The Extended Phase 1 Habitat Survey was carried out by Andrea Hudspeth on 21st January 2022. All reporting was completed by Andrea Hudspeth.

The weather during survey was clear and dry.

2.6. Site evaluation

The methodology for site evaluation was based on the principles used in evaluating wildlife habitats set out in *A Nature Conservation Review* (Ratcliffe 1977) and *Wildlife Conservation Evaluation* (Usher 1986), combined with published criteria for selection of sites of ecological importance in a regional context (JNCC 1989), and our professional experience. The site evaluation was also defined within a geographical context (following CIEEM Ecological Impact Assessment Guidelines 2006).

Therefore, the published methodology (JNCC 2003) recommends that evaluation is limited to a basic three-point scale:

1 - site of high conservation priority,

2 - site of lower priority for conservation, or

3 - site of limited wildlife interest.

It should be noted that a point 2 site is of 'lower' value but **not** of 'low' value. This category potentially includes a wide range of levels of biodiversity quality.

2.7. Survey Limitations

Whilst every effort has been made to provide a comprehensive description of the survey area, no investigation can ensure the complete characterisation and prediction of the natural environment.

The protected species assessment provides a preliminary view of the likelihood of protected species occurring within the survey area, based on the suitability of the habitat, known distribution of the species in the local area provided in response to our enquiries, and any direct field evidence within the survey area. It should not be taken as providing a full and definitive Phase 2 survey of any

protected species group. It is only valid at the time the survey was carried out. Additional surveys may be recommended if, on the basis of the preliminary assessment, it is considered reasonably likely that protected species may be present.

3. Results

3.1. Site context & status

The survey area is situated immediately off a minor road approximately 2km north of the town of Milnathort and close to the farmstead of Middleton. The site is bordered by the road to the south and by an arable field to the north and northeast, an area of pasture to the west.

There is a drain present along the south and west boundaries.

3.2. Desk Top Study

3.2.1. Protected Species

Table 1: NBN Atlas Scotland Protected Species Data Search Results

Scientific name	Common name	Date/s	No of records	Data resource	NGR
Sciurus vulgaris	Red squirrel	2012-2021	16	The Scottish Squirrel Database	Various in NO10

There were no records for any Schedule 1 bird species.

3.2.2. Plants

No higher plant, bryophyte, lichen or fungi species which are fully protected (listed in Schedule 8 of the Wildlife and Countryside Act 1981 as amended), were identified by the desk top study at or within 1km of the survey area.

3.2.3. Designated Sites

There are no designated sites within 1km of the survey site.

3.3. Phase 1 Habitat Survey

The target note table appears in Appendix I and Map 1 with target notes appears in Appendix II. The main species present are listed in the habitat descriptions below.

The habitats present are described as follows:

3.3.1. ***B2.2 Neutral grassland***

The site mainly comprises neutral grassland which will have had some improvement over time, but is currently been left as a field margin to a large arable field.

Species present include: perennial rye *Lolium perenne,* Yorkshire fog *Holcus lanatus,* fescue sp. *Festuca sp.,* rough meadow-grass *Poa trivialis* and white clover *Trifolium repens.*

Photo 1: View of site from northwest corner

3.3.2. ***A3.1. Scattered broadleaved trees***

There are a few small, but mature hawthorns *Crataegus monogyna* along the western boundary.

There is a fenced off cherry *Gean sp.* tree in the centre of the site. This is marked as TN1 on Map 1. Whilst not significant in a habitat sense, the tree may have been planted as a memorial so it is worth noting its present.

3.3.3 ***G2 Running water***

A drain flows alongside the site to the southern and western edges. It has a pebbly substrate in the southern section and a silty base in the western section. It is approximately 30cm in width and 1-2cm in depth. The banks have been mown so there is no riparian corridor.

3.4. Protected species

The habitats within the survey area were evaluated as to their likelihood to provide sheltering, roosting, nesting and foraging habitat for the following animals:

- badger
- bats
- breeding birds
- reptiles and amphibians

The legislation and policy relating to these protected species and details are set out in section 1.

3.5.1. ***Badger***

No evidence of badgers was found during the field survey and there were no sett entrances within the survey area. Overall, badger is considered to be absent within the site.

3.5.2. ***Bats***

The only trees on site are the hawthorns and the single cherry tree. None of these had features present that could be used by roosting bats. The field edge and drain could be used as a commuting corridor for foraging bats.

3.5.7. ***Reptiles and amphibians***

No suitable habitat for reptiles or amphibians was found on site.

4. Impact Assessment

4.1. Habitats

The majority of the habitat within the survey area was considered to be of low conservation value due to the past management. None of the grassland is herb-rich, and there are no ground water dependent terrestrial ecosystems present. The small hawthorn trees will be important locally for feeding and sheltering birds so it would be beneficial for these to be retained.

4.2. Protected species

No protected species should be impacted by the proposed development.

5. Site evaluation

5.1. Introduction

The approach taken to evaluate the ecological value of the survey area is set out in section 2.6. above. Evaluation criteria included naturalness, diversity, rarity of species and habitat types, fragility, typicality, recorded history, site size and spatial relationships between habitats and habitat corridors, potential value, and intrinsic appeal.

Overall evaluation following JNCC (2003): **site of low priority for conservation**

5.1.2. ***Grassland***

The grassland present is considered to be more on the improved end of the spectrum and therefore has little value.

5.2. Conclusion

Overall, when assessing the area on a landscape scale, the survey area has limited value at a local level.

6. Recommendations

6.1. General Mitigation

The following general mitigation is in line with best practice and requires the lead contractor to identify all possible risks concerning environmental factors at the site and produce all necessary Risk Assessments, Method Statements and organise Toolbox Talks as and when deemed necessary. These should include:

- Managing risk of pollution,
- Managing waste,
- Managing water (to include waste water), and
- Managing risks to wildlife.

Best management working practices should be implemented within the survey are to minimise the risk of pollution incidents. Particular regard should be given to the storage of fuel and other potential pollutants on the site. Works should be undertaken in compliance with Scottish Environment Protection Agency (SEPA) Pollution Prevention Guidelines.

6.2.1. ***Habitats***

Works should be contained to a defined area within the survey area so as not to impact on surrounding habitat.

Any surrounding habitat damaged or destroyed as a result of the works (such as vehicle tracks and site compounds) should be re-instated post-construction.

6.2.2. ***Wildlife***

An emergency procedure should be in place should any protected species or their resting site (e.g. bat roost, active bird nest, badger sett, red squirrel drey) be encountered during operations. All work should cease in the area immediately and a suitably qualified ecologist should be consulted to determine any mitigation requirements i.e. suitable set-backs or buffer zones, consultation with statutory bodies and the submission of licence applications if required.

Any excavations or trenches dug more than 0.5m depth, especially those left overnight, should be covered or fitted with mammal ramps to ensure that any animals that enter can safely escape. Excavations should be backfilled as soon as possible to minimise the potential for animals to become trapped.

Any pipes left within the survey area should be capped at the end of each working day to prevent any animals from becoming trapped.

All works should take place during daylight hours and the use of floodlights should be avoided. Many mammal and owl species are more active after dark and artificial lighting could alter their behaviour and cause unnecessary disturbance. Working after dark could also prevent roosting birds from following their natural patterns.

Badger

In the event that a new badger sett is established within the current and proposed works areas, all works in the vicinity should cease and a suitably experienced ecologist contacted to ascertain an appropriate way forward.

Bats

Avoiding damage to existing roosts is always the preferred option. This involves taking steps to avoid killing, injury or disturbance to bats and damage to or loss of their roosts. No bat summer roosts or winter hibernation roosts have been confirmed in the works area.

Works should be timed to avoid the main bat breeding season. The optimum time for completing works is first November to first April. There is the possibility of bats remaining in trees during the winter for hibernation.

All contractors should be alerted to the possibility of discovering bats during works. If any bats are encountered, works must stop immediately and a bat licensed ecologist, or Nature Scot, should be contacted for advice. No bats should be handled unless it is to prevent them from harm; if a bat is moved gloves must be worn.

The use of floodlight type lighting in works areas should be avoided. Strong lighting disturbs bats and can also change the ambient temperature making an area no longer suitable. This is particularly important if any bats are hibernating.

Birds

To ensure compliance with the Wildlife and Countryside Act 1981 (as amended), vegetation clearance (including tree removal, hedgerow removal and strimming of tall vegetation) should be undertaken outside the nesting bird season (which is weather dependent but generally extends between March and September inclusive). If this is not possible then any dense vegetation, trees or earth banks that are to be removed or disturbed should be checked by an experienced ecologist for nesting birds immediately prior to works commencing. If birds are found to be nesting, any works which may affect them would have to be delayed until the young have fledged and the nest has been abandoned naturally.

Amphibians and Reptiles

In the event that any amphibian or reptile species are discovered during works, all works in the vicinity should cease and a suitably experienced ecologist contacted to identify the species. In most cases, the animal can be relocated to a safe place; however, if Great Crested Newts are discovered or significant hibernacula is disturbed, Nature Scot may need to be contacted for advice.

7. References

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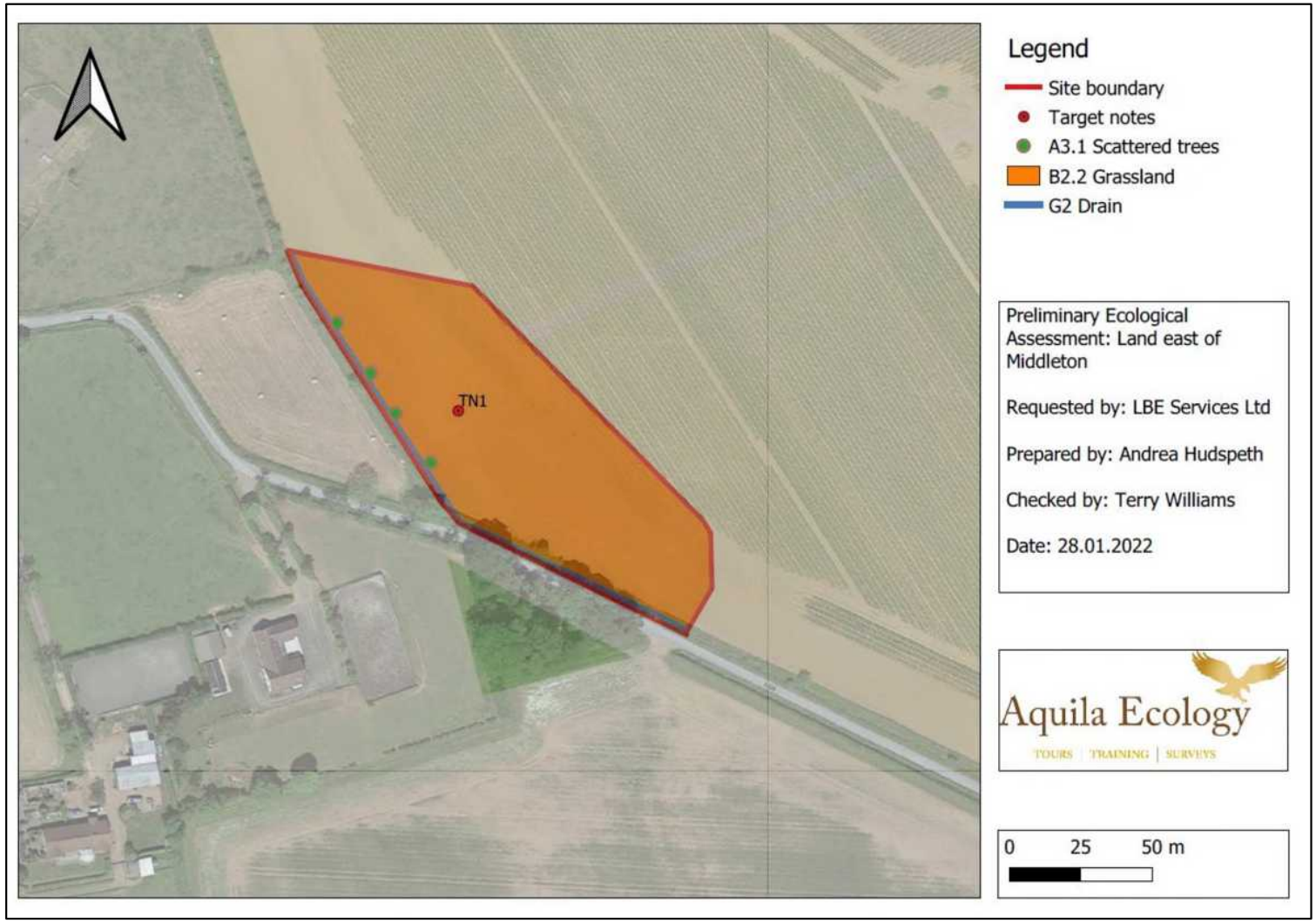
Appendix I – Target Notes

Table 2: Extended Phase 1 Target Notes

Target Note	Comments	Photo
1	Fenced off cherry tree sapling	

Appendix II – Map

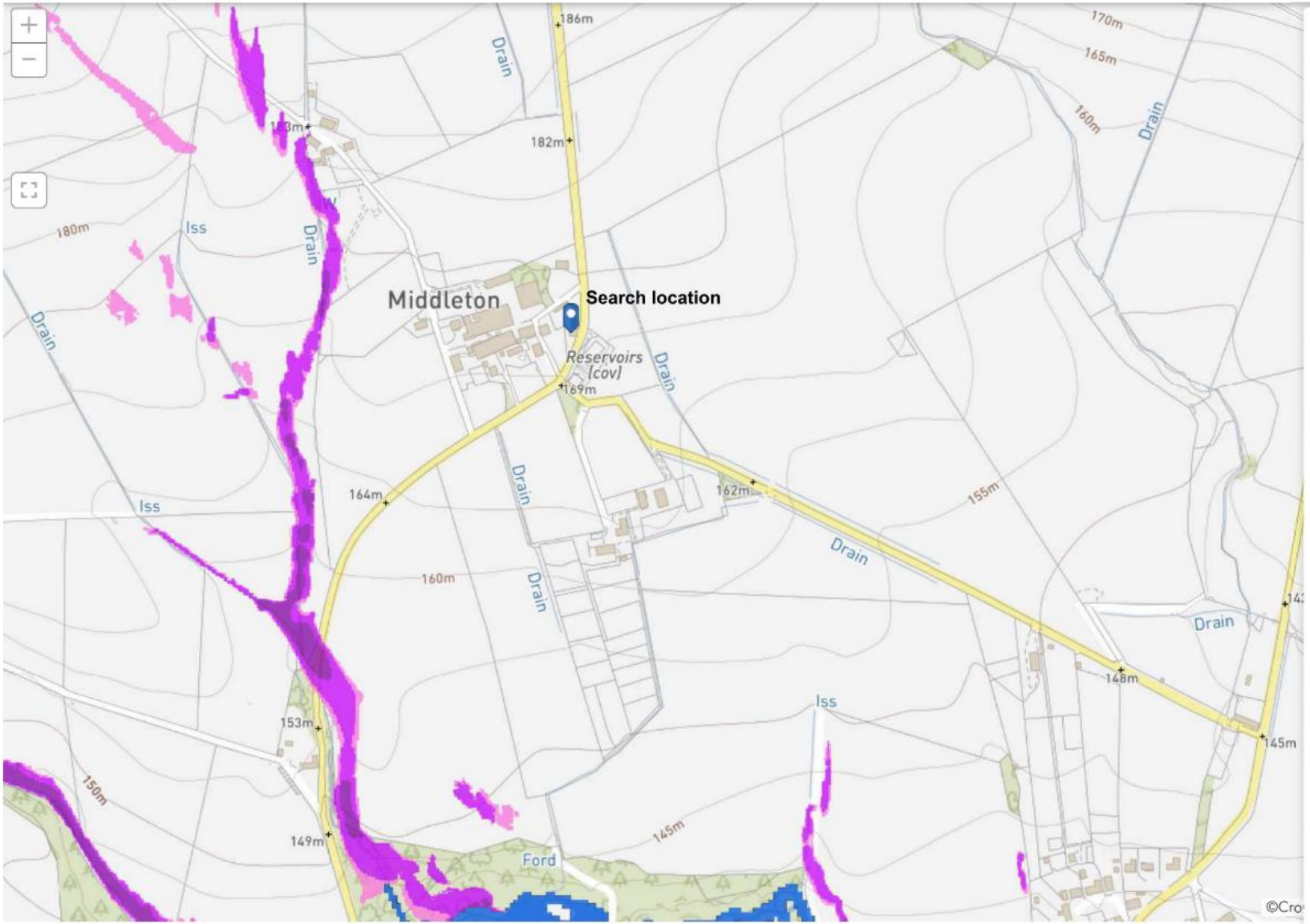
Map 1: Extended Phase 1 Habitat Survey



SEPA Flood Maps

Basic Map Viewer

Find address or place



Flood Map Data

Layer List

Layers

- Flood Maps
  - River Flooding
    - High Likelihood
    - Medium Likelihood
    - Low Likelihood
  - Surface Water Flooding
    - High Likelihood
    - Medium Likelihood

Legend

Flood Maps

River Flooding

High Likelihood
Each year this area has a 10% chance of flooding.

Medium Likelihood
Each year this area has a 0.5% chance of flooding.

Low Likelihood
Each year this area has a 0.1% chance of flooding.

Surface Water Flooding

High Likelihood
Each year this area has a 10% chance of flooding.

Medium Likelihood
Each year this area has a 0.5% chance of

1:5,291

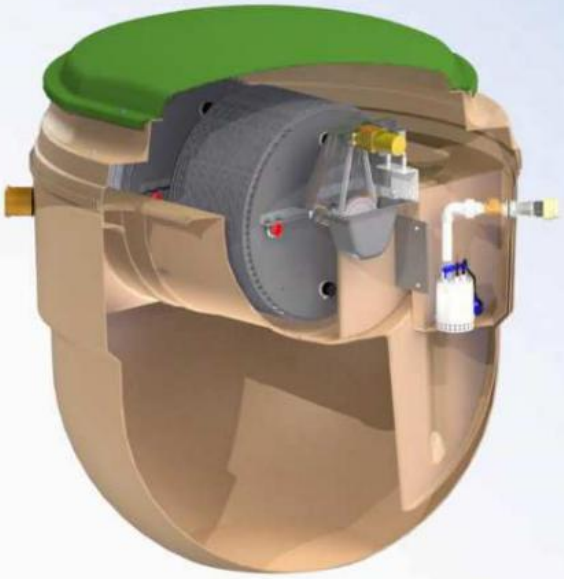

B996
B996
B996
KEY
NO 5 COTTAGE
FARMHOUSE
FARM
Lucinda Russell
Arlary House Stables

BioDisc® BA, BAx, BB & NB

Klargester – Sewage Treatment Plant

INSTALLATION MANUAL

BA BioDisc – Gravity



BA BioDisc - IPS

Important!

- Check the BioDisc rotates freely with no clashes **before** turning on to ensure no damage occurred during transit.
- Once installed, the motor must be left on and running. If no power is available to operate the unit, then the motor-gearbox and control panel must be removed and stored in a dry environment.
- The motor must not be left non-operational for a period of 7 days or more.

Part Code	Issue	Description	Date
017900	03	CC1545	July 2021

Contents

HEALTH & SAFETY

Please read and follow for your own and others safety

You must read these warnings carefully before installing or using the equipment. Please ensure that you have performed a risk assessment before commencing any installation. Note that the risk assessment should be performed by a person who understands the hazards of the work, and the work environment. Note that it must be *suitable and sufficient,* i.e. adequately considers risks and ensures controls in place to mitigate risks.

You must observe all-hazard labels and take appropriate action to avoid exposure to the risks indicated. Always ensure that all relevant documents are supplied with the equipment when being transferred to a new owner.

General guidelines

- Only experienced and competent person(s) should carry out the installation.
- The unit must have a *Pre-Service Agreement Inspection* by an approved engineer.
- Take care to maintain correct posture, particularly when lifting.
- Use appropriate lifting equipment when necessary.
- A qualified electrician should carry out electrical work deemed necessary.
- The covers must be kept locked.

Personal Protective Equipment (PPE)

- We recommend the use of a dust mask and gloves when cutting GRP components.
- Person(s) carrying out maintenance on the equipment should wear suitable PPE.

Maintenance and Inspection Procedures

If you wish to inspect the equipment's operation, please observe all necessary precautions as stated in your risk assessment; including those listed below.

- The power supply must be isolated at the control panel(s) before lifting the covers.
- If the equipment should run with the covers off, care must be taken to avoid contact with moving parts and electrical components or conductors.
- Once the power has been isolated, the control panel must be kept locked shut to avoid accidental reconnection while work or inspection is being carried out.

Working Area

- Ensure that the working area is adequately lit.
- Ensure that you are familiar with the safe working areas and its access and egress.
- Use only the designated access walkways.
- Do not walk on the cover or deep well safety mesh(es).
- Always keep proper footing and your balance, avoid any sharp edges, or restricted points.

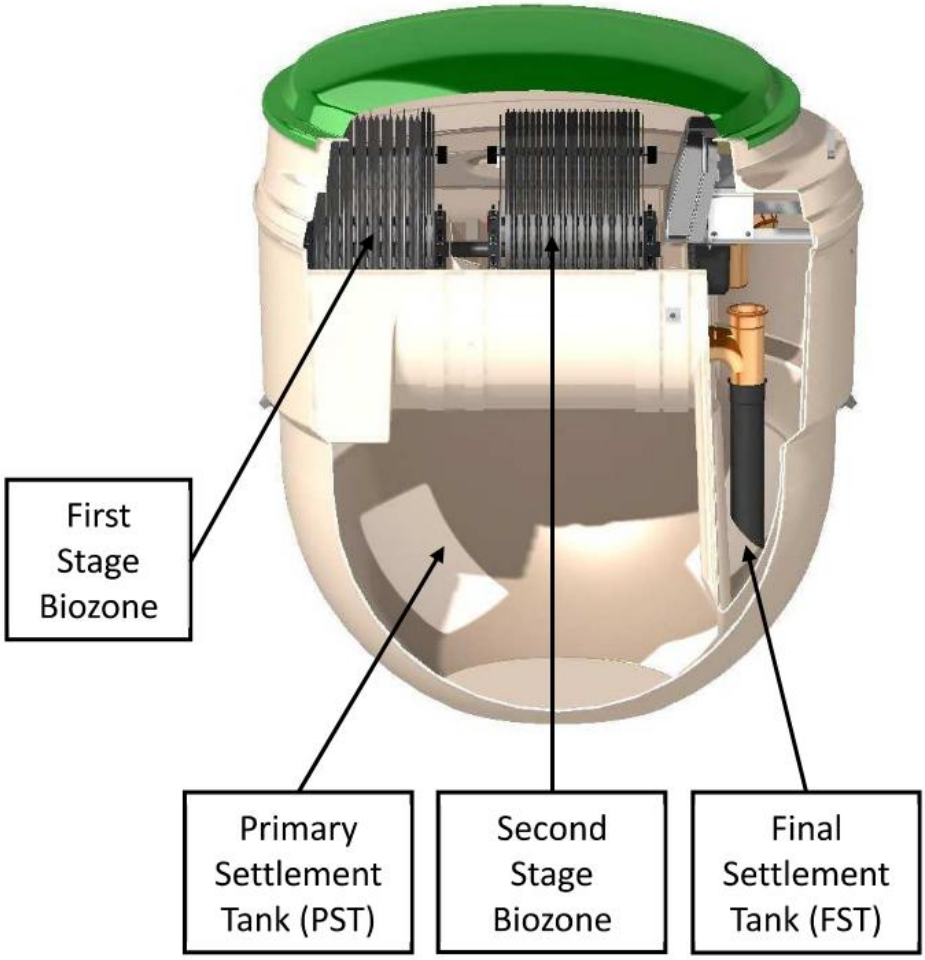
Desludging

- Desludging should be carried out by a licensed waste disposal contractor holding the relevant permits to transport and dispose of sewage sludge in your region/area.

SYSTEM OVERVIEW

Pictorial representation below indicates basic requirements for a standard system.

Cross Section



Top View

BioDisc® CHECKLIST

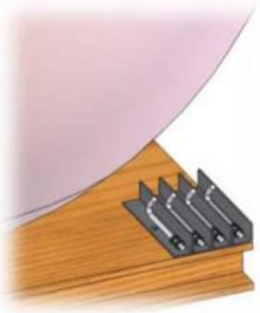
BA, BAx, BB & NB BioDisc

1. The unit will be fitted complete with internal pipework and equipment.
2. Inlet pipework will be fitted.
3. Unit supplied strapped to a standard pallet.
4. Unit overall heights are as follows:

INLET INVERT (MM)	HEIGHT (MM)
450	2160
750	2460
1250	2960

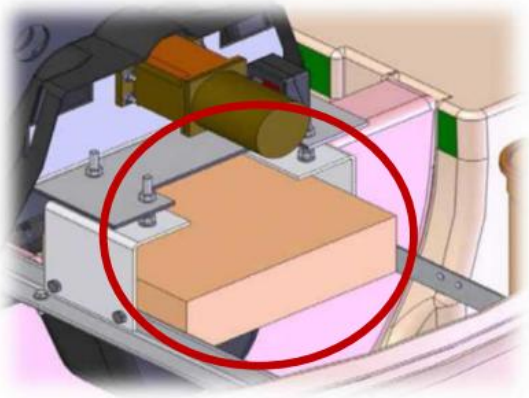
Holding Down Bolts

1. The holding down bolts pack will be secured to the pallet as shown in the figure to the right.
2. The holding down bolts need to be fitted to the holding down lugs that are fitted to the tank. This process is shown later in the installation section.



Control Panel and Beacon

1. The control panel and beacon must be removed before the tank is installed.
2. The unit control panel and beacon will be secured inside the tank:
   - The control panel is located under the motor
   - The beacon is located within the owner's pack



If any items are missing, Kingspan must be alerted within three days of delivery.

INSTALLATION

General

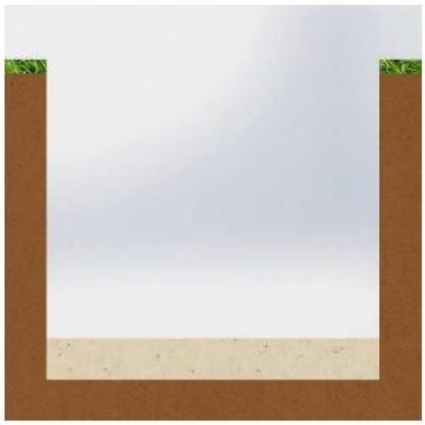
- Our domestic treatment plants are structurally tested in accordance with EN 12566-3, which specifies structural stability testing using pea shingle backfill (worst case scenario), for both wet and dry sites, however due to rising groundwater conditions in GB and Ireland, we strongly recommend that a concrete backfill is used to install the product.
- During installation, care must be taken to ensure the body of the unit is uniformly supported to avoid point loads on the unit.
- A water supply must be available on site to enable the unit to be ballasted during backfilling.
- When units are installed in unstable ground conditions where movement of the surrounding material and/or unit may occur, the connecting pipework must be designed to minimise the risk of damage from differential movement of the unit(s) and/or surrounding material.
- In situations where the excavation will not maintain a vertical wall, it will be necessary to support side walls of the excavation (E.g. with suitable trench sheets and bracing systems) from the bottom to the top. DO NOT completely remove the shoring system until after the backfilling is complete, but before the concrete fully hardens.
- If there is a risk of a high water table or of the site flooding, a structural design by a suitable specialist will be required to hold the tank in place.
- In areas where the water table is above the bottom of the excavation and/or the excavation is liable to flood, the excavation must be de-watered, using suitable pumping equipment, until the installation is complete. Ensure that the pump discharge does not saturate the ground in the immediate vicinity. In such conditions it may be advisable to line the excavation with polythene sheeting, to prevent cement being washed out of the concrete surround/base.
- Concrete Specification below is a *general* specification. It is not a site-specific installation design.

GENERAL CONCRETE SPECIFICATION IN ACCORDANCE WITH BS EN 206-1 (BS 8500-1)		
TYPE OF MIX		(DC) DESIGN
PERMITTED TYPE OF CEMENT		BS 12 (OPC): BS 12 (RHPC): BS 4027 (SRPC)
PERMITTED TYPE OF AGGREGATE (coarse & fine)		BS 882
NOMINAL MAXIMUM SIZE OF AGGREGATE		20 mm
GRADES:	C25 /30 C25 /30 C16 /20	REINFORCED & ABOVE GROUND WITH HOLDING DOWN BOLTS REINFORCED (EG. FOR HIGH WATER TABLE) UNREINFORCED (NORMAL CONDITIONS)
MINIMUM CEMENT CONTENT:	C30 C20	270 - 280 Kg/M3 220 - 230 Kg/M3
SLUMP CLASS		S1 (25mm)
RATE OF SAMPLING		READY MIX CONCRETE SHOULD BE SUPPLIED COMPLETE WITH APPROPRIATE DELIVERY TICKET IN ACCORDANCE WITH BS EN 12350-1
NOTE: STANDARD MIXES SHOULD NOT BE USED WHERE SULPHATES OR OTHER AGGRESSIVE CHEMICALS EXIST IN GROUND WATER		

1. Excavate Hole & Lay Concrete Bed

- Approximate dimensions of units:

Inlet Invert Depth (mm)	Diameter (mm)	Base to Ground Level (mm)	Internal Volumes of Unit (m^3)	
			Base to Outlet	Outlet to Ground Level
450	1995	1945	3.00	3.00
750	1995	2245	3.00	4.75
1250	1995	2745	3.00	7.50



- Excavate a hole with clearance on all sides and base of the unit of 150 – 200 mm, depending on site conditions.
- If shuttering is required to maintain a vertical wall, increase the width of the excavation to accommodate.
- If the excavation has an **unstable base**, excavate an additional 250 – 300 mm and fill with compacted hard-core.
- If water is present in the excavation, de-water using suitable pumping equipment. Place a sheet of polythene over the base and up the sides of the excavation before creating the concrete slab.
- The four anchor bars must be assembled and attached to the tank as shown.

- A minimum base of 150 – 200 mm of lean mix concrete is required for all ground conditions. The installer must ensure that the base is adequate to support the weight of the tank and its contents.
- It is recommended to backfill with C25 SEMI-DRY MIX.

2. Lower Unit onto Concrete & Ensure Level

- Approximate weights of units in kilograms, depending on inlet invert:

Inlet Invert (mm)	BA (kg)	BAx (kg)	BB (kg)	NB (kg)
450	310	335	335	360
750	325	350	350	375
1250	380	405	405	430

- Lower the tank into the hole. A suitable spreader bar must be used with lifting slings located through the lifting points provided on the tank.
- The slings must not be attached to the inlet or the outlet pipe.
- Tank must not be lifted with any water inside.
- Check the **Inlet** and **Outlet** pipe orientation is correct.
- Check the unit is levelled. The rotor shaft must be level end to end, to within ±3mm, measured at the bearing caps or directly on the shaft. The unit must also be level to within ±5mm from side to side, measured at the GRP platform on either side of the rotor.
- Check the BioDisc rotates freely with no clashes before turning on to ensure no damage occurred during transit.

3. Backfill the Tank Unit

- The backfilling must start before the base has hardened and must be a single continuous operation, so the tank has a full concrete jacket without joins.
- The backfill must be free from organic material, large stones, brick or sharp objects.
- Backfilling must be carried out in layers, making sure that voids are not left under or around the sides of the tank and there are no localised stress concentrations.
- The installer must progressively fill the tank via a hose while keeping the water level 300 mm above the backfill to stabilise pressures on the tank. **If the pressures are not stable the tank can become distorted and damaged.**

4. Second Backfill Stage

- Continue to fill the tank with water and backfill evenly around the tank, consolidating in 300 mm layers.
- DO NOT use vibrating pokers to consolidate concrete.
- DO NOT discharge concrete directly on to the tank.
- Ensure that the concrete is not too wet and that is tamped in around the tank.
- Continue until just below inlet and outlet pipework.
- Remove covers and connect inlet and outlet pipework.

5. Final Stage

- Determine the number of cables to be connected to the control panel from within the BioDisc. A cable will be required for every occupied gland hole on the control panel, use the 'Control Panel Entry Points' table on Page 9 to determine how many gland holes will be in use.
- Drill a 15 mm hole in the BioDisc case for every cable. The holes must be located 100 mm below ground level and adjacent to one end of the baffle supporting the Motor/gearbox.
- Erect the Control Panel as described on Page 9.
- Continue to concrete backfill up to the lip of the cover.
- Once the unit has been installed, it must be left filled with water.

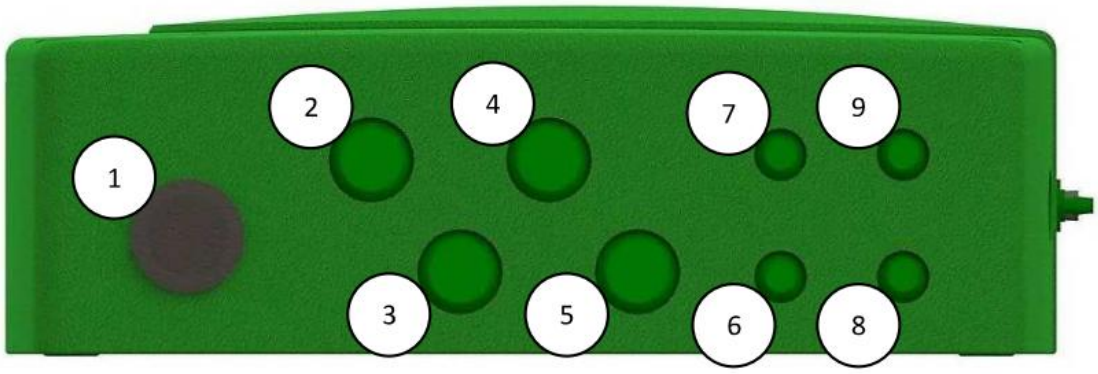
CONTROL PANEL

Mounting the Control Panel

- The control panel must be fitted by a qualified electrician working to the latest IEE Regulations.
- The control panel must be positioned so it cannot be reached by someone standing in or on the BioDisc unit.
- It can be wall mounted or fixed to the mounting frame (available separately).
- Allow 350mm minimum clearance from finished ground level to the bottom of the panel.
- When using a mounting frame, set the frame legs in a concrete base, minimum 250mm thick and prop the frame to prevent movement until the concrete has set.

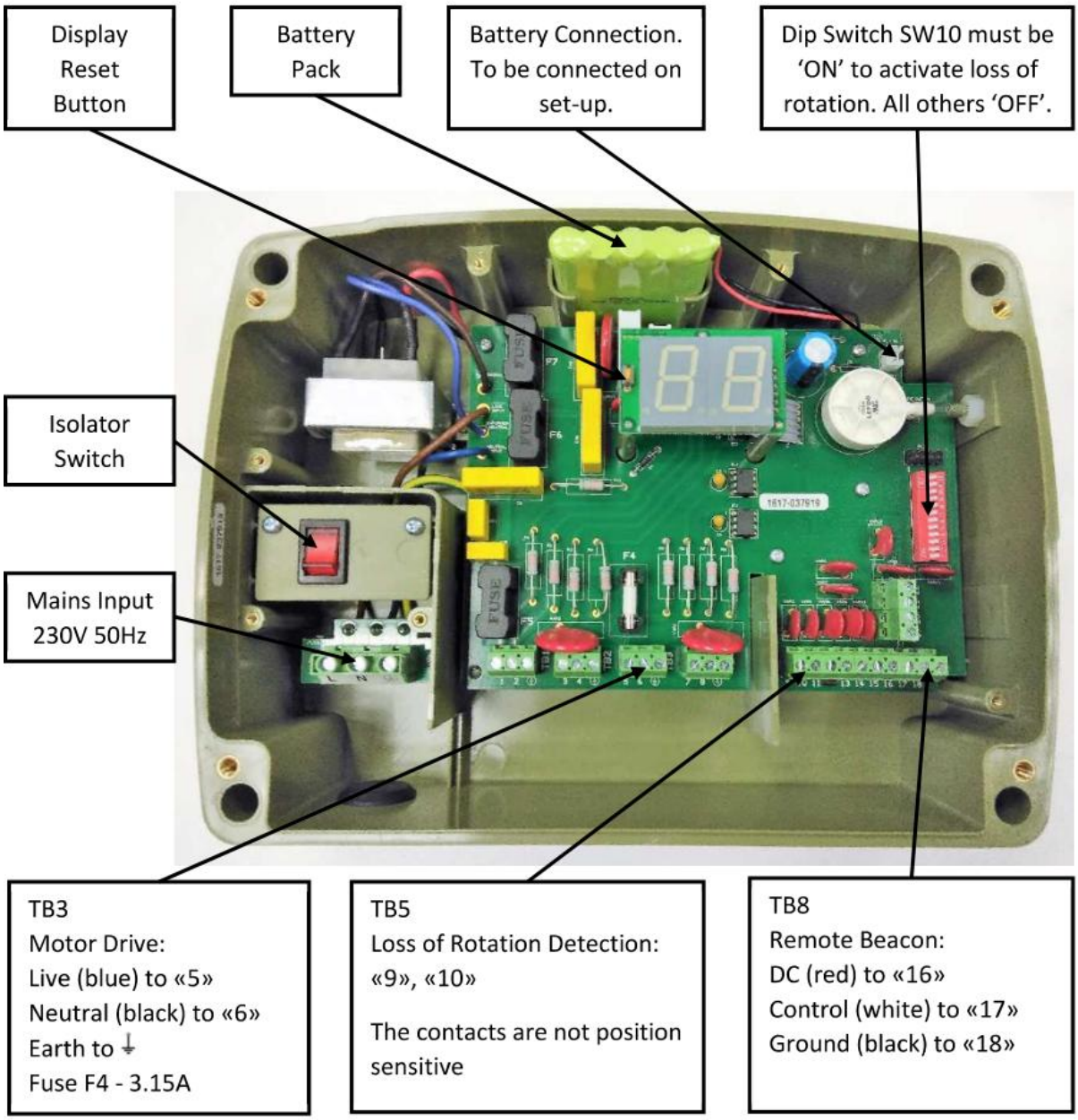
Control Panel Entry Points

Use the diagram and table below to select the correct gland hole number, gland size and terminations to connect all the electrical equipment to the control panel. The diagrams and instructions on the following pages give more in-depth guidance on setting up the various equipment configurations.



Product	Required Gland	Gland Hole Number	Terminate to Connection
Mains Power Supply	M20	1	
Integral Discharge Pump Power Cable	M20	2	1 & 2
Sludge Return Pump Power Cable	M20	3	3 & 4
Motor Power Supply Cable	M20	4	5 & 6
Chemical Dosing Pump Power Cable	M20	5	7 & 8
Loss of Rotation Alarm Cable	M12	6	9 & 10
High Level Alarm Float Cable	M12	7	11 & 12
Chemical Dosing Probe Cable	M12	8	13, 14 & 15
Remote Beacon Cable	M12	9	16, 17 & 18

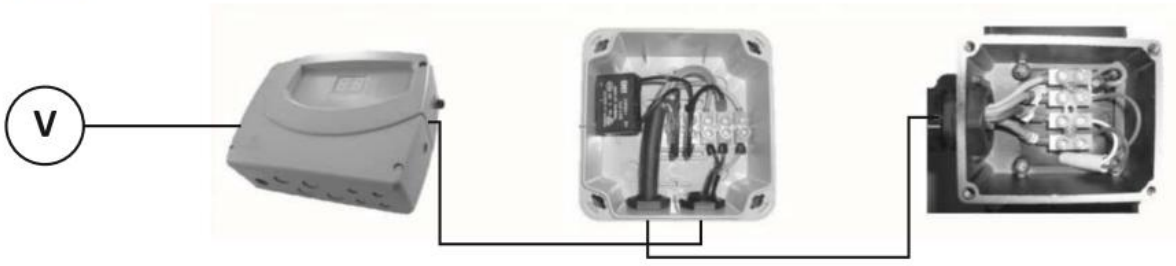
Gravity Unit



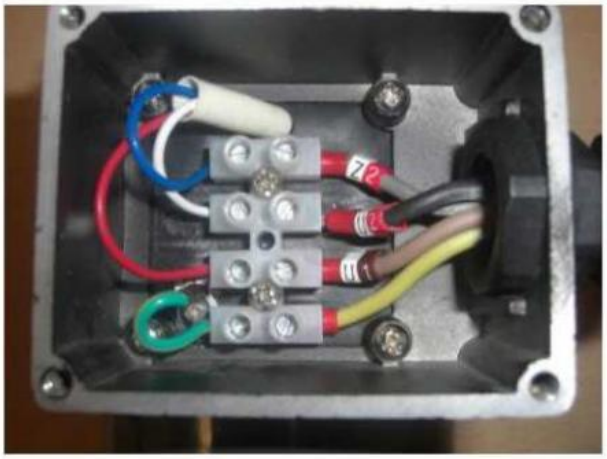
Mains Supply

1. Remove the four screws on the front of the panel and remove the main cover.
2. Remove the four screws holding the safety cover and remove the safety cover.
3. Remove the two screws holding the isolating cover and remove the isolating cover.
4. Using a suitable M20 gland, feed the mains power supply through Gland Hole 1. Wire the mains supply to the terminal blocks following the labels on the connections.
5. Replace the isolation cover and screws.

Motor



1. Before connecting the motor check the BioDisc rotates freely with no clashes to ensure no damage occurred during transit.
2. A capacitor is required for the correct function of the motor on all BA, BAx, BB and NB BioDiscs.
3. The Motor Capacitor Box will be found inside the neck of the BioDisc.
4. The Motor Terminal Box will be found on the motor.
5. Remove the four screws and the cover from the Motor Terminal Box on top of the motor.
6. Feed the Pre-fitted Cable from the Motor Capacitor Box through a suitable M20 gland to the Motor Terminal Box and wire as shown. Grey (Z2) to blue, black (U2) to white, brown (U1) to red and Green/yellow to E.
7. Replace the cover on the Motor Terminal Box on the motor.
8. Tighten the cable gland to ensure no moisture can enter the Motor Terminal Box.
9. Remove the four screws and the cover from the Motor Capacitor Box.
10. Feed the Motor Power Supply Cable from the Control Panel to the Motor Capacitor Box. In the Motor Capacitor Box connect the mains power cable, capacitor and Pre-fitted Cable as shown. Green/yellow to green/yellow, blue to grey and blue to the capacitor, which is in turn connected to black, black to brown.
11. Feed the Motor Power Supply Cable through Gland Hole 4 connect to points 5 and 6 (TB3) as shown on Page 10.

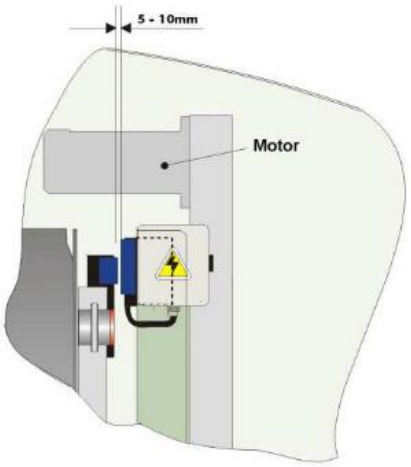


Motor Terminal Box

Motor Capacitor Box

Loss of Rotation Alarm

The alarm sensor (reed switch) is mounted adjacent to the motor/gearbox assembly. The sensor may be supplied out of position to allow for possible minor rotor movement during transport. Check the sensor position and ensure there is a gap of 5 - 10 mm between the sensor and the actuator magnet.



Using a suitable M12 gland, feed the loss of rotation alarm cable through Gland Hole 6 and terminate to connections 9 and 10 (TB5) as shown on Page 10. Connect the other end of the loss of rotation alarm cable to the junction box in the plant.

Check operation of the Loss of Rotation Alarm as follows:

1. Remove the main cover and switch off the Control Panel.
2. Remove the safety cover. The display will read “F1”.
3. Disconnect the cable to the motor and replace the safety cover.
4. Switch the Control Panel on. After no more than a couple of minutes the display will read “F8”.
5. Switch the Control Panel off and remove the safety cover.
6. Reconnect the cable to the motor and replace the safety cover.
7. Switch the control panel on. The display will read “- -“.
8. Press the orange reset button. The display will return to normal running mode.
9. Replace the main cover on the control panel.

Beacon

The beacon is intended to be mounted on a wall or other solid surface. A 1.5 m cable is supplied but it can be extended up to 30 m. Using a suitable M12 gland, feed the cable from the beacon through Gland Hole 9 and terminate to connections 16, 17 and 18 (TB8) as shown on Page 10.

Completing the Installation

1. Plug the battery lead into the small white socket of the Control Panel marked “BATTERY HEADER”.
2. The display will read “F1” as there is no mains power. The panel is running on battery power.
3. Replace the safety cover and turn on the mains supply.
4. Turn on the panel using the isolation switch. It should now be illuminated red. The display should now read “- -“. Press the orange reset button next to the display to clear the display.
5. Replace the main cover on the control panel.

Fault Codes and Fuses

To determine the meaning of the fault codes on the control unit use the table below. The related fuse location and fuse ampere rating are also shown if applicable.

All fuses are Time Lag HBC 20mm type

Code	Fault Condition	Fuse	Amp
F1	No power to the unit	Customer Fuse Box	N/A
F4	The fuse to the motor has failed	F4	3.15
F8	The loss of rotation alarm has been activated	N/A	N/A
--	The unit has had a fault which has now corrected itself Flashing left and right – Battery charging Flashing left only – Battery charged	N/A	N/A

Pumped Outlet Unit

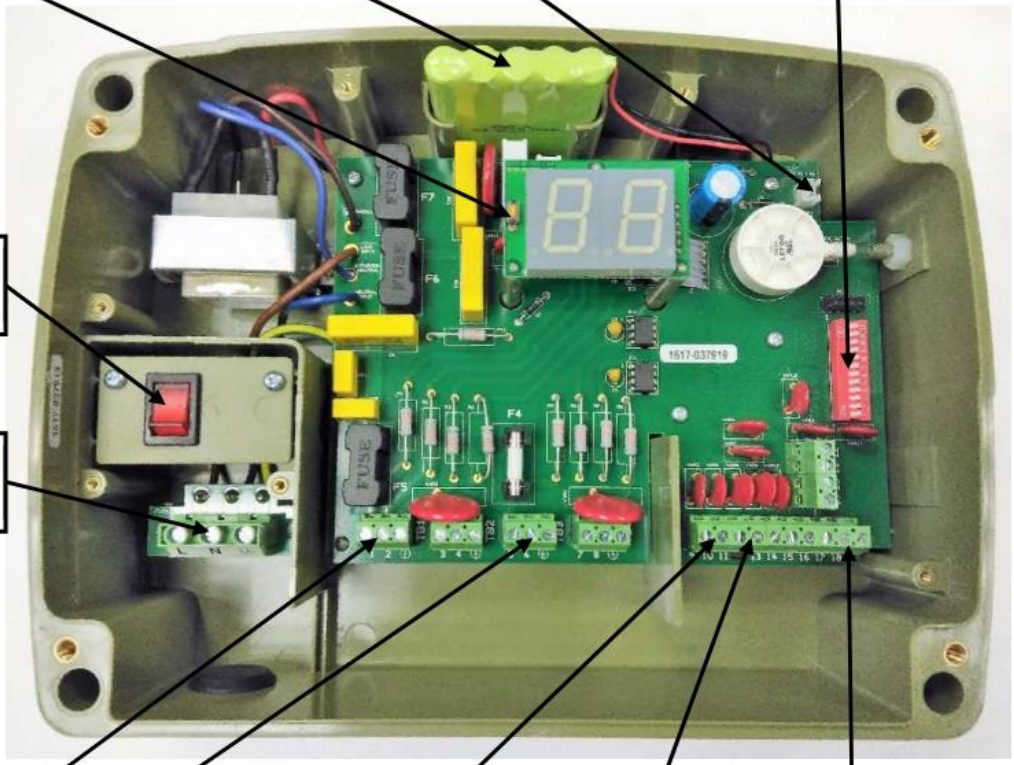
Please read the instructions in the standard gravity unit section for guidance on connecting the mains power supply, motor, loss of rotation alarm and the beacon.

Display Reset Button

Battery Pack

Battery Connection. To be connected on set-up.

Dip Switch SW10 must be 'ON' to activate loss of rotation. All others 'OFF'.



Isolator Switch

Mains Input 230V 50Hz

TB1
Pumped Outlet:
Live (red) to «1»
Neutral (black) to «2»
Earth to ⏚
Fuse F5 - 5A

TB5
Loss of Rotation Detection:
«9», «10»

The contacts are not position sensitive

TB8
Remote Beacon:
DC (red) to «16»
Control (white) to «17»
Ground (black) to «18»

TB3
Motor Drive:
Live (blue) to «5»
Neutral (black) to «6»
Earth to ⏚
Fuse F4 - 3.15A

TB6
High Water Level Detector:
Remove link between Pin11 and Pin12
Common (black) to «11»
Non-Common (blue) to «12»
Brown must be isolated and has no connection

Pumped Outlet

Using a suitable M20 gland, feed the integral discharge pump power cable through Gland Hole 2 and terminate to connections 1 and 2 (TB1) as shown on Page 13.

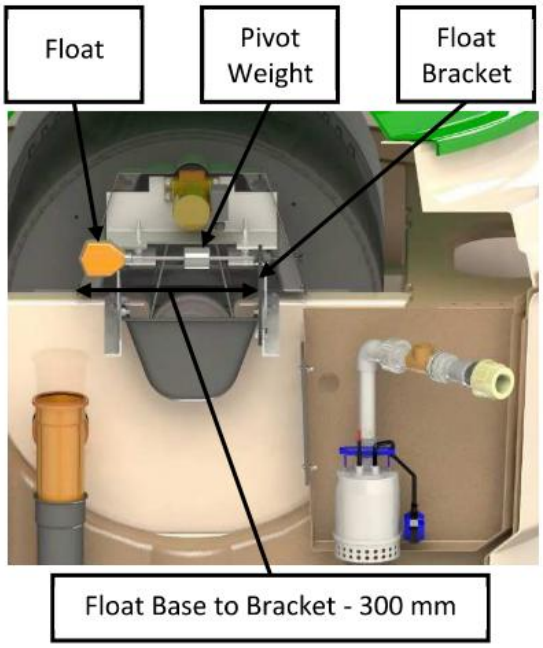
Check the pump, float and associated pipework are positioned as shown. With the pump chamber empty of water, the float must hang clear of the chamber floor. The correct float position and distance is essential. The float must not be able to get trapped or tangle, as this will prevent its correct operation.

High Level Alarm

Remove the link in the terminal blocks between connections 11 and 12 (TB6) before inserting cables. Using a suitable M12 gland, feed the high level alarm float cable through Gland Hole 7 and terminate to connection 11 and 12 (TB6) as shown on Page 13.

Fix the bracket attached to the float to the steelwork supporting the motor using the two free holes. The base of the float must be approximately 300 mm from the bracket when held horizontally. This should align the pivot weight with the top of the final settlement tank.

Ensure the float cable will not be able to get trapped or tangled, as this will prevent its correct operation.



Fault Codes and Fuses

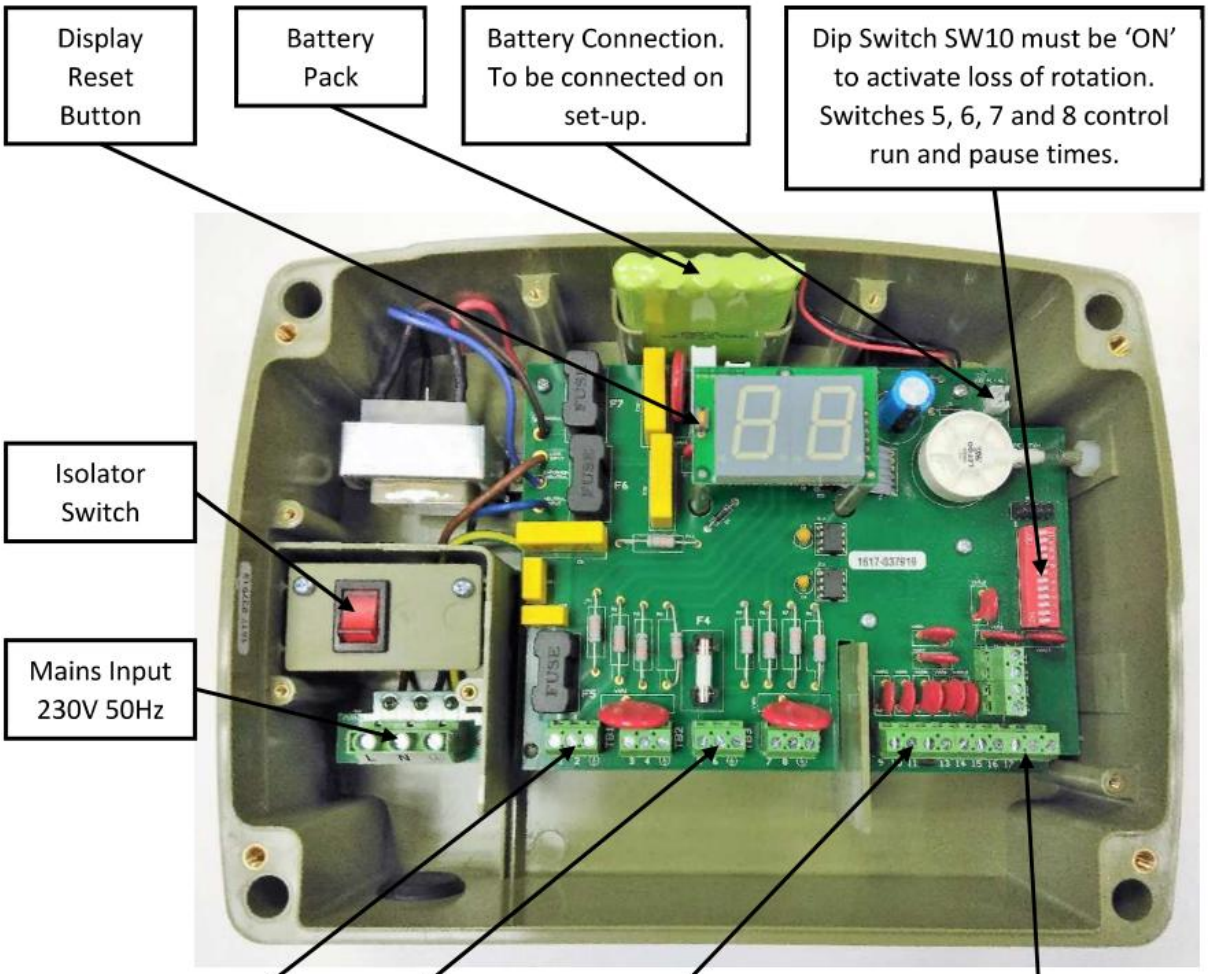
To determine the meaning of the fault codes on the control unit use the table below. The related fuse location and fuse ampere rating are also shown if applicable.

All fuses are Time Lag HBC 20mm type

Code	Fault Condition	Fuse	Amp
F1	No power to the unit	Customer Fuse Box	N/A
F3	The high level alarm has activated	N/A	N/A
F4	The fuse to the motor has failed	F4	3.15
F5	The fuse to the discharge pump has failed	F5	5.0
F8	The loss of rotation alarm has been activated	N/A	N/A
--	The unit has had a fault which has now corrected itself Flashing left and right – Battery charging Flashing left only – Battery charged	N/A	N/A

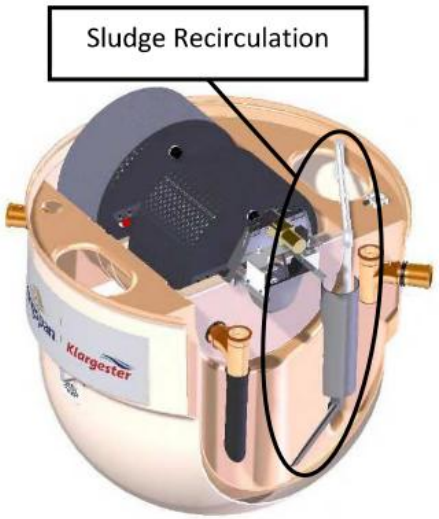
Sludge Recirculation

Please read the instructions in the standard gravity unit section for guidance on connecting the mains power supply, motor, loss of rotation alarm and the beacon.



Sludge Recirculation Pump

Using a suitable M20 gland, feed the integral discharge pump power cable through Gland Hole 3 and terminate to connection 3 and 4 (TB2) as shown on Page 15.



Run and Pause Time Setting

To set the desired run and pause time settings of the Chemical Dosing Pump and the Sludge Return Pump change the dip switch (red switches on right hand side of the control panel) positions as shown in the table below.

Sludge Return Pump Pause Time		
Switch 5	**Switch 6**	**Pause Time**
Off	Off	12 hours
Off	On	6 hours
On	Off	2 hours(default)
On	On	1 hour
Sludge Return Pump On Time		
Switch 7	**Switch 8**	**On Time**
Off	Off	30 seconds
Off	On	20 seconds (default)
On	Off	10 seconds
On	On	5 seconds

Fault Codes and Fuses

To determine the meaning of the fault codes on the control unit use the table below. The related fuse location and fuse ampere rating are also shown if applicable.

All fuses are Time Lag HBC 20mm type

Code	Fault Condition	Fuse	Amp
F1	No power to the unit	Customer Fuse box	N/A
F4	The fuse to the motor has failed	F4	3.15
F7	The fuse to the sludge recirculation pump has failed	F7	5.0
F8	The loss of rotation alarm has been activated	N/A	N/A
--	The unit has had a fault which has now corrected itself Flashing left and right – Battery charging Flashing left only – Battery charged	N/A	N/A

Chemical Dosing

Please read the instructions in the standard gravity unit section for guidance on connecting the mains power supply, motor, loss of rotation alarm and the beacon.

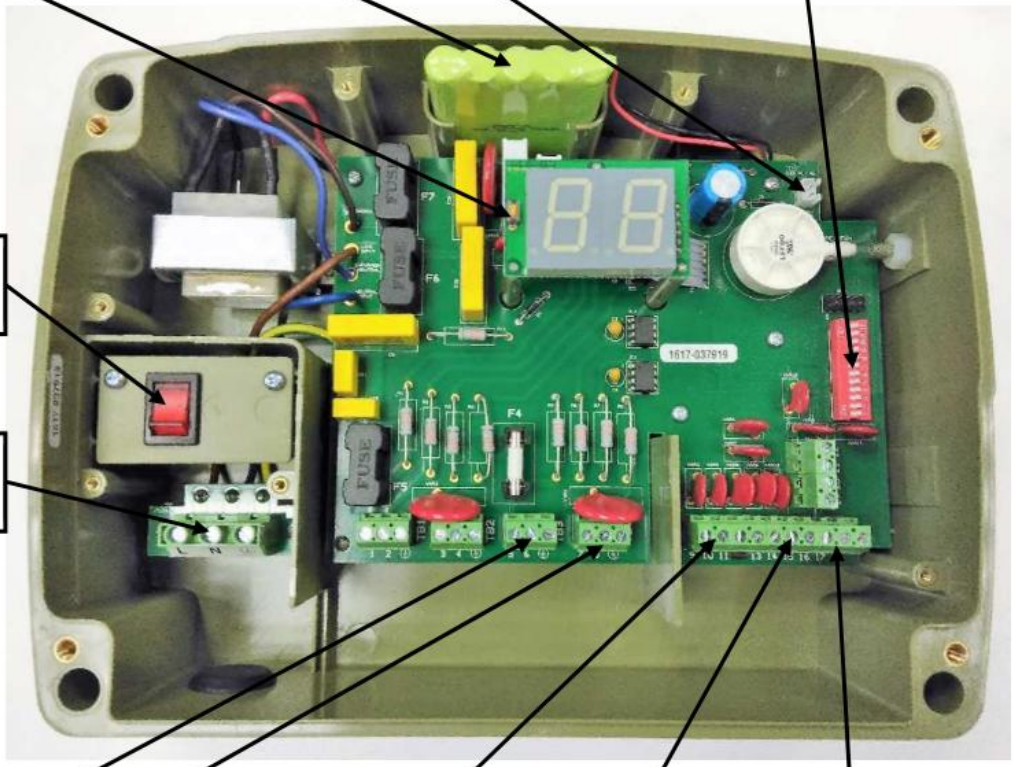
Chemical must be supplied by others. The recommended chemical is PAX XL 60, other chemicals may be used but they must be checked for suitability. Please contact Kingspan to do so.

Display Reset Button

Battery Pack

Battery Connection. To be connected on set-up.

Dip Switch SW10 must be 'ON' to activate loss of rotation. Switches 1, 2, 3 and 4 control run and pause times.



Isolator Switch

Mains Input 230V 50Hz

TB3
Motor Drive:
Live (blue) to «5»
Neutral (black) to «6»
Earth to ⏚
Fuse F4 - 3.15A

TB5
Loss of Rotation Detection:
«9», «10»

The contacts are not position sensitive

TB8
Remote Beacon:
DC (red) to «16»
Control (white) to «17»
Ground (black) to «18»

TB4
Chemical Dosing Pump:
Live (brown) on «7»
Neutral (blue) on «8»
Earth to ⏚
Fuse F6 – 250mA

TB7
Chemical Dosing Probe:
Common (uncut electrode) on «13»
Stop (longer cut electrode) on «14»
Start (shorter cut electrode) on «15»

Chemical Dosing Pump

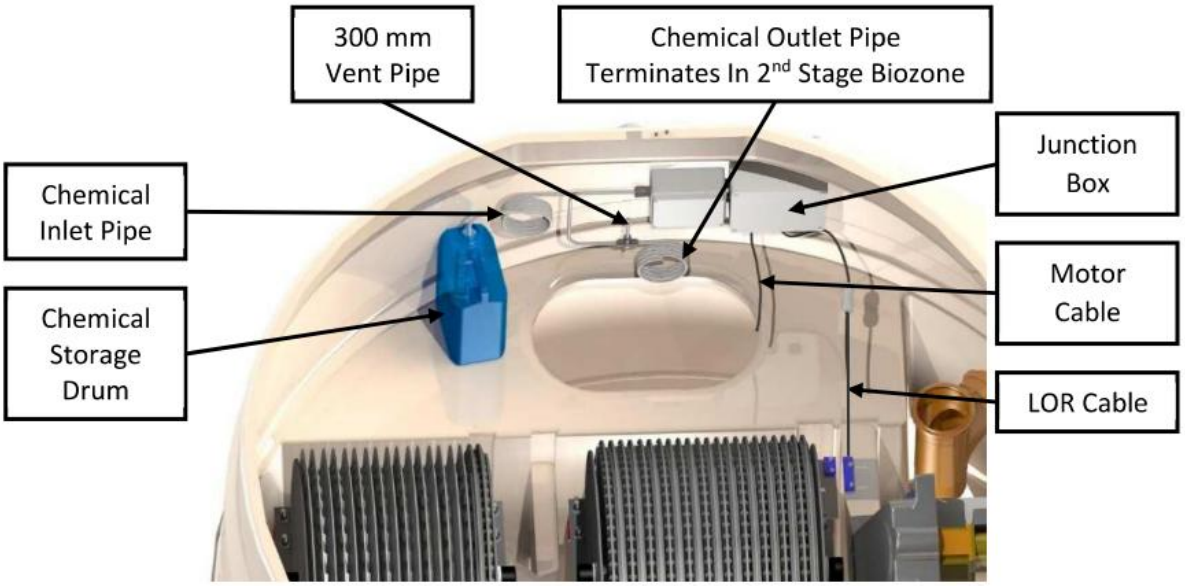
Using a suitable M20 gland, feed the chemical dosing pump power cable through Gland Hole 5 and terminate to connections 7 and 8 (TB4) as shown on Page 17.

Connect the other end of the chemical dosing pump power supply cable to the junction box in the plant (marked CHEMICAL DOSING).

Chemical Dosing Probe

Using a suitable M12 gland, feed the chemical dosing probe cable through Gland Hole 8 and terminate to connections 13, 14 and 15 (TB7) as shown on Page 17.

Connect the other end of the chemical dosing probe cable to the junction box in the plant.



Run and Pause Time Setting

To set the desired run and pause time settings of the Chemical Dosing Pump change the dip switch (red switches on right hand side of the control panel) positions as shown in the table below.

Chemical Dosing Pump Pause Time		
Switch 1	**Switch 2**	**Pause Time**
Off	Off	25 minutes (default BA)
Off	On	12 minutes (default BB)
On	Off	12 minutes
On	On	6 minutes
Chemical Dosing Pump On Time		
Switch 3	**Switch 4**	**On Time**
Off	Off	4 seconds
Off	On	3 seconds
On	Off	2 seconds (default)
On	On	1 second

Fault Codes and Fuses

To determine the meaning of the fault codes on the control unit use the table below. The related fuse location and fuse ampere rating are also shown if applicable.

All fuses are Time Lag HBC 20mm type

Code	Fault Condition	Fuse	Amp
F1	No power to the unit	Customer Fuse Box	N/A
F4	The fuse to the motor has failed	F4	3.15
F6	The fuse to the chemical dosing pump has failed	F6	0.25
F8	The loss of rotation alarm has been activated	N/A	N/A
--	The unit has had a fault which has now corrected itself Flashing left and right – Battery charging Flashing left only – Battery charged	N/A	N/A

Electrical Information

	Power (W)	Voltage (V)	Phase	Full Load Current (Amps)
Motor	50	230	Single	0.52
Integral Discharge Pump	250	230	Single	2.2
Sludge Return Pump	250	230	Single	2.2

Extended warranty for your Klargester BioDisc domestic treatment plant explained

Enjoy a seven year extended warranty period for your BA, BB or BAX Klargester BioDisc sewage treatment plant. In this document, we have outlined the benefits and terms associated with your extended warranty period.

For further enquiries, please contact our Kingspan Service team on:

helpingyou@kingspan.com

0333 240 6868
(NI 028 3836 4600 | ROI 0818 543 500)

kingspanservice.com

How to activate your extended warranty

Register your domestic BioDisc treatment plant online at:
www.kingspan.co.uk/biodisc-guarantee

Benefits of your extended warranty

7 YEARS

Upon activating your extended warranty for your BioDisc treatment plant, you will benefit from:

- Replacement parts if required for your BioDisc system (fair wear and tear only).
- Free expert technical support from our Kingspan Service team.
- Remain fully compliant with local DEFRA/ Environment Agency regulations.
- Peace of mind with no disruption or downtime needed for maintenance or repairs.

Terms of your extended warranty

To ensure your extended warranty is valid, please adhere to the following terms:

- To activate your extended warranty, you must register online at kingspan.co.uk/biodisc-guarantee
- Your domestic BioDisc plant must be commissioned by a suitably qualified professional, either a Kingspan Service engineer or Kingspan Klargester accredited installer.
- You must arrange to have a full service of your domestic BioDisc plant within one year of registering your warranty. Contact our Kingspan Service team on helpingyou@kingspan.com to arrange a suitable date.
- Your domestic BioDisc treatment plant must be serviced once a year by a suitably qualified professional, either a Kingspan Service engineer or Kingspan Klargester accredited installer.
- When claiming Warranty, you must keep a record of all service and maintenance records carried out to your BioDisc treatment plant (either by Kingspan Service and/or the Installer.
- Any repair work carried out under the terms of the extended warranty contract will be guaranteed for a period of 28 days unless the original repair works were necessitated by reason of abuse or misuse of the system (in which case any all repair works will be chargeable).
- The extended warranty will be invalidated if you do not give us a reasonable opportunity to inspect the goods and the system to confirm the cause of the problem which you have encountered with it.
- The warranty will be invalidated if you abuse and/or Misuse the goods and/or the system.
- The warranty set out above will be invalidated if you use
- the goods and/or the system in any way which is inconsistent with any of the following:
  - (a) any specific instruction given to you by us;
  - (b) the manufacturer's guidelines; or
  - (c) any operating instructions.
- The warranty set out above will be invalidated if you fail to notify us in writing of the defect or failure in the goods or system within 14 days of your discovery of the defect or failure.
- We cannot take responsibility for any loss of profit, which you may suffer as a result of any failure or defect in the goods or system.

WARRANTY

The company will replace or, at its option, properly repair without charge any goods which are found to be defective and which cause failure in normal circumstances of use **within a period of twelve months from the date of delivery.**

This warranty is conditional upon:

(a) The Buyer notifying the Company of any claim within Seven days of the failure becoming discernible.

(b) The Company being allowed a reasonable opportunity to inspect the goods so as to confirm that they are defective.

(c) The goods not having been modified, mishandled or misused and being used strictly in accordance with any relevant instructions issued by the Company.

The Company's liability under this Clause is limited to the repair or replacement of the defective goods, and does not cover costs of transport, installation or associated site costs, if applicable.

The Company's liability to replace or repair the goods is in lieu of and excludes all other warranties and conditions, and in particular (but without limitation) the Company shall have no liability of any kind for consequential loss or damage.

A warranty form is included in this package, to register your unit for warranty. Please complete ALL sections of the form and return it at your earliest convenience.

Also within this manual is a **Notice**, describing the necessary maintenance for the plant. This should be fixed within the building.

For any further advice, please contact our Service & Warranty department on +44 (0) 844 225 2785. It would be helpful if you provide your equipment serial number.

NOTICE

BioDisc

The foul drainage from this property discharges into a package treatment works.

Maintenance is required, the frequency of which depends upon the model installed, its use and application. Please consult your Operation & Maintenance Manual.

* A BA BioDisc requires annual maintenance and desludging.

* A BAx BioDisc requires annual maintenance and desludging at 9 month intervals.

* A BB/NB BioDisc requires annual maintenance and desludging at 6 month intervals.

Refer to owner's manual for information on desludging points.

Maintenance and Desludging should be carried out by the owner in accordance with the Manufactures instructions.

THE OWNER OF THE PROPERTY IS LEGALLY RESPONSIBLE FOR ENSURING THAT THE SYSTEM DOES NOT CAUSE POLLUTION, A HEALTH HAZARD OR A NUISANCE.

We recommend that a separate log is kept of all maintenance and service visits, the log should detail the date and any action taken, e.g. Regular maintenance service, breakdown visit, desludge volume removed, parts replaced.

This notice should be fixed by the owner within the building alerting current and future owners to the maintenance requirement.

(Building regulation H2 (1.57)

Please contact Service NI on 028 383 64600 or Service Department Ireland on 0818 543 500 to arrange a maintenance service or to request replacement operating instructions. It would be helpful if you provide your equipment serial number.

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Declaration of Performance

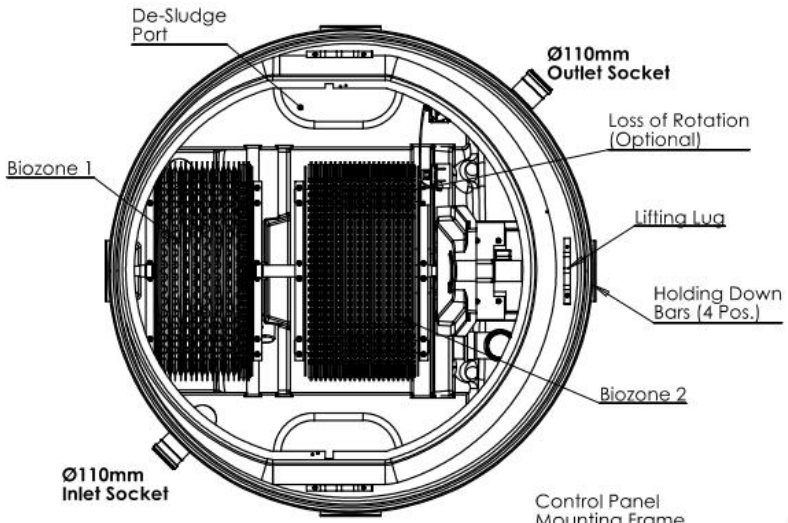
According to the harmonised technical specification EN:12566-3+A2:2013

Identification code	Waste Water Treatment Plant for 6 to 50 Population Equivalents. BA, BB, BC, BD, BE & BF BioDisc.
Type	BioDisc Prefabricated Domestic Waste Water Treatment Plant: BA (6PE) to BF (50PE).
Use	Collection & Treatment of Waste Water from Domestic applications up to 50 Population Equivalent.
Manufacturer	Kingspan Water & Energy Ltd, College Rd North, Aston Clinton, Aylesbury, Buckinghamshire, HP22 5EW.
Attestation of system conformity	PIA Prüfinstitut für Abwassertechnik GmbH, Notified Body No: 1739 Has executed initial type testing according to system 3 and delivered the test reports.
Essential Characteristics	**Performance**
Structural Behaviour	Confirmed by Pit Test under the following Conditions: - Maximum installation Depth 0m over cover level - Wet conditions maximum water level 2.55m
Resistance to fire	Class E
Water Tightness (water test)	Pass
Material Durability	MFR (230/2,16) = (5,0± 3,0g)/10 min (EN ISO 1133)
	Density ≥ 905 kg/m³ (EN ISO 1133)
	Yield Stress ≥ 30 Mpa (EN ISO 527-2)
	Creep Factor αmaterial = 0,48 (average value)
	Ageing Factor (β) = 0,46 (average value)
Emission of Dangerous Substances	NPD
Signed for and on behalf of the manufacturer. Aylesbury, 1st March 2019	Paul Copping – Business Unit Director

CE

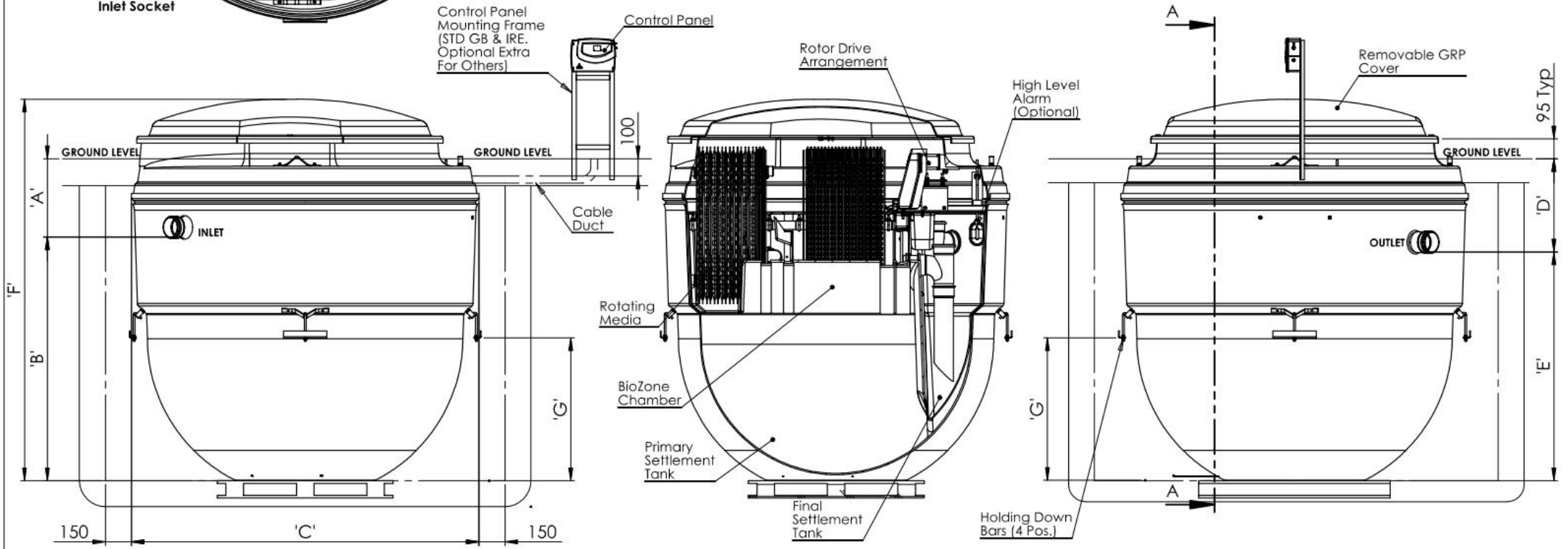
Kingspan

EN 12566-3+A2:2013			
Name of Product Type		**BioDisc**	
Treatment process		**Rotating Biological Contactor (RBC)**	
Nominal organic daily load		**0.29 kg BOD_5/day**	
Nominal hydraulic daily load		**1.2 m^3/day**	
Testing authority		**PIA GmbH, NB 1739**	
Treatment Efficiency	**COD**	**89.4%**	**59 mg/l**
	BOD_5	**95.7%**	**10 mg/l**
	NH_4-N	**88.6%**	**3.8 mg/l**
	SS	**94.8%**	**15 mg/l**
	P	**NPD**	**NPD**
	KN	**NPD**	**NPD**
Power consumption		**1.3 kWh/d**	



Notes:

1. This drawing is for 'Dimensional Information Only'. It is essential that this drawing is read in conjunction with the 'Installation Guidelines' supplied with the unit. (Copies available from our sales department).
2. BioDisc Tank & Cover are manufactured glass reinforced polyester (GRP). Cover is finished in Green to BS4800 Tint 18.B.25
3. For desludging procedure see Maintenance Handbook.
4. Electrical Supply - 240Volts, 2 Amps, Single Phase, Control Panel Supplied.
5. BioDisc must only be lifted by 3 lugs provided.
6. 3 no. Inlet Inverts available - 450mm , 750mm, 1250mm.
7. For Installation, Maintenance & Desludging details refer to 013103 (GL0010P) & 015098 (GL0011P).
8. Cable Duct hole diameter in case to suit conduit to be used.



SECTION A-A

Please check with Kingspan Environmental that this drawing is the latest issue				
Issue	Date	Drawn by	Approved by	Description
05	30/10/15	L.Steward		CC1241 - 1.0m Invert Option Included For Europe/ ROW
04	19.08.15	T.Kelly		CC1259 - Control Panel Mounting Frame Options Updated

Material : Various	Tolerance :
Finish :	Thickness : n/a
Weight : 566.42 Kg Kgs	Surface Area :

Drawing : DS1146P

BA-BB-BAx BioDisc Gravity Sales Drawing

All dimensions in mm

Scale: Not to scale

T:\Luke S\Drawings\CC1241\DS1146P

Kingspan Environmental

BA Gravity BioDisc Dimension & Weight Chart (**All Markets**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
450	1400	1995	535	1315	2160	820	310	3290
750	1400	1995	835	1315	2460	820	325	3305
1250	1400	1995	1335	1315	2960	820	380	3360

BAx & BB Gravity BioDisc Dimension & Weight Chart (**All Markets Except France**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
450	1400	1995	535	1315	2160	820	335	3315
750	1400	1995	835	1315	2460	820	350	3330
1250	1400	1995	1335	1315	2960	820	405	3385

BB Gravity BioDisc Dimension & Weight Chart (**France Only**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
450	1650	1995	535	1565	2410	1070	355	3335
750	1650	1995	835	1565	2710	1070	370	3350
1250	1650	1995	1335	1565	3210	1070	425	3405

Material :	Tolerance :
Finish :	Thickness :
Weight : Kgs	Surface Area :

Drawing : DS1146P

BA-BB-BAx BioDisc Gravity Sales Drawing

All dimensions in mm

Scale: Not to scale

Kingspan Environmental

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BA Gravity BioDisc 1.0m Invert Dimension & Weight Chart (**Europe & ROW Only**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
1000	1400	1995	1085	1315	2730	820	345	3325

BB Gravity BioDisc 1.0m Invert Dimension & Weight Chart (**Europe & ROW Only**)

Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
1000	1400	1995	1085	1315	2730	820	373	3350

BB Gravity BioDisc 1.0m Invert Dimension & Weight Chart (**France Only**)

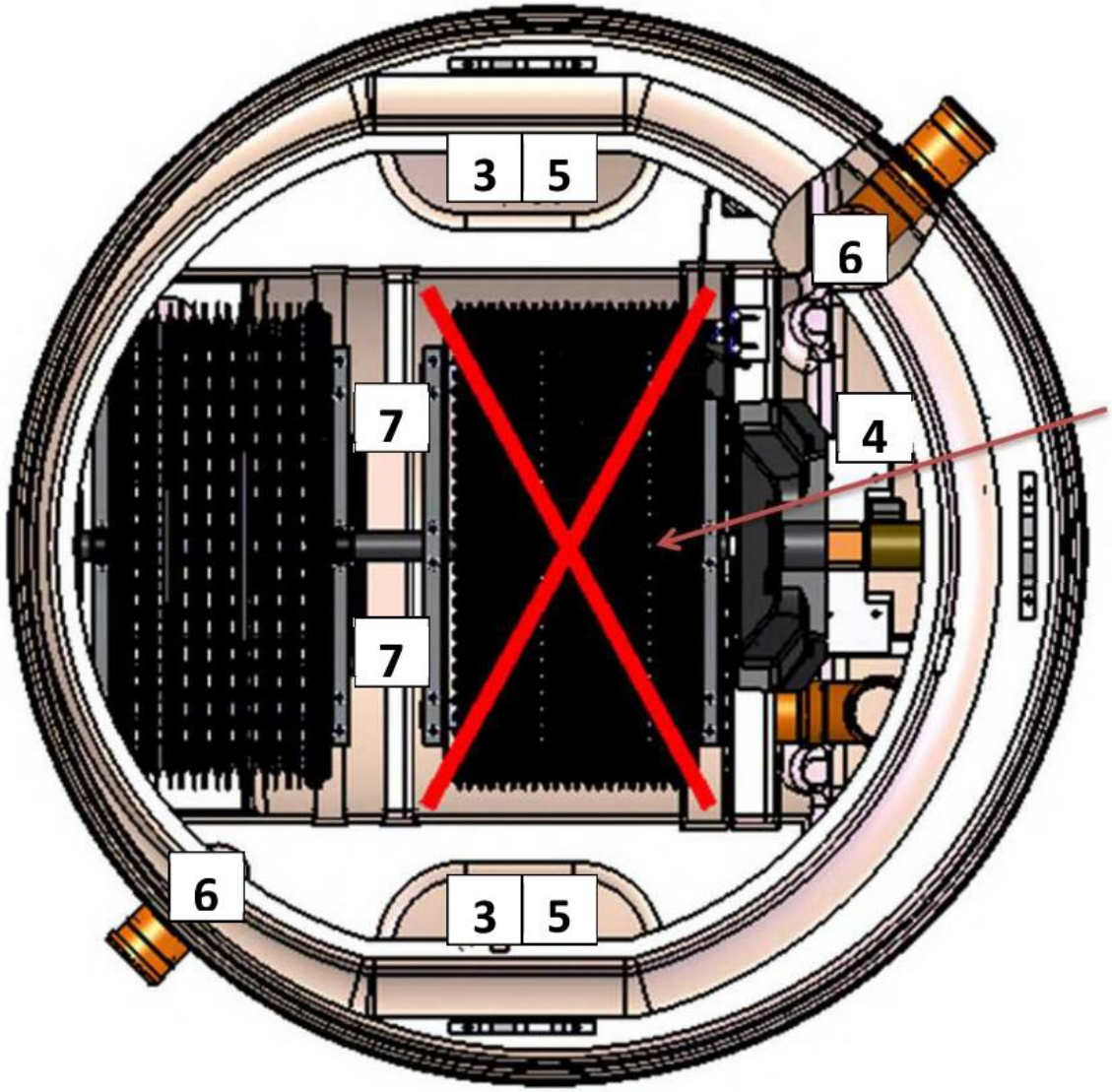
Unit Dimension Chart (Gravity Systems).								
Dim 'A' (mm)	Dim 'B' (mm)	Dim 'C' (mm)	Dim 'D' (mm)	Dim 'E' (mm)	Dim 'F' (mm)	Dim 'G' (mm)	Dry Weight (Incl. Pallet) (Kgs)	Full Weight (Exclud. Pallet) (Kgs)
1000	1650	1995	1085	1565	2980	820	373	3350

Kingspan Environmental

IMPORTANT

Isolate power to unit before attempting any maintenance and ensure that all local procedures are complied with concerning the Health and Safety at work act.

Refer to Owner's Handbook for Maintenance Details



Desludge Procedure:

1. Isolate power to unit.
2. Unlock and remove cover, taking care to avoid any damage (Standard cover weight ≈22kg. Insulated split cover weight ≈43kg).
3. Lower Desludge Hose into Primary tank and using the desludging holes on either side of the rotor, remove half the contents of the Primary Settlement Tank. Use the desludge holes alternatively. The liquid level in the First Stage of the Biozone will empty at the same rate as the Primary Tank, where as the Second Stage will remain full.

DO NOT remove liquor from the Biozone.

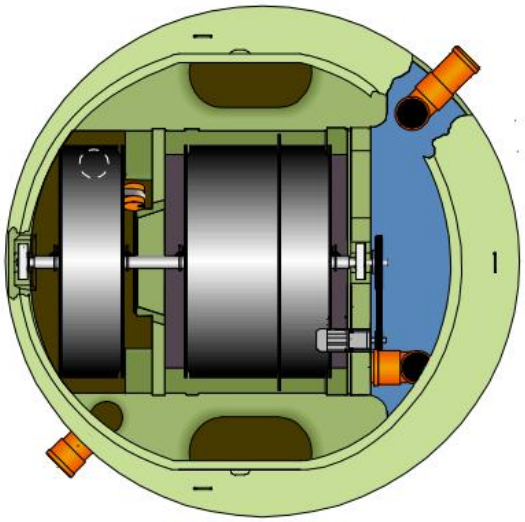
4. Lower the hose into the Final Settlement Tank, under the drive arrangement, and remove the contents. DO NOT attempt to remove liquid from the discharge pump chamber (if fitted).
5. Return the hose to the Primary Tank and remove the remaining material.
6. Ensure Inlet and Outlet pipes are clear of debris. Clean as necessary. Take care not to disturb the outlet pump if fitted.
7. Ensure Forward Feed buckets are clear of debris.
8. Replace and lock cover and restart unit.
9. Whilst not strictly necessary you may wish to refill firstly the Final Settlement Tank and then the Primary Settlement Tank. This action may improve the process performance.

013382-01 October 2012

013103
OWNERS HANDBOOK
BA-BC BioDisc

Kingspan Environmental Service Contact Numbers:

GB: 0844 846 0500
NI: 028 3025 4077
IRL: 048 3025 4077



MANAGED FLOW
BIODISC®
BA BAx BB BC NB NC

Issue	Description	Date
02	CC1088	September 2012

HEALTH AND SAFETY

These warnings are provided in the interest of safety. You must read them carefully before installing or using the equipment.

It is important that this document is retained with the equipment for future reference. Should the equipment be transferred to a new owner, always ensure that all relevant documents are supplied in order that the new owner can be acquainted with the functioning of the equipment and the relevant warnings.
Installation should only be carried out by a suitably experienced contractor, following the guidelines supplied with the equipment.

We recommend the use of a dust mask and gloves when cutting GRP components.
A qualified electrician should carry out electrical work.
Sewage and sewage effluent can carry micro-organisms harmful to human health. Any person carrying out maintenance on the equipment should wear suitable protective clothing, including gloves. Good hygiene practice should also be observed.
Covers must be kept locked.

Observe all hazard labels and take appropriate action to avoid exposure to the risks indicated.
The correct ongoing maintenance is essential for the proper operation of the equipment. Service contracts are available and recommended. Please contact Kingspan for details of your local service provider.
Should you wish to inspect the operation of the equipment, please observe all necessary precautions, including those listed below, which apply to maintenance procedures.
BioDisc units contain rotating machinery and associated drive belts.
Ensure that you are familiar with the safe working areas and accesses.
Ensure that the working area is adequately lit.

The power supply to the equipment must be isolated at the control panel(s) before lifting the covers. Where a specific maintenance procedure requires the equipment to be running with the covers off, all care must be taken to avoid contact with moving parts and electrical components or conductors. Drive guards must be replaced and secured if removed during maintenance.

Once power has been isolated, the control panel must be kept locked shut to avoid accidental re-connection whilst work or inspection is being carried out.

Use only the designated access walkways. Do not walk on the cover or deep well safety mesh(es).
Take care to maintain correct posture, particularly when lifting. Use appropriate lifting equipment when necessary. Keep proper footing and balance at all times. Avoid any sharp edges.

Desludging should be carried out by a licensed waste disposal contractor holding the relevant permits to transport and dispose of sewage sludge. The contractor must refer to the desludge instructions in this Handbook, a copy of the instructions are fastened under the covers.

There are separate installation guidelines available to provide full instructions for installations.

CE

Kingspan Environmental
Aston Clinton
Aylesbury
Buckinghamshire
HP22 5EW
United Kingdom

07

EN 12566-3

BA - BF BioDisc

Hydraulic daily load:	**1.2m³/day - 10m³/day**
Material:	**GRP Glass Reinforced Plastic**
Watertightness (water test):	**Pass**
Structural Calculation:	**Pass**
Treatment efficiency:	**COD: 89%**
	BOD_5: 96%
	SS: 95%
	Total P: 48%
	NH_4: 89%
	Total N: 46%
Electrical consumption:	**1.3 kWh/d - 3.1 kWh/d**
Sludge production:	**0.21 litres per person per day**

CONTENTS

1 INTRODUCTION

1.1.1 Thank you for choosing a Kingspan product. This manual will help you to keep it operating efficiently over a long service life. Please read this manual thoroughly, preferably before installation.

1.1.2 This manual should be referred to by:
The installer
The electrician
The service engineer
The maintenance engineer
The desludge contractor
The owner/user

2 TECHNICAL DATA

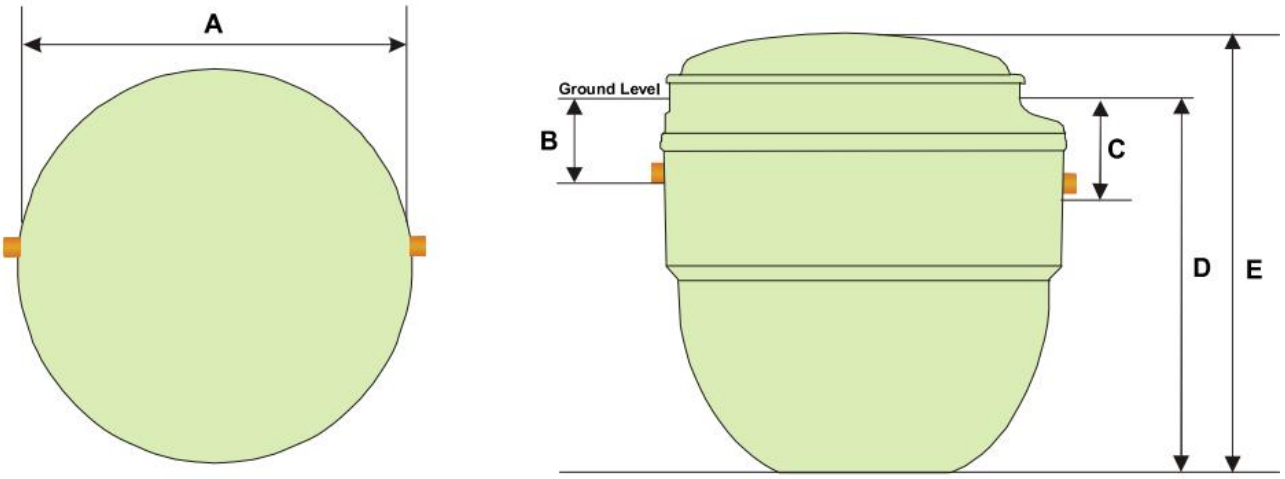


Fig. 1 General Dimensions

UNIT		BA/BAx/BB/NB			BC/NC	
Diameter A mm		1995			2450	
Inlet Invert depth B mm		450	750	1250	600	1100
Outlet Invert Depth C mm	Gravity discharge	535	835	1335	685	1185
	Pumped discharge	425	425	425	N/A	N/A
Depth Below Ground D mm		1850	2150	2650	2420	2920
O/A Height E mm		2160	2460	2960	2825	3325
Standard Power Supply		1 phase				
Optional Power Supply		3 phase				
Drive Motor Rating 1ph/3ph		60/60 watts			75/60 watts	
Sludge Return Pump Rating 1ph		480 watts (NB only)			480 watts (NC only)	
Integral Discharge Pump* Rating		480 watts (Not NB)			N/A	

*Optional

UNIT	BA	BAx	BB	BC
Maximum number of properties	1	1	2	
Maximum number of bedrooms	4	7	< 4 in each house	Consult Kingspan
Maximum Daily BOD kg	0.36	0.54	0.72	1.08
Maximum Daily Flow m^3	1.2	1.8	2.4	3.6
Peak Flow Rate ** m^3/hr	0.15	0.22	0.30	0.45

** For ½ hour max. in any 2 hour period

2.1.1 All surface water must be excluded. These units should be used exclusively for the treatment of sewage from domestic properties. Contact Kingspan if your sewage results, wholly or partly, from any commercial function.

3 DESCRIPTION AND PROCESS

3.1 Introduction

3.1.1 BioDisc systems are designed to accept crude domestic sewage and produce an effluent of suitable quality for discharge to a watercourse or soakaway system, subject to the approval of the appropriate regulatory authority. These BioDisc's are self-contained single piece units.

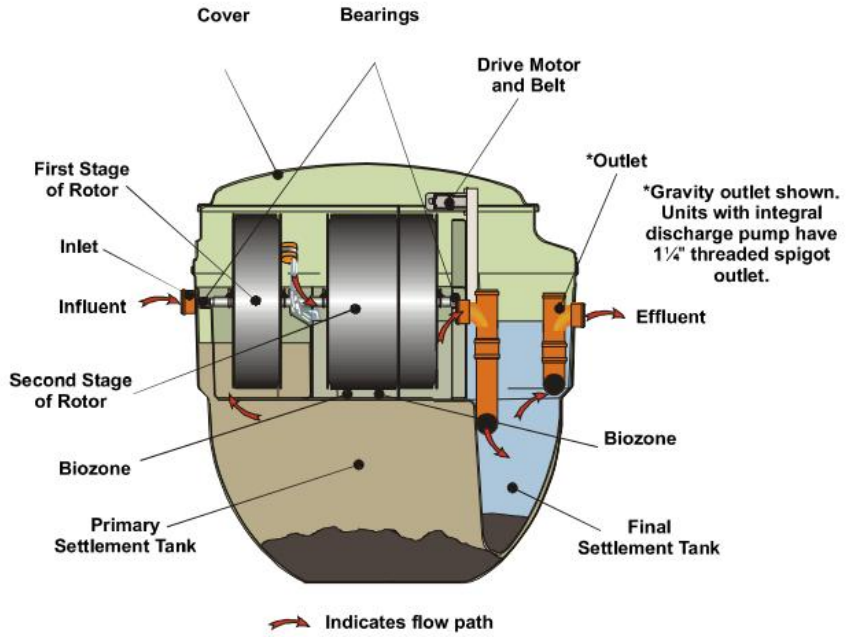


Fig. 2 - General Arrangement of BioDisc System

3.1.2 The main casing and cover of the BioDisc are constructed of Glass Reinforced Plastic (GRP). All steel parts are stainless, galvanised or surface coated to protect against corrosion. The discs are vacuum formed polyethylene.

3.2 Primary Settlement Tank

3.2.1 Crude sewage enters the Primary Settlement Tank (PST), through an inlet pipe in the side of the BioDisc. Solids are settled out and retained for periodic desludging.

3.2.2 The PST is designed to have sufficient capacity to accept high flows over a short period and the patented Managed Flow System allows the liquid level to fluctuate to accommodate such surges.

3.3 Biozone

3.3.1 The Biozone contains the Rotor, which consists of corrugated polyethylene discs mounted on a horizontal shaft, supported by a bearing at each end. The rotor is slowly rotated by an electric motor and reduction gearbox with a belt drive.

3.3.2 A flat GRP walkway along either side of the Biozone contains a number of ports which give desludge access to the Primary Settlement Tank.

3.3.3 The surface of the discs becomes colonised by naturally occurring micro-organisms, which form a visible coating known as the Biomass. As the discs rotate, the Biomass is alternately submerged in the settled sewage and aerated by exposure to the atmosphere. Under these conditions the Biomass can efficiently break down the pollutants in the sewage.

3.3.4 The Biozone and discs are divided into two stages, separated by a fixed baffle. Settled sewage enters the first stage of the Biozone through a submerged transfer slot. The liquid level in this stage will fluctuate in the same way as in the PST and the bacteria are exposed both to the fluctuating liquid level and to fluctuations in sewage strength and concentration of domestic chemicals such as washing powders. One of the functions of this stage is to minimise the effect of such shock loads, which could otherwise inhibit the process.

3.3.5 The second stage of the Biozone is hydraulically sealed from the first stage and maintains a constant liquid level. Liquid is transferred from the first to the second stage, at a steady rate, by a series of buckets attached to the rotor. This controlled flow of effluent is at the heart of the patented Managed Flow System, which promotes healthy and balanced growth of the micro-organisms essential for efficient treatment.

3.3.6 Excess Biomass (also referred to as humus) sloughs off the surface of the discs and passes with the flow, to the Final Settlement Tank.

3.4 Final Settlement Tank

3.4.1 The Final Settlement Tank (FST) is situated under the drive motor and receives a steady flow of treated effluent from the Biozone. The humus settles out and is retained for periodic desludging.

3.4.2 In NB and NC units the settled humus is periodically returned to the Primary Settlement Tank, for co-settlement, by a timer controlled pump system.

3.4.3 Final treated effluent discharges from the FST through a dip pipe (excepting units with an Integral Discharge Pump).

3.5 Optional Integral Discharge Pump (BA/BB only)

3.5.1 The discharge pump sits within a moulded chamber, positioned in the Final Settlement Tank. Treated effluent flows into the chamber, by gravity from the FST. When the liquid in the chamber reaches a pre-determined level, a float switches on the pump which then pumps effluent out of the chamber. The same float also switches off the pump when the liquid level has been sufficiently lowered, thus protecting the pump from running dry. We do recommend when this option is purchased, that a high level alarm is also fitted to warn against pump mal-operation or failure.

3.6 Control Panel

3.6.1 The weatherproof control panel need not be mounted next to the plant. It can be wall mounted or fixed to the mounting frame (available separately). Panel options are :

3.6.1.a Standard Control Panel: (and all panels) include a 3 amp fuse which protects the motor should there be an electrical problem within the BioDisc.

3.6.1.b Loss of Rotation Alarm Control Panel: This replaces the Standard Control Panel and also includes a Loss of Rotation (LOR) Alarm, which will activate if the rotor stops turning after a delay of 2-3 minutes (other than a failure in the power supply). An additional remote slave beacon may also be fitted. The loss of rotation of the rotor is sensed by a reed switch mounted near the BioDisc motor in conjunction with a magnet attached to the rotor.

3.6.1.c Integral Discharge Pump Panel also includes a current overload protected supply for the discharge pump.

3.6.1.d Nitrification Unit Panels contain a timer to control the operation of the sludge return pump and current overload protection for the pump motor.

3.6.2 All units will restart following a power cut, unless there has been a power surge greater than the pre-set limit of 3 amps.

4 INITIAL START UP PROCEDURE

4.1 Introduction

4.1.1 Every care is taken to ensure that all mechanical components are correctly fitted, adjusted and lubricated prior to leaving the factory. However, subsequent handling during transportation and installation may result in the movement of components and a subsequent need to re-adjust prior to starting the unit. Your installing contractor should have thoroughly checked the unit but if, on inspection, you consider that any components require adjustment, please contact Kingspan. We do recommend you purchase a Pre-service Agreement Inspection from an approved engineer.

4.1.2 Once the unit has been installed it should be left filled with water. Please switch on the motor, following the procedure below and leave the unit running, even if there is no sewage being fed into the plant. **If the unit has been installed with no operational power supply, then remove the motor/gearbox unit and store it in a dry or heated environment until such time as the unit is ready for permanent operation. The motor gearbox unit and drive belt should then be replaced and tensioned by Kingspan or an experienced contractor.**

4.1.3 We recommend that the system should be inspected. Please contact Kingspan. Where an immediate start-up is necessary, the following basic procedures should be carried out. Ensure that all Health and Safety precautions are observed.

4.2 Water

4.2.1 Check that the BioDisc is full of water to the outlet level.

4.3 Electrical

4.3.1 Check that the power supply is connected to the control panel. Check that all electrical components and conductors are earthed.

4.4 BioDisc

4.4.1 Check that the BioDisc is in order, with no obvious damage or misalignment of parts. If any problems are discovered, contact Kingspan.

4.4.2 Check that all electrical components: Drive Motor, Sludge Return Pump and LOR Alarm sensor, (where applicable) are connected to the Control Panel.

4.4.3 NB/NC units only: Check that the Sludge Return Timer in the BioDisc Control Panel is set correctly, as described in the installation instruction.

Fig. 3 - Pump Position
Units with optional discharge pump: Check that the pump float and associated pipework are positioned as shown and that the float can move freely.

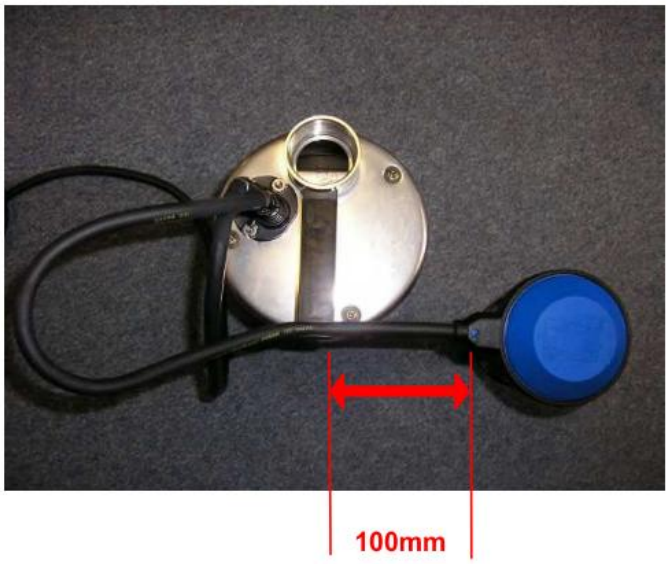


Fig. 4 - Float Setting
The float cable length is pre-set during assembly to a dimension of 100mm. Check that this dimension has not been altered. If for any reason the cable becomes disconnected from the retaining clip it should be replaced so that there is 100mm of cable between the clip and the float.
Note: Setting less free cable will cause the pump to operate more frequently and may shorten its working life.
Important: With the pump chamber empty of water the float must hang clear of the chamber floor. The correct float position and distance is essential. The float must not be able to either trap or tangle, as this will prevent its correct operation. The float must not jam.

4.5 Switch On

4.5.1 Open the Panel. Put the isolating switch into the "on" position. Close the panel. Note: If the unit is fitted with a sludge return pump, this will start immediately and will run for the pre-set period.

4.6 Running Checks

4.6.1 Check that the rotor is running smoothly in the correct direction of rotation and is not contacting any part of the fixed structure.

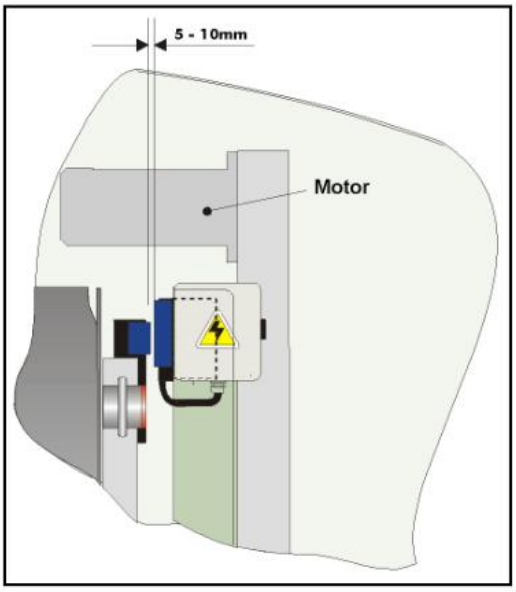
4.6.2 Check that the forward feed buckets are discharging correctly from the first to the second stage of the Biozone.

4.6.3 Units with optional Discharge pump: Once the rotor is turning, a flow through the FST and into the pump chamber will be generated. Check that the pump switches on at high level and off at low level.

4.6.4 **Note:** The pump switch-on level must be below the pump chamber inlet.

4.7 Optional Loss of Rotation Alarm

4.7.1 The alarm sensor (reed switch) is mounted adjacent to the motor/gearbox assembly. The sensor may be supplied out of position, to allow for possible minor rotor movement during transport. Check the sensor position and if necessary adjust to provide a gap of 5 - 10 mm between the sensor and the actuator magnet.



Check operation of the Loss of Rotation (LOR) Alarm as follows:

- 4.7.1.a Remove the main cover and switch off the Control Panel.
- 4.7.1.b Remove the safety cover. At this point the display will read “F1”.
- 4.7.1.c Disconnect the cable to the motor.
- 4.7.1.d Replace the safety cover.
- 4.7.1.e Switch the control panel on.
- 4.7.1.f After no more than a couple of minutes the display will read “F8”.
- 4.7.1.g Switch the panel off and remove the safety cover.
- 4.7.1.h Reconnect the cable to the motor.
- 4.7.1.i Replace the safety cover.
- 4.7.1.j Switch the control panel on. The display will read “- -“.
- 4.7.1.k Press the orange reset button. The display will return to normal running mode.
- 4.7.1.l Replace the main cover on the control panel.

4.7.2 Malfunctioning of the LOR Alarm does not prevent operation of the BioDisc System, but it should be reported to your maintenance engineer for early rectification.

4.8 Process Initiation

4.8.1 During installation, the unit will have been filled with water. Allow sewage to enter the unit, this will gradually displace the clean water used during installation.

4.8.2 Colonisation by micro-organisms will commence naturally and an operating biomass will develop on the discs after approx. 3-6 weeks, depending on individual site conditions and season.

5 OPERATION

5.1 Introduction

5.1.1 The biological treatment process of your BioDisc is self regulating and it requires no specialised operational knowledge, but it is important that you are aware of the following:

5.1.2 Your BioDisc system uses colonies of live natural micro-organisms (biomass), to break down the pollutants in the sewage. Many chemicals used in households and commercial establishments can inhibit or kill these micro-organisms; particularly if used in excessive amounts.

5.1.3 Bear in mind that treatment plants serving small populations do not have the benefit of dilution that occurs at a large sewage works. A bottle of bleach tipped down the toilet in Birmingham would be virtually lost amongst the millions of gallons of sewage arriving at the city's treatment works; a bottle of bleach in a plant serving one or two houses could be a lethal dose for the biomass.

5.1.4 If the biomass is damaged, it will usually recover in time. But in the meanwhile one of the more obvious symptoms may be an unpleasant smell, so it is in the operators interest to avoid this.

5.1.5 Generally speaking all common household cleaning fluids are acceptable, provided they are used in accordance with the manufacturers instructions and stipulated concentrations. The following “Do’s and Don’ts“ includes the most common household chemicals, but it is not an exhaustive list and the golden rule is "If in doubt - leave it out."

5.1.6 Bear in mind too that it isn't only the toilet that is connected to the treatment plant; anything that goes down the sink, bath etc., also ends up there.

5.1.7 During normal operation the control panel displays a single flashing red light between the two digits. During battery recharge a second red light will flash on the right of the display.

5.2 Do’s and Don’t’s

5.2.1 **Washing machine and dishwasher detergents, washing up liquids:**

5.2.2 These are generally all right to use in the normal concentrations and usage found in domestic housing applications. Problems can occur if, for instance, you are washing the jerseys of the local rugby club's five teams!

5.2.3 BioDisc incorporates a unique flow management system which enhances its ability to handle shock loads of detergent waste, but there are limits even to this, so if you have to do unusual amounts of clothes washing it would be a good idea to spread it over a few days.

5.2.4 Excessive use of Biological washing powders can cause degradation of the biomass. Non-biological detergents, without enzymes, may be substituted.

5.2.5 **Floor cleaners, disinfectants and bleaches:**

5.2.6 These are safe to use in accordance with the makers recommendations and in the minimum necessary concentration. Do not pour neat disinfectant or bleach down sinks or outside gullies. If these are smelly it usually indicates a build up of decaying material or a plumbing problem and should be dealt with accordingly.

5.2.7 **Nappy disinfectants and bottle sterilising fluids e.g. Milton**

5.2.8 When disposing of the used fluid, ensure that it is well diluted with water. The easiest way of doing this is usually to flush it away down the toilet.

5.2.9 **Waste disposal units:**

5.2.10 These do not inhibit the biomass, but, depending on use, they can present the treatment plant with considerable extra load. This can result in the treatment process becoming unbalanced, leading to problems. Much better to compost your vegetable peelings etc - it's cheaper and environmentally friendly.

5.2.11 **Home beer and wine making.**

5.2.12 This presents a similar problem to waste disposal units. The BioDisc has to work as hard to treat one pint of beer tipped down the drain as it does to treat all the normal waste produced by one person in 24 hours. See also the notes above regarding sterilising fluids.

5.2.13 **THE FOLLOWING MUST NOT BE DISCHARGED INTO THE DRAINS**

- 5.2.13.a Motor oil, grease, anti-freeze, brake fluid etc.
- 5.2.13.b Cooking oil and fat.
- 5.2.13.c Weed-killers, insecticides, fungicides and other gardening chemicals.
- 5.2.13.d Paint, thinners, white spirit, turpentine, creosote etc.
- 5.2.13.e Chemical drain cleaners.
- 5.2.13.f Acid based brick/stone floor cleaners.
- 5.2.13.g Medicines
  Take unused medicines to a pharmacist for safe disposal.
- 5.2.13.h Photographic developing fluids.
- 5.2.13.i Nappies, sanitary towels, rags, soft toys, tennis balls etc.

5.2.14 This may seem obvious, but it is amazing what gets flushed down the loo from time to time. Although such items are not directly damaging to the biomass they can cause problems, not the least of which is simple blockage of the drains.

5.2.15 Even so-called disposable nappies and sanitary towels often do not degrade fully in the treatment plant and can lead to malfunction, so it is best to dispose of them by other means.

5.3 Desludging and Maintenance

5.3.1 These are vital to the plant's ongoing operation and should be carried out in accordance with the guidelines in the maintenance section of this manual.

5.3.2 Maintenance contracts are available. Please contact Kingspan for your local service provider.

6 MAINTENANCE

6.1 Introduction

6.1.1 Kingspan BioDisc units are designed and engineered for the minimum possible maintenance requirements, consistent with proper performance. Nevertheless, it is important that routine preventive electro/mechanical maintenance and de-sludging are carried out at the appropriate intervals by suitably qualified persons.

6.1.2 Please contact Kingspan for your local service provider.

6.2 Customer Checks

6.2.1 As a back-up to routine servicing and to assist trouble-free operation, we recommend that you familiarise yourself with the operation of your BioDisc and make the following checks from time to time: (Refer to Fig. 6 for positions of parts mentioned.)

6.2.2 Your attention is specifically drawn to the Health and Safety section of this manual.

- 6.2.2.a Review the appearance of the Biomass. It may be light grey to grey at the first bank, gradually changing to brown in the second stage and dark brown at the drive end of the rotor. If the growth is excessively thick and the colour predominantly grey throughout, an overload condition is indicated.
- 6.2.2.b Visually check the general condition of the BioDisc.
- 6.2.2.c Check that the inlet and outlet pipes (C) are clear. Remove any debris if necessary.
- 6.2.2.d Check that the dosing bucket(s) (D) are transferring liquid consistently from the first to second biozone section.
- 6.2.2.e Check that the buckets are clear of gross accumulations of biomass, simply clean with a water jet from a hose pipe.
- 6.2.2.f Units with an Integral Discharge Pump: Check that the pump float can move freely and switches the pump on and off as the level in the pump chamber rises and falls. If a high level alarm is fitted check that the alarm float can move freely.
- 6.2.2.g Familiarise yourself with the normal operating sound of your BioDisc. Report any unusual noises to your maintenance engineer.

6.2.3 If any malfunction is discovered, contact your maintenance engineer.

6.3 Failure of Power Supply or of Discharge Pump

6.3.1 BioDiscs with gravity discharge: In the event of a power failure, the control panel will show fault code “F1”. Flow through the BioDisc will continue by gravity, although the quality of the discharge will gradually deteriorate. When power is re-established, check that the rotor has re-started and is turning correctly (see Section 3.0 paragraphs (5) and (6)). If the BioDisc has not been working for some time, the rotor may become unbalanced. This can cause the rotor to turn unevenly or prevent the unit restarting. In the event of any difficulties, contact your local service provider.

6.3.2 **Low Voltage Power Supply**

6.3.3 Motors may burn out if this condition is experienced. Consult electrician.

6.4 IMPORTANT - READ THIS. TAKE IMMEDIATE ACTION IF A PROBLEM ARISES

6.4.1 BioDiscs with pumped discharge (Integral or external pumps): During power cuts, or in the event of pump failure (indicated by fault code “F5” on the control panel), the level of sewage in the BioDisc will rise and if unchecked will lead to overflowing and/or possible damage to the motor/gearbox. At normal flow rates, sewage will reach the level of the motor in about 40 hours (6 people) or 20 hours (12 people). If pump operation cannot be re-established within this time the sewage level in the BioDisc must be carefully monitored and incoming flow restricted. If necessary the BioDisc should be emptied by a licensed waste contractor to avoid sewage overflowing the internal baffles or damaging the motor. **Do not allow the motor/gearbox to come into contact with sewage.**

6.4.2 *We advise that a High Level Alarm is fitted on all units with a pumped outlet. Contact Kingspan for more details.*

6.4.3 When normal operation is resumed, check for solids in the Biozone and FST and de-sludge if necessary. Check rotor rotation as above.

6.5 Sludge Removal from BioDiscs BA, BAx, BB, NB, BC AND NC.

6.5.1 Refer to the illustration below for recommended desludge positions.

(Note: Illustration is typical; individual units may vary).

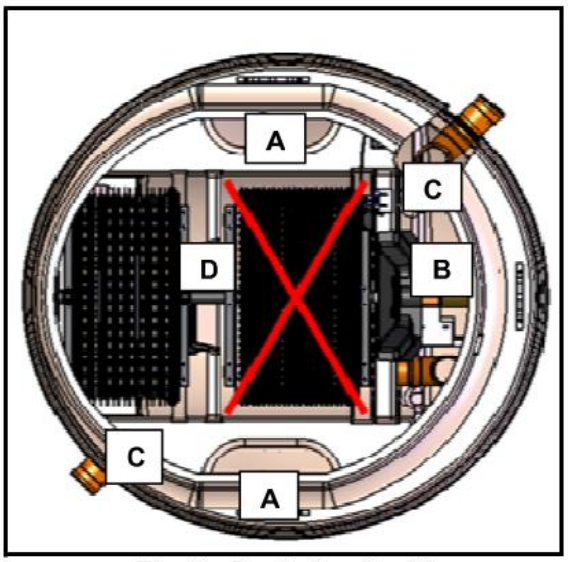


Fig. 6 - Desludge Positions

6.5.2 Isolate power to the BioDisc.

6.5.3 Undo the BioDisc cover latches and remove the cover. Hinged covers should be folded before removal.

6.5.4 Remove surface scum and about half the contents of the Primary Settlement Tank through the desludge ports [A] on either side of the rotor. Use the ports alternately. If port covers are fitted, keep the port not in use covered.

6.5.5 Empty the Final Settlement Tank [B]. **DO NOT** attempt to remove liquid from the discharge pump chamber (if fitted).

6.5.6 Remove remaining matter from the Primary Settlement tank.

6.5.7 **DO NOT** attempt to remove any liquid from the rotor section.

6.5.8 **DO NOT** attempt to clean off the gelatinous biomass growth on the rotor.

6.5.9 Ensure that the BioDisc inlet and outlet pipes [C] and the forward feed buckets [D] are free of debris. Ensure that the desludge port covers, if fitted, are replaced, then close and lock the BioDisc covers.

6.5.10 Re-connect the power supply. Ensure that the control panel door is locked shut.

6.5.11 Units with Loss of Rotation Alarms only: Wait for two minutes. If the alarm on the control panel does not activate, this indicates that the rotor has successfully re-started. If the alarm activates, switch off the power at the control panel and immediately switch on again. If the alarm continues to activate, isolate the power supply and notify the plant owner so that the problem can be investigated.

6.6 Desludge Volumes

Model	BA	BAx	BB/NB	BC/NC
Primary Settlement Tank	2200 litres (485 galls)	2200 litres (485 galls)	2200 litres (485 galls)	4580 litres (1009 galls)
Final Settlement Tank	400 litres (88 galls)	400 litres (88 galls)	400 litres (88 galls)	850 litres (187 galls)
Desludge Period	12 months Maximum	9 months Maximum	6 months Maximum	7 months Maximum
You should not exceed the maximum desludge periods given above.				

7 TROUBLE SHOOTING GUIDE FOR BIODISC UNITS BA/BAx/BB/NB/BC/NC

SYMPTOM	CAUSE	ACTION
Strong odour	Excessive build up of sludge and scum	Desludge the unit.
	Grease (white/cream crust in primary tank and/or thick, smooth biomass[1])	De-sludge unit. If necessary hose off discs. Avoid excessive use of fats and oils. Please note removal of Biomass will reduce treatment until new Biomass establishes.
	Chemicals in the system (very sparse or no biomass[1])	In most instances, units will recover naturally from toxic inhibition events. Refer to section 4 of the Owners Handbook for general guidance on use of domestic chemicals.
	Excessive laundry use (thick, stringy whitish biomass[1] on first section)	Spread out laundry operations. Avoid biological powders where possible and use the minimum possible amounts of detergent. Refer to section 4.
	Unit overloaded (thick/grey biomass[1]) over most of rotor	Check section 1 of the Owners Handbook for the process capability of the unit. If in doubt, contact Kingspan.
	Rotor stopped	See rotor stopped section below.
	Drains inadequately ventilated	Check that there is an open high level vent at the head of the drains (not “Durgo” valve or tile vent).
Rotor stopped	Switched off	Check that the motor switch on the panel is in the “on” position. Re-set if necessary.
	Power failure	Check the fuse/trip at the supply board. Replace/re-set as necessary. If the problem persists, contact Kingspan.
	Wiring fault	Have the wiring to control panel checked by a competent electrician. If the supply wiring is OK contact Kingspan.
	Drive belt broken	Contact Kingspan.
	Drive motor faulty	Contact Kingspan.
	Loose pulleys on rotor or gearbox output shaft	Contact Kingspan.
Rotor fails to re-start after a stoppage	Rotor unbalanced	Hose off excess Biomass on the heavy side of the rotor. Note removal reduces treatment.
Rotor turns intermittently	Drive motor overheating	Contact Kingspan.
Effluent discharge not to required standard	See strong odour and rotor stopped sections.	
	Managed flow system in-operative.	Check that bucket(s) are in place and discharging correctly into the biozone second stage.
	Sludge return pump inoperative (NB/NC only)	Contact Kingspan.
Unit flooded (units with integral discharge pump)	Discharge pump not working.	Check that the pump switch on the panel is in the “on” position. Re-set if necessary. Check that pump control float is clear of obstructions and set at the correct length If the problem persists consider emptying unit to protect motor and gearbox and contact Kingspan or service provider. (See Section 5).

8 CONTROL PANEL FAULT CODES & FUSES

CODE	FAULT CONDITION	FUSE	Amp
F1	No power to the unit	Customer Fuse box	N/A
F3	The high level alarm has activated (where fitted)	N/A	N/A
F4	The fuse to the motor has failed	F3	3.15
F5	The fuse to the discharge pump (where fitted) has failed	F1	5.0
F6	The fuse to the chemical dosing pump has failed	F4	0.25
F7	The fuse to the recirculation pump has failed	F2	5.0
F8	The loss of rotation alarm has been activated	N/A	N/A
--	The unit has had a fault which has now corrected itself	N/A	N/A

All fuses are Time Lag HBC 20mm type.

9 WARRANTY

Taken from 'Kingspan's Terms & Conditions of Sale'

The company will replace or, at its option, properly repair without charge any goods which are found to be defective and which cause failure in normal circumstances of use within a period of twelve months from the date of delivery.

This warranty is conditional upon:

(a) the Buyer notifying the Company of any claim within Seven days of the failure becoming discernible.
(b) the Company being allowed a reasonable opportunity to inspect the goods so as to confirm that they are defective.
(c) the goods not having been modified, mishandled or misused and being used strictly in accordance with any relevant instructions issued by the Company.

The Company's liability under this Clause is limited to the repair or replacement of the defective goods, and does not cover costs of transport, installation or associated site costs, if applicable.

The Company's liability to replace or repair the goods is in lieu of and excludes all other warranties and conditions, and in particular (but without limitation) the Company shall have no liability of any kind for consequential loss or damage.

For any further advice, please contact us.

A Warranty Form is included in this package, to register your unit for Warranty. Please complete ALL sections of the Form, and return it at your earliest convenience.

Also within this package is a Notice, describing the necessary maintenance of the plant in use. This should be fixed within the building.

Our service provider: Kingspan Environmental Services: 0844 846 0500

NOTICE:

KINGSPAN BioDisc®

The foul drainage from this property discharges into a package treatment works.

Maintenance is required, the frequency of which depends upon the model installed, its use and its application. Please consult your owners pack.

* A BA BioDisc requires annual maintenance and desludging.
* A BB BioDisc requires annual maintenance and desludging at 6 month intervals.
* Other BioDisc models require more frequent desludging and maintenance (see individual operating manuals)

Maintenance and Desludging should be carried out by the owner in accordance with the Manufactures instructions.

THE OWNER OF THE PROPERTY IS LEGALLY RESPONSIBLE FOR ENSURING THAT THE SYSTEM DOES NOT CAUSE POLLUTION, A HEALTH HAZARD OR A NUISANCE.

We recommend that a separate log is kept of all maintenance and service visits, the log should detail the date and any action taken, e.g. Regular maintenance service, breakdown visit, desludge volume removed, parts replaced.

This notice should be fixed by the owner within the building alerting current and future owners to the maintenance requirement. (Building regulation H2 (1.57)

Please contact Kingspan Environmental Services on +44 (0) 844 846 0500 to arrange a maintenance service or to request replacement operating instructions.
It would be helpful if you provide your equipment serial number.

010193

Guidelines for BA-BN BioDisc®
with Chemical Dosing

Contact Numbers:

UK:
Service Tel: +44 (0) 845 355 0555
Service Fax: +44 (0) 1264 325245

Ireland:
Service Tel: +44 (0) 28 302 54077
Service Fax: +44 (0) 28 302 60046

Enclosed Documents:

010086	SCP Wiring Diagram

Issue	Description	Date
04	CC1476	Feb 2020

HEALTH AND SAFETY

These warnings are provided in the interest of safety. You must read them carefully before installing or using the equipment.

It is important that this document is retained with the equipment for future reference. Should the equipment be transferred to a new owner, always ensure that all relevant documents are supplied in order that the new owner can be acquainted with the functioning of the equipment and the relevant warnings.

Installation should only be carried out by a suitably experienced contractor, following the Guide-Lines supplied with the equipment.

We recommend the use of a dust mask and gloves when cutting GRP components.

Electrical work should be carried out by a qualified electrician.

Sewage and sewage effluent can carry micro-organisms harmful to human health. Any person carrying out maintenance on the equipment should wear suitable protective clothing, including gloves. Good hygiene practice should also be observed.

Covers must be kept locked.

Observe all hazard labels and take appropriate action to avoid exposure to the risks indicated.

The correct ongoing maintenance is essential for the proper operation of the equipment. Kingspan offer a range of maintenance contracts, details on request.

Should you wish to inspect the operation of the equipment, please observe all necessary precautions, including those listed below, which apply to maintenance procedures.

BioDisc units contain rotating machinery and associated drive chains or belts.

Ensure that you are familiar with the safe working areas and accesses.

Ensure that the working area is adequately lit.

The power supply to the equipment must be isolated at the control panel(s) before lifting the covers. Where a specific maintenance procedure requires the equipment to be running with the covers off, all care must be taken to avoid contact with moving parts and electrical components or conductors. Drive guards must be replaced and secured if removed during maintenance.

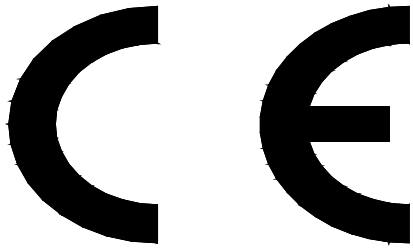
Once power has been isolated, the control panel must be kept locked shut to avoid accidental re-connection whilst work or inspection is being carried out.

Use only the designated access walkways. Do not walk on the cover or deep well safety mesh(es). Desludge port covers, where fitted, must be replaced if removed.

Take care to maintain correct posture, particularly when lifting. Use appropriate lifting equipment when necessary. Keep proper footing and balance at all times. Avoid any sharp edges.

Desludging should be carried out by a contractor holding the relevant permits to transport and dispose of sewage sludge. The contractor must refer to the desludge instructions in the Operating Manual, a copy of which is fastened under the covers.

Ensure that you have the appropriate COSH sheet and chemical handling information for the chemical selected for dosing. The chemicals used for control of phosphorus are dangerous and must be stored and handled safely. They are acidic and corrosive. See the Material Safety Data Sheet (MSDS) provided by the supplier for appropriate personal protective equipment.



Kingspan Water and Energy Ltd
College Road North
Aston Clinton
Aylesbury
HP22 5EW
United Kingdom

EN 12566-3+A2:2013		
Name of Product Type:	**BioDisc BA**	
Material:	**GRP**	
Treatment process:	**Rotating Biological Contactor (RBC) with chemical dosing equipment**	
Testing authority:	**PIA GmbH, NB 1739**	
Effectiveness of treatment:		
Treatment efficiency:	**COD:**	**95.9%**
(at tested organic daily load BOD_5 = 0.28 kg/d)	**BOD_5:**	**98.0%**
	N_{tot}:	**63.9%**
	NH_4-N:	**84.8%**
	P_{tot}:	**95.4%**
	SS:	**95.6%**
Nominal hydraulic flow (100%)	**0.9 m^3/d**	
Number of desludging	**1**	
Power consumption	**1.5 kWh/d**	
Treatment capacity (nominal designation)	**6 PT**	

CONTENTS **Page**

1.0 Chemical Dosing kit

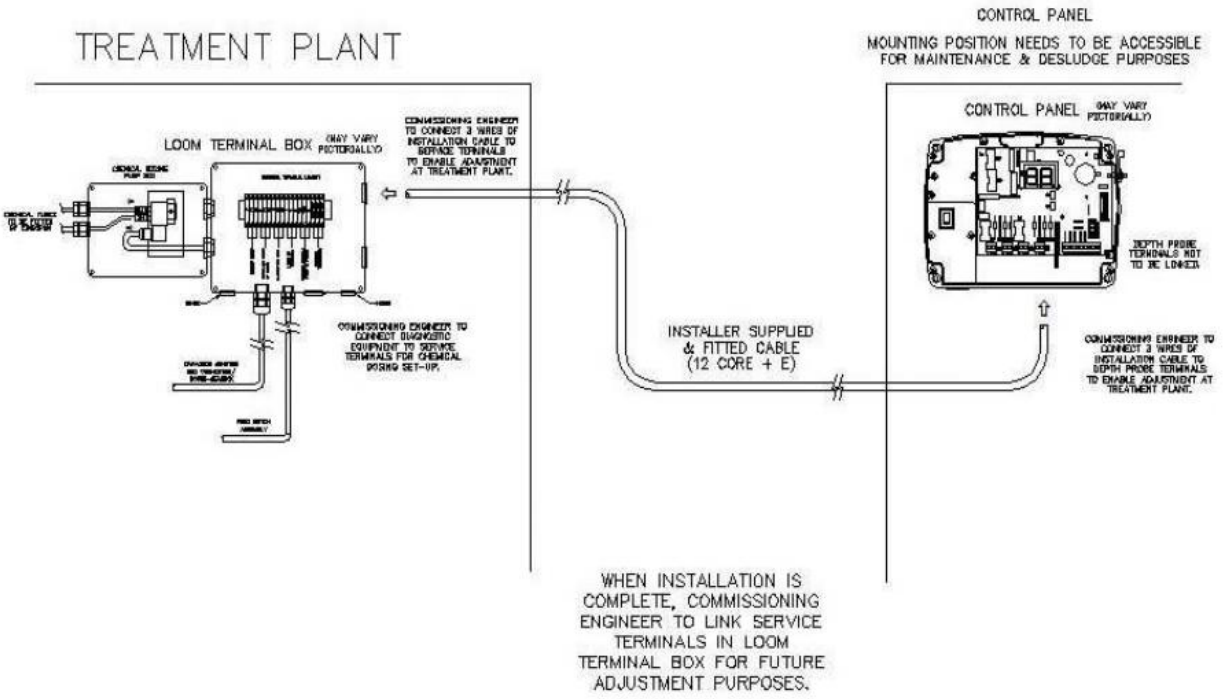
Please see the relevant BioDisc Installation and Operating manual, which indicates the flows permitted and expected daily volumes. These manuals should be followed however; **your unit has been modified to include chemical dosing equipment.**

In addition to the standard features described, your unit includes additional equipment and a special control panel.

Units are supplied with the additional equipment pre fitted. Your system and chemical dosing operations will be set up by the service engineer at installation due to variations of on-site conditions.

Wiring Loom

The wiring loom allows easy connection of the internal electrical components, i.e. chemical dosing pump, BioDisc motor, Loss of rotation sensor, sludge return pump (if included)



Chemical dosing pump

- The pump (shown below) is mounted on the wall of the tank within a chemical box or attached to the junction box. Its operation is controlled by the control panel.
- The duration of the dose and the interval of the dose can be altered using the control panel.
- Check that the chemical tubes are connected correctly to the pump inlet and outlet. (Labels are attached to the tubing externally and within the box, the white nipples are faintly embossed with in and out)
- Ensure that the pump and tube are primed with chemical and the line is bled of air.
- The discharge tube should be positioned /located at the pre drilled point at the end of the second biozone to allow the chemical to fall freely and to ensure that the chemical is delivered into the mixing zone. The discharge must be above the level of the stored chemical to prevent siphoning.

Gotec Pump

Flexible chemical Tubing

- Chemical inlet. Place the chemical draw pipe with weighted end into the chemical tank so that the chemical is drawn from above the base of the tank.
- Remove any excess tubing. The chemical tubes should be vertical and not be so long as to form unnecessary loops.

Chemical (Customer supply)

The recommended chemical is XL 60 obtainable from Kemira or Univar.
Other chemicals may be used but they must be checked for suitability. Please contact Kingspan

- **See enclosed chemical specification. Please ensure that you have the most up to date versions of the health and safety data sheets from the chemical supplier and observe all health and safety precautions.**
- The chemical container(s) should be placed inside the unit on the ledge adjacent to the chemical pump.
- Ensure that the chemical container is carefully located and secured into position.

Control panel

The control panel includes a micro-processor which is provided pre set to dose the estimated dose of chemical at the appropriate interval.

- The setting assumes that the influent Phosphate (P) is approx 8-12 mg/l and assumes that an outlet of 2 mg/l is required. These settings may be altered by the commissioning engineer if there are known different volumes or different incoming or effluent phosphate values.
- During commissioning, a check can be made of the sewage inlet P level and the pump setting adjusted if necessary. (Commissioning cost is additional)

See wiring diagram for connection details.

2.0 Process Description

The chemical dosing process is started when the sludge return pump is activated and operates for a predetermined time. Chemical is intermittently pumped into the dosing point. The chemical mixes with the dissolved phosphate and coagulates together to form settleable particles which settle in the final settlement zone.

Using a chemical increases the volume of sludge formed within the treatment unit when compared to a standard unit. The level of sludge produced also relates to loading and so an assessment of the sludge production should be made monthly bearing in mind that there is a need for increased emptying frequency when compared to the standard recommendations given in the manual.

Addition of the chemical is fundamental to the process and it is important to check the chemical usage and replace the drum. Should the chemical run out, there will be no phosphate removal.

The reduction of phosphate is required by the environmental regulator in order to protect the local environment. The addition of limiting nutrients such as phosphate can cause eutrophication in the receiving water.

3.0 Customer Information

A BA unit is normally supplied for use at 1 property with a maximum occupancy of 6 persons.
A BB, 2 properties with a maximum of 12 people.
A BC unit is normally supplied for use by multiple properties with a maximum occupancy of 18 persons. For applications of larger units consult Kingspan Sales.

Detergents and chemical products used within the properties should be selected with care so as to reduce the amount of added phosphates going into the treatment plant. It is possible to reduce the amount of phosphates entering the unit by up to 50%. The less phosphate entering the plant, the less chemical dose is required.

Each person / and visitor to the property contributes wastewater into the treatment plant and the volume treated by the unit will change on a daily and hourly basis. The volume treated is controlled by a flow device which transfers liquid over the baffle into a biozone.

Units which are over dosed with too much chemical tend to develop a creamy biomass, but this colour of biomass may also be the sign of excess fat or overloading, see trouble shooting notes in main manual.

The chemical dosing settings can be reviewed and, if necessary, adjusted at the next maintenance visit.

4.0 Chemical Consumption

The chemical dosing duration for units are set depending on their size.

The interval between the doses can be adjusted to suit the expected incoming phosphate load and the number of persons using the unit.

Low and average settings are given for each population load to assist the selection of the appropriate interval. These settings were calculated using averages obtained during performance testing, but higher use settings may be required to reflect high incoming phosphate levels or higher volume uses.

Initial Chemical dosing setting Single Control Panel for BA to BD.
BE and above require separate chemical dosing panel with timers.

	PE	Seconds	Minutes
		on	off
BA	6	3	25
BB	12	3	12
BC	18	4	12
BD	25	3	6
	PE	Seconds	Seconds
BE	35	7	593
BF	50	10	590
BG	70	13	587
BH	75	14	586
BJ	100	19	581
BK	125	23	577
BL	150	28	572
BM	225	5	7200
BN	300	5	7200

<u>No occupancy (i.e. periods > 3 days without residents)</u>

The BioDisc should be left on.
The recycle pump (if fitted) returns treated effluent so as to maintain the biomass on the discs.

If the period of absence is expected to be longer, then in order to save chemical and to protect the biomass, the chemical draw tube can be removed from the chemical drum. (it can be placed into a small container of water located on the biozone so that water is used in place of chemical.

On return, replace the draw tube in chemical drum and check that the chemical doses.

5.0 Installation of Chemical Dosing System for BA-BD Control Panel.

Upon installation, the multi-core cable between the control panel and the junction box in the unit, must link all relevant operating terminals. **Wiring Diagram 010086**

The installation engineer will connect to the Service Terminals (13, 14 & 15) to set the system as below. **Wiring Diagram 010086**.

Upon completion the engineer will link terminals 13, 14 & 15 to finalise the set-up.

Set the run and pause times for the chemical dosing pump settings as described in table below.

Chemical Dosing Pump Pause Time		
Switch 1	Switch 2	
Off	**Off**	**25 minutes (default BA)**
Off	**On**	**12 minutes (default BB)**
On	Off	6 minutes
On	On	3 minutes
Chemical Dosing Pump On Time		
Switch 3	Switch 4	
Off	Off	4 seconds
Off	On	3 seconds
On	**Off**	**2 seconds (default)**
On	On	1 second

Using a small screwdriver, push switch 12 to the ON position.

6.0 Maintenance

Excess solids are created by using the chemical. Units with chemical dosing systems will require desludging more often than standard units without the addition of chemical.

Regular replacement of the chemical containers is required, before the chemical runs out.
The chemical dosing lines should be checked each time the chemical container is replaced.
The dosing action should be checked when the container is replaced.

7.0 Chemical Information

The following information was provided by Univar

REVISION DATE: 13th May 2008

UNIVAR

SAFETY DATA SHEET
PAX XL.....

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME	PAX XL.....
SYNONYMS, TRADE NAMES	60, , 18,
SUPPLIER	Univar 46 Peckover Street BRADFORD West Yorkshire BD1 5BD +44 1274 377000 +44 1274 377001 sds@univareurope.com
SDS No.	P161
Emergency Contact Number (Office Hours)	+441274 377070

2 HAZARDS IDENTIFICATION

Irritating to eyes and skin.

CLASSIFICATION Xi;R36/38.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Name	EC No.	CAS-No.	Content	Classification
Polyaluminiumhydroxide Chloride Silicate	215-477-2	1327-41-9	25-50%	Xi;R36/38.

The Full Text for all R-Phrases are Displayed in Section 16

4 FIRST-AID MEASURES

INHALATION

Remove victim immediately from source of exposure. Move into fresh air and keep at rest. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

INGESTION

Rinse mouth thoroughly. Drink plenty of water. Do not give victim anything to drink if they are unconscious. Do not induce vomiting. Get medical attention if any discomfort continues.

SKIN CONTACT

Remove contaminated clothes and rinse skin thoroughly with water. Wash contaminated clothing before reuse. Get medical attention if any discomfort continues.

EYE CONTACT

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart.

5 FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Use fire-extinguishing media appropriate for surrounding materials.

SPECIFIC HAZARDS

By heating and fire, toxic vapours/gases may be formed. Hydrogen chloride (HCl).

PROTECTIVE MEASURES IN FIRE

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6 ACCIDENTAL RELEASE MEASURES

REVISION DATE: 13th May 2008

PAX XL.....

PERSONAL PRECAUTIONS

Wear protective clothing as described in Section 8 of this safety data sheet.

ENVIRONMENTAL PRECAUTIONS

Avoid discharge into drains, water courses or onto the ground.

SPILL CLEAN UP METHODS

Absorb in vermiculite, dry sand or earth and place into containers. Neutralise with alkaline material (Lime, crushed limestone, sodium bicarbonate or soda ash). Flush area with water.

7 HANDLING AND STORAGE

USAGE PRECAUTIONS

Provide good ventilation. Avoid contact with skin and eyes.

STORAGE PRECAUTIONS

Store in tightly closed original container in a dry, cool and well-ventilated place. Suitable containers: polyethylene, glass lined.

STORAGE CLASS

Corrosive storage.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

PROTECTIVE EQUIPMENT

RESPIRATORY EQUIPMENT

No specific recommendation made, but respiratory protection must be used if the general level exceeds the Recommended Workplace Exposure Limit.

HAND PROTECTION

PVC or rubber gloves are recommended.

EYE PROTECTION

Wear approved safety goggles.

OTHER PROTECTION

Wear rubber footwear. Wear rubber apron.

HYGIENE MEASURES

Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.

9 PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Liquid		
COLOUR	Yellow		
ODOUR	Almost odourless		
SOLUBILITY	Miscible with water.		
BOILING POINT (°C)	100 - 200	RELATIVE DENSITY	1.30 - 1.33
BULK DENSITY	1280 - 1320 kg/m3	pH-VALUE, CONC. SOLUTION	2 conc.
DECOMPOSITION TEMPERATURE (°C)	200	PARTITION COEFFICIENT (N-Octanol/Water)	<3

10 STABILITY AND REACTIVITY

STABILITY

Stable under normal temperature conditions and recommended use.

MATERIALS TO AVOID

Chemically active metals. Inorganic cyanides. Strong alkalis.

REVISION DATE: 13th May 2008

PAX XL.....

HAZARDOUS DECOMPOSITION PRODUCTS

By heating, vapours/gases hazardous to health may be formed. Hydrogen chloride (HCl).

11 TOXICOLOGICAL INFORMATION

TOXIC DOSE 1 - LD 50 >2000 mg/kg (oral rat)

INHALATION

Vapour may irritate respiratory system or lungs.

INGESTION

May cause internal injury. Causes burns.

SKIN CONTACT

Causes burns.

EYE CONTACT

May cause chemical eye burns.

12 ECOLOGICAL INFORMATION

ECOTOXICITY

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

EC 50, 48 Hrs, DAPHNIA, mg/l 290

IC 50, 72 Hrs, ALGAE, mg/l 1.5 - 2

MOBILITY

The product is soluble in water.

BIOACCUMULATION

The product does not contain any substances expected to be bioaccumulating.

13 DISPOSAL CONSIDERATIONS

GENERAL INFORMATION

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority. Do not puncture or incinerate even when empty.

DISPOSAL METHODS

Dispose of waste and residues in accordance with local authority requirements.

14 TRANSPORT INFORMATION

UK ROAD CLASS	8		
PROPER SHIPPING NAME	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.(CONTAINS POLYALUMINIUMHYDROXIDE CHLORIDE SILICATE)		
UN NO. ROAD	3264	UK ROAD PACK GR.	III
ADR CLASS NO.	8	ADR CLASS	Class 8: Corrosive substances.
ADR PACK GROUP	III	HAZARD No. (ADR)	80
ADR LABEL NO.	8	HAZCHEM CODE	2X
CEFIC TEC(R) NO.	80GC1-II+III	RID CLASS NO.	8
RID PACK GROUP	III	UN NO. SEA	3264
IMDG CLASS	8	IMDG PACK GR.	III
EMS	F-A, S-B	MARINE POLLUTANT	No.

REVISION DATE: 13th May 2008

PAX XL.....

UN NO. AIR	3264	AIR CLASS	8
AIR PACK GR.	III		

15 REGULATORY INFORMATION

LABELLING

Irritant

RISK PHRASES

R36/38	Irritating to eyes and skin.

SAFETY PHRASES

S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37	Wear suitable gloves.
S24/25	Avoid contact with skin and eyes.
S60	This material and its container must be disposed of as hazardous waste.

STATUTORY INSTRUMENTS

Chemicals (Hazard Information and Packaging) Regulations. Control of Substances Hazardous to Health.

APPROVED CODE OF PRACTICE

Safety Data Sheets for Substances and Preparations.

GUIDANCE NOTES

Workplace Exposure Limits EH40. CHIP for everyone HSG(108).

16 OTHER INFORMATION

ISSUED BY

Univar Ltd

REVISION DATE	13th May 2008
REV. NO./REPL. SDS GENERATED	04
SDS NO.	P161

SAFETY DATA SHEET STATUS

Approved.

DATE	21st February 2008
SIGNATURE	Jitendra Panchal

RISK PHRASES IN FULL

R36/38	Irritating to eyes and skin.

Re: Decision Notice for Planning Application Reference 22/00306/FLL

You forwarded this message on Mon 16/05/2022 09:37
You forwarded this message on Mon 16/05/2022 09:37

KH

Keith Hogg

To:

- Andy Baxter

Mon 16/05/2022 09:35

Hi Andy

I did provide the calc within the table on section 9 of my design statement inline with the worked example in the guidance; however, I now appreciate that I could have provided more descriptive information on the existing septic tank and will ensure that I do that in the future.

Kind Regards

Keith

Keith Hogg BSc (hons) MRICS CMaPS TechIOSH MCIAT
Chartered Surveyor & Architectural Technologist
LBE Services
Building Surveying - Architectural Design - HSE & CDM Advice - Rope Access Surveys

Tel: 0131 281 7761 - Mob: 07816055764 - Em: lothianbuiltenvironmentservices@outlook.com - Web : www.edinburghbuildingsurveyor.com
Address : 24 Seaforth Terrace Bonnyrigg EH19 2PF

From: Andy Baxter [redacted]
Sent: 16 May 2022 09:23
To: lothianbuiltenvironmentservices@outlook.com <lothianbuiltenvironmentservices@outlook.com>
Subject: FW: Decision Notice for Planning Application Reference 22/00306/FLL

Hello Keith,

We need to see the calculations showing the existing infrastructure phosphorus loading, and how that provides the 125% betterment. Identifying the mitigation properties alone is not enough information as that does not show what mitigation is being delivered. If could be

that those properties already have improved systems and not the old style septic tanks.

The key issue however for this proposal was the lack of a landscape framework, as the drainage issue can be resolvable I'm sure.

Cheers,

Andy

From: Keith Hogg <lothianbuiltenvironmentservices@outlook.com>
Sent: 13 May 2022 09:56
To: Communities Planning <Planning@pkc.gov.uk>
Subject: Re: Decision Notice for Planning Application Reference 22/00306/FLL

CAUTION: This email originated from an external organisation. Do not follow guidance, click links, or open attachments unless you have verified the sender and know the content is safe.

Hi

Thanks for your refusal letter.

Regarding point 3 - can you please confirm what it was that I did wrong with respect to the calculations in the design statement and the literature provided for the phosphorous mitigation measures? I consulted a civil engineer, SEPA and the relevant guidance so want to make sure that I get it right for future applications.

Thanks

Keith

Keith Hogg BSc (hons) MRICS CMaPS TechIOSH MCIAT
Chartered Surveyor & Architectural Technologist
LBE Services
Building Surveying - Architectural Design - HSE & CDM Advice - Rope Access Surveys

Tel: 0131 281 7761 - Mob: 07816055764 - Em: lothianbuiltenvironmentservices@outlook.com - Web : www.edinburghbuildingsurveyor.com
Address : **24 Seaforth Terrace Bonnyrigg EH19 2PF**

From: planning@pkc.gov.uk <planning@pkc.gov.uk>
Sent: 12 May 2022 15:45
To: lothianbuiltenvironmentservices@outlook.com <lothianbuiltenvironmentservices@outlook.com>
Subject: Decision Notice for Planning Application Reference 22/00306/FLL

Please see attached

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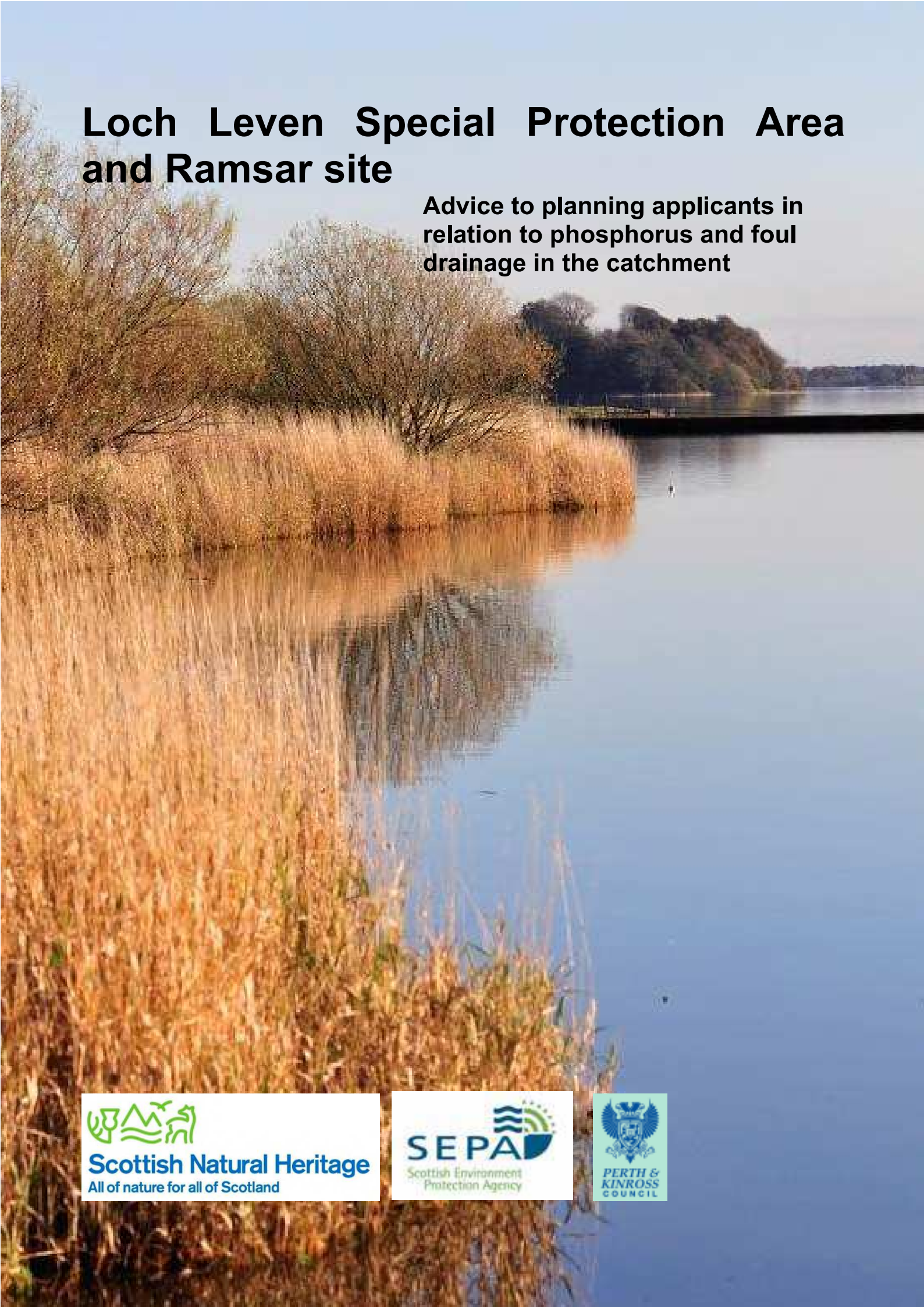
Loch Leven Special Protection Area and Ramsar site

Advice to planning applicants in relation to phosphorus and foul drainage in the catchment



Scottish Natural Heritage
All of nature for all of Scotland

SEPA
Scottish Environment Protection Agency

PERTH & KINROSS COUNCIL

Advice to applicants when considering new projects which are within the catchment of, or could affect Loch Leven Special Protection Area (SPA) and Ramsar site

Contents

1. Introduction

This guidance aims to assist anyone submitting planning applications which are
- within the catchment of Loch Leven Special Protection Area (SPA) and Ramsar site and
- which could affect the water quality of Loch Leven.

It provides advice on the types of appropriate information and safeguards to be provided in support of your planning application so that it can be properly and timeously assessed by Perth & Kinross Council, and includes:

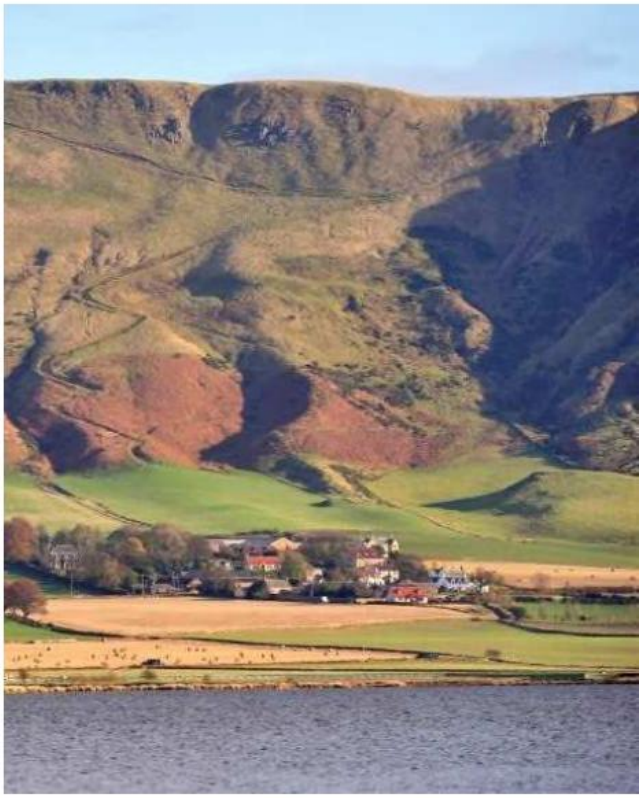
- An explanation of planning authorities' obligations when evaluating planning applications;
- Advice on the nature of developments that may affect Loch Leven; and
- Examples of information which you need to submit with your planning application and application for a foul water discharge licence under The Water Environment (Controlled Activities)(Scotland) Regulations 2011 (CAR) – there is a flow chart on page 5 taking you through the key questions and answers/ solutions.

This guidance relates specifically to water quality of Loch Leven SPA and phosphorus entering the loch's catchment. There may be other qualifying features of the SPA which could be affected by development proposals e.g. disturbance to birds or issues relating to flooding.

2. Why is Loch Leven so important?

Loch Leven is the largest naturally nutrient rich freshwater loch in lowland Scotland and is internationally important for its wintering and breeding wildfowl. It has the highest wildlife accolade as it is designated as a SPA and is part of the Natura 2000 network – a series of internationally important wildlife sites throughout the European Union. The site is also a Ramsar site designated under the Convention of Wetlands of International Importance.

3. The nutrient problem at Loch Leven



Nutrients such as phosphorus and nitrogen entering the loch catchment from manmade sources have caused problems with water quality for many years. This has resulted in a negative impact on the conservation, economic, and social interests of the loch and local area. Much work has been undertaken over the last 30 years to reduce the input of phosphorus into the loch. Recent monitoring has shown this is leading to an improvement in the ecological quality of the loch. However, this improvement is still vulnerable to set backs so there is a continuing need to reduce both phosphorus and nitrogen inputs to the loch.

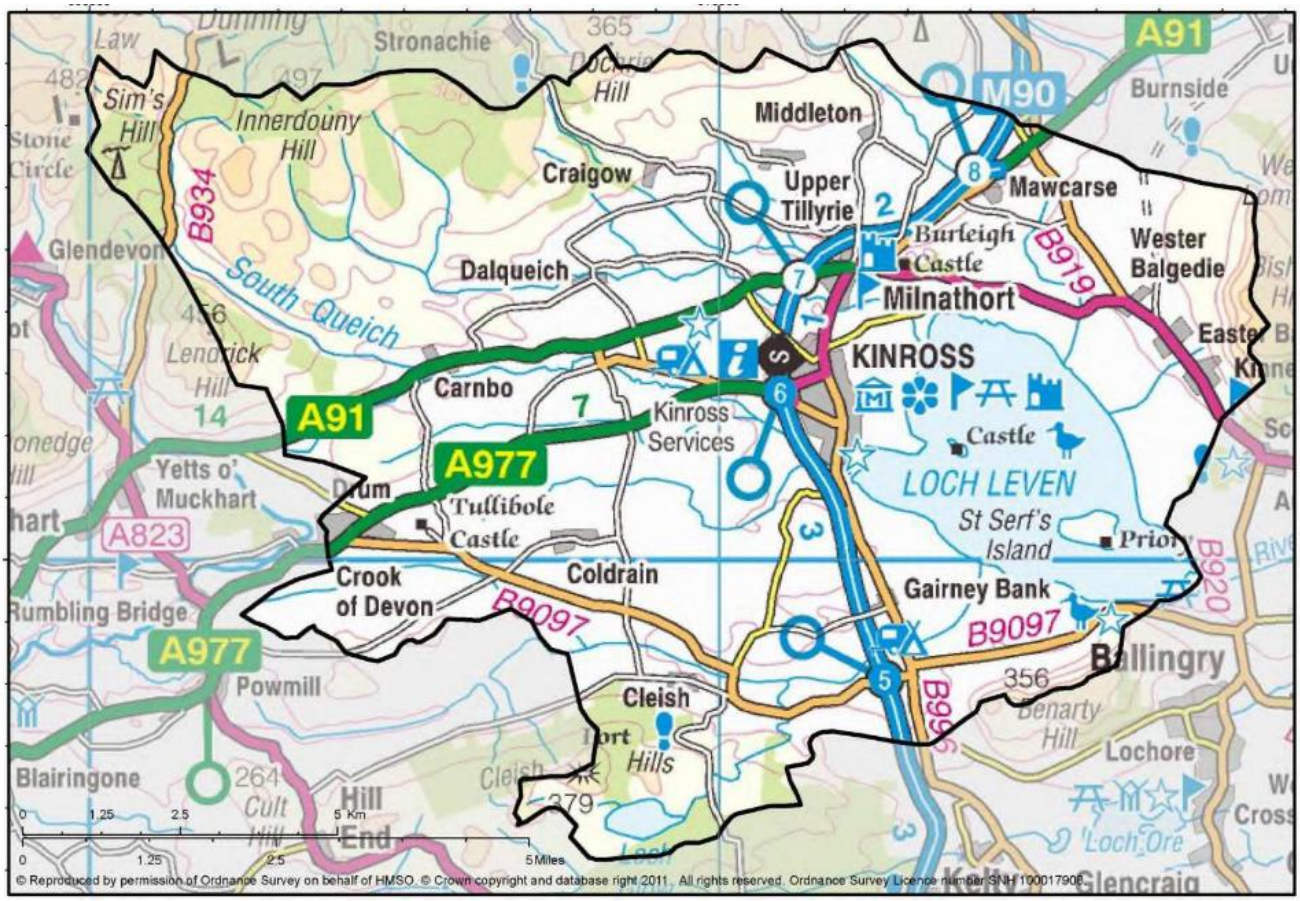
The aim is therefore to ensure that there is no increase of phosphorus in the Loch Leven catchment arising from waste water associated with new developments. If there is an increase in phosphorus discharging to the loch, there could be a detrimental effect on water quality, and a knock-on effect for ecology.

4. Planning authorities' obligations

The European legislation under which sites are selected as SPAs is the Habitats Directive, which sets out obligations on Member States to take appropriate steps to avoid *"the deterioration of natural habitats and the habitats of species as well as disturbance of the species for which the areas have been designated, in so far as such disturbance could be significant."* These obligations relate to "Competent Authorities" such as Planning Authorities.

Planning Authorities can only agree to development proposals after having ascertained that they will not adversely affect the integrity of the site. If the proposal would affect the site and there are no alternative solutions, it can only be allowed to proceed if there are imperative reasons of overriding public interest.

Perth and Kinross Council apply Policy EP7: Drainage within the Loch Leven Catchment Area as laid out in the Local Development Plan to assist them in their consideration of a development proposal.



5. Wil your proposed project affect Loch Leven SPA?

If your proposed development lies in the catchment as shown by the black line on the map, you may be required to provide phosphorus mitigation for your development, as detailed in the sections below.

(NB. The map is a guide – if your development is near the border you may wish to seek confirmation as to whether it is in the Loch Leven catchment.)

6. Submitting a Planning Application for new development

For new developments (including extensions to properties where the potential capacity to house people is being increased), or conversions.

↓

Does the new development have any phosphorus discharge? (e.g. foul water drainage, sewage, septic tank or sink discharges)

No → Submit normal planning application

Yes ↓

Will the drainage be diverted outwith the catchment area, or is the development in Kinnesswood and to be connected to the local drainage network?

Yes → No additional requirements necessary for phosphorus loading. → Submit normal planning application

No ↓

Will the drainage be connected to the Drum, Milnathort, or Kinross Wastewater Treatment Works?

Yes → Is there sufficient capacity within the wastewater treatment works to accommodate your development? - contact Scottish Water.

Yes → Submit normal planning application

No ↓

No ↓

Phosphorus Mitigation Proposals

You will need to put in place mitigation that is capable of removing 125% of phosphorus likely to be generated by the development from the Loch Leven catchment (Policy EP7) and apply to SEPA for a licence to discharge.
See section 7 for a worked example of phosphorus mitigation

Acceptable forms of phosphorus mitigation:

Upgrade the septic tank of an existing property within the catchment area to an active system that reduces phosphorus (secondary/tertiary treatment plant) - this may be with a third party.

Unacceptable forms of phosphorus mitigation:

Change in agricultural practice;
Change in land use;
Using "capacity" from a previous application.

↓

In addition to your Full planning application or AMM (approval of matters specified in conditions)*you will need to provide details of:

a. the proposed development;
b. an existing property to be upgraded – Which has not already been identified as mitigation for another planning application and;
c. phosphorus mitigation calculations – include numbers of potential bedrooms of all properties, and methods of drainage (primary/secondary/tertiary treatment plant).[1] Treatment plant should conform to BS EN 12566:3 and have demonstrated its phosphorus reduction capabilities. You will need to demonstrate that the total phosphorus loading from the existing property can be reduced by at least 125% of the phosphorus loading likely to be generated by the new development (PolicyEP7) – see worked example overleaf.

Any treatment plant should conform to BS EN 12566:3 and have demonstrated its phosphorus reduction capabilities in accordance with this standard. To obtain certification to EN12566:3 plants must undergo rigorous independent testing which results in a documented mean discharge standard. The mean standard in the EN12566:3 certificate is a clear and unambiguous assessment of the performance of the plants, and is used in CAR licences for unsampled licenced sewage discharges (i.e. discharges of less than 200 PE). EN12566:3 is normally used to assess performance against BOD and ammonia, but can also be used to assess performance against total phosphorus.

*N.B The above information is not required for 'In Principle' planning applications.

- Discharge from all the properties wil require to be licensed by SEPA who will set discharge limits through licensing. The licensing process has a 4 month determination period from the date of application. (see below).
- The discharge limits set by SEPA must be complied with at all times
- Foul water treatment plants need to be frequently maintained to work properly and discharge within the licensed limits. Appropriate maintenance will be a requirement of the SEPA water use licence.
- Sites which will not connect to the Scottish Water Network which have 50>p.e. should contact SEPA at the earliest opportunity as additional investigatory work will be required prior to a discharge licence application being submitted.
- In cases of great complexity or uncertainty the Precautionary Principle will be adopted.
- The assumption being that where there are real threats of damage to the environment, lack of scientific information should not be used as a justification for postponing measures to prevent such damage occurring.

Footnote

1. The latest version of the document " British Water Code of Practice - Flows and Loads" has details of loadings from a variety of sources (available from publications section of the British Water website http://www.britishwater.co.uk/Publications/codes-of-practise.aspx).

7. Phosphorus mitigation calculations - worked example

Calculations based on British Water Code of Practice "**Flows & Loads** - Sizing Criteria, Treatment Capacity for Small Wastewater Treatment Systems"- http://www.britishwater.co.uk/Publications/codes-of-practise.aspx (P.E = Person equivalent)

Background	
Average amount of water per person per day	= 150 litres
Primary treatment (septic tank - standard discharge – as a mean)	= 10 mg P/litre
Daily discharge of phosphorus (per person) from primary treatment	= 1,500 mg P
Secondary treatment (package treatment plant – as a mean)	= 5 mg P/litre
Daily discharge of phosphorus (per person) from secondary treatment	= 750 mg P
Proposed Development *	
3-bedroom house	= 5 P.E.
Secondary treatment to be installed	= 5mgP/litre
Daily discharge of phosphorus = 750 mg P x 5 P.E.	**= 3,750 mg P / day**
Phosphorus Mitigation	
Mitigation requires a reduction of 125% of the amount of phosphorus to be discharged from the new development = 125% x 3,750mg P / day	**= 4,688 mg P / day**
Mitigation is proposed by upgrading a septic tank for a named existing 5-bedroom property to a secondary treatment plant.	
5-bedroom house	=7 P.E.
Existing discharge = 1,050 litres x 10 mg P/litre	=10,500 mg P / day
Discharge after upgrade to 5mg/l P = 750 mg P x 7 P.E.	=5,250 mg P / day
Mitigation offered is 10,500 – 5,250	**=5,250mg P / day**
	in excess of the requirements

* Please note that evidence of regular maintenance contracts must be provided as part of a Water Use Licence from SEPA. Mitigation calculations should be based on mean values and not on percentile figures

8. Additional Points for Phosphorus mitigation proposals

Existing properties should not be removed from a larger foul drainage treatment system to provide mitigation for a new development. The Also, it is recommended that applicants seek to upgrade the larger system in its entirety, regardless of how much in excess of 125% mitigation value this provides. Also, wherever possible, applicants should seek to use a single treatment system for a proposed multi-property development, rather than separate systems for individual properties.

Any novel proposals where mitigation is not from a single existing property, should be discussed with SEPA at the earliest stage possible, in order to ensure the proposal is acceptable.

For the purposes of mitigation, ascribed values will be used for calculations, where a septic tank is assumed to discharge 10mg/l of phosphorus, and an existing secondary treatment system 5mg/l. New treatment system discharge standards will be based on the system being installed. Alternatives to the ascribed values may be considered where there is adequate historical data which meets approved quality standards. In these cases contact should be made with SEPA at the earliest opportunity. Please note that we do not accept any discharge quality standard below 2mg/l at present.

Mitigation of an existing system can only be linked to a development at full planning stage. While SEPA can be consulted on mitigation proposals at outline planning stage, comments provided will only be given as a guide and must be reviewed and resubmitted with any full planning application.

9. Why 125%?

Bearing in mind the Precautionary Principle and the fact that the measurement of potential phosphorus output is not an exact science, then mitigation measures must seek to exclude from the catchment area in excess of the phosphorus likely to be generated by the proposed development in order to be sure that there is no net increase.

10. SEPA authorisation

SEPA regulates discharges to water and land under The Water Environment (Controlled Activities) (Scotland) Regulations 2011(CAR). Please note that additional authorisation for development activities adjacent to, and in the vicinity of watercourses may be required under the Controlled Activities Regulations. All CAR Registration level private sewage discharges in the Loch Leven catchment area will be escalated to simple licence level, to allow adequate assessment of the discharge. A higher level of licence protection may also be required for activities that may impact on the loch SPA, such as engineering works in inland waters, water abstraction, impoundment or discharge to land and water. Any such authorisation will also need to first consider the effects on the SPA.

Details on all these activities are available via the following links:
http://www.sepa.org.uk/water/water_publications.aspx

Information on CAR licence requirements:
http://www.sepa.org.uk/customer_information/water.aspx

Activities should also ensure compliance with SEPA's Pollution Prevention Guidelines, available at:
http://www.sepa.org.uk/about_us/publications/guidance/ppgs.aspx

11. Once Planning Permission is granted

Before the development can commence you must:

- obtain a CAR licence(s) under the Water Environment (Controlled Activities)(Scotland) Regulations 2011 for the foul water discharge associated with the development.
- submit copies of these to the Planning Authority and
- have a receipt for the above documentation from the Planning Authority.

If the phosphorus mitigation measures are to be delivered at a location separate from the development site then before the development can commence:

- The phosphorus mitigation measures must be installed using a treatment system which delivers the discharge quality standards specified in the mitigation calculations – and approved by Building Standards (if a building warrant has been required) or for watercourse discharges SEPA who are responsible for inspection of the outfall from treatment plants.

Before the completion certificate will be accepted and the new development can be occupied:

- The new drainage infrastructure installation at development site must be approved by Building Standards as part of building warrant process or for watercourse discharges SEPA who are responsible for inspection of the outfall from treatment plants.)

12. Further information required

Although this guidance is specifically for the water quality of Loch Leven SPA and Ramsar site, there may be other natural heritage interests such as protected species affected by development proposals which also need to be considered. Further information is available in the Scottish Planning Policy: http://www.gov.scot/Publications/2014/06/5823

Further information may need to be provided on **other habitats and species** in the immediate vicinity in support of your application (e.g. water voles, bats, and otters).Perth & Kinross Council or SNH can advise on further surveys required.

There may also be a requirement for **additional information** depending on the nature of the development.

13. Further details

More information on Loch Leven including its conservation objectives can be found on the SNH website via www.snh.org.uk/snhi/:

SNH, SEPA and Perth and Kinross Council are working closely to protect the interests of Loch Leven SPA and Ramsar site by reducing phosphorus loading on the loch. Perth& Kinross Council are happy to assist you where required in submitting your application, including pre-application discussion.

In addition to any planning consents that may be required, any development which includes an element of drainage will require building warrant approval. This process includes a requirement to submit detailed plans and specifications for the entire drainage system to show compliance with the Building (Scotland) Regulations 2004.

14. Contacts

Perth and Kinross Council
Website: www.pkc.gov.uk
Email: DevelopmentManagement@pkc.gov.uk for planning enquiries
Email: BuildingStandards@pkc.gov.ukfor building warrant enquiries

Scottish Natural Heritage
Website: www.snh.gov.uk
Email: Tayside_Grampian@snh.gov.uk

Scottish Environment Protection Agency
Tel: 0800 807060
Website: www.sepa.org.uk
Email: planning.se@sepa.org.uk

Scottish Water
Call Centre tel: 0845 600 8855

SEPA Internal Guidance Document for Discharges in Loch Catchments which require Phosphorus Mitigation.

1. Introductionf

Why is it important to reduce Phosphorus (P) discharges in Loch Catchments?

Excess phosphorus causes an increase in algal growth which in turn leads to eutrophication in lochs and consequent conservation issues.

Phosphorus arises from a number of sources within a catchment including sewage from domestic properties. SEPA is responsible under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) for the regulation of sewage discharges and this guidance is to ensure that the main principles of the Water Framework Directive are adhered to in the application of new or varied sewage discharges.

Mitigation of phosphorus inputs in the Loch Leven catchment were previously delivered via Section 75 planning agreements, whereby planning applicants could provide mitigation through a number of routes, including changes in land use or changes in agricultural practice. While these mitigation methods could help reduce the quantities of phosphorus into the catchment, they were difficult to regulate. As a result, and driven by research conducted by the Centre for Ecology and Hydrology, a new mitigation strategy was developed in order to reduce the input of phosphorus within Loch catchments.

Since 2008, acceptable methods of phosphorus mitigation include directing new foul water discharges outwith the catchment or to public sewage treatment works that have phosphorus stripping facilities. Where connection to the public sewer is not possible mitigation can be achieved by either the diversion of sewage outside the catchment or the upgrade of an existing septic tank/treatment system to remove 125% of the phosphorus input from the new system[1].

This current phosphorus mitigation strategy was developed over a number of years in conjunction with Perth and Kinross Council (PKC), Scottish Natural Heritage (SNH), and the Centre for Ecology and Hydrology (CEH) in response to a number of algal bloom events primarily in Loch Leven. The phosphorus mitigation process is regulated and enforced by the Local Government Planning Authority.

Local De1velopment Plan Policy EP7: Drainage around the Loch Leven Catchment Area sets the local devel1opment plan context and the current Loch Leven Special Protection Area and Ramsar site supplementary guidance (SG) which supports the policy was adopted in October 2016. The SG requires that information is submitted with Full or Approval of matters specified by condition (AMM) planning applications for new developments to provide details of proposed 125% phosphorous (P) mitigation. In our planning responses we object to detailed applications which do not contain relevant P mitigation.

1. The 125% requirement is in the Local Authorities planning policy EP7C, this value was allocated to provide a buffer figure, seeking a modest safety margin of 25% above the 100% ensures the precautionary principle is utilised.

The following conditions are attached, as relevant depending on the location of the mitigation property, to any detailed consent which the Council is minded to approve which meets the requirements of Policy EP7 and SG.

Condition 1: - Prior to the occupation of the development hereby approved, foul drainage infrastructure capable of achieving not less than 125% phosphorus mitigation shall be installed and thereafter retained to the reasonable satisfaction of the planning authority.

Condition 2: - The foul drainage infrastructure capable of achieving not less than 125% phosphorus mitigation associated with this development shall be undertaken in a phased manner: -

a) No development shall commence on the approved development site until the mitigating foul drainage infrastructure at the remote property/properties [variable address and owner] has been installed.
b) Following the installation of the foul drainage infrastructure at the remote property/properties the development site shall only be occupied once the foul drainage infrastructure for the development site has been installed to the reasonable satisfaction of the Planning Authority. For the avoidance of doubt the installed drainage infrastructure at the development site as approved shall be retained all to the reasonable satisfaction of the Planning Authority.

Condition 3: - No development shall commence until the applicant has submitted approved CAR Licence(s) under The Water Environment (Controlled Activities) (Scotland) Regulations 2011 for the drainage infrastructure associated with this project to the Planning Authority and the Planning Authority has confirmed receipt of the documentation in writing.

The full details of the strategy are contained within Memorandum of Understanding (MOU 7 – 13/407 Memorandum of understanding for planning procedure for applications in the Loch Leven Catchment) developed by PKC which states that they will ensure the implementation of phosphorus mitigation proposed and agreed at full planning stage.

At the in principle application stage in our planning responses we object unless a condition is attached which requires submission of P mitigation details with any forthcoming detailed application.

SEPA's regulatory role and responsibilities require SEPA to work hand in glove with Local Authority Planners to deliver this phosphate mitigation strategy. These Planning conditions mean that any new input of phosphorus to a catchment, for example from a new housing development not served by public sewer, will require to remove 125% of the phosphorus that the new development is calculated to input. This input is calculated using the proposed population equivalent (PE) of the new development combined with the likely phosphorus loading per person from it (based on the treatment standards of the proposed sewage treatment system to be installed). The developer/planning applicant must then upgrade a septic tank or treatment system which actively discharges within the applicable catchment to a higher treatment standard for phosphorus, thereby reducing the input of phosphorus to that catchment by 125% of the new developments input. Worked examples of this process are located in Section 4 of this document.

2. SEPA's role in the whole process

SNH, PKC and SEPA have worked together with other partners to develop Statutory Supplementary Guidance – Loch Leven SPA and the Dunkeld-Blairgowrie Lochs SAC as part of Perth and Kinross Council's Adopted Local Development Plan. This guidance allows SEPA to work together with all parties using the planning process to reduce the phosphorus levels in Loch Leven and Dunkeld-Blairgowrie Lochs with the aim of achieving Good status under WFD.

SEPA authorises discharges to the water environment. As such SEPA regulate discharges of phosphorus from sewages discharges into these catchments.

- SEPA RS officers are responsible for checking the submitted calculations at the planning consultation stage to ensure that they provide the level of mitigation required (i.e. 125%).
- SEPA Planning officers must then respond through the planning process by lodging an objection if sufficient mitigation is not achieved.
- The drainage design details which tie into the calculations (proposed discharge standards) are checked at CAR licensing stage.
- Please note that under the conditions of the planning consent, applicants should apply for and receive their CAR licence before any work is carried out on the development.
- The CAR Licence and the Phosphorus Mitigation agreed at the planning stage should match. Any discrepancies noted between the CAR Licence and the Phosphorus Mitigation calculations supplied to Planners should be raised at the planning consultation stage.

For example, if a CAR Licence has already been granted and the Phosphorus discharge limit specified in the licence is higher than the applicant is proposing in their Phosphorus Mitigation Calculations, then SEPA RS staff can raise this discrepancy to SEPA planning staff SEPA RS staff should highlight in their PCS response that the treatment plant currently installed and the CAR discharge limits as granted do not match what the developer is proposing in their mitigation calculations. SEPA planning staff would then object and highlight to the council that while the discharge can be/is permitted by SEPA the level it is licensed to would not provide the sufficient mitigation that the Local Authority Planners require.

- Please be clear the Phosphate Mitigation requirements are regulated by Local Authority Planning and are a separate issue to CAR Licensing.
- All planning responses should be conducted through SEPA's PCS system and the appropriate reference number attached to each proposed development.

3. Principles applied to sewage discharges in the Loch Leven and Dunkeld-Blairgowrie Catchments

PRINCIPLE - All registration level discharges containing sewage are automatically escalated to a licence level authorisation, in the Loch Leven and Dunkeld-Blairgowrie catchments.

Due to the high levels of phosphorus in the Loch Leven and Dunkeld-Blairgowrie catchments additional controls are required from any CAR authorisation. Therefore, any registration level sewage discharge is automatically escalated to a simple licence. The application fee will still be that for a registration level activity and sites with a P.E. less than 15 will not be required to pay annual subsistence fees.

The applicant should use CAR licence application forms A & B and complete them fully, regardless of the proposed PE of the discharge. The prior investigation form in Section 6 of Form B should also be completed as fully as possible (depending on whether the discharge is to surface or groundwater).

The escalation from registration to simple licence is valid for both the new development and any mitigating property.

PRINCIPLE - The Mitigation Strategy has established the principle that where a new discharge is to be applied for, as part of the planning process an improvement of 125% or greater will need to be applied to an existing phosphorus discharge.

In order to actively reduce the input of Phosphorus from sewage sources, SEPA, SNH and PKC have established the policy position that any new sewage discharge within the Loch Leven or Dunkeld-Blairgowrie catchments will require an associated improvement from other discharges within those applicable catchments. The requirement is calculated as 125% of the input of phosphorus from the new development that will need to be saved (decreased) from an existing and active sewage discharge within the Loch Leven and Dunkeld-Blairgowrie catchments.

This 125% requirement is captured in the Local Authorities planning policy EP7C, and this value was chosen to provide a buffer figure, ensuring that the water quality of the loch improves. If 100% mitigation was required, the water quality would not improve, with phosphorus levels in the loch remaining the same. By seeking a modest safety margin of 25% the precautionary principle is utilised.

The Loch Leven and Dunkeld-Blairgowrie supplementary guidance for applicants details the method required for calculating the 125% mitigation, and should be used in conjunction with the current version of British Water Flows and Loads to calculate PE values and potential concentrations of phosphorus in the proposed discharge.

Wherever possible the phosphorus mitigation calculations spreadsheet should also be utilised. This spreadsheet includes the standard values for flows and loads and will allow applicants to submit their calculations using a standard format.

Wherever possible applicants should be encouraged to use a single treatment system and discharge for the proposed development, and if feasible, incorporate the mitigating property into the same system. This is to avoid a proliferation of smaller plants where groups of house are currently discharging to one sewage treatment works. This is in accordance with SEPA Position Statement: WAT-PS-06-08 POLICY AND SUPPORTING GUIDANCE ON PROVISION OF WASTE WATER DRAINAGE IN SETTLEMENTS

SEPA would prefer discharges that combine individual discharges, and would therefore reduce the number of treatment systems in the Loch Leven and Dunkeld-Blairgowrie catchments.

PRINCIPLE – Accepted treatment values shall be used in the determination of improved treatment efficiency. However, where historical data (meeting the approved quality standards) is available this can be used instead of the accepted treatment values.

Accepted treatment values are:

- 10mg/l Phosphorus for primary treated discharges,
- 5mg/l Phosphorus for secondary treated discharges, and
- 2mg/l Phosphorus for tertiary treated discharges.

The figure of 10mg/l for primary treated discharges has been derived from studies conducted into the potential impacts from septic tanks. These studies were carried out over a number of years and a paper by the Centre for Ecology and Hydrology examined point source nutrient pressures from domestic properties (Section 5 - Risk Assessment Methodology for Determining Nutrient Impacts in Surface Freshwater Bodies) . It assumed a value for phosphorus from raw domestic waste to be equivalent to that input to a septic tank, and then used a transfer coefficient to calculate the potential Phosphorus removal by the tank itself and any immediate soakaway. The resultant value was 0.7kg Phosphorus per capita per year, which equates to a value of 10mg/l per person per day. Given the significant number of variables in likely phosphorus concentration in any individual discharge, this value allows mitigation to be calculated in a more straightforward manner.

The values of 5mg/l and 2mg/l are based on discharge standards given by manufacturers for their systems. We have received proposals which suggest manufacturers can treat to a value of 1mg/l; however SEPA should not accept any phosphorus mitigation calculations that have discharge quality standard below 2mg/l at present. This is the consent limit for Scottish Water STWs, and we would not expect any private system at this time to be able to treat to a higher standard. It should also be noted that in order for these secondary and tertiary treatment systems to perform to the manufacturers standards, regular maintenance is required.

Any property can be used whereby it is proved that an upgrade is moving from primary to secondary or tertiary treatment, or from secondary to tertiary treatment or where a system has been proven to be failing and is replaced or upgraded.

PRINCIPLE – Mitigation will only be counted towards a development once an upgrade has been completed.

A property can only be considered as mitigation for one planning application at a time i.e. once a property has been identified as mitigation for a development, it cannot be considered available to be mitigation for any other developments unless the original planning permission lapses without development occurring. PKC have a list of properties that have already been upgraded and are therefore unsuitable for consideration as mitigation.

SEPA's planning response should remind the local authority to check the list of allocated properties and to add the proposed development that we are commenting on.

Please be aware that if a property provides mitigation in excess of 125% the additional level of mitigation achieved goes towards the benefit of the loch and cannot be transferred to another development.

Mitigation of an upgraded system can only be linked to a development at the full planning permission stage. SEPA can be consulted on mitigation proposals and calculations at the outline or in principle planning stage; however any comments given will only provide a guide to mitigation requirements, not approval. These proposals and calculations will have to be re-submitted for consideration at full planning stage. No property can be allocated to a new development as mitigation until full planning stage.

The Phosphorus mitigation calculation spreadsheet calculates the population equivalent (P.E.) of a new discharge by using the current version of the British Water Flows and Loads. It is based on 5p.e. for a 3 bedroom house and 1 p.e. for additional bedrooms. The template identifies constants (i.e. flows per person per day, and accepted treatment values) and standard calculations (i.e. P.E. and daily Phosphorus per person) in order to calculate the required 125% reduction.

Flows and loads describes a factor of 0.9 where the P.E. is 13-25 and a factor of 0.8 from 26-50. For a PE above 50 a more detailed assessment is required of the loading factors. In identifying the P.E. of treatment systems being upgraded, SEPA will apply these factors to whole system upgrades. If an upgraded works serves >50 P.E. then the 0.8 factor will be applied.

4. Planning Permission Scenarios

One proposed 3 bedroom new build with tertiary treatment system treating to 2mg P/l

The developer can work out from the latest version of Flows and Loads that their proposed development will discharge 1500mg/l/day Total P.

5 PE x 150 litres x proposed 2mg Phosphorus = 1500 mg/l

Under the planning regulations the developer must find 125% mitigation of this discharge. Consequently the developer will need to improve another discharge within the catchment to reduce its Phosphorus discharge by 1875mg/l/day.

1500mg/l/day P x 125% = 1875mg/l/day P

If the developer locates an existing 3 bedroom property within the catchment that is using a standard septic tank they can upgrade this system to a tertiary treatment system, improving its phosphorus discharge from 10mg/l to 2mg/l. To calculate what the net reduction will be the developer will need to determine what the daily discharge is currently under the existing system as follows:

5 PE x 150 litres x 10mg/l P = 7500mg/l/day P

Following the upgrade of the treatment system the discharge will be:

5 PE x 150 litres x 2mg/l P = 1500mg/l/day P

This is a reduction of 7500mg/l – 1500mg/l = 6000mg/l/day P

Therefore the developer has managed to offset the phosphorus discharge of the new development by 400%

6000mg/l/day P / 1500mg/l/day P x 100 = 400%

The amount of reduction above the 125% required for the new development cannot be transferred to another development and goes towards the good of the Loch.

Two proposed 3-bedroom properties to a single system with tertiary treatment to 2mg/l

The developer can work out from the latest version of Flows and Loads that their proposed development will discharge 1500mg/l/day Total P.

10 PE x 150 litres x proposed 2mg Phosphorus = 3000 mg/l

Under the planning regulations the developer must find 125% mitigation of this discharge. Consequently the developer will need to improve another discharge within the catchment to reduce its Phosphorus discharge by 3750mg/l/day.

3000mg/l/day P x 125% = 3750mg/l/day P

In this case the development is being constructed on the site of a current 4-bedroom property. So the demolition of this property and the removal of its associated septic tank will provide the mitigation needed for the two new houses. To calculate what the net reduction will be the developer will need to determine what the daily discharge is currently under the existing system (at 10mg/l) as follows:

6 PE x 150 litres x 10mg/l P = 9000mg/l/day P

As this system is being removed, this equates to a reduction of 9000mg/l/day P

Therefore the developer has managed to offset the phosphorus discharge of the new development by 300%

9000mg/l/day P / 3000mg/l/day P x 100 = 300%

The amount of reduction above the 125% required for the new development cannot be transferred to another development and goes towards the good of the Loch.

Development of five 4-bedroom properties to a single tertiary treatment system treating to 2mg/l

The developer can work out from the latest version of Flows and Loads that their proposed development will discharge 1500mg/l/day Total P.

30 PE therefore Flows and Loads balancing factor is applied

(30 PE x 0.8 = 24) x 150 litres x proposed 2mg Phosphorus = 7200 mg/l

Under the planning regulations the developer must find 125% mitigation of this discharge. Consequently the developer will need to improve another discharge within the catchment to reduce its Phosphorus discharge by 9000mg/l/day.

7200mg/l/day P x 125% = 9000mg/l/day P

In this case the developer has sourced two 3-bed properties that are currently part of a shared septic tank system within an existing 15 property development. They propose to remove the two properties from the shared system, installing a tertiary treatment system for the two properties, improving the phosphorus discharge from 10mg/l to 2mg/l. To calculate what the net reduction will be the developer will need to determine what the daily discharge is currently under the existing system as follows:

10 PE x 150 litres x 10mg/l P = 15000mg/l/day P

Following the upgrade of the treatment system the discharge will be:

10 PE x 150 litres x 2mg/l P = 3000mg/l/day P

This is a reduction of 15000mg/l – 3000mg/l = 12000mg/l/day P

Therefore the developer has managed to offset the phosphorus discharge of the new development by 133%

12000mg/l/day P **/** 7200mg/l/day P x 100 = 166%

Although this amount is above the required 125% mitigation, it would **not** be accepted by SEPA as it goes against the principle that upgrades should be applied to the same number of properties or more than is currently being served. In this case this would mean the developer upgrading the septic tank system for the 15 property development (each property has 3 bedrooms). Given the number of properties being served, this could be upgraded to secondary treatment at 5mg/l rather than the more costly tertiary treatment.

75 PE therefore Flows and Loads balancing factor is applied (we assume 0.8 balancing factors for PE > 50)

(75 PE x 0.8 = 60PE) x 150 litres x 10 mg/l P = 90000 mg/l/day P

60 PE x 150 litres x 5mg/l P = 45000 mg/l/day P

Thereby giving a reduction of 90000mg/l – 45000mg/l = 45000 mg/l/day P

This means the developer has managed to offset the phosphorus discharge of the new development by 625%

45000mg/l/day P **/** 7200mg/l/day P x 100 = 625%

The amount of reduction above the 125% required for the new development cannot be transferred to another development and goes towards the good of the Loch.

5. Unusual Scenarios

1 - SEPA have received a planning application which provided details for two new build houses and the upgrade of an existing farm house as the mitigating property. These proposals were agreed at the In Principle Planning stage prior to the agreement of the MOU.

Following the In Principle permission the site then applied for full planning permission. However, the planning permission was only for one of the two proposed new builds. When assessing the Phosphate Mitigation calculations they still referred to the two new builds with the existing farmhouse as mitigation for both plots.

SEPA objected to PKC planners that individual full planning permissions required their own phosphate mitigation and excess mitigation from one planning proposal could not be transferred to another development as highlighted in the MOU. So the mitigation should only be for one new build with the existing farmhouse as mitigation.

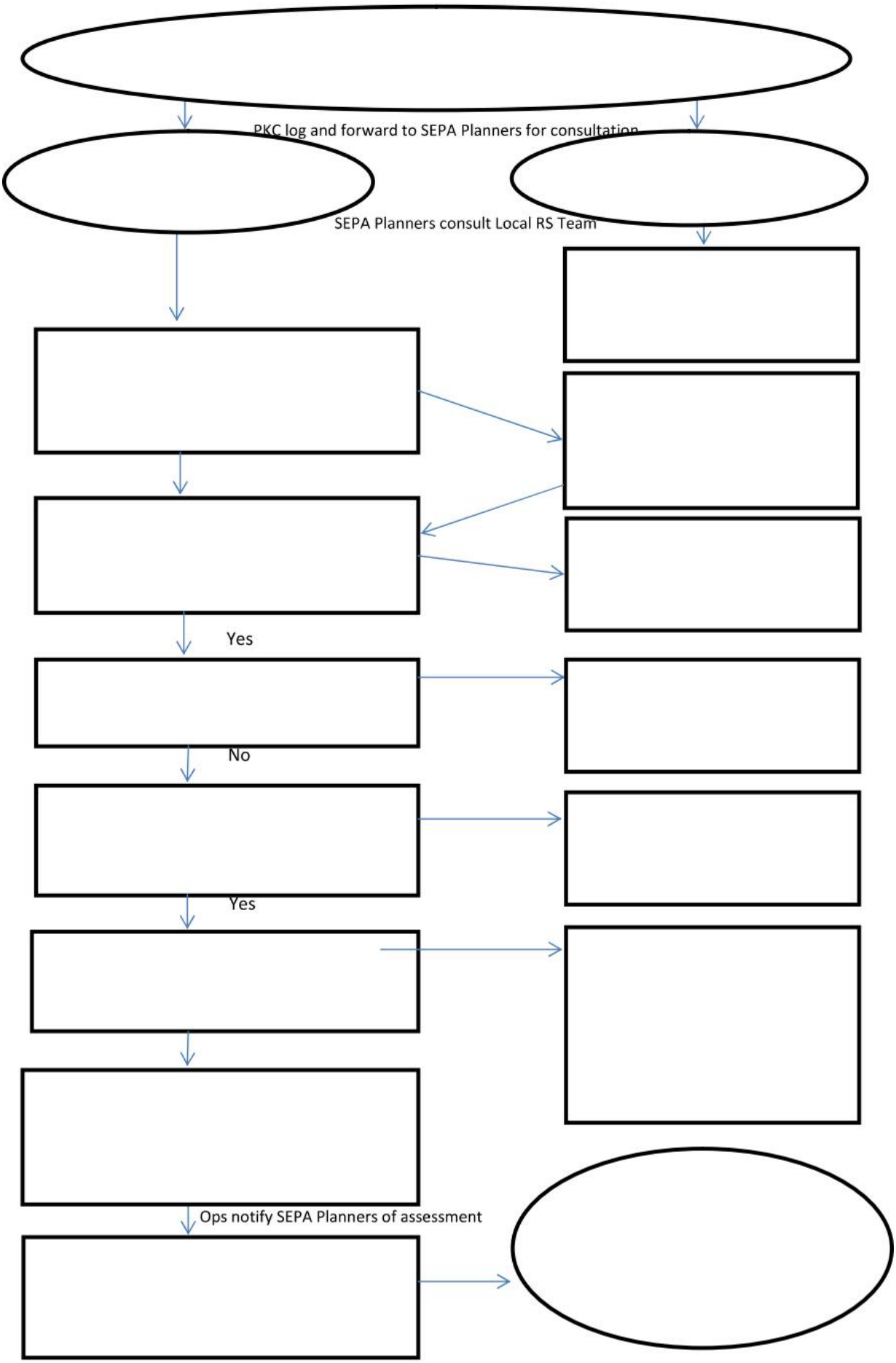
This would have resulted in the second proposed new build property needing to find another source of mitigation when it came to submit its full planning application.

The developers objected to PKC and the planners concluded that if this went to appeal they would lose as the proposal had already been agreed at the In Principle stage prior to the MOU agreement.

Consequently, it has been decided that for sites that have been given approval for phosphate mitigation at the In Principle Stage prior to the 2013 MOU agreement (provided the development proposal has not changed) then the phosphate mitigation should be approved regardless of whether the site is broken up into separate planning applications.

2 – Another proposal put forward by developers was to use a derelict property as mitigation for the new development which would be built on the derelict property's plot post demolition. This is not a suitable mitigating property as they are not improving an existing active discharge. Consequently they cannot mitigate the new developments phosphorous input as there is no current discharge to improve.

Figure 1: Processing of Proposed Mitigation Requiring Development – Planning stage



AGRICULTURAL JUSTIFICATION REPORT

In relation to a

Dwelling House & Farm Building (Isolation/Storage Building)

at

Land at Middleton, Perth & Kinross

per

MESSRS WS YOUNG & SON
MAWCARSE FARM
MILNATHORT
KINROSS
KY13 9SJ

as prepared by

HENDERSONS CHARTERED SURVEYORS, EAST NETHERTON MILNATHORT, KINROSS KY13 0SB

as at

April 2023 (Updated)

Hendersons Chartered Surveyors
East Netherton, Milnathort, Kinross KY13 0SB

Report Instruction

This Report compliments and updates the earlier Agricultural Justification Report submitted on behalf of the Applicant (date March 2021).

Hendersons Chartered Surveyors have been instructed by Messrs WS Young & Son to prepare the substantiating report with regard to an agricultural dwelling at Land at Middleton, Perth & Kinross. This updates and aides the supporting position for the application of Planning Consent.

Hendersons Chartered Surveyors are an established Firm of Rural Surveyors. Mr E C Henderson as Reporter in this matter is the senior Partner in the Firm. He is an Honours Graduate in Agriculture from Edinburgh University and a professional member of some 32 years standing of The Royal Institution of Chartered Surveyors. He is a recognised expert witness in Agricultural matters/disputes per the Scottish Land Court, Court of Session, Sheriff Court, Scottish Lands Tribunal and formal Arbitration proceedings. In addition he is a full member of the Scottish Arbiters Association, a founding member of the RICS (Scotland) Planning and Compulsory Purchase Forum, professional member of the National Farmers Union and a professional member of the Scottish Rural Property and Business Association.

Introduction and General Background

The Young family have been farming from Middleton and Milnathort principally for more than 80 years and the business is owned by Messrs W S Young & Son.

The Young family farm approximately 232 hectares which is just over 573 acres - when adding up the proposed farming system it is 224.32 ha of arable. A location plan of Mawcarse Farm along with an accompanying copy of the plans originally derived from the Scottish Executive Environment and Rural Affairs Department for the registration of the farm area are contained per Appendix 1.

The farming enterprise is based around arable crops with additional grazing for the livestock element of the holding.

Reflective of Appendix 1 and the IACS plan, landholdings and land areas operated are in a relatively compact local area making the farming operations more efficient. However, there are fields at Middleton which are separate from the main farming enterprise and which we understand are intended to be utilised for the Bio-security aspect of the livestock farming.

Bio-security of livestock has become ever more prevalent in recent years being a set of management practices used to minimise the introduction and prevent the spread of pathogens on the farm. The movement of infected livestock is the most effective means by which animal disease is spread, so ensuring that appropriate quarantine procedures are in place in all farms is recommended. Broadly speaking, livestock Bio-security is a set of measures for protecting livestock from infectious diseases at the national, regional and farm level. It is about managing risks to prevent infectious diseases, pests and weeds entering livestock properties and to prevent them spreading from an infected property to an uninfected property.

The principal farm buildings are at Mawcarse, Milnathort and include a grain shed and equipment shed. Purchased beef cattle suffered a viral outbreak which caused a number of deaths in 2018. This led to the temporary suspension of cattle being imported to the farm. Reflective of what is articulated in the material consideration of Bio-security, the Applicant post-review of the core problems with his vet have implemented an updated and reviewed Bio-security and Animal and Welfare Management Plan going forward (Appendix 2). This dictates that they need a separate standalone building to house imported/bought in cattle notably and adjoining ground to deal with the MV sheep flock. The latter means that they are kept separate from any non MV sheep which is a fundamental requirement of the Scheme. The primary function, however, allows a Bio-secure point for the isolation of stock inside the farm system, consistent with good animal husbandry and indeed the aspirations defined by Government to advance the same. It also provides a Bio-secure point for animals which should they become ill can be isolated from the main component herd. The potential impact of any outbreak or any imported viral or bacterial infection is significant. There is a core need and clear justification as will be demonstrated for an operational dwelling for a farm member integral to the business but one which complies with the requirements set by the Welfare regulations to be located next/near to the new livestock building. It

ensures firstly the security of the animals. Secondly it ensures the welfare of stock by way of the daily checking requirements but also the management and feeding regimes. This is reflected in the Applicant's current Application before Perth & Kinross Council.

ANIMAL HEALTH & WELFARE - MATERIAL CONSIDERATION

The Scottish Government produced "Animal Health & Welfare Livestock Industry: Strategy 2016 - 2021". This strategy was produced following wide-ranging consultation and set out the high level aims of the Scottish Government for animal health and welfare in Scotland.

The Scottish Government recognises the significant vital part that agriculture plays to the Scottish economy. The livestock industry alone supports per that strategy document 35,000 jobs and contributes 1.6 billion worth of output.

The Scottish Government recognise that delivering those benefits requires hard work and knowledge and for livestock farmers the most crucial skills are those needed to "care for their animals". **"Delivering improvements in animal health and welfare is not just a job for one agency or group. The Government, industry, enforcement agencies, retailers and each of us as consumers have a part to play"**. [Emphasis by Writer]. These were extracts from Richard Lochhead, MSP, Cabinet Secretary for Rural Affairs Food & Environment made at the time of releasing the strategy document.

Many factors can negatively affect animal health and welfare, including inadequate Bio-security, the prevalence of endemic disease, inefficient systems on farm, fluctuating market conditions and poor livestock handling. By contrast there are drivers that promote good animal health and welfare such as high levels of skill, knowledge exchanged and the application of best practice, such as found in the "Bio-security Practices for Animal Health: Guidance" as published by the Agricultural Rural Economy Directorate last updated 2nd August 2022.

"Bio-security in that context is set as set of management practices that collectively reduce the potential for the introduction or spread of animal disease causing organisms onto and between farms".

The Scottish Government made quite clear that they wished to encourage everyone to take responsibility for Bio-security and to avoid the devastating effects of animal disease. This was seen as vital in terms of controlling and eradicating any notifiable diseases and more generally in terms of maximising livestock health, welfare and productivity in Scotland. One such clear management practice is deemed to be separation and isolation.

In this regard, Scottish Government regard that per their Bio-security Code that as part of that basic guide Bio-security, separation and isolation should be seen in operation as follows:

- Keep new animals separate from the rest of the herd/stock until your vet ensures they carry no disease. For any cases this is two to three weeks dependent on the animal since that will provide sufficient time for disease to become apparent.

- At the first signs of illness, isolate sick animals and check all other animals in the herd or flock. Thereafter handle isolated stock last.

The Scottish Government went to significant effort via the Scottish Rural Development Programme to support activities that promote animal health and welfare. For example, a previous measure under the Land Manager Options Scheme supported the preparation of animal health and welfare management plans and other controlled measures such as Bio-security and isolations on farm. In this regard, Mr Young has produced and provided for scrutiny the Bio-security and welfare plan for the proposed farm system informed and collated with the input of his vets. This is also augmented by the QMS Programme to compliment same (refer Appendix 2) These are basic good practice and core requirements of Scottish livestock agricultural farming.

The farm vet (Cameron & Greig) provided supporting statement for this application and the need for the Bio-security unit distinct from the main farm buildings as contained with Appendix 3. This is a material consideration that must figure prominently in what are regarded by Scottish Government as other agencies and organisations. Perth and Kinross Council in turn have their part to play in promoting good practice animal health and hygiene in Scottish livestock farming. It is therefore considered and recommended that Perth & Kinross Council in their planning judgement clearly ensure the adoption of this material good practice in deciding any such planning application.

Evidence has been provided to support the livestock numbers which were evident up until 2018 before a viral outbreak in cattle caused a number of deaths. A review of that problem highlighted the need for Bio-security (per Vet's supporting correspondence) and this is now informed by this new application proposal to locate a new building away from the main farm unit with supporting livestock keepers accommodation, namely by way of one of the principal farm owners.

The Welfare of Livestock Regulations

Further policy complimentary to the Animal Health & Welfare Strategy defined above is contained within "The Welfare of Farmed Animals (Scotland) Regulations 2010. This outlines the standards by which farmed animals are required to be kept in Scotland. It is an offence for a person responsible for farmed animals to fail to comply with any provisions that these regulations make. The following are an extract of points material to this application:

The Welfare of Farmed Animals (Scotland) Regulations 2010 (S.S.I. 2010 No. 388) Schedule 1, paragraph 1, states that:

Animals must be cared for by a sufficient number of staff who possess the appropriate ability, knowledge and professional competence. In this case Mr Young (the applicant)

The stock-keeper (Mr. Young) has the most significant influence on the welfare of cattle. The stock-keeper should draw up a written health and welfare plan with the herd's veterinary surgeon and, where necessary, other technical advisors, which should be reviewed and updated each year. This plan should set out health and husbandry activities that cover the whole year's cycle of production, and include strategies to prevent, treat or limit existing disease problems. The plan should include records to enable you to monitor and assess the health and welfare of the herd.

The Welfare of Farmed Animals (Scotland) Regulations 2010 (S.S.I. 2010 No. 388) Schedule 1, paragraph 2, requires that:

- animals kept in husbandry systems in which their welfare depends on frequent human attention must be adequately inspected at least once a day to check that they are in a state of well-being.

FARMING SYSTEM

A proposed Farm System reflective of the return of livestock.

Proposed farming practice breakdown of land areas and associated stocking numbers are as follows:

Grass		Areas
(1)	Winter Wheat	35.00 hectares
(2)	Winter Barley	37.00 hectares
(3)	Spring Barley	60.00 hectares
(4)	Spring Oats	32.50 hectares
(5)	Winter Oil Seed Rape	24.00 hectares
(7)	Rotational Grass	9.42 hectares
(8)	Permanent Pasture	5.90 hectares
(9)	Swede	3.00 hectares
(10)	Kale	5.00 hectares
(11)	Set Aside	12.50 hectares

Livestock		Nos
(1)	Breeding Ewes	100
(2)	Replacement Hoggs	20
(3)	Breeding Rams	2
(4)	Feeding Cattle	50

STANDARD LABOUR REQUIREMENT CALCULATION

This is derived from an extrapolation of accepted standard data as originally sourced from data provided by the Scottish Office Agriculture Environment & Fisheries Department for standard labour data in relation to agricultural and horticultural activities. It is important to note the robustness of this information has been tested and the majority of it still stems from the original UK Farm Classification Working Party (February 2004) Report which effectively analysed and studied a variety of data sources but essentially the DEFRA *(as it was at that time)* Special Studies and Analysis of England's Farm Business Survey data. From this a set of standard labour requirements was established and thereafter tested on a range of farm business survey and census data. These produced a set of standard labour requirement coefficients which represent "typical" labour requirements under typical conditions for enterprises of average size and performance.

There can and will be variation around this position relative to the actual labour used on any individual farm which on occasion may be higher or lower than the calculated figure for a range of reasons e.g. deficiency of buildings such as traditional or old substandard buildings will undoubtedly add significantly to labour requirements. It is noted for example relative to Northern Ireland there are further adjustments made to the coefficients simply to reflect smaller field sizes.

The original 2004 study from the Working Party agreed the definition of the annual hours of a fulltime worker should be taken from the rounded average of the basic hours as laid down by the UK Agricultural Wages Boards. This is calculated to be 1900 hours based on a 39 hour week. This is now recognised as the standard definition applying equally to European assessments and calculations of man hours relative to the standard labour requirements for holdings. The robustness of the data is well tested and universally accepted and therefore forms the basis of this labour matrix and calculation for this Holding.

LABOUR PROFILE MATRIX

DESCRIPTION	UNITS	HOURS per ha per year	TOTAL
GRASS			
Winter Wheat (straw baled)	35	20	700.00
Winter Barley (straw baled)	37	20	740.00
Spring Barley (straw baled)	60	20	1200.00
Spring Oats (straw baled)	32.5	20	650.00
Winter Oil Seed Rape	24	20	480.00
Kale	5	10	50.00
Rotational Grass - Grazed	9.42	12	113.04
Permanent Pasture - Grazed	5.9	9	53.10
Swede	3	14	42.00
Set Aside	12.5	0.75	9.38
Total			**4,037.52 hrs**

LIVESTOCK	**UNITS**	**HOURS per head per year**	**TOTAL**
Breeding Ewes	100	3	300.00
Replacement Hoggs	20	2	40.00
Breeding Rams	2	3	6.00
Feeding Cattle (12-24 months)	50	12	600.00
Total			**946.00 hrs**
Combined Farming Total (Stock Plus Arable)			**4,983.52 hrs**

Equivalent Labour Units (based on 1900 hours per man equivalent) 2.62 labour units

LABOUR PROFILE MATRIX (CONTRACT FARMING)

DESCRIPTION	UNITS	HOURS per ha per year	TOTAL
GRASS			
Winter Wheat (straw baled)	26	20	520.00
Spring Barley (straw baled)	42	20	840.00
Spring Oats (straw baled)	15	20	300.00
Winter Oil Seed Rape	14	20	280.00
Total			**1940 hrs**

Equivalent Labour Units (based on 1900 hours per man equivalent) 1.02 labour units

It is noted as a function of the existing enterprise and the intensity of these operations that on a standard 39 hour week the farming activities of Mawcarse Farm and Contract Farming equated to the equivalent of a 3.64 labour units requirement or equivalent. In this context to operate this holding you would need four people working conventional standard recognised labour hours purely on the farm requirements and not taking into account any requirement for book keeping and administration etc.

EXISTING STAFF LABOUR SITUATION

This is primarily a family based farming business and the staffing profile is as follows:

STATUS	NAME	BUSINESS INTEREST	RESIDENCE LOCATION
Full time	Mr W Young	Part Owner (Retired)	Mawcarse Farmhouse
Full time	Mrs L Young	Part Owner (Retired)	Mawcarse Farmhouse
Full time	Mr H Young	Part Owner	No 5 Mawcarse Farm Cottage
Full time	Mr A Young (Applicant)	Part Owner	Rented Off Farm Accommodation

At the time of this Report, this Report now updates the current position of the farming farm labour available. There are now only two full time employed family farming staff/owner members. They are the co-owners of the family farming business. Mr & Mrs W Young are now beyond retirement age and they have now retired. They have retired and in the existing Mawcarse Farmhouse.

It should be noted that this Report is required to support the planning application for a new dwelling house and farm building on the farm. The commitment of the Young family to the continued success of the farming enterprise is not in question, but a further dwelling is required to enable the business to be properly managed and allow Mr A Young to have his own home on the farm as he moves forward with his continued involvement of the business and his own personal life. The desire and indeed the optimum requirement would be to provide further accommodation in close proximity to the requirements of managing the farm and welfare of the livestock per the application.

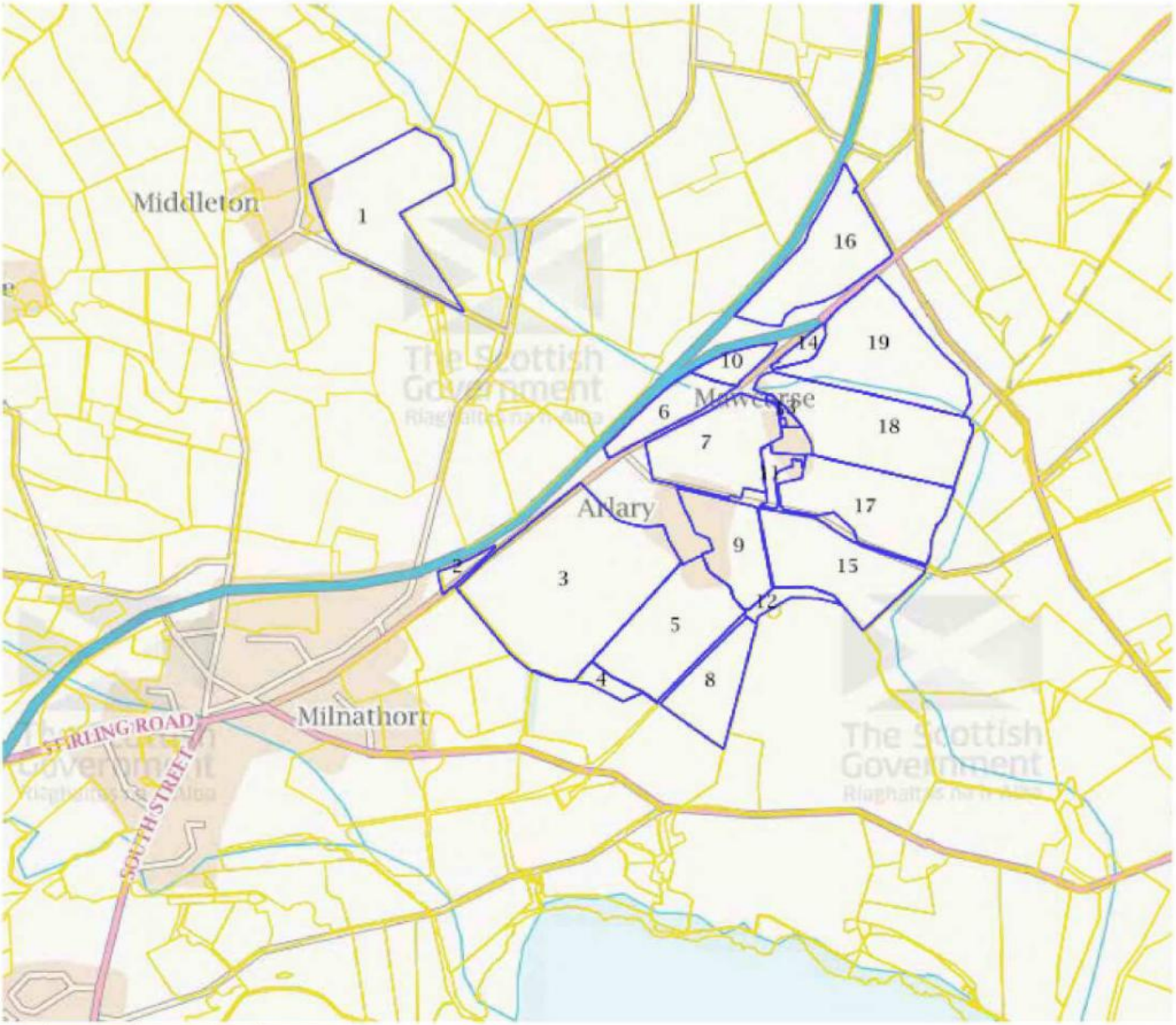
Farming is by definition a seven day week, 365 days per year operation and therefore determines the need to ensuring stock attendance and livestock welfare. The current arrangement simply does not work and would not accommodate the altered farm system and the increasing demands regarding livestock Bio-security. It is understood that the business is as a function of review with their vet and good practice see the ideal solution would be to provide the required dwelling for Mr A Young (given he currently resides off-farm in rented accommodation) at their land area at Middleton. This would dovetail with the provision of a new building to accommodate bought in stock and machinery as an when required. **This additional farm dwelling is agriculturally justified on operational need and its positioning will serve as a solution to compliment the legal welfare requirements of managing stock in close proximity to the new farm building per the Application.**

Yours sincerely

E C HENDERSON BSc (Hons) MRICS
For Hendersons Chartered Surveyors

APPENDIX ONE

IACS FARM AREA MAP



Id	Location	LPID	Area (ha)
1	488/0024	NO/12797/06808	23.19
2	488/0024	NO/13086/05332	1.31
3	488/0024	NO/13541/05286	41.41
4	488/0024	NO/13698/04872	1.84
5	488/0024	NO/13958/05093	18.41
6	488/0024	NO/13987/06019	6.28
7	488/0024	NO/14147/05802	15.91
8	488/0024	NO/14170/04872	9.49
9	488/0024	NO/14216/05452	10.43
10	488/0024	NO/14239/06208	2.96
11	488/0024	NO/14386/05761	1.84
12	488/0024	NO/14422/05223	1.95
13	488/0024	NO/14443/05990	0.53
14	488/0024	NO/14468/06248	1.58
15	488/0024	NO/14611/05380	16.79
16	488/0024	NO/14621/06640	16.42
17	488/0024	NO/14762/05613	17.79
18	488/0024	NO/14783/05932	22.50
19	488/0024	NO/14851/06243	21.76
			Total Area: 232.39

LOCATION PLAN 1:50000
(Ordnance Survey Licence No. 40036948)

N

APPENDIX TWO

W S Young & Son

[redacted]

Livestock Plan

With the main headline the moment surrounding British agriculture being carbon emissions and a focus on "net zero", a move away from such a high dependency on artificial fertilisers is becoming a major talking point. As part of our farm business, we to are looking to lessen our dependency on imported fertilisers and one of the alternate options is to increase our farm yard manure. Sustainable farming is our driving force.

Mawcarse Farm used to buy and sell store cattle that were housed inside from October/November until the following spring then grazed outside on grass. Once these animals were of the target weight, they were then sold through our local market to be butchered. The huge benefit to the farm that this created was firstly, the volume of farm yard manure that was produced during the winter housing. Secondly, huge benefits come from pasture grazing to the soil structure with organic matter being added back into the ground.

After stepping back from buying and selling cattle in 2018 we have had time to reflect back on a better way of managing our operations. After consultations with our local vet and speaking to other farmers we have come to the conclusion that a separate isolation facility would be the best option for managing potential disease or infections being carried from imported livestock. Both sheep and cattle can be housed in the proposed building. Attached are documents from our local vet who has had first hand experience with such issues on our farm from pneumonia in cattle to sheep scab last year. Issues that could have been prevented if we had facilities to isolate livestock for 3 weeks before mixing with others.

Our proposed location for our isolation unit allows us to have complete separation from the rest of the farm. The area proposed for the location of the house and shed has been carefully considered and was chosen due to the low agricultural value with a history of low production and the benefit of an existing access off the road. Given the layout of the main farm unit being in one block, a separate block of land gives us the opportunity to house livestock completely free from the others, on the main farm, until the isolation period is over. Once we are confident there is no risk of infection we can then move the cattle/sheep down to the main farm and integrate the livestock. This will then be repeated for all new livestock coming on to the farm.

Attached is our current animal health plan for Quality Meat Scotland that outlines our current code of conduct. I have also created a health plan for our move towards housing cattle and sheep (WSY Health Plan Cattle & Sheep). This shows our protocols for the welfare of our livestock but also the biosecurity measure we will have in place to stop any disease or infections passing between our animals.

Quality Meat Scotland

Animal health and welfare plan

This template can be used to document the key procedures and policies undertaken to maintain herd and fl health and welfare on your holding. The plan can be completed by the stockperson/ farmer/suitably qualifi person (SQP), however, it must be reviewed by a vet. Alternatively, you may have an Animal Health Plan drawn up and reviewed by the vet.

Business (name and address)	W S Young & son Mawcarse Farm, Milnathort, KY13 9SJ			
Person responsible for health and welfare (name and phone number)	Alistair Young 07900225302			
Veterinary Practice (name and address)	Cameron & Grieg Ardmohr/stirling road, kinross, KY13 9XR			
Name of responsible veterinary surgeon				
Species this plan applies to (please tick)	**CATTLE** ☐		**SHEEP** ☑	
Type and number of livestock covered by the plan	Breeding Cows		Breeding Ewes	58
	Bulls		Tups	1
	Stores		Stores	0
	Finishers		Finishers	0
Plan completed by (e.g. vet, SQP, stockperson)	Name:		Signature:	
			Date:	
Review completed by vet	Name:		Signature:	
	Vet Practice:		Date:	

Biosecurity Risk Assessment & Management Plan

Consider the most common biosecurity risks on your farm, their prevention and management (entries included as examples only)

RISK FACTORS	RISK LEVEL (High/Moderate/Low)	PREVENTION OF RISK	MANAGEMENT OF RISK
e.g. Newly purchased livestock	High	Only purchase from high health status herds / flocks	Quarantine new animals for at least 21 days
e.g. Calving/lambing area	Moderate	Disinfect before calving/lambing	Keep bedded with plenty of straw
e.g. General public's dogs	Moderate	Ensure footpaths are obvious	'Please keep to paths' signs
INCOMING LIVESTOCK			
Newly purchased livestock	moderate	high health status flocks	seperate field for at least 21 days
Returning livestock			
OTHER ANIMALS			
Neighbouring livestock	High	no neighbouring livestock	
Wildlife	high	indoor lambing	lambs indoor until 6 weeks of age
Farm dogs	0		
General public's dogs	high	clear footpaths and signs	Clear and obvious signs, fences maintained
PEOPLE			
Family/staff	high	farm workers only	farm entrance signs
Neighbours	high	no access to farm	clear signage
Vet	high	clean and disenfect	only call when required
Company representatives	high	no access to lambing area	signs
Deliveries	high	no access to lambing areas	signs
Contractors	high	advised to stay on the farm yard	communication
General public	high	no public access to farm	signs
BUILDINGS			
Calving/lambing area	highj	disinfected prior to lambing	powerwashed/mucked out
Youngstock housing	high	disinfected	powerwashed
General housing	high	disinfected and cleaned	mucked out regulary
Sick stock	high	kept in seperate area	isolated
EQUIPMENT			
Own farm equipment	low	clean and well maintained	washed and disinfected
Shared/hired equipment	none		
Contractor equipment	none		
MISCELLANEOUS			
Manure and slurry spreading	high	muck fields stored in fields	machinery washed after use
Quarantine pasture	none		

Existing Stock

Consider the control of disease, infections and conditions known to affect the herd/flock (entry included as an example only)

DISEASE/INFECTION/ CONDITION	AT RISK LIVESTOCK	PREVENTATIVE MEASURES	SYMPTOMS/CLINICAL SIGNS	DIAGNOSIS	TREATMENT/ MANAGEMENT MEASURES
e.g. Pneumonia	Newly weaned calves	Vaccinate pre-weaning	Coughing, nasal discharge, reduced feed intake	Laboratory tests to isolate cause	Improved ventilation in post-weaning housing
pulpy kidney	newborn lambs	vaccinated within a few days of birth	off feeding, diarrhoea	self diagnosis or veterinary advice	vaccinate

Incoming Stock

Consider disease, infections and conditions which may be a risk to the herd/flock (entry included as an example only)

DISEASE / INFECTION / CONDITION	INCOMING STOCK POSING A RISK	PREVENTATIVE MEASURES	SYMPTOMS/CLINICAL SIGNS	DIAGNOSIS	TREATMENT/MANAGEMENT MEASURES
e.g. Contagious Ovine Digital Dermatitis (CODD)	Purchased rams Ewe hoggs returning from wintering	Buy direct from farm with known history. Quarantine all incoming stock for three weeks and regularly check feet of lame sheep	Lameness	Hair loss above coronary band. Outside wall of hoof separated from coronary band which may completely detach	Discuss relevant treatments with vet if CODD confirmed. Isolate any infected animals. Follow the five-point plan

Livestock Health Management Calendar

Include diseases, infections and conditions detailed on pages 3 & 4, the action and time of year required
(entry included as an example only)

DISEASE/ INFECTION/CONDITION	PLAN OF ACTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
e.g. Nematodirus	Take faecal egg count from lambs				✓	✓	✓	✓					
pulpy kidney	vaccinate	☐	☑	☑	☐	☐	☐	☐	☐	☐	☐	☐	☐
worms	dose lambs/ewes	☐	☐	☑	☑	☐	☐	☑	☐	☐	☐	☐	☐
		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
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		☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Reducing the risk of developing resistance

Please provide details of the measures used to address the risk of resistance problems developing

PRODUCT USED	**Measures used to address risk:** e.g. Treat incoming livestock according to quarantine treatment protocol, only use triclabendazole when immature fluke are present, use sensitivity testing to inform antibiotic choice
ANTHELMINTICS (WORMERS)	
FLUKICIDES (FLUKE TREATMENTS)	
ANTIBIOTICS	

Further information can be found on the following websites: **www.cattleparasites.org.uk** for cattle and **www.scops.org.uk** for sheep.
Advice on the responsible use of antibiotics can be found at **www.ruma.org.uk/antimicrobials/guidelines**
Additional advice can be sought from your veterinary surgeon or a SQP.

Stock Tasks

Please provide details of the measures used to address the risk of resistance problems developing

STOCK TYPE	ACTION	AGE OF ANIMAL	METHOD AND TREATMENT DETAILS (e.g. anaesthetic, pain relief)	NAME OF COMPETENT PERSON	JUSTIFICATION
CATTLE	Castration				
	Disbudding				
	Dehorning				
SHEEP	Castration				
	Tail Docking	few days old	rubber rings	Hamish Young	welfare

Please refer to Appendix 3 of the 2022 QMS Cattle & Sheep Assurance Scheme Standard

Broken Needle Policy

If a broken needle was left in an animal, outline action taken to notify buyer/processor

	notify the market/abattoir

Colostrum Policy

	System to ensure maternal colostrum is given as soon as possible	Alternative source if maternal colostrum is unavailable
CALVES		
LAMBS	Make sure lambs have had a drink within the first couple of hours	powder colostrum

Euthanasia Policy

STOCK TYPE	METHOD USED	NAME OF TRAINED AND COMPETENT PERSON
Cattle		
Sheep	N/A	

Fallen Stock

METHOD OF DISPOSAL	PLEASE TICK METHOD(S) USED	PLEASE PROVIDE DETAILS (e.g. Name of collector, Licence number)
Licenced collector	☑	Grayshill
On farm incineration	☐	
Burial (derogated areas only)	☐	

Isolation Policy

Outline action taken to isolate incoming stock from livestock already on farm

STOCK TYPE	
Cattle	
Sheep	sepearte field for at least 21 days

Health and Welfare Records

Recording livestock health and welfare data allows an evidence-based approach to health planning, focused on continual improvement. Records exist in many forms e.g. herd/flock records, medicine books/records or using the below template. They must be maintained for all livestock and are useful when annually reviewing the Animal Health Plan

CATTLE	TARGET	ACTUAL	COMMENTS AND REASONS
Barren cows			
Calves born			
Calvings per cow/heifer to the bull			
Cows calved in first six weeks			
Calves reared per cow/heifer to the bull			
Culls			
Deaths			

SHEEP	TARGET	ACTUAL	COMMENTS AND REASONS
Scanning %	180	158	
Calves born			
Lambs born/marked			
Lambing/marking %			
Weaning %			
Culls			
Deaths	3	2	difficult lambing

BVD status

Current Status	
Date Negative Status achieved (if applicable)	

If BVD is present, please detail below the action plan to eradicate it from the herd:

Help and guidance can be found in the Scottish Government's document: FARMERS' GUIDANCE: BVD Eradication Scheme, Phase 5, December 2019, available at: Bovine viral diarrhoea (BVD) – gov.scot (**www.gov.scot**)

Collation of antibiotic usage

Antibiotic resistance is an increasing concern. Collating information of antibiotic usage and the diseases, infections and conditions requiring treatment should be used when reviewing the Animal Health Plan. This information can be useful in targeting problem areas to focus on, and in monitoring your progress over time (entry included as an example only)

YEAR	SPECIES	ANTIBIOTIC NAMES	QUANTITY USED	ANIMALS TREATED	REASON(S) FOR TREATMENT	ACTIONS TO REDUCE RELIANCE ON ANTIBIOTIC USE
2022	Cattle	Hexasol	100ml	Five spring-born calves	Pneumonia	Shed ventilation improved to help reduce incidence of pneumonia

Dog worming

DATE OF ISSUE	NAME OF DOG	WORMER USED	INITIALS OF PERSON WHO ADMINISTERED TREATMENT	DATE OF NEXT TREATMENT DUE

Quality Meat Scotland

Animal health and welfare plan

This template can be used to document the key procedures and policies undertaken to maintain herd and flock health and welfare on your holding. The plan can be completed by the stock person/farmer/suitably qualified person (SQP), however, it must be reviewed by a vet. Alternatively, you may have an Animal Health Plan drawn up and reviewed by the vet.

Business (name and address)	W S Young Mawcarse Farm			
Person responsible for health and welfare (name and phone number)	Alistair Young (Partner) 07900225302			
Veterinary Practice (name and address)	Cameron and Greig Milnathort			
Name of responsible veterinary surgeon	Euan McKee			
Species this plan applies to (please tick)	**CATTLE** ✔		**SHEEP** ✔	
Type and number of livestock covered by the plan	Breeding Cows		Breeding Ewes	58
	Bulls		Tups	1
	Stores	50	Stores	
	Finishers		Finishers	
Plan completed by (e.g. vet, SQP, stockperson)	Name:		Signature:	
			Date:	
Review completed by vet	Name:		Signature:	
	Vet Practice:		Date:	

Biosecurity Risk Assessment & Management Plan

Consider the most common biosecurity risks on your farm, their prevention and management (entries included as examples only)

RISK FACTORS	RISK LEVEL (High/Moderate/Low)	PREVENTION OF RISK	MANAGEMENT OF RISK
e.g. Newly purchased livestock	High	Only purchase from high health status herds / flocks	Quarantine new animals for at least 21 days
e.g. Calving/lambing area	Moderate	Disinfect before calving/lambing	Keep bedded with plenty of straw
e.g. General public's dogs	Moderate	Ensure footpaths are obvious	'Please keep to paths' signs
INCOMING LIVESTOCK			
Newly purchased livestock	High	Disinfect shed, buy from reputable farm assured sellers/as if vaccinated	Quarentine for 21 days
Returning livestock	low	Cleaning handling equipment	Livestock stay on farm
OTHER ANIMALS			
Neighbouring livestock	High	Make sure livestock are kept separate	Animals kept in isolation if contact/cattle kept indoors
Wildlife			
Farm dogs	High	Wormed	regular worming
General public's dogs	Moderate	Clear signage at farm entrance	public prohibited access to farm
PEOPLE			
Family/staff	Low	Farm staff only to have interaction with cattle/sheep	Clear signage and instruction
Neighbours			
Vet	High	disinfect before entering shed	wash down after visit
Company representatives	High	No access to livestock	Clear signage
Deliveries	High	Access limited to farm yard	Communication beofre arring on site
Contractors	High	Access limited to farm yard	""
General public	High	no access to farm	Clear signage
BUILDINGS			
Calving/lambing area			
Youngstock housing			
General housing	Low	disinfected after each turn around	clean bedding regularly
Sick stock			
EQUIPMENT			
Own farm equipment			
Shared/hired equipment			
Contractor equipment			
MISCELLANEOUS			
Manure and slurry spreading	High	Midden kept away from pubic/watercourses etc	Change midden area annually
Quarantine pasture			

Existing Stock

Consider the control of disease, infections and conditions known to affect the herd/flock (entry included as an example only)

DISEASE/INFECTION/ CONDITION	AT RISK LIVESTOCK	PREVENTATIVE MEASURES	SYMPTOMS/CLINICAL SIGNS	DIAGNOSIS	TREATMENT/ MANAGEMENT MEASURES
e.g. Pneumonia	Newly weaned calves	Vaccinate pre-weaning	Coughing, nasal discharge, reduced feed intake	Laboratory tests to isolate cause	Improved ventilation in post-weaning housing
Pneumonia	Newly bought store calves	Vaccinate on arrival Buy calves weaned before sale	Cought, low heds, not eating	vets advise	improved ventilation, keep the calves calm and not excited.

Incoming Stock

Consider disease, infections and conditions which may be a risk to the herd/flock (entry included as an example only)

DISEASE / INFECTION / CONDITION	INCOMING STOCK POSING A RISK	PREVENTATIVE MEASURES	SYMPTOMS/CLINICAL SIGNS	DIAGNOSIS	TREATMENT/MANAGEMENT MEASURES
e.g. Contagious Ovine Digital Dermatitis (CODD)	Purchased rams Ewe hoggs returning from wintering	Buy direct from farm with known history. Quarantine all incoming stock for three weeks and regularly check feet of lame sheep	Lameness	Hair loss above coronary band. Outside wall of hoof separated from coronary band which may completely detach	Discuss relevant treatments with vet if CODD confirmed. Isolate any infected animals. Follow the five-point plan
MV	purchased sheep	buy from MV accredited seller,keep separte from commercial flock	progressive paralysis	slow delveloping	incurable, blood test stock
sheep scab	purchased livestock	buy from reputable seller, isolate new stock	loss of wool, itching	vet taking skin swabs	dipping, jagging.
pneumonia	purchased cattle	buy from seller who has vaccinated, isolaton	lethargic, wheezing	vets advice	injection
BVDV	newly bought stock	isolate from herd after purchase, buy from accredited herds	fever, inappetance, diarrhea	bloods, skin plugs	vaccination

Livestock Health Management Calendar

Include diseases, infections and conditions detailed on pages 3 & 4, the action and time of year required
(entry included as an example only)

DISEASE/ INFECTION/CONDITION	PLAN OF ACTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
e.g. Nematodirus	Take faecal egg count from lambs				✓	✓	✓	✓					
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Reducing the risk of developing resistance

Please provide details of the measures used to address the risk of resistance problems developing

PRODUCT USED	**Measures used to address risk:** e.g. Treat incoming livestock according to quarantine treatment protocol, only use triclabendazole when immature fluke are present, use sensitivity testing to inform antibiotic choice
ANTHELMINTICS (WORMERS)	
FLUKICIDES (FLUKE TREATMENTS)	
ANTIBIOTICS	

Further information can be found on the following websites: **www.cattleparasites.org.uk** for cattle and **www.scops.org.uk** for sheep.
Advice on the responsible use of antibiotics can be found at **www.ruma.org.uk/antimicrobials/guidelines**
Additional advice can be sought from your veterinary surgeon or a SQP.

Stock Tasks

Please provide details of the measures used to address the risk of resistance problems developing

STOCK TYPE	ACTION	AGE OF ANIMAL	METHOD AND TREATMENT DETAILS (e.g. anaesthetic, pain relief)	NAME OF COMPETENT PERSON	JUSTIFICATION
CATTLE	Castration				
	Disbudding				
	Dehorning				
SHEEP	Castration				
	Tail Docking				

Please refer to Appendix 3 of the 2022 QMS Cattle & Sheep Assurance Scheme Standard

Broken Needle Policy

If a broken needle was left in an animal, outline action taken to notify buyer/processor

Colostrum Policy

	System to ensure maternal colostrum is given as soon as possible	Alternative source if maternal colostrum is unavailable
CALVES		
LAMBS		

Euthanasia Policy

STOCK TYPE	METHOD USED	NAME OF TRAINED AND COMPETENT PERSON
Cattle		
Sheep		

Fallen Stock

METHOD OF DISPOSAL	PLEASE TICK METHOD(S) USED	PLEASE PROVIDE DETAILS (e.g. Name of collector, Licence number)
Licenced collector	☐	
On farm incineration	☐	
Burial (derogated areas only)	☐	

Isolation Policy

Outline action taken to isolate incoming stock from livestock already on farm

STOCK TYPE	
Cattle	
Sheep	

Health and Welfare Records

Recording livestock health and welfare data allows an evidence-based approach to health planning, focused on continual improvement. Records exist in many forms e.g. herd/flock records, medicine books/records or using the below template. They must be maintained for all livestock and are useful when annually reviewing the Animal Health Plan

CATTLE	TARGET	ACTUAL	COMMENTS AND REASONS
Barren cows			
Calves born			
Calvings per cow/heifer to the bull			
Cows calved in first six weeks			
Calves reared per cow/heifer to the bull			
Culls			
Deaths			

SHEEP	TARGET	ACTUAL	COMMENTS AND REASONS
Scanning %			
Calves born			
Lambs born/marked			
Lambing/marking %			
Weaning %			
Culls			
Deaths			

BVD status

Current Status	
Date Negative Status achieved (if applicable)	

If BVD is present, please detail below the action plan to eradicate it from the herd:

Help and guidance can be found in the Scottish Government's document: FARMERS' GUIDANCE: BVD Eradication Scheme, Phase 5, December 2019, available at: Bovine viral diarrhoea (BVD) – gov.scot (www.gov.scot)

Collation of antibiotic usage

Antibiotic resistance is an increasing concern. Collating information of antibiotic usage and the diseases, infections and conditions requiring treatment should be used when reviewing the Animal Health Plan. This information can be useful in targeting problem areas to focus on, and in monitoring your progress over time (entry included as an example only)

YEAR	SPECIES	ANTIBIOTIC NAMES	QUANTITY USED	ANIMALS TREATED	REASON(S) FOR TREATMENT	ACTIONS TO REDUCE RELIANCE ON ANTIBIOTIC USE
2022	Cattle	Hexasol	100ml	Five spring-born calves	Pneumonia	Shed ventilation improved to help reduce incidence of pneumonia

Dog worming

DATE OF ISSUE	NAME OF DOG	WORMER USED	INITIALS OF PERSON WHO ADMINISTERED TREATMENT	DATE OF NEXT TREATMENT DUE

APPENDIX THREE

Cameron & Greig Veterinary Surgeons

Messrs Young & Son

[redacted]

15 February 2023

To whom it may concern,

This letter regards the business of Messrs Young, clients of ours who farm at the above address. I have been discussing with Alistair his interest in starting a new flock of sheep which he looks to keep MV accredited. The existing flock at Mawcarse is currently not MV accredited. The existing flock at Mawcarse is currently not MV accredited and grazes in the surrounding fields when not lambing inside. This flock has also had an issue with sheep scab last year. Given the infectious nature of these diseases and the requirements of the MV accreditation scheme it would be wise, and my advice on security grounds, to start the new flock on a separate site and away from the existing flock at Mawcarse to minimise contact and cross contamination between flocks.

Furthermore there is a desire to restart a beef fattening unit. This enterprise had been ended following the winter of 2017/2018 where a number of animals had suffered from pneumonia including some deaths. The importation of disease was a suspected cause. It would be advisable if new stock would spend a period of 28 days in a separate isolation facility before joining the main herd. It would also be prudent for biosecurity reasons if this isolation facility was on a separate site away from the main herd.

Yours sincerely,

Euan McKee BVM&S MRCVS
Director

RCVS ACCREDITED PRACTICE SMALL ANIMAL PRACTICE

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- Architectural Design
- Building Surveying
- Rope Access Surveys
- HSEQ & CDM2015 Compliance

Design Statement

In support of

Dwelling House
@
Land at Middleton, Perth & Kinross

On Behalf of

Messyrs WS Young & Son

Document Control: KH : Deliverable – 09/05/23

Contents

1.0 Summary

This design statement has been prepared by LBE Services on behalf of Messyrs WS Young & Son in support of the proposed dwelling and agricultural shed @ Land by Middleton. This statement should be read in conjunction with architectural drawings REF: LBES471(A)-001A, 002A & 003A and the appendices (agricultural justification report, phase 1 habitat report, Klargester technical literature, SEPA phosphorous guidance & maps).

2.0 The Site & Surrounding Area

2.1 The Location

The application site is located by Middleton to the north of Milnathort in Perth & Kinross (site & location plans included within drawing issue).

2.2 The Site

The subject site comprises agricultural land owned and farmed by Messyrs WS Young & Son (site & location plans included in drawing issue + photographs provided).

3.0 Planning Policy

3.1 Pre-Planning Discussions & Planning History

2No pre-planning enquiries were made by the applicant in relation to the proposed dwelling and agricultural shed. A further pre-planning enquiry was made by LBE Services with response provide from Perth & Kinross planning dept in November 2021. An application for planning permission was subsequently made and refused on the 12th of May 2022. The application was refused on the basis of:

1) The site not being identifiable with long established boundaries, which separate naturally from the surrounding ground.
2) It would result in an incongruous development on a site with no natural boundaries.
3) Acceptable mitigation measures for phosphorous mitigation had not been identified.

In response to points 1 & 2 an updated agricultural justification report has been provided by the client's planning consultant demonstrating that there are material considerations & operational requirements in respect of bio-security & animal welfare needs as core fundamental justification for the proposed development on the above site. Further, the house and shed is not isolated as there is an established hamlet nearby.

It is understood from the planning officer, that point 3 was raised in relation to calculations / evidence not being provided for the existing infrastructure phosphorous loading as it may be that the property already has an improved system and not the old style systems (copy of clarification email appended). Photographs have been provided in section 9.0 showing the old style primary treatment septic tank at Mawcarse farmhouse to provide evidence in this regard; further the current discharge rates for the tank have been taken from the SEPA guidance that was provided at pre-planning stage (copy appended). A search on the planning portal was undertaken for the area and the following pertinent applications were noted:

- 11/00337/FLL – Stockmans Cottage @ Fossoway Farm
- 11/01693/FLL – New Meikle Obney Farmhouse
- 12/00278/FLL – Devon Cottage
- 14/02014/FLL – Site at Tannerhall

The local development plan and associated supplementary guidance has also been referred to in conjunction with the above.

4.0 Proposed Use

The site shall be used as an agricultural dwelling inclusive of general purpose agricultural shed to support the bio-security and animal welfare requirements of Messyrs WS Young & Son farming activities as detailed in the appended agricultural justification report. The proposed buildings need to be in place before the farming stock.

It should be noted that the general purpose agricultural shed would not be used for intensive livestock farming or for the storage of slurry; N.B - any new livestock coming onto the farm would be kept on a short term temporary basis before distribution onto the farm (for bio-security reasons); livestock would be kept on straw with any soiled waste removed to main farmyard thereafter.

5.0 Site Area

The subject plot delineated via red broken line on site & location plan drawings LBES471(A)-001 occupies an area of circa 0.6 hectares.

6.0 Layout

The proposed dwelling has been designed as a two storey traditional farmhouse with provision of access road, car parking and general purpose agricultural shed.

7.0 Scale

The dwelling would occupy a footprint GEA of 213m2. The general purpose agricultural shed would occupy a footprint of 223m2. Comments regarding justification for the size of the proposed dwelling have been provided in section 9.0 Design.

8.0 Landscaping

The existing access point over the ditch to the southeast corner of the subject plot would be utilised for the subject dwelling with free draining hard-standing access road leading to the dwelling & shed. Car parking / yard provision would be provided to the rear of the shed so that it is screened from the adjacent road. Low level retaining walls would be utilised to reduce the site levels for the dwelling, shed & parking yard so that it is set into the landscape (as opposed to on top). The dwelling would have provision of soft landscaping to the front, perimeter access paths and patio to the rear. The remainder of the site would remain soft landscaped.

The subject plot/

The subject plot is currently bound as follows:

- Southwest : public road, post & wire fence + drainage ditch.
- Northwest : post & wire fence with levels rising up to bank + localised hawthorn trees & hedging.
- Northeast : grassed margin with gentle slope onto arable field.
- Southeast : grassed margin.

The pre-application and refusal comments noted that the boundaries are not well established and would not align with the requirements of the HITCG. It is further understood that introduction of new boundary treatments (IE – a tree line) would not be considered acceptable either.

These points are noted, however the appended justification report identifies a specific operational need for the setting of a dwelling at this location (IE – it should be separate from the rest of the farm at Mawcarse for bio-security & animal welfare reasons and the proposed dwelling should be sited close by). Further, the buildings need to be in place before the farm stock.

The proposed development is not in isolation and is in close proximity to other established dwellings & agricultural buildings at Meadowside, Blinkbonny, Middleton & Bankhead. Further, the site already has an established access point and lends itself to the client's operational needs. We would therefore ask that the proposed location is given consideration.

It is proposed to improve the established hawthorn growth to the northwest of the site & encourage hedging to provide a natural backdrop to the development where the levels rise up; this would also help to enhance bio-diversity. The habitat survey (report appended) noted the site as being of limited wildlife and ecological value, although enhancement of the boundary treatments & introduction of bat & swift boxes would be incorporated to improve this. A levelling survey has been undertaken with existing & proposed levels shown on site plan drawings LBES471(A)-001A. Existing levels have been maintained where feasible with minor alterations proposed.

9.0 Design

The concept for the dwelling follows the design approach of a traditional farmhouse & takes into account the local vernacular with proposed materials as follows

- Roof – Pitched with natural slate finish.
- Roof-lights – Dark grey UPVC double glazed
- Skews – Dressed stone
- Chimneys – Roughcast masonry with dressed stone copes
- Rainwater goods & Service Pipes – Black UPVC or Aluminium
- Front Elevation (LHS) – Rubble stone masonry with dressed ashlar stone quoins, sills, lintels, rybats & mullions.
- Front Elevation (RHS), Side & Rear Elevations – Roughcast masonry with dressed ashlar stone sills. Oak framed lean too porch incorporated.
- Windows & Doors – White UPVC
- Surface Water Drainage – Soakaway to front of site (subject to site investigation).

- Foul Water Drainage – Klargester Biodisc discharging into drainage field to front of site (subject to site investigation & SEPA license).
- Renewable Technologies – heating system to comprise air source heat pump with provision of solar panels to south facing aspect of roof to supplement electricity provision to same.

The agricultural shed would comprise slate blue profiled cladding roofing & elevation sheets to provide a neutral coloured building with a low profiled pitched roof so that it is not obtrusive within the landscape. The shed roof would drain to its own surface water soakaway as per the site plan drawing.

A Klargester Biodisc BAX treatment facility (with chemical dosing) has been proposed to the new dwelling to provide a phosphorous discharge rate of 2mg/l (copy of literature enclosed).

The current foul drainage system serving 1 Mawcarse Cottage KY13 9SJ comprises an old style septic tank, which is a primary treatment facility providing a discharge rate of 10mg / litre as per the figures quoted in the appended SEPA guidance documents and Klargester technical note. Photos of the current system at 1 Mawcarse Cottage have been provided below:

1 Mawcarse Cottage – Old Style Primary Treatment Septic Tank

1 Mawcarse Cottage – Old Style Primary Treatment Septic Tank

It is proposed to upgrade the existing old style septic tank at 1 Mawcarse Cottage, with a new Klargester Biodisc BAX treatment facility (N.B - cottage not owned by farm, but septic tank within farm boundary). This would provide 125% mitigation as per the calculation table below:

Phosphorous Discharge Calculations	
Background	
Average amount of water per person per day	= 150 litres
Primary treatment (septic tank – standard discharge – as a mean)	= 10 mg P/litre
Daily discharge of phosphorous (per person) from primary treatment	= 1,500 mg P
Klargester BAX (package treatment plant – as a mean)	= 2 mg P/litre
Daily discharge of phosphorous (per person) from Klargester BAX	= 300 mg P
Proposed Development	
5 Bedroom House	= 7 P.E
Secondary treatment to be installed (Klargester BAX)	= 2mg P/litre
Daily discharge of phosphorous = 300 mg P x 7 P.E	**= 2,100 mg P / day**
Phosphorous Mitigation	
Mitigation requires a reduction of 125% of the amount of phosphorus to be discharged from the new development = 125% x 2,100 mg P / day	**= 2,625 mg P / day**
Mitigation is proposed by upgrading the old style septic tank for 1 Mawcarse Cottage, which is an existing 3 bedroom property to a secondary treatment plant.	
3 Bedroom House	= 5 P.E
Existing discharge (old style primary system) = 750 litres x 10mg P/litre	= 7,500 mg P / day
Discharge after upgrade to 2mg/l P = 300 mg P x 5 P.E (Klargester BAX)	= 1,500 mg P / day
Mitigation offered is 7500 – 1,500	**= 6,000 mg P / day**
	Mitigation In excess of requirements

(N.B - Above calculation formulated from worked example in appended SEPA guidance)
If there is anything untoward with the above calculation or if further information / evidence are required, please contact us during the application period and we will endeavour to provide.

N.B – the proposed surface soakaway, Bio-disc treatment facility and foul drainage field would be located appropriate distances away from the dwelling, boundaries and drainage ditch as per the site plan. Further, the proposals would be subject to detailed design from a civil engineer and license from SEPA.

It is understood from the SEPA flood map (copy appended) that the site is not in an area of flood risk and the total impermeable area (dwelling & shed footprint + non permeable surfacing) is less than 1,000m2 (680m2). Therefore a flood risk assessment would not be required. It is understood that the site would be considered an environmentally sensitive area given its locality within the Loch Leven catchment zone, although does not constitute a special protection area. Further, as above the phase 1 habitat survey did not identify any notable wildlife or ecological concerns (copy appended). Notwithstanding this, measures have been incorporated to enhance biodiversity as section 8.0 above.

Concerns were raised during the pre-application and planning process regarding the setting of the dwelling, the boundary definition, the developments prominence on the site and its size. The dwelling would be visible from the adjacent rural B road, although adjacent applications such as *'14/02014/FLL – Site at Tannerhall'* are prominent & visible from further afield without causing detriment to the landscape. It is appreciated that the existing boundaries do not align with the HITCG; however, good reason has been given for using this location as per the appended justification report.

Further, the dwelling is to constitute a farmhouse with space for a family to live and incorporating space for the farm business & home working; it is understood from the supplementary guidance that encouragement will be given to the incorporation of measures to facilitate home working within a new development and therefore the size of the dwelling can be justified. It would also be prudent to support the development of a local farming business given present produce shortages and government initiatives.

10.0 Access

The existing established access point to the plot at the southeast corner of the subjects would be utilised for the proposed dwelling & shed. Vegetation would be maintained to allow visibility splays up and down the subject road. Access to the subjects would include provision of a yard for parking (screened from road via shed), turning & fire service access. Note that the proposed dwelling would have large external garden space for domestic amenity including provision for storage of domestic waste & recycling.

It should be noted that the other 2 properties under ownership of the subject farm comprise Mawcarse Farmhouse & No 5 Mawcarse Farm Cottage. A google maps image has been provided showing the location of same; this correlates to the appended justification report.

11.0 Conclusions

Planning permission is sought for a farmhouse & agricultural shed at the subject site to facilitate the bio-diversity & animal welfare elements of the client's farming business whilst providing sufficient living accommodation for the subject farm staff. Concerns were raised at pre-planning stage and from the previous application refusal; however, material consideration and justification can be given for the operation of the farm business at this location (bio-security & animal welfare). Further, the site is considered to have limited wildlife & ecological value; the proposals would look to enhance the biodiversity of the site, whilst incorporating renewable technologies and measures to protect the environmentally sensitive Loch Leven catchment zone. It is also suggested that the proposals do not impact anymore on the landscape than the nearby developments & established hamlets at Middleton, Tannerhall, Blinkbonny and Bankhead (similar agricultural dwellings & farm buildings). Therefore, we would ask that consideration is given to granting planning permission for the subject development and to secure the future business needs of Mawcarse farm and its workforce (which is very important given the requirements for locally sourced produce and present shortages).

12.0 Photographs

1. View of Site from Southeast

13.0 Appendices

App A - Henderson's Chartered Surveyors Agricultural Justification Report

App B - Aquilla Ecology – Extended Phase 1 Habitat Report

App C - SEPA – Flood Risk Map

App D - Map showing existing farm accommodation @ Mawcarse

App E - Klargester Technical Literature, SEPA Guidance Documents & Planning Email Correspondence

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- Architectural Design
- Building Surveying
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- HSEQ & CDM2015 Compliance

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Document Control: KH : Deliverable – 21/06/23 (Rev A)

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The local development plan and associated supplementary guidance has also been referred to in conjunction with the above.

4.0 Proposed Use

The site shall be used as an agricultural dwelling inclusive of general purpose agricultural shed to support the bio-security and animal welfare requirements of Messyrs WS Young & Son farming activities as detailed in the appended agricultural justification report. The proposed buildings need to be in place before the farming stock.

It should be noted that the general purpose agricultural shed would not be used for intensive livestock farming or for the storage of slurry; N.B - any new livestock coming onto the farm would be kept on a short term temporary basis before distribution onto the farm (for bio-security reasons); livestock would be kept on straw with any soiled waste removed to main farmyard thereafter.

5.0 Site Area

The subject plot delineated via red broken line on site & location plan drawings LBES471(A)-001 occupies an area of circa 0.6 hectares.

6.0 Layout

The proposed dwelling has been designed as a two storey traditional farmhouse with provision of access road, car parking and general purpose agricultural shed.

7.0 Scale

The dwelling would occupy a footprint GEA of 213m2. The general purpose agricultural shed would occupy a footprint of 223m2. Comments regarding justification for the size of the proposed dwelling have been provided in section 9.0 Design.

8.0 Landscaping

The existing access point over the ditch to the southeast corner of the subject plot would be utilised for the subject dwelling with free draining hard-standing access road leading to the dwelling & shed. Car parking / yard provision would be provided to the rear of the shed so that it is screened from the adjacent road. Low level retaining walls would be utilised to reduce the site levels for the dwelling, shed & parking yard so that it is set into the landscape (as opposed to on top). The dwelling would have provision of soft landscaping to the front, perimeter access paths and patio to the rear. The remainder of the site would remain soft landscaped.

The subject plot/

The subject plot is currently bound as follows:

- Southwest : public road, post & wire fence + drainage ditch.
- Northwest : post & wire fence with levels rising up to bank + localised hawthorn trees & hedging.
- Northeast : grassed margin with gentle slope onto arable field.
- Southeast : grassed margin.

The pre-application and refusal comments noted that the boundaries are not well established and would not align with the requirements of the HITCG. It is further understood that introduction of new boundary treatments (IE – a tree line) would not be considered acceptable either.

These points are noted, however the appended justification report identifies a specific operational need for the setting of a dwelling at this location (IE – it should be separate from the rest of the farm at Mawcarse for bio-security & animal welfare reasons and the proposed dwelling should be sited close by). Further, the buildings need to be in place before the farm stock.

The proposed development is not in isolation and is in close proximity to other established dwellings & agricultural buildings at Meadowside, Blinkbonny, Middleton & Bankhead. Further, the site already has an established access point and lends itself to the client's operational needs. We would therefore ask that the proposed location is given consideration.

It is proposed to improve the established hawthorn growth to the northwest of the site & encourage hedging to provide a natural backdrop to the development where the levels rise up; this would also help to enhance bio-diversity. The habitat survey (report appended) noted the site as being of limited wildlife and ecological value, although enhancement of the boundary treatments & introduction of bat & swift boxes would be incorporated to improve this. A levelling survey has been undertaken with existing & proposed levels shown on site plan drawings LBES471(A)-001A. Existing levels have been maintained where feasible with minor alterations proposed.

9.0 Design

The concept for the dwelling follows the design approach of a traditional farmhouse & takes into account the local vernacular with proposed materials as follows

- Roof – Pitched with natural slate finish.
- Roof-lights – Dark grey UPVC double glazed
- Skews – Dressed stone
- Chimneys – Roughcast masonry with dressed stone copes
- Rainwater goods & Service Pipes – Black UPVC or Aluminium
- Front Elevation (LHS) – Rubble stone masonry with dressed ashlar stone quoins, sills, lintels, rybats & mullions.
- Front Elevation (RHS), Side & Rear Elevations – Roughcast masonry with dressed ashlar stone sills. Oak framed lean too porch incorporated.
- Windows & Doors – White UPVC
- Surface Water Drainage – Soakaway to front of site (subject to site investigation).

- Foul Water Drainage – Klargester Biodisc discharging into drainage field to front of site (subject to site investigation & SEPA license).
- Renewable Technologies – heating system to comprise air source heat pump with provision of solar panels to south facing aspect of roof to supplement electricity provision to same.

The agricultural shed would comprise slate blue profiled cladding roofing & elevation sheets to provide a neutral coloured building with a low profiled pitched roof so that it is not obtrusive within the landscape. The shed roof would drain to its own surface water soakaway as per the site plan drawing.

A Klargester Biodisc BAX treatment facility (with chemical dosing) has been proposed to the new dwelling to provide a phosphorous discharge rate of 2mg/l (copy of literature enclosed).

The current foul drainage system serving 1 Mawcarse Cottage KY13 9SJ comprises an old style septic tank, which is a primary treatment facility providing a discharge rate of 10mg / litre as per the figures quoted in the appended SEPA guidance documents and Klargester technical note. Photos of the current system at 1 Mawcarse Cottage have been provided below:

1 Mawcarse Cottage – Old Style Primary Treatment Septic Tank

1 Mawcarse Cottage – Old Style Primary Treatment Septic Tank

It is proposed to upgrade the existing old style septic tank at 1 Mawcarse Cottage, with a new Klargester Biodisc BAX treatment facility (N.B - cottage not owned by farm, but septic tank within farm boundary). This would provide 125% mitigation as per the calculation table below:

Phosphorous Discharge Calculations	
Background	
Average amount of water per person per day	= 150 litres
Primary treatment (septic tank – standard discharge – as a mean)	= 10 mg P/litre
Daily discharge of phosphorous (per person) from primary treatment	= 1,500 mg P
Klargester BAX (package treatment plant – as a mean)	= 2 mg P/litre
Daily discharge of phosphorous (per person) from Klargester BAX	= 300 mg P
Proposed Development	
6 Bedroom House	= 8 P.E
Secondary treatment to be installed (Klargester BAX)	= 2mg P/litre
Daily discharge of phosphorous = 300 mg P x 8 P.E	**= 2,400 mg P / day**
Phosphorous Mitigation	
Mitigation requires a reduction of 125% of the amount of phosphorus to be discharged from the new development = 125% x 2,400 mg P / day	**= 3,000 mg P / day**
Mitigation is proposed by upgrading the old style septic tank for 1 Mawcarse Cottage, which is an existing 3 bedroom property to a secondary treatment plant.	
3 Bedroom House	= 5 P.E
Existing discharge (old style primary system) = 750 litres x 10mg P/litre	= 7,500 mg P / day
Discharge after upgrade to 2mg/l P = 300 mg P x 5 P.E (Klargester BAX)	= 1,500 mg P / day
Mitigation offered is 7500 – 1,500	**= 6,000 mg P / day**
	Mitigation In excess of requirements

(N.B - Above calculation formulated from worked example in appended SEPA guidance) If there is anything untoward with the above calculation or if further information / evidence are required, please contact us during the application period and we will endeavour to provide.

N.B – the proposed surface soakaway, Bio-disc treatment facility and foul drainage field would be located appropriate distances away from the dwelling, boundaries and drainage ditch as per the site plan. Further, the proposals would be subject to detailed design from a civil engineer and license from SEPA.

It is understood from the SEPA flood map (copy appended) that the site is not in an area of flood risk and the total impermeable area (dwelling & shed footprint + non permeable surfacing) is less than 1,000m2 (680m2). Therefore a flood risk assessment would not be required. It is understood that the site would be considered an environmentally sensitive area given its locality within the Loch Leven catchment zone, although does not constitute a special protection area. Further, as above the phase 1 habitat survey did not identify any notable wildlife or ecological concerns (copy appended). Notwithstanding this, measures have been incorporated to enhance biodiversity as section 8.0 above.

Concerns were raised during the pre-application and planning process regarding the setting of the dwelling, the boundary definition, the developments prominence on the site and its size. The dwelling would be visible from the adjacent rural B road, although adjacent applications such as *'14/02014/FLL – Site at Tannerhall'* are prominent & visible from further afield without causing detriment to the landscape. It is appreciated that the existing boundaries do not align with the HITCG; however, good reason has been given for using this location as per the appended justification report.

Further, the dwelling is to constitute a farmhouse with space for a family to live and incorporating space for the farm business & home working; it is understood from the supplementary guidance that encouragement will be given to the incorporation of measures to facilitate home working within a new development and therefore the size of the dwelling can be justified. It would also be prudent to support the development of a local farming business given present produce shortages and government initiatives.

10.0 Access

The existing established access point to the plot at the southeast corner of the subjects would be utilised for the proposed dwelling & shed. Vegetation would be maintained to allow visibility splays up and down the subject road. Access to the subjects would include provision of a yard for parking (screened from road via shed), turning & fire service access. Note that the proposed dwelling would have large external garden space for domestic amenity including provision for storage of domestic waste & recycling.

It should be noted that the other 2 properties under ownership of the subject farm comprise Mawcarse Farmhouse & No 5 Mawcarse Farm Cottage. A google maps image has been provided showing the location of same; this correlates to the appended justification report.

11.0 Conclusions

Planning permission is sought for a farmhouse & agricultural shed at the subject site to facilitate the bio-diversity & animal welfare elements of the client's farming business whilst providing sufficient living accommodation for the subject farm staff. Concerns were raised at pre-planning stage and from the previous application refusal; however, material consideration and justification can be given for the operation of the farm business at this location (bio-security & animal welfare). Further, the site is considered to have limited wildlife & ecological value; the proposals would look to enhance the biodiversity of the site, whilst incorporating renewable technologies and measures to protect the environmentally sensitive Loch Leven catchment zone. It is also suggested that the proposals do not impact anymore on the landscape than the nearby developments & established hamlets at Middleton, Tannerhall, Blinkbonny and Bankhead (similar agricultural dwellings & farm buildings). Therefore, we would ask that consideration is given to granting planning permission for the subject development and to secure the future business needs of Mawcarse farm and its workforce (which is very important given the requirements for locally sourced produce and present shortages).

12.0 Photographs

1. View of Site from Southeast

13.0 Appendices

App A - Henderson's Chartered Surveyors Agricultural Justification Report

App B - Aquilla Ecology – Extended Phase 1 Habitat Report

App C - SEPA – Flood Risk Map

App D - Map showing existing farm accommodation @ Mawcarse

App E - Klargester Technical Literature, SEPA Guidance Documents & Planning Email Correspondence