(*d*) a member of the Garda Síochána,

(*e*) an officer of Customs and Excise, or

(*f*) a person appointed under Regulation 30;

"calf" means a bovine animal less than six months old;

"Calves Directive" means Council Directive No.2008/119/EC of 18 December 2008;

"Chicken welfare Directive" means Council Directive No 2007/43/EC of 28 June 2007;

"General Welfare Directive" means Council Directive No. 98/58/EC of 20 July 1998;

"Laying Hens Directive" means Council Directive No. 1999/74/EC of 19 July 1999 and Commission Directive 2002/4/EC of 30 January 2002;

"Minister" means Minister for Agriculture, Fisheries and Food;

"Pigs Directive" means Council Directive No. 2008/120/EC of 18 December 2008;

"premises" includes land, with or without buildings;

"registered veterinary practitioner" has the same meaning as in the Veterinary Practice Act 2005 (No. 22 of 2005);

"Slaughter Directive" means Council Directive No. 93/119/EEC of 22 December 1993.

(2) A word or expression that is used in these Regulations and is also used in the Chicken welfare Directive, the Calves Directive, the General Welfare Directive, the Laying Hens Directive, the Pigs Directive or the Slaughter Directive has, unless the contrary intention appears, the same meaning in these Regulations as it has in the Directive in which it occurs.

Codes of practice

3. (1) The Minister may-

(*a*) publish or cause to be published codes of practice, or

(*b*) adopt a code of practice published by another person (whether within the State or otherwise),

for the purpose of providing practical guidance relating to any of the purposes of these Regulations.

(2) The Minister may amend or replace a code of practice referred to in paragraph (1).

(3) A person who has in his or her possession or under his or her control an animal of a particular class or description shall have due regard to a code of practice (if any) that relates to an animal of that class or description or kept under similar types of management or husbandry practices, published or adopted in accordance with paragraph (1).

(4) If a person fails to comply with a code of practice, that person is not by reason only of that failure liable in any civil or criminal proceedings but the code of practice is admissible in evidence in proceedings and a court may take account of any failure to act in accordance with it in deciding any question in the proceedings.

Part 2

Animal Welfare Generally

Scope

4. (1) This Part does not apply to—

(*a*) an animal living in the wild,

(*b*) subject to paragraph (2), an animal used in competitions, shows, cultural or sporting events or activities while being so used,

(*c*) an experimental or laboratory animal that is the subject of a licence issued under the Cruelty to Animals Act 1876, or

(*d*) an invertebrate animal.

(2) Notwithstanding paragraph (1)(*b*), these Regulations apply to an animal of a kind or species that is normally bred or kept for the production of food, wool, skin, fur or feathers or for use in, or for the purpose of, the farming of land or of animal husbandry and, in particular, includes animals of the bovine, ovine, porcine and caprine species, equidae and poultry.

Obligation to ensure welfare of an animal

5. (1) A person shall take all necessary steps to ensure the welfare of an animal in his or her possession, in his or her control or under his or her care and to ensure that the animal is not caused unnecessary pain, suffering or injury.

(2) A person shall ensure that the conditions under which an animal (other than fish, a reptile or an amphibian) is bred or kept, having regard to its species and degree of development, adaptation and domestication, and to its physiological and ethological needs in accordance with established experience and scientific knowledge, comply with Schedule 1.

Part 3

WELFARE OF LAYING HENS

Application of Part 3

6. (1) This Part applies to premises where there are 350 or more laying hens.

(2) This part is without prejudice to the generality of Regulation 5.

General conditions for keeping laying hens

7. A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a laying hen unless the hen is kept and reared in conditions that comply with Schedule 2.

Free-range or barn systems

8. (1) Subject to paragraph (3), the owner or person in charge of a barn or free-range system used to keep laying hens shall not confine, or cause or permit another person to keep or confine a laying hen unless the premises is equipped—

(*a*) with either linear feeders providing at least 10 cm per hen or circular feeders providing at least 4 cm per hen,

(*b*) with either continuous drinking troughs providing at least 2.5 cm per hen or circular troughs providing at least 1 cm per hen,

(*c*) without prejudice to paragraph (4), with at least one nest for every seven hens, and

(*d*) with, subject to paragraph (5), adequate perches without sharp edges, mounted other than above litter, that provide space of at least 15 cm in length per hen.

(2) A person shall not provide or use nipple drinkers or cups in a barn or free-range system unless, without prejudice to paragraph (3), there is at least one nipple drinker or cup for every ten hens.

(3) A person shall not keep a laying hen in a barn or free- range system where drinking points are plumbed in to a water supply unless, at least two nipple drinkers or cups are within reach of each hen.

(4) A person shall not keep a laying hen in a barn or free- range system in group nests unless there is a minimum of 1 square metre of nest space available for every group of a maximum of 120 hens.

(5) A person shall not keep a laying hen in a barn or free-range system unless the horizontal distance between perches is at least 30 cm and the distance between a perch and a wall is at least 20 cm.

(6) A person shall not keep a laying hen in a barn or free- range system unless a littered area, that covers at least one third of the ground surface, of at least 250 square centimetres per hen is provided.

(7) A person shall not keep a laying hen in a barn or free-range system unless the floor is constructed in a manner that adequately supports each forward facing claw of the laying hen.

(8) A person shall not keep a laying hen in a barn or free- range system if-

(*a*) the laying hen has access to more than four different levels,

(*b*) the headroom between different levels is less than 45 centimetres,

(*c*) the hen does not have equal access to drinking and feeding facilities, or

(*d*) droppings from one level may fall on another level.

(9) A person shall not keep a laying hen in a barn or free- range system if the laying hens have access to open runs unless-

(*a*) there are several popholes, at least 35 centimetres high and 40 centimetres wide and extending along the whole length of the building, giving access to the outer area,

(*b*) a total opening of 2 metres is available for each group of 1,000 laying hens,

(*c*) open runs are of an area appropriate to the stocking density and nature of the ground in order to prevent contamination, and

(*d*) the stocking density does not exceed 9 laying hens per square metre usable area.

(10) A person shall, if laying hens have access to open runs, ensure that the runs are equipped—

(*a*) with appropriate shelter to protect the laying hens from predators and weather conditions, and

(*b*) where necessary, with appropriate drinking troughs.

Un-enriched cage systems

9. (1) Subject to paragraphs (2) and (3), the owner or person in charge of an un-enriched cage system shall not keep a laying hen in a cage unless-

(*a*) the cage has at least 550 unrestricted square centimetres of area (measured in a horizontal plane and not including non-waste deflection plates that may restrict the available area) available for each laying hen in the cage,

(*b*) a feed trough, to which each laying hen has unrestricted access, the length of which measures at least 10 centimetres multiplied by the number of laying hens in the cage, is present in the cage,

(*c*) subject to subparagraph (*d*), a drinking channel, to which each laying hen has unrestricted access, the length of which measures at least 10 centimetres multiplied by the number of laying hens in the cage, is present in the cage,

(*d*) where drinking points are plumbed in, at least two nipple drinkers or cups are within reach of the cage,

(*e*) the cage is at least 40 centimetres high over at least 65 per cent of its floor area and not less than 35 centimetres at any point,

(*f*) the floor of the cage is constructed in a manner that adequately supports each forward facing claw of each hen,

(*g*) the slope of the floor of the cage does not exceed 14 per cent or 8 degrees, and

(*h*) the cage is fitted with suitable claw-shortening devices.

(2) A person shall not keep or rear laying hens in an un-enriched cage system built, renovated or brought into service for the first time after 1 January 2003.

(3) A person shall not keep or rear laying hens in an un-enriched cage system after 1 January 2012.

Enriched cage systems

10. (1) The owner or person in charge of an enriched cage system shall not keep a laying hen in an enriched cage system unless-

(*a*) each cage has a total area of at least 2000 square centimetres,

(*b*) at least 750 square centimetres, of which a minimum of 600 square centimetres is usable area, is available for each laying hen in each cage,

(*c*) the height of each cage other than above the usable area is at least 20 centimetres at every point,

(*d*) there is a nest in each cage,

(*e*) adequate litter is available in each cage to permit pecking and scratching by each laying hen,

(*f*) appropriate perches, that measure, in length, at least 15 centimetres multiplied by the number of laying hens in each cage, are present in the cage,

(*g*) a feed trough, to which each laying hen has unrestricted access, that measures at least 12 centimetres multiplied by the number of laying hens in the cage, is present in each cage,

(*h*) subject to subparagraph (i), a drinking system, to which each laying hen has unrestricted access, appropriate to the number of laying hens is provided in each cage,

(*i*) if drinking points are plumbed in, at least two nipple drinkers or two cups are within reach of each laying hen,

(*j*) there is a minimum aisle width of at least 90 centimetres between tiers of cages,

(*k*) there is a minimum distance of 35 centimetres between the floor of the building and the bottom tier of cages, and

(*l*) each cage is fitted with suitable claw-shortening devices.

Register

11. (1) The Minister shall cause to be established and maintained a register ("the Register") of all persons owning, keeping, rearing or having under their control laying hens.

(2) A person shall not own or have in his or her charge or under his or her control a laying hen if he or she is not entered in the Register in relation to the premises where the laying hen is located.

(3) An application under this Regulation shall be in writing, be in a form and include any information that the Minister may require.

(4) The Minister shall not consider an application for registration if the application does not contain all information sought by the Minister.

(5) The Minister may enter a person's name and particulars on the register, attach conditions to registration, vary a condition, refuse an application or revoke a registration.

(6) Without prejudice to the generality of paragraph (5), the Minister may refuse to enter a person's name on the Register, or may revoke registration if—

(*a*) the application does not comply with this Regulation,

(*b*) in the opinion of the Minister, the application contains a statement that is false or misleading in a material respect,

(*c*) the premises to which the application or registration relates does not comply, in the opinion of the Minister, with these Regulations,

(*d*) the person is, in the opinion of the Minister, not a fit person to keep laying hens,

(*e*) he or she is satisfied that these Regulations have not been or will not be complied with,

(*f*) the applicant or registered person has committed an offence, whether he or she has been convicted or not, under any enactment relating to animals, animal health, animal welfare or public health,

(*g*) the applicant or registered person has failed to comply with a condition of registration,

(*h*) a registered person has ceased to keep or rear laying hens at the premises to which registration relates,

(i) a person is disqualified by a Court of competent jurisdiction under any enactment from keeping, dealing in or having charge or control of, directly or indirectly, laying hens, or

(*j*) it is necessary, in the opinion of the Minister—

(i) to prevent the risk or spread of disease,

(ii) to eradicate disease, or

(iii) is necessary, incidental, supplementary or consequential for the purposes of giving effect to an act of the institutions of the European Union.

(7) Without prejudice to the generality of paragraph (5), the Minister shall refuse an application or revoke registration in accordance with paragraph (10) if the applicant or registered person has been convicted, on indictment, of an offence relating to an animal, animal health, animal welfare or public health.

(8) Other than in the case of refusal or revocation under paragraph (7) or (9), if the Minister proposes to revoke a registration, or to refuse an application, he or she shall—

(*a*) notify applicant or registered person in writing of the proposal and of the reasons for the proposal, and that he or she may make representations to the Minister in relation to the proposal within 14 days of the notification,

(*b*) consider a representation made before deciding whether to proceed with, modify or annul the proposal, and

(*c*) notify the applicant or registered person of the decision and the reasons for the decision.

(9) If the Minister is of the opinion that it is necessary to prevent the risk of disease or to give effect to an act of an institution of the European Union, he or she may refuse an application or revoke a registration in accordance with paragraph (10).

(10) If the Minister refuses an application or revokes a registration in accordance with this paragraph, he or she shall—

(*a*) notify the applicant or registered person in writing of the decision and the reasons for the decision, and that he or she may make representations to the Minister in relation to the decision within 14 days of the date of the notification,

(*b*) consider a representation made, and

(*c*) confirm, modify or annul the decision and notify the applicant or registered person of the decision and the reasons for the decision.

(11) A person to whom a registration is granted shall make such returns to the Minister as and when, and in a form that, the Minister may direct.

(12) A person to whom registration is granted ceases to be registered upon he or she informing the Minister, in writing that he or she has ceased to keep laying hens.

(13) The Minister may establish and maintain the register in a form that is not legible if it is capable of being converted into a legible form.

(14) If a person entered in the Register dies the Minister shall, without prejudice to paragraph (7), on the application of the personal representative of such person enter in the Register the name of the personal representative in place of that person.

(15) A person who, on the coming into operation of this Regulation, is registered under Regulation 10 of the Regulations revoked by Regulation 42 (1)(*a*) is considered to be registered under this Regulation and may be dealt with as if registered under this Regulation.

(16) On the coming into operation of these Regulations, an application for registration under Regulation 10 of the Regulations revoked by Regulation 42(1)(*a*) is considered to be an application for registration under this Regulation and shall be determined in accordance with this Regulation.

Part 4

Welfare of chickens kept for meat production

Application of Part 4

12. (1) This Part applies to premises where there are 500 or more chickens kept for meat production but does not apply to premises—

(*a*) with breeding stock only,

(*b*) used solely as a hatchery,

(*c*) used solely in connection with extensive indoor and free range chickens, or

(*d*) organically reared chickens.

(2) This part is without prejudice to the generality of Regulation 5.

General conditions for keeping chickens meant for meat production

13. A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a chicken meant for meat production—

(*a*) unless the chicken is kept and reared in conditions that comply with Part 1 of Schedule 3, and

(*b*) the stocking density on a premises or on an individual building on a premises—

(i) does not exceed 33 kilogrammes per square metre,

(ii) in the case of a premises that conforms to Parts 1 and 2 of Schedule 3, does not exceed 39 kilogrammes per square metre, or

(iii) in the case of a premises that conforms to Parts 1, 2 and 3 of Schedule 3, does not exceed 42 kilogrammes per square metre.

Training

14. (1) The Minister may approve appropriate training courses for the purpose of ensuring that a person has adequate training in the proper husbandry of chickens kept for meat production and, in particular, the matters listed in Part 4 of Schedule 3

(2) A person providing a course shall furnish—

(*a*) a person who has successfully completed a training course with a certificate ("certificate in chicken welfare"), and

(*b*) the Minister with the names and addresses of persons who have successfully completed the course.

(3) Notwithstanding paragraph (2)(*a*), the Minister may require a person to undergo additional training, if the Minister considers it necessary.

(4) A person shall not purport to act as the owner or keeper of chickens kept for meat production unless he or she has been issued with a certificate in chicken welfare.

(5) The owner or keeper of chickens kept for meat production shall provide, to persons engaged in rearing, handling or transport of the chickens, adequate training regarding the welfare of the chickens, and record the details of that training.

(6) Paragraph (4) does not apply to a person who, immediately before the making of these Regulations, was the keeper or owner of chickens kept for meat

production for a period of not less than five years (the proof of which rests with him or her).

Part 5

Welfare of calves and pigs

Application of Part 5

15. (1) This Part applies to—

(*a*) calves confined for rearing or fattening, and

(*b*) pigs confined for breeding, rearing or fattening.

(2) Regulations 19(1), (2), (3) and (4) and 20 apply to-

(*a*) a premises built, rebuilt or used, for the first time for breeding, rearing or fattening pigs from 1 January 2003, and

(*b*) all premises used for breeding, rearing or fattening pigs from 1 January 2013.

(3) This part is without prejudice to the generality of Regulation 5.

Accommodation for calves and pigs

16. (1) A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a calf or pig unless the conditions for keeping, rearing and fattening the calf or pig, as the case may be, comply with Part 1 of Schedule 4.

(2) A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a calf unless the conditions for keeping, rearing and fattening the calf comply with Part 2 of Schedule 4.

(3) A person shall not have in his or her possession or under his or her control or cause or permit another person to have in his or her possession or under his or her control a pig unless the conditions for keeping, rearing and fattening the pig comply with Part 3 of Schedule 4.

Accommodation for calves

17. (1) Subject to paragraph (3), the owner or person in charge of a premises built, rebuilt or brought into use on or after 1 January 1998 and used for rearing or fattening calves shall not confine, or cause or permit another person to confine a calf-

(*a*) over eight weeks of age in an individual pen unless a registered veterinary practitioner certifies that the health or behaviour of the calf requires that it be isolated to receive treatment,

(*b*) unless the pen in which the calf is confined is of a width at least equal to the height of the calf at the withers and of a length at least 10% greater than the body length of the calf, measured from the tip of the nose to the caudal end of the pin bone (tuber ischia).

(2) A person shall not keep, or cause or permit another person to keep, a calf in an individual pen with solid walls but a pen shall have perforated walls that ensure that a calf confined therein has direct visual and tactile contact with other calves unless the person is in possession of a certificate from a registered veterinary practitioner that states that the calf, due to health or behaviour, requires to be individually isolated to receive treatment.

(3) A person shall not keep calves in a group, or cause or permit another person to keep calves in a group, unless the unobstructed space available for each calf is at least equal to—

(*a*) 1.5 square metres for each calf with a live weight of less than 150 kilogrammes,

(*b*) 1.7 square metres for each calf with a live weight of 150 kilogrammes or more but less than 220 kilogrammes, and

(*c*) 1.8 square metres for each calf with a live weight of 220 kilogrammes or over.

(4) A person shall not use, or cause or permit another person to use, premises built, rebuilt or brought into operation before 1 January 1998 for rearing or fattening calves unless the premises complies with paragraphs (1), (2) and (3).

(5) This Regulation does not apply to—

(*a*) a calf kept with its mother for suckling, or

(*b*) a premises with fewer than six calves.

Accommodation for pigs

18. (1) The owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not confine, or cause or permit another person to confine, a pig unless the floor area available to each weaner or rearing pig (other than sows and gilts after service) reared in a group is at least—

(*a*) 0.15 square metres for each pig of an average weight of 10 kilogrammes or less

(*b*) 0.20 square metres for each pig of an average weight of between 10 kilogrammes and less than or equal to 20 kilogrammes,

(*c*) 0.30 square metres for each pig of an average weight of greater than 20 kilogrammes and less than or equal to 30 kilogrammes,

(*d*) 0.40 square metres for each pig of an average weight of greater than 30 kilogrammes and less than or equal to 50 kilogrammes,

(*e*) 0.55 square metres for each pig of an average weight of greater than 50 kilogrammes and less than or equal to 85 kilogrammes,

(*f*) 0.65 square metres for each pig of an average weight of greater than 85 kilogrammes and less than or equal to 110 kilogrammes,

(*g*) 1.00 square metre for each pig of an average weight of greater than 110 kilogrammes.

(2) A person shall not keep a pig or cause or permit another person to keep a pig in a building or part of a building if there are continuous noise levels, equal to or greater than 85dBA in the building or part thereof where pigs are kept.

(3) A person shall not keep a pig, or cause or permit another person to keep a pig unless the pig is kept where there is a light intensity of 40 lux or more for a continuous period of at least 8 hours in any 24 hour period.

Accommodation for sows and for gilts after service

19. (1) Subject to paragraphs (2) and (3), the owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not confine, or cause or permit another person to confine, either a sow or a gilt after service unless the floor area available to each sow or gilt after service reared in a group is at least—

(*a*) a minimum of 2.50 square metres for each sow in a group of sows or gilts if there are fewer than 6 pigs in the group,

(*b*) a minimum of 2.25 square metres for each sow in a group of sows or gilts if there are more than 5 but fewer than 40 pigs in the group,

(*c*) a minimum of 2.025 square metres for each sow in a group of sows or gilts if there are 40 or more pigs in the group,

(*d*) a minimum of 1.81 square metres for each gilt after service if there are fewer than 6 pigs in the group,

(*e*) a minimum of 1.64 square metres for each gilt after service if there are more than 5 but fewer than 40 pigs in the group, or

(*f*) a minimum of 1.48 square metres for each gilt after service if there are 40 pigs or more in the group.

(2) A minimum floor area of at least—

(*a*) 1.3 square metres for each pregnant sow, or

(*b*) 0.95 square metres for each gilt after service,

shall comprise a continuous solid floor and no more than 15% of the floor area referred to in this paragraph shall consist of openings designed for drainage.

(3) Subject to paragraph (4), the owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not confine, or cause or permit another person to confine, either a sow or a gilt in the period commencing 28 days after service and ending 7 days before the expected date of farrowing other than in—

(*a*) a group in a pen the sides of which are greater than 2.8 metres in length, or

(*b*) a group in a pen the sides of which are greater than 2.4 metres in length if there are no more than five sows or gilts in the group.

(4) A person may keep a sow or gilt to which paragraph (3) refers in an individual pen during the period mentioned in that paragraph if—

(*a*) there are no more than 9 sows on the premises, and

(*b*) the sow or gilt may turn easily in the pen

(5) A person shall not tether or cause or permit another person to tether a sow or gilt.

(6) A person shall not have in his or her possession or under his or her control a sow or gilt that has been tethered in contravention of paragraph (5).

Use of concrete slatted floors

20. The owner or person in charge of a premises used for breeding, rearing or fattening pigs shall not keep, or cause or permit another person to keep, a pig on a concrete slatted floor unless—

(*a*) the maximum width of each opening is no more than—

(i) 11 millimetres in any floor where a piglet is kept,

(ii) 14 millimetres in any floor where a weaner is kept,

(iii) 18 millimetres in any floor where a rearing pig is kept, or

(iv) 20 millimetres in any floor where either a sow or a gilt after service is kept,

and

(*b*) the minimum width of each slat is at least-

(i) 50 millimetres in any floor where a piglet or weaner is kept, or

(ii) 80 millimetres in any floor where a rearing pig, a sow or a gilt after service is kept.

Restrictions on certain procedures

21. (1) Subject to paragraph (2), a person shall not carry out or cause or permit another person to carry out a procedure (other than for therapeutic or diagnostic purposes) on a pig that is likely to result in damage to, or loss of a sensitive part of the body or the alteration of the bone structure of, a pig other than—

(*a*) non-routine, uniform reduction of corner teeth of piglets, by grinding or clipping, no later than 7 days after birth, leaving an intact smooth surface where injury has occurred to a sow's teats or to the tails or ears of another pig,

(*b*) reduction in length of boars tusks where necessary to prevent injury to other animals or for safety reasons,

(*c*) non-routine docking of part of the tail where injury has occurred to the tail or ear of a pig,

(*d*) castration of male pigs by means that do not involve tearing tissue, or

(*e*) nose ringing when the pig is kept in an outdoor husbandry system.

(2) (*a*) Subject to paragraph (3), a procedure outlined in paragraph (1) may only be carried out under hygienic conditions by a registered veterinary practitioner or a person who has competence relating to, and experience of, the procedure.

(*b*) A person shall only carry out a procedure specified in paragraph (1) (*a*) or (*c*) if the environment, stocking density or the management system in which a pig is reared would not, in the opinion of a registered veterinary practitioner who is familiar with the premises, and has been consulted in a professional capacity regarding the necessity of carrying out the procedure, facilitate injury to the pig.

(3) A person, other than a registered veterinary practitioner, shall not castrate or dock the tail of a pig older than 7 days.

(4) A registered veterinary practitioner shall not castrate or dock the tail of a pig older than 7 days unless the pig is under anaesthetic and additional prolonged analgesia administered by that registered veterinary practitioner.

Import of calves or pigs

22. A person shall not import—

(*a*) a calf, or

(*b*) a pig,

from a country that is not a member state of the European Union unless the calf or pig is accompanied by a certificate, issued by a competent authority in

that country, certifying that the animal has received treatment at least equal to the treatment provided for in these Regulations.

Part 6

Slaughter of animals

Slaughter of an animal

23. (1) A person shall take all necessary care during movement, lairaging, restraint, stunning, slaughter or killing of an animal to ensure that the animal is spared avoidable excitement, pain or suffering.

(2) This part is without prejudice to the generality of Regulation 5.

General requirements for slaughterhouses

24. (1) Subject to paragraph (2), the owner or person in charge of a slaughterhouse shall ensure that-

(*a*) the construction, facilities and equipment of the slaughterhouse, and its operation, are such as to spare an animal any avoidable excitement, pain or suffering, and

(*b*) a soliped, ruminant, pig, rabbit or poultry brought into the slaughterhouse is—

(i) moved and if necessary lairaged in accordance with Part 1 of Schedule 5,

(ii) restrained in accordance with Part 2 of Schedule 5,

(iii) stunned before slaughter or killed instantaneously in accordance with Part 3 of Schedule 5,

(iv) bled in accordance with Part 4 of Schedule 5.

(2) Subparagraph (1)(*b*)(iii) does not apply in the case of an animal subject to particular methods of slaughter required by certain religious rites, if the religious authority on whose behalf slaughter is carried out is competent to apply and monitor the special provisions which apply to slaughter according to the religious rites of that religion.

(3) A religious authority to which paragraph (2) applies shall operate under the responsibility of a registered veterinary practitioner.

Other requirements for slaughterhouses

25. (1) The owner or person in charge of a slaughterhouse or a person engaged in the slaughter of an animal shall ensure that-

(*a*) instruments, restraint and other equipment and installations used for stunning or killing are designed, constructed, maintained and used in such a way as to achieve rapid and effective stunning or killing,

(*b*) suitable spare equipment and instruments are kept at the place of slaughter for emergency use and that spare equipment and instruments are properly maintained and are inspected at least once a month,

(*c*) subject to paragraph (2), a person shall not move, lair, restrain, stun, slaughter or kill an animal unless that person has the knowledge and skill necessary to perform the tasks humanely and efficiently, and

(*d*) a person carrying out the slaughter of an animal takes all necessary care to ensure that the animal is rendered unconscious, killed or slaughtered in a manner or by a means that does not cause unnecessary, avoidable or excessive pain or suffering to the animal.

(2) If an authorised officer is of the opinion that a person employed for slaughtering or killing an animal does not possess the necessary skill, ability and professional knowledge, the owner or the person in charge of the slaughterhouse or other premises shall, in accordance with the directions of the authorised officer and subject to any time limits that he or she may specify, arrange a staff training programme enabling such person to obtain the required training in order to satisfy the standards appropriate to that type of employment.

(3) A person shall comply with a direction under paragraph (2).

Requirements for slaughter or killing other than at a slaughterhouse

26. A person shall not kill or slaughter or cause or permit another person to kill or slaughter a soliped, ruminant, pig, rabbit or poultry, which is to be killed or slaughtered other than at a slaughterhouse unless Regulation 24(1)(*b*)(ii), (iii) and (iv) are complied with.

Disease control, fur animal, surplus chicks

27. (1) A person shall not slaughter or kill or permit a person to slaughter or kill a soliped, ruminant, pig, rabbit or poultry, if it is to be slaughtered or killed for the purpose of disease control, other than in accordance with Part 5 of Schedule 5.

(2) A person shall not slaughter or kill or permit a person to slaughter or kill an animal farmed for its fur other than in accordance with Part 6 of Schedule 5.

(3) A person shall not slaughter or kill or permit a person to slaughter or kill surplus day-old chicks, and embryos in hatchery waste unless they are killed as rapidly as possible in accordance with Part 7 of Schedule 5.

Emergency and humane killing and slaughtering

28. (1) Regulations 25 and 26 do not apply in the case of an animal which has to be killed immediately for emergency reasons.

(2) Subject to paragraph (3), the owner or person in charge of a seriously injured or diseased animal shall ensure that it is slaughtered or killed immediately to avoid unnecessary suffering, unless a registered veterinary practitioner

considers, after examining the animal, that it is not necessary to slaughter or kill the animal.

(3) A registered veterinary practitioner may authorise the transport of an injured or diseased animal for the purpose of slaughter or killing provided the practitioner is of the opinion that transport does not entail further unnecessary suffering for the animal.

Import of meat

29. A person shall not import meat obtained from a soliped, ruminant, pig, rabbit or poultry from a third country unless it is accompanied by a veterinary certificate certifying that the animal had been slaughtered or killed under conditions which offer guarantees of humane treatment at least equivalent to that granted to an animal of European Union origin.

Part 7

Authorised officers

Appointment of authorised officer

30. (1) The Minister may, by instrument in writing, appoint such and so many persons as he or she thinks fit to be authorised officers for the purposes of some or all of these Regulations as may be specified in the instrument.

(2) The manager of a local authority may by instrument in writing, appoint such and so many persons as he or she thinks fit to be authorised officers for the purposes of Part 6 of these Regulations.

(3) The Minister or manager of a local authority may terminate the appointment of an authorised officer appointed by him or her, whether or not the appointment was for a fixed period.

(4) An appointment as an authorised officer ceases-

(*a*) if it is terminated pursuant to paragraph (3),

(*b*) if it is for a fixed period, on the expiry of that period, or

(*c*) if the person appointed is an officer of the Minister or a local authority, upon the person ceasing to be such an officer.

(5) Nothing in paragraph (4) is to be construed so as to prevent the Minister or manager of a local authority from reappointing as an authorised officer a person to whom that paragraph relates.

(6) An officer of the Minister or of a local authority shall furnish an authorised officer appointed under this Regulation with a warrant of his or her appointment as an authorised officer and, when exercising a power conferred on him or her, the officer, an officer of Customs and Excise or a member of the Garda Síochána shall, if requested by a person affected, produce the warrant or evidence that he or she is such an officer or member to the person.

Functions of authorised officer

31. (1) If an authorised officer has reasonable cause to suspect that—

(*a*) an animal is present, has been present or may be present on a premises,

(*b*) an animal is or has been killed, slaughtered, processed, stored or otherwise dealt with on a premises, or

(*c*) a document relating to an animal is present, was present or may be present on a premises,

the authorised officer may enter the premises and he or she may—

(i) search the premises,

(ii) stop a person, vehicle, vessel or container,

(iii) board and search a vehicle, vessel or container,

(iv) examine an animal, vehicle, vessel, container or other thing that may be used in connection with an animal,

(v) take, without payment, samples from an animal, feed or other thing or an article, substance or liquid as he or she may reasonably require and carry out or cause to be carried out on a sample such tests, analyses, examinations or inspections as he or she considers necessary or expedient,

(vi) require the production of a document or thing relating to an animal, feed, vehicle, vessel, container or other thing,

(vii) retain a document or thing (for so long as is necessary),

(viii) give a direction to, or request information of, a person regarding an animal, feed, vessel, vehicle, container, premises or other thing as he or she considers necessary,

(ix) require the name and address of a person and the name and address of any other relevant person including the person to whom an animal or feed, is being delivered or who is causing it to be delivered,

(x) require of a person the ownership, identity and origin of the animal or feed,

(xi) make a record whether in writing, by photography or otherwise, or

(xii) mark or otherwise identify an animal, feed, or a sample taken under subparagraph (v).

(2) If an authorised officer has reasonable cause to suspect that-

(*a*) an offence is being or has been committed under these Regulations,

(*b*) a contravention of an act of the institutions of the European Union relating to animal welfare is being or has been committed, or

(*c*) evidence of an offence or contravention may be, is or has been on a premises-

the authorised officer may, in addition to the powers exercisable by him or her under subsection (1)—

(i) search a person, where the authorised officer considers it necessary,

(ii) seize and detain, an animal, carcass, animal product, animal by-product, animal feed, food, vessel, vehicle, container, equipment, machinery or other thing, or

(iii) dispose of, or require the owner or person in charge of or in possession of an animal, carcass, animal product, animal by-product, animal feed, food or other thing to deal with or dispose of it (or any equipment, machinery, plant or other thing used in connection with, or that may have been in contact with, the animal, carcass, animal product, animal by-product, animal feed or food) in a manner that the authorised officer sees fit.

(3) An authorised officer shall not enter, except with the consent of the occupier, a private dwelling, unless he or she has obtained a search warrant under Regulation 32 other than if he or she has reasonable cause to suspect that before a search warrant could be sought in relation to the dwelling anything to which either paragraph (1) or (2) relates is being or is likely to be destroyed or disposed of.

(4) An authorised officer may use reasonable force, if necessary, in exercise of his or her powers under this Regulation.

(5) An authorised officer, when exercising a power under this Regulation may be accompanied by other persons and may take with him or her, or those persons may take with them, any equipment or materials to assist the officer in the exercise of the power.

(6) An authorised officer is not liable in any proceedings for anything done in the purported exercise of his or her powers under these Regulations if the court is satisfied that the act was done in good faith and that there were reasonable grounds for doing it.

(7) Without prejudice to the generality of paragraph (1), a direction or requirement of an authorised officer may include conditions prohibiting,

restricting or otherwise controlling the use, processing or movement of an animal as may be specified by the authorised officer.

(8) Nothing in this Regulation operates to prejudice any power to search, or to seize or detain property, which may, apart from these Regulations, be exercised by a member of the Garda Síochána or an officer of Customs and Excise.

(9) If a member of the Garda Síochána has reasonable grounds to suspect that a person has committed an offence under these Regulations, the member may without warrant arrest the person.

Search warrant

32. (1) If a judge of the District Court is satisfied by information on oath of an authorised officer that there are reasonable grounds for suspecting-

(*a*) that evidence of, or relating to, the commission or intended commission of an offence under these Regulations is to be found on a premises,

(*b*) there is or was an animal, feed, equipment or other thing made, used or adapted for use (including manufacture and transport) in connection with an animal or feed, on a premises,

(*c*) a document or other record related to a thing to which subparagraph (*a*) or (*b*) refers is or may be on the premises,

the judge may issue a search warrant.

(2) A search warrant under this Regulation shall be expressed and operate to authorise a named authorised officer, accompanied by such authorised officers or other persons as the named authorised officer thinks necessary, at any time, within one month from the date of issue of the warrant, on production if so requested of the warrant, to enter (if necessary by use of reasonable force) the premises, vehicle, vessel or aircraft named in the warrant.

(3) If a premises is entered pursuant to a warrant issued under this Regulation, an authorised officer so entering may exercise all or any of the powers conferred on an authorised officer under these Regulations.

Part 8

Welfare notice and emergency measures

Welfare Notice

33. (1) If an authorised officer is of the opinion that—

(*a*) an animal is being caused unnecessary pain, suffering or injury,

(*b*) an animal is at risk of being caused unnecessary pain, suffering or injury,

(*c*) there is a serious risk to the welfare of an animal, herd or flock or

(*d*) the conditions under which an animal, herd or flock is being bred or kept contravene these Regulations,

he or she may serve or cause to be served on the owner or keeper of the animal, herd or flock a notice ("welfare notice") stating that opinion and directing that—

(i) an ill or injured animal be cared for in an appropriate manner;

(ii) veterinary or other specialist advice be obtained in respect of an ill or injured animal,

(iii) an animal be supplied with feed appropriate to its age and species and in such quantity as will maintain it in good health,

(iv) an animal be given access to such a supply of suitable liquid as will enable it to fulfil its fluid intake needs,

(v) one or more animals be moved to and kept in such place as the officer specifies in the notice,

(vi) one or more animals be sold, destroyed or otherwise disposed of in such manner and at such place (if any) as the officer may specify in the notice,

(vii) such alterations or additions be made to the premises, land or place at which the animal is kept, or to the equipment and facilities found there, as the officer may specify in the notice,

(viii) such alterations be made to the manner in which the animal is kept as the officer may specify in the notice, or

(ix) such other measures be taken as are necessary to ensure that the animal is kept in a manner that complies with these Regulations.

(2) A welfare notice may specify one or more requirements or refer to one or more animals or species of animal.

(3) A requirement contained in a welfare notice may specify a time limit within which it is to be complied with.

(4) A welfare notice may require the owner or keeper of the animal to choose between two or more of the requirements specified in the welfare notice.

(5) A requirement specified in a welfare notice (in this Regulation referred to as "the earlier welfare notice") may be modified or withdrawn in a further welfare notice and in that event the earlier welfare notice shall have effect subject to such modification or withdrawal.

(6) A person, including a person upon whom a welfare notice is served, shall not deal with an animal to which the welfare notice relates other than in accordance with the terms of the welfare notice.

(7) In the event of an appeal made pursuant to Regulation 35 a person, including the person appealing, shall not deal with an animal to which a welfare notice relates pending the determination of the appeal other than in accordance with such directions as shall be given in writing to the appellant by an authorised officer.

(8) If the terms of a welfare notice are confirmed with or without modification by the judge of the District Court hearing an appeal under Regulation 35, a person including the person who made the appeal shall not deal with an animal to which the welfare notice relates other than in accordance with the welfare notice as confirmed.

(9) Any costs pertaining to action required to comply with a welfare notice will be borne by the owner of the animal to which the welfare notice relates.

Service of Welfare Notice

34. (1) A welfare notice shall, subject to paragraph (2), be addressed to the person concerned by name and may be served on a person—

(*a*) by giving it to the person,

(*b*) by leaving it at the address at which the person ordinarily resides or, where an address for service has been furnished, at that address,

(*c*) by sending it by post in a prepaid registered letter to the address at which the person ordinarily resides or, where an address for service has been furnished, at that address, or

(*d*) if the address at which the person ordinarily resides cannot be ascertained by reasonable enquiry and the compliance notice relates to a premises, by delivering it to the premises or by affixing it in a conspicuous position on or near the premises.

(2) If a welfare notice is to be served on a person who is the owner or keeper of an animal and the name of the person cannot be ascertained by reasonable enquiry, it may be addressed to that person by using the words "the owner" or "the keeper".

(3) A person shall not, at any time within 6 months after a welfare notice is affixed under paragraph (1)(*d*), remove, damage or deface the notification or compliance notice without lawful authority.

(4) For the purposes of this Regulation, a company within the meaning of the Companies Acts is considered to be ordinarily resident at its registered office and every other body corporate or unincorporated body is considered to be ordinarily resident at its principal office or place of business.

Appeal against welfare notice

35. (1) A person may appeal within 7 days of the service of a welfare notice to the judge of the District Court having jurisdiction in the District Court District where the animal to which the welfare notice relates is situated or to the

judge of the District Court where the person bringing the appeal ordinarily resides or carries on business on the grounds that the notice or any terms thereof are not justified having regard to these Regulations and the objectives of the Calves Directive, Chicken Welfare Directive, General Welfare Directive, Laying Hens Directive or Pigs Directive (hereafter referred to as "an appeal").

(2) An appeal may be heard at any sitting of the District Court within the appropriate District Court District.

(3) Notice of an appeal shall be served on the Minister at least 2 days prior to the hearing of the appeal by serving it on the Minister or by leaving it at the place and in the manner specified in the welfare notice.

(4) A notice of appeal shall contain a statement of the grounds upon which it is alleged that the notice or any of the terms thereof are not justified.

(5) A copy of the notice of appeal shall be lodged with the District Court Clerk in the manner specified in the welfare notice (if any) at least 2 days prior to the hearing of the appeal.

(6) On the hearing of an appeal under this Regulation a judge of the District Court may confirm, modify or annul a welfare notice.

Power to seize and dispose of an animal

36. (1) Without prejudice to Regulation 31 or 33, if—

(*a*) the owner or keeper of an animal fails to comply with the terms of a welfare notice within the time limit specified therein,

(*b*) an authorised officer has reasonable grounds for believing that the terms of a welfare notice will not be complied with,

(*c*) a welfare notice has been confirmed with or without modification under Regulation 35 and the notice has not been complied with,

(*d*) an authorised officer has reasonable grounds for believing that the terms of a welfare notice which has been confirmed with or without modification under Regulation 35 will not be complied with, or

(*e*) pending the determination of an appeal made under Regulation 35, an authorised officer has reasonable grounds for believing that—

(i) a welfare notice, or

(ii) a direction given pursuant to Regulation 31,

has not been or will not be complied with, an authorised officer may at any time seize the animal at such premises as he or she thinks fit.

(2) An authorised officer may sell or dispose of a seized animal or cause it to be sold or be otherwise disposed of or destroyed in such manner and at such

place as the authorised officer considers appropriate in the circumstances of the case.

(3) Any profits arising out of the sale or disposal of an animal under this Regulation shall be paid to the owner of the animal less any expenses incurred in connection with seizure, maintenance, sale, disposal or destruction of the animal.

(4) The costs (including ancillary costs) of seizure, maintenance, sale, disposal or destruction of an animal under Regulation 31, this Regulation or Regulation 37 are, subject to paragraph (3), recoverable-

(*a*) by deducting the costs from any sum that is or becomes payable by the Minister to the owner of the animal, or

(*b*) as a simple contract debt in any court of competent jurisdiction from the person who was the owner of the animal at the time of seizure, sale, disposal or destruction took place.

Emergency measures

37. Notwithstanding Regulation 33(1), if an authorised officer who is a veterinary practitioner is of the opinion that an animal-

(*a*) is suffering a degree of pain, suffering or injury, or

(*b*) is seriously at risk of being subject to a degree of pain, suffering or injury,

and that measures should be taken immediately to relieve its pain or suffering or risk of pain or suffering, he or she may seize, sell, dispose of or destroy or may arrange for the sale, disposal or destruction of the animal.

Part 9

Final provisions

Obstruction, etc

38. A person shall not—

(*a*) obstruct or impede an authorised officer in the exercise of his or her functions under these Regulations,

(*b*) fail, without reasonable cause, to comply with a requirement or direction of an authorised officer under Regulation 31,

(*c*) in purporting to give information to an authorised officer for the performance of the officer's functions under Regulation 31—

(i) make a statement that he or she knows to be false in a material particular or recklessly make a statement which is false in a material particular, or

(ii) fail to disclose a material particular,

(*d*) tamper or otherwise interfere with a sample taken under Regulation 31, or

(*e*) aid or abet a contravention of these Regulations.

Forgery

39. (1) A person shall not forge or utter knowing it to be forged a direction or requirement of an authorised officer under Regulation 31 (if the direction or requirement is in written form) or a welfare notice or a document purporting to be an extract therefrom (hereafter in this Regulation referred to as "a forged document").

(2) A person shall not alter with intent to defraud or deceive, or utter knowing it to be so altered a direction or requirement of an authorised officer under Regulation 31 (if the direction or requirement is in written form) or a welfare notice or an extract therefrom (hereafter in this Regulation referred to as "an altered document").

(3) A person shall not have, without lawful authority, in his or her possession or under his or her control a forged document or an altered document.

Evidence on certificate

40. (1) In proceedings for an offence consisting of a contravention of these Regulations, a certificate purporting to be signed by a person employed at a laboratory named in the certificate stating the capacity in which that person is so employed and stating any one or more of the following, namely—

(*a*) that the person received a sample submitted to the laboratory,

(*b*) that, for such period as is specified in the certificate, the person had in his or her custody a sample so submitted,

(*c*) that the person gave to such other person as is specified in the certificate a sample so submitted, or

(*d*) that the person carried out any laboratory examination and the result of that examination,

is, unless the contrary is proved, evidence of the matters stated in the certificate.

(2) A certificate purporting to be signed by an officer of the Minister and to certify that on a specific day or days or during the whole of a specified period-

(*a*) a particular person was registered in the register,

(*b*) the registration of a particular person had been revoked, or

(*c*) that a particular, registration was subject to a particular condition or conditions,

is, without proof of the signature of the person purporting to sign the certificate or that he or she is an officer of the Minister, evidence, unless the contrary is shown, of the matters stated in the certificate.

(3) In proceedings for an offence under these Regulations the court may, if it considers that the interests of justice so require, direct that oral evidence of the matters stated in a certificate under paragraph (1) or (2) be given, and the court may for the purpose of receiving oral evidence adjourn the matter.

(4) In proceedings for an offence, evidence of an act of the institutions of the European Community may be given by production of a copy of the act certified by an officer of the Minister to be a copy of the act, and it is not necessary to prove the signature of the officer or that he or she is an officer of the Minister.

(5) Paragraph (4) is in addition to and not in substitution for the European Communities (Judicial Notice and Documentary Evidence) Regulations 1972 (S.I. No. 341 of 1972).

Offences

41. (1) A person who—

(*a*) contravenes Regulation 5, 7, 8, 9, 10, 11 (2), (12), 13, 14(4), (5), 16, 17, 18, 19, 20, 21, 22, 23, 24, 25 (1), (3), 26, 27, 28 (2), 29, 33 (6), (7), 34 (3), 38 or 39, or

(*b*) fails to comply with a direction or requirement of an authorised officer under Regulation 31 or the requirements of a welfare notice or a welfare notice confirmed with or without modification,

commits an offence and is liable—

(*i*) on conviction to a fine not exceeding €5,000 or to a term of imprisonment not exceeding 6 months or both, or

(*ii*) on conviction on indictment to a fine not exceeding €100,000 or to a term of imprisonment not exceeding 3 years or both.

(2) A summary offence under these Regulations may be prosecuted by—

(*a*) the Minister, or

(*b*) in respect of Part 6, the local authority in whose functional area the alleged offence occurs.

(3) If an offence under these Regulations is committed by a body corporate or by a person purporting to act on behalf of a body corporate or on behalf of an unincorporated body of persons and it is proved to have been so committed with the consent or connivance of or to be attributable to any wilful neglect on the part of any other person who, when the offence was committed, was, or purported to act as, a director, manager, secretary or other officer (including a member of any committee of management or other controlling authority) of the

body, such other person as well as the body, or the person so purporting to act on behalf of the body, commits an offence and is liable to be proceeded against and punished as if he or she were guilty of the first-mentioned offence.

(4) If the affairs of a body corporate are managed by its members, paragraph (3) applies in relation to the acts and defaults of a member in connection with the functions of management as if the member were a director or manager of the body corporate.

(5) In a prosecution for an offence under these Regulations, it is not a defence for the defendant to show that Regulation 6 applies to that person in respect of the premises to which the alleged offence relates if he or she is entered in the Register maintained under Regulation 11 unless he or she can show to the satisfaction of the Court that he or she has given notice in accordance with Regulation 11(13) and the Minister is put on notice of this defence no later than 10 days prior to the sitting of the Court where the case is heard.

Revocation and savers

42. (1) The following are revoked—

(*a*) the European Communities (Welfare of farmed animals) Regulations 2008 (S.I. No. 14 of 2008),

(*b*) the European Communities (Welfare of farmed animals) (Amendment) Regulations 2009 (S.I. No. 32 of 2009), and

(*c*) the European Communities (Welfare of farmed animals) (Amendment)(No. 2) Regulations 2009 (S.I. No. 71 of 2009).

(2) A welfare notice within the meaning of the Regulations revoked by paragraph (1) that is in force immediately before the making of these Regulations remains in force and shall be dealt with as if it were a welfare notice.

(3) An appeal under Regulations revoked by paragraph (1) shall be dealt with as if it were an appeal under Regulation 35 of these Regulations.

(4) These Regulations are in addition to and not in substitution for the Protection of animals kept for farming purposes Act 1984 (No. 13 of 1984).

(5) In case of conflict, these Regulations prevail over the Slaughter of Animals Act 1935.

Schedule 1

Regulation 5(2)

Conditions under which an animal should be kept

Staffing.

1. An animal shall be cared for by a sufficient number of persons possessing the appropriate ability, knowledge and professional competence.

Inspection.

2. An animal kept in a husbandry system in which the welfare of the animal depends on frequent human attention shall be inspected at least once a day and an animal in another system shall be inspected at intervals sufficient to detect and allow for action to avoid any suffering.

3. Adequate lighting (fixed or portable) shall be available to enable an animal to be thoroughly inspected at any time.

4. An animal which appears to be ill or injured must be cared for appropriately without delay and, where the animal does not respond to such care, veterinary advice must be obtained as soon as possible. Where necessary, a sick or injured animal shall be isolated in suitable accommodation with, where appropriate, dry comfortable bedding.

Record keeping.

5. The owner or keeper of an animal shall maintain a record of any medicinal treatment given and of the number of mortalities found at each inspection. Equivalent information being kept for other purposes shall suffice.

6. These records shall be retained for a period of at least 3 years and shall be made available to an authorised officer when requested by him or her.

Freedom of movement.

7. The freedom of movement of an animal, having regard to its species and in accordance with established experience and scientific knowledge, must not be restricted in such a way as to cause it unnecessary suffering or injury. Where an animal is continuously or regularly tethered or confined, it must be given the space appropriate to its physiological and ethological needs in accordance with established experience and scientific knowledge.

Buildings and accommodation.

8. Materials to be used for the construction of accommodation, and in particular for the construction of pens and equipment with which an animal may come into contact, must not be harmful to the animal and must be capable of being thoroughly cleaned and disinfected.

9. Accommodation and fittings for securing an animal shall be constructed and maintained so that there are no sharp edges or protrusions likely to cause injury to the animal.

10. Air circulation, dust levels, temperature, relative air humidity and gas concentrations must be kept within limits which are not harmful to an animal.

11. An animal kept in buildings must not be kept either in permanent darkness or without an appropriate period of rest from artificial lighting. Where the natural light available is insufficient to meet the physiological and ethological needs of an animal appropriate artificial lighting must be provided.

Animals not kept in buildings.

12. An animal not kept in buildings shall where necessary and possible be given protection from adverse weather conditions, predators and risks to its health.

Automatic or mechanical equipment.

13. All automated or mechanical equipment essential for the health and well-being of an animal must be inspected at least once daily. If defects are discovered these must be rectified immediately or, if this is impossible, appropriate steps must be taken to safeguard the health and well-being of the animal. Where the health and well-being of an animal is dependent on an artificial ventilation system, provision must be made for an appropriate backup system to guarantee sufficient air renewal to preserve the health and well-being of the animal in the event of failure of the system and an alarm system must be provided to give warning of breakdown. The alarm system must be tested regularly.

Feed, water and other substances.

14. An animal must be fed a wholesome diet which is appropriate to its age and species and which is fed to the animal in sufficient quantity to maintain it in good health and satisfy its nutritional needs. No animal shall be provided with food or liquid in a manner, nor shall such food or liquid contain any substance, which may cause unnecessary suffering or injury.

15. An animal must have access to feed at intervals appropriate to its physiological needs.

16. An animal must have permanent access to a suitable water supply or be able to satisfy its fluid intake needs by other means.

17. Feeding and watering equipment must be designed, constructed and placed so that contamination of food and water and the harmful effects of competition between animals are minimised.

18. No animal remedy may be administered to an animal other than an animal remedy authorised under and administered in accordance with the European Communities (Animal Remedies) (No. 2) Regulations 2007 (S.I. No. 786 of

2007) and the European Communities (Control of Animal Remedies and their Residues) Regulations 2009 (S.I. No. 183 of 2009) and no other substance may be given to an animal unless it has been demonstrated by scientific studies of animal welfare or established experience that the effect of that substance is not detrimental to the health or welfare of the animal.

Breeding procedures.

19. Natural or artificial breeding or breeding procedures that cause or are likely to cause suffering or injury to an animal must not be practised. This provision does not preclude the use of certain procedures likely to cause minimal or momentary suffering or injury or which might necessitate interventions which would not cause lasting injury.

20. An animal shall not be kept for farming purposes unless it can reasonably be expected, on the basis of its genotype or phenotype, that it can be kept without detrimental effect on its health or welfare.

Schedule 2

Regulation 7.

Conditions under which laying hens should be kept

1. All laying hens shall be inspected by the owner or person in charge of the premises where they are located at least once each day.

2. The sound level shall be minimised and constant and sudden noises on a premises shall be avoided.

3. Ventilation fans, feeding machinery and other equipment shall be constructed, located, operated and maintained in a manner that causes the least possible noise.

4. Each building used to keep or rear laying hens shall have light levels that are sufficient to allow laying hens to see one another and be seen clearly, to investigate their surroundings visually and show normal levels of activity. Where there is natural light, light apertures shall be placed in a manner that light is distributed evenly within the accommodation.

After the first days of conditioning, lighting shall follow a 24 hour cycle, include an uninterrupted period of darkness of approximately eight hours so that the laying hens may rest and avoid problems such as immuno-depression and ocular anomalies and, otherwise, be such as to prevent health and behavioural problems. An adequate period of twilight, when the light is dimmed and which facilitates the laying hens setting down without disturbance or injury, shall be provided.

5. Without prejudice to paragraph 6, parts of buildings, equipment, machinery or other utensils that may come into contact with laying hens shall be thoroughly cleansed and disinfected at regular intervals.

6. On each occasion when depopulation is carried out, parts of buildings, equipment, machinery or other utensils that may come into contact with laying hens shall be thoroughly cleansed and disinfected prior to the introduction of a new batch of laying hens.

7. While cages are occupied, they shall be kept satisfactorily clean.

8. Droppings must be removed as often as necessary and dead laying hens must be removed when found or, at a minimum, once a day.

9. Each cage shall be constructed in a manner that prevents a laying hen from escaping.

10. Accommodation that comprises two or more tiers of cages must have devices (or other appropriate measures must be taken) to facilitate inspection of each tier and removal of laying hens without difficulty.

11. A cage door must be designed and be of such dimensions that an adult laying hen may be removed without unnecessary suffering or sustaining injury.

12. Mutilation of a laying hen is, without prejudice to point 19 of the Annex of the General Welfare Directive, prohibited.

13. Beak trimming may only be undertaken by trained and competent personnel and the beaks of laying hens over 9 days old shall not be trimmed.

Regulation 13(a)

Schedule 3

Part 1

Conditions applicable to premises where chickens are kept for meat production.

1. Drinkers

Drinkers shall be positioned and maintained in such a way that spillage is minimised

2. Feeding

Feed shall be either continuously available or meal fed and must not be withdrawn from chickens more than 12 hours before the expected slaughter time.

3. Litter

All chickens shall have permanent access to litter that is dry and easily crumbled on the surface.

4. Ventilation and heating

Ventilation shall be sufficient to avoid a chicken overheating and shall operate, where necessary, in combination with heating systems to remove excessive moisture.

5. Noise

The sound level shall be minimised. Ventilation fans, feeding machinery or other equipment shall be constructed, placed, operated and maintained in such a way that they cause the least possible amount of noise.

6. Light

All buildings shall have lighting with an intensity of at least 20 lux during the lighting period, measured at birds-eye level and illuminating at least 80% of the usable area. A temporary reduction in lighting may be allowed when necessary following veterinary advice.

Within seven days of chickens being placed in a building until three days before the anticipated time of slaughter, lighting must follow a 24 hour rhythm and include periods of darkness lasting at least 6 hours, with one period of darkness of at least 4 hours, excluding dimming periods.

7. Inspection

All chickens kept for meat production must be inspected at least twice per day. Special attention must be paid to signs indicating a possible reduced level of welfare or health.

Chickens that are seriously injured or show evident signs of health disorder (such as those having difficulty in walking, abnormal accumulation of fluid or severe malformations), and are likely to suffer, shall receive appropriate treatment or be culled immediately.

A registered veterinary practitioner shall be contacted when necessary.

8. Cleaning

Those parts of a building, equipment, machinery or utensils in contact with chickens shall be thoroughly cleaned and disinfected every time final depopulation is carried out and before new birds are introduced into the building.

After final depopulation of a building, all litter must be removed and an adequate amount of clean litter that conforms to paragraph 3 provided.

9. Record keeping

The owner or keeper shall maintain an accurate record in respect of each building in which chickens are kept of—

(*a*) the number of chickens introduced,

(*b*) the useable area,

(*c*) the hybrid or breed of the chickens,

(*d*) the number of birds found dead after each inspection, with an indication of the cause of death, if known,

(*e*) the number of birds culled after each inspection with the reasons for culling, and

(*f*) the number of chickens remaining in the flock following the removal of chickens for sale or slaughter.

The records referred to in this paragraph shall be maintained for at least 3 years and be made available for inspection on request to an authorised officer.

10. Surgical intervention

All surgical interventions which result in damage to or loss of a sensitive part of the body or alteration of bone structure carried out for other than therapeutic reasons or diagnostic purposes are prohibited.

11. Castration

Castration of chickens shall only be carried out in accordance with the direction of a registered veterinary practitioner by persons trained in techniques of castration.

12. Beak trimming

Beak trimming may only be undertaken, after all other measures to prevent feather pecking and cannibalism have failed, by trained and competent personnel and the beaks of chickens over 9 days old shall not be trimmed.

Regulation 13 (b) (ii)

Part 2

REQUIREMENTS FOR HIGHER STOCKING DENSITIES

1. The owner or keeper shall inform the Minister, at least 15 days prior to the placement of a flock on the premises, of his or her intention to use a stocking density greater than 33 kilogrammes per square metre. The information shall state the exact stocking density proposed.

2. The owner or keeper shall maintain in each house to which a higher stocking density applies documentation describing in detail the production system and, in particular, it shall include technical detail relating to the building and equipment, including-

(*a*) an accurate plan of the building including dimensions of areas occupied by chickens,

(*b*) ventilation, and, if relevant, cooling and heating system, including their location, a ventilation plan detailing target air quality parameters, such as airflow, air speed and temperature,

(*c*) feeding and watering systems and their location,

(*d*) alarm systems and backup systems in the event of failure of any automated or mechanical equipment essential for the health and well being of the chickens, and

(*e*) floor type and litter normally used.

The information maintained under this paragraph shall be kept updated and made available on request to an authorised officer.

The owner or keeper shall inform the Minister of any changes in a building, equipment or procedures used for the purposes of this Part.

3. The owner or keeper shall ensure that each building on a holding used for the purposes of this Part is equipped with ventilation and, if necessary, heating and cooling systems designed, constructed and operated in such a way that-

(*a*) the concentration of ammonia (NH^3) does not exceed 20 parts per million and the concentration of carbon dioxide (CO^2) does not exceed 3,000 parts per million measured at the level of the chickens heads,

(*b*) the inside temperature, when the outside temperature measures in the shade exceeds 30 degrees centigrade, does not exceed the outside temperature by more than 3 degrees centigrade, and

(*c*) the average relative humidity measured inside the building during 48 hours does not exceed 70% when the outside temperature is below 10 degrees centigrade.

Part 3

Regulation 13 (b) (iii)

CRITERIA FOR FURTHER INCREASING STOCKING DENSITY

1. The monitoring of the premises by the Minister over the previous two year period did not show any deficiencies with respect to the requirements of Part 3 of these Regulations.

2. Regular monitoring by the owner or keeper is carried out using codes of practice prepared in accordance with Regulation 3.

3. In at least 7 consecutive, subsequently checked flocks from a house, the cumulative daily mortality rate is less than 1% + 0.6% x the slaughter age of the flock expressed in days.

4. If no monitoring was carried out in the previous two years, at least one inspection shall be carried out to verify compliance with paragraphs 1 to 3.

5. Despite paragraph 3, the Minister may permit an increase in stocking density if the owner or keeper provides sufficient explanation for the exceptional nature of a higher daily cumulative mortality rate or to show that the cumulative daily mortality rate is caused by factors beyond the owner's or keeper's control.

Regulation 14

Part 4

TRAINING

An approved training course shall cover, at least, Community legislation concerning the protection of chickens and, in particular-

(*a*) the matters referred to in this Schedule,

(*b*) physiology, in particular drinking and feeding needs, animal behaviour and the concept of stress,

(*c*) the practical aspects of the careful handling of chickens, catching loading and transporting chickens.

(*d*) Emergency care for chickens, emergency killing and culling, and

(*e*) Preventive biosecurity measures.

Regulation 16

Schedule 4

Part 1

CONDITIONS UNDER WHICH CALVES AND PIGS SHOULD BE KEPT

1. Materials used for the construction of accommodation and in particular boxes, stalls and equipment with which calves or pigs may come into contact shall not be harmful to the calves or pigs. Those parts of the accommodation with which an animal may come into contact shall be capable of being thoroughly cleansed and disinfected and shall be thoroughly cleansed and disinfected, using an approved disinfectant to prevent cross-infection and the build-up of disease-carrying organisms.

2. Electrical circuits and equipment shall be installed in accordance with the terms of the National Rules for Electrical Installations Second Edition 1991 (ET 101/1991) or any amendment, modification or replacement to those Rules.

3. Insulation, heating and ventilation of the building shall ensure that the air circulation, dust level, temperature, relative air humidity and gas concentrations are kept within limits which are not harmful to the calves or pigs.

4. All automated or mechanical equipment essential for the health and well-being of calves or pigs shall be inspected at least once daily. Where defects are discovered, these shall be rectified immediately or as soon as reasonable. In the

meantime, all appropriate steps shall be taken to safeguard the health and well-being of the calves or pigs until the defect has been rectified, notably by using alternative methods of feeding and maintaining a satisfactory environment.

Where an artificial ventilation system is used, provision shall be made for an appropriate back-up system to guarantee sufficient air renewal to preserve the health and well-being of the calves or pigs in the event of the failure of the system, and an alarm system, independent of the mains electricity supply, shall be provided to inform the owner or person in charge of the breakdown or fire.

The alarm system shall be tested at least once a month and maintained in proper working order.

5. Calves and pigs shall not be kept permanently in darkness. To meet their behavioural and physiological needs, the accommodation shall be well lit by natural or artificial light, for at least 8 continuous hours each day. Every source of artificial light shall be mounted so as not to cause discomfort to the calves or pigs.

An adequate source of light shall be available to enable the calves or pigs to be properly inspected at any time.

6. All housed calves reared in groups or in individual pens shall be inspected by the owner or the person in charge at least twice daily. Calves kept outside, and pigs shall be inspected at least once daily.

Any calf or pig that appears to be ill or injured shall be treated appropriately without delay and veterinary advice shall be obtained as soon as possible for any calf or pig that is not responding to the care of the owner or person in charge.

Where necessary, sick or injured calves and pigs shall be isolated in adequate accommodation with dry, comfortable bedding.

A calf or pig shall be able to turn around easily unless such movement is contrary to specific advice from a registered veterinary practitioner.

7. Where tethers are used, they shall not cause injury to the calves and shall be inspected regularly and adjusted as necessary to ensure a comfortable fit.

Each tether shall be designed to avoid the risk of strangulation or injury and to allow the calf to move in accordance with paragraph 1 Part 2.

8. Housing, pens, equipment and utensils for calves and pigs shall be properly cleansed and disinfected to prevent cross-infection and the build-up of disease-carrying organisms. Faeces, urine and uneaten or spilt food shall be removed and bedding changed as often as necessary to minimize smell and avoid attracting flies or rodents.

9. Floors shall be smooth but not slippery so as to prevent injury to the calves or pigs and so designed as not to cause injury or suffering to calves or pigs standing or lying on them. Floors shall be suitable for the size and weight of the

calves or pigs and form a rigid, even and stable surface. The lying area shall be comfortable, clean, and adequately drained and shall not adversely affect the calves or pigs. Appropriate bedding shall be provided for all calves less than 2 weeks old. If bedding is provided for pigs, it shall be clean, dry and not harmful to the pigs.

10. (*a*) Feeding and watering equipment for calves and pigs shall be designed, constructed, placed and maintained so that contamination of feed and water is minimized.

(*b*) Equipment and fittings shall be designed and maintained in such a way as to minimize, as far as is practicable, the exposure of the calves or pigs to spills of feed or water, or to faeces and urine.

11. Calves and pigs shall be cared for by a sufficient number of suitably experienced personnel.

Part 2

Specific Provisions for Calves.

1. Subject to Regulation 5, the accommodation for calves shall be constructed in such way as to allow each calf to lie down, rest, stand up and groom itself without difficulty. Each calf shall have a clean place in which to rest and shall, unless isolated for veterinary reasons, be able to see other calves.

2. Calves shall not be tethered, with the exception of group-housed calves which may be tethered for periods of not more than one hour at the time of feeding milk or milk substitute.

3. All calves shall be provided with an appropriate diet adapted to their age, weight and behavioural and physiological needs, to promote good health and welfare and for this purpose the food for calves shall contain sufficient iron to ensure an average blood haemoglobin level of at least 4.5 mmol/litre and a minimum daily ration of fibrous food shall be provided for each calf over 2 weeks old, the quantity being raised from 50g to 250g per day for calves from 8 to 20 weeks old.

4. All calves shall be fed at least twice a day. Where calves are housed in groups and not fed ad libitum or by an automatic feeding system, each calf shall have access to the food at the same time as the others in the group.

5. All calves over 2 weeks of age shall have access to a sufficient quantity of fresh water or be able to satisfy their fluid intake needs by drinking other liquids. However, in hot weather conditions or for calves that are ill, fresh drinking water shall be available at all times.

6. Each calf shall receive bovine colostrum as soon as possible after it is born and, in any case, within the first 6 hours of life.

Part 3

Specific Provisions for various Categories of Pigs

Chapter I

ALL PIGS

1. Subject to Regulation 18, accommodation for pigs shall be constructed in such way as to allow each pig lie down, rest, and stand up without difficulty. Each pig shall have a clean place in which to rest and shall, unless isolated for veterinary reasons, be able to see other pigs.

Each pig shall have access to a clean lying area that is physically and thermally comfortable, adequately drained and that is of sufficient area to allow each pig lie down at the same time.

2. If pigs are kept together, measures shall be taken to prevent fighting that goes beyond normal behaviour and to investigate the causes of fighting. If possible, measures, including provision of plentiful straw or other materials, shall be put in place. Pigs which show persistent aggression towards others or are victims of aggression shall be isolated or kept separate from the group.

3. All pigs shall be provided with an appropriate diet adapted to their age, weight and behavioural and physiological needs, to promote good health and welfare.

4. All pigs shall be fed at least once a day. Where pigs are housed in groups and not fed ad libitum or by an automatic feeding system, each pig shall have access to the food at the same time as the others in the group.

5. All pigs over 2 weeks of age shall have permanent access to a sufficient quantity of fresh water.

6. In addition to measures normally taken to prevent tail-biting and other vices and in order to enable them to satisfy their behavioural needs, all pigs, taking into account environmental conditions, management systems and stocking densities, shall be able to obtain straw or any other suitable material or object.

7. Subject to Regulation 18(2), the owner or person in charge shall take all necessary measures to ensure that pigs are not subject to constant or sudden noise.

8. A pig shall have permanent access to a sufficient quantity of suitable material, such as straw, hay, wood, peat or mushroom compost to enable proper investigation and manipulation activities, that does not compromise the health of the pig.

Chapter II

BOARS

9. Subject to paragraph 10, boar pens shall be sited and constructed so as to allow the boar to turn around and to hear, smell and see other pigs, and to provide for clean resting areas. The lying area shall be dry and comfortable.

The minimum unobstructed floor area of the pen for an adult boar shall be 6 square metres.

10. If pens are used for natural service, the minimum unobstructed floor area of a pen for an adult boar shall be 10 square metres.

Chapter III

SOWS AND GILTS

11. Pregnant sows and gilts shall, if necessary, be treated against external and internal parasites. If they are placed in farrowing crates, pregnant sows and gilts shall be thoroughly cleaned.

12. Sows and gilts shall be provided with a clean, adequately drained, comfortable lying area and shall, in the week before expected farrowing, be given suitable nesting material unless this is not technically feasible due to the slurry system in use on the premises.

13. An unobstructed area behind the sow or gilt shall be available for the ease of natural or assisted farrowing.

14. Farrowing crates where sows are kept loose shall have some adequate means, such as farrowing rails, to protect the piglets.

15. Sows and gilts shall be provided with a diet that satisfies their nutritional needs and contains sufficient quantity of suitable bulky or high fibre food to satisfy their hunger and the need to chew and to ensure that they do not display signs of hunger.

Chapter IV

PIGLETS

16. Piglets shall be provided with a source of heat and a solid, dry and comfortable lying area, covered with a mat or littered with suitable material, away from the sow where all of them can rest at the same time.

17. Where a farrowing crate is used, the piglets shall have sufficient space to be able to be suckled without difficulty.

18. Tail docking or tooth clipping shall not be carried out routinely except where injuries to sows' teats or to other pigs' ears or tails have occurred.

Where tooth clipping appears necessary, this shall be carried out within seven days of birth.

19. Subject to paragraph 20, piglets shall not be weaned from the sow at less than 28 days of age unless the welfare or health of the dam or piglets would otherwise be adversely affected.

20. Despite paragraph 19, piglets, if accommodated in specialised housing that has been thoroughly cleaned and disinfected immediately before the introduction of those piglets, may be weaned from the sow at no less than 21 days of age.

21. Housing to which paragraph 20 refers shall be separate, in a manner that adequately prevents the risk or spread of disease, from housing containing sows.

Chapter V

WEANERS AND REARING PIGS

22. Pigs shall be placed in groups as soon as possible after weaning. They should be kept in stable groups with as little mixing as possible.

If pigs unfamiliar with one another are to be mixed, they shall be mixed at as early an age as possible and, preferably, within seven days of weaning.

Pigs shall be afforded adequate opportunity to escape and hide from other pigs.

23. An animal remedy shall not be administered, to facilitate mixing of pigs, other than in exceptional circumstances, under and in accordance with the written prescription of a registered veterinary practitioner; that prescription shall be retained by the owner or person in charge of the pigs and a copy shall be retained by the registered veterinary practitioner who prescribes the animal remedy.

Schedule 5

Regulation 24

Part 1

REQUIREMENTS FOR THE MOVEMENT AND LAIRAGING OF ANIMALS IN SLAUGHTERHOUSES.

I. General requirements.

1. A slaughterhouse shall have suitable equipment and facilities available for the purpose of unloading animals from means of transport.

2. Animals shall be unloaded as soon as possible after arrival. If delay is unavoidable they shall be protected from extremes of weather and provided with adequate ventilation.

3. Animals which might injure each other on account of their species, sex, age or origin shall be kept and lairaged apart from each other.

4. Animals shall be protected from adverse weather conditions. If they have been subjected to high temperature in humid weather they shall be cooled by appropriate means.

5. The condition and state of health of the animals shall be inspected at least every morning and evening.

6. Without prejudice to Chapter VI of Annex I to Directive 64/433/EEC, animals which have experienced pain or suffering during transport or upon arrival at the slaughterhouse, and unweaned animals, shall be stunned and slaughtered immediately. If this is not possible, they shall be separated and then stunned and slaughtered as soon as possible and at least within the following two hours. Animals which are unable to walk shall not be dragged to the place of slaughter, but shall be killed where they lie or, where it is possible and does not entail any unnecessary suffering, transported on a trolley or moveable platform to the place of emergency slaughter.

II. Requirements for animals delivered other than in containers.

1. Equipment for unloading animals shall have non-slip flooring and, if necessary, be provided with lateral protection. Bridges, ramps and gangways shall be fitted with sides, railings or some other means of protection to prevent animals falling off them. Exit or entry ramps shall have the minimum possible incline consistent with the animal being able to retain its footing.

2. During unloading, care shall be taken not to frighten, excite or mistreat the animals, and to ensure that they are not overturned. Animals shall not be lifted by the head, horns, ears, feet, tail or fleece in such a way as to cause them unnecessary pain or suffering. When necessary, they shall be led individually.

3. Animals shall be moved with care. Passageways shall be so constructed as to minimise the risk of injury to animals, and so arranged as to exploit their gregarious tendencies. Instruments intended for guiding animals shall be used solely for that purpose, and only for short periods. Instruments which administer electric shocks may be used only for adult bovine animals and pigs which refuse to move, provided that the shocks last no more than two seconds, are adequately spaced out and that the animals have room ahead of them in which to move. Such shocks may be applied only to the muscles of the hindquarters.

4. Animals shall not be struck on, nor shall pressure be applied to, any particularly sensitive part of the body. In particular, animals' tails shall not be crushed, twisted or broken and their eyes shall not be grasped. Blows and kicks shall not be inflicted.

5. Animals shall not be taken to the place of slaughter unless they can be slaughtered immediately. If they are not slaughtered immediately on arrival they shall be lairaged.

6. A slaughterhouse shall be equipped with a sufficient number of pens for adequate lairaging of the animals with protection from the effects of adverse weather.

7. A lairage shall have:

(*a*) floors which minimise the risk of slipping and which do not cause injury to animals in contact with them,

(*b*) adequate ventilation, taking into account the extremes of temperature and humidity which may be expected. Where mechanical means of ventilation are required, provision shall be made for emergency back-up facilities in the event of breakdown,

(*c*) artificial lighting at a level sufficient to permit inspection of all animals at any time; if necessary, adequate back-up lighting shall be available,

(*d*) where necessary, equipment for tethering animals,

(*e*) where necessary, adequate supplies of a suitable bedding material for all animals kept in the lairage overnight.

8. Where, in addition to the lairages referred to above, slaughterhouses, have field lairages without natural shelter or shade, appropriate protection from adverse weather shall be provided. Field lairages shall be maintained in such condition as to ensure that animals are not subjected to physical, chemical or other health hazards.

9. Animals which are not taken directly upon arrival to the place of slaughter shall have drinking water available to them from appropriate facilities at all times. Animals which have not been slaughtered within 12 hours of their arrival shall be fed, and shall subsequently be given moderate amounts of food at appropriate intervals.

10. Animals which are kept for 24 hours or more at a slaughterhouse shall be lairaged and, where appropriate, tethered, in such a way that they can lie down and feed without difficulty. Where animals are not tethered, food shall be provided in a way which will permit the animals to feed undisturbed.

III. Requirements for animals delivered in containers.

1. Containers in which animals are transported shall be handled with care, and shall not be thrown, dropped or knocked over. Where possible, they shall be loaded and unloaded horizontally and mechanically.

2. Animals delivered in containers with perforated or flexible bottoms shall be unloaded with particular care in order to avoid injury. Where appropriate, animals shall be unloaded from the containers individually.

3. Animals which have been transported in containers shall be slaughtered as soon as possible; otherwise they shall if necessary be watered and fed in accordance with paragraph 9 of Section II.

Part 2.

RESTRAINT OF ANIMALS BEFORE STUNNING, SLAUGHTER OR KILLING.

1. Animals shall be restrained in an appropriate manner in such a way as to spare them any avoidable pain, suffering, agitation, injury or contusions.

However, in the case of ritual slaughter, restraint of bovine animals before slaughter using a mechanical method intended to avoid any pain, suffering or agitation and any injuries or contusions to the animals is obligatory.

2. Animals' legs shall not be tied, and animals shall not be suspended before stunning or killing. However, poultry and rabbits may be suspended for slaughter provided that appropriate measures are taken to ensure that, on the point of being stunned, they are in a sufficiently relaxed state for stunning to be carried out effectively and without undue delay.

Furthermore, holding an animal in a restraint system may in no circumstances be regarded as suspension.

3. Animals which are stunned or killed by mechanical or electrical means applied to the head shall be presented in such a position that the equipment can be applied and operated easily, accurately and for the appropriate time. The Minister may, however, in the case of solipeds and cattle, authorise the use of appropriate means to restrain head movements.

4. Electrical stunning equipment shall not be used as a means of restraint or immobilisation or to make animals move.

Part 3.

STUNNING OR KILLING OF ANIMALS OTHER THAN ANIMALS REARED FOR FUR.

I. Permitted Methods.

A. Stunning.

1. Captive bolt pistol.

2. Concussion.

3. Electronarcosis.

4. Exposure to carbon dioxide.

B. Killing.

1. Free bullet pistol or rifle.

2. Electrocution.

3. Exposure to carbon dioxide.

C. The Minister may, however, authorise decapitation, dislocation of the neck and the use of a vacuum chamber as a method of killing for certain specific species, provided that Regulation 23 is complied with and that specific requirements laid down in Section III of this Part are met.

II. Specific Requirements for Stunning.

Stunning shall not be carried out unless it is possible to bleed the animals immediately afterwards.

1. Captive bolt pistol.

(*a*) Instruments shall be positioned so as to ensure that the projectile enters the cerebral cortex. In particular, it is prohibited to shoot cattle in the poll position.

Sheep and goats may be shot in the poll position if the presence of horns prevents use of the crown position. In such cases the shot shall be placed immediately behind the base of the horns and aimed towards the mouth, and bleeding shall commence within 15 seconds of shooting.

(*b*) When using a captive bolt instrument, the operator shall check to ensure that the bolt retracts to its full extent after each shot. If it does not so retract, the instrument shall not be used again until it has been repaired.

(*c*) Animals shall not be placed in stunning pens unless the operator who is to stun them is ready to do so as soon as the animal is placed in the pen. Animals shall not be placed in a head restraint until the slaughterman is ready to stun them.

2. Concussion.

(*a*) This is only permitted using a mechanically-operated instrument which administers a blow to the skull. The operator shall ensure that the instrument is applied in the proper position and that the correct strength of cartridge is used, in accordance with the manufacturer's instructions, to produce an effective stun without fracture of the skull.

(*b*) However, in the case of small batches of rabbits, where a non-mechanical blow to the skull is used, that operation shall be carried out in such a way that the animal is immediately rendered unconscious and remains so until its death and in compliance with Regulation 23.

3. Electronarcosis.

A. Electrodes.

1. Electrodes shall be so placed that they span the brain, enabling the current to pass through it. Appropriate measures shall also be taken to ensure that there is good electrical contact, in particular by removing excess wool or wetting skin.

2. Where animals are stunned individually, the apparatus shall:

(*a*) incorporate a device which measures the impedance of the load and prevents operation of the apparatus if the minimum required current cannot be passed;

(*b*) incorporate an audible or visible device indicating the length of time of its application to an animal;

(*c*) be connected to a device indicating the voltage and the current under load, and be positioned so as to be clearly visible to the operator.

B. Waterbath stunners

1. Where waterbath stunners are used to stun poultry, the level of the water shall be adjustable in order to ensure that there is good contact with the bird's head.

The strength and duration of the current used in this case will be determined by an authorised officer so as to ensure that the animal is immediately rendered unconscious and remains so until death.

2. Where poultry are stunned in groups in a waterbath, a voltage sufficient to produce a current strong enough to ensure that every bird is stunned shall be maintained.

3. Appropriate measures shall be taken to ensure that the current passes properly, in particular, by the use of good electrical contacts and by wetting the shackle-to-leg contact.

4. Waterbaths for poultry shall be adequate in size and depth for the type of bird being slaughtered, and shall not overflow at the entrance. The electrode which is immersed in the water shall extend the length of the waterbath.

5. If necessary, manual back-up shall be available.

C. Exposure to carbon dioxide.

1. The concentration of carbon dioxide for stunning pigs shall be at least 70% by volume.

2. The chamber in which pigs are exposed to the gas, and the equipment used for conveying the pigs through it, shall be so designed, constructed and maintained as to avoid injury to the pigs and compression of the chest and enable

them to remain upright until they lose consciousness. Adequate lighting shall be provided in the conveying mechanism and the chamber to allow pigs to see other pigs or their surroundings.

3. The chamber shall be fitted with devices for measuring the gas concentration at the point of maximum exposure and for giving a clearly visible and audible warning if the concentration of carbon dioxide falls below the required level.

4. Pigs shall be placed in pens or containers in which they can see each other and conveyed into the gas chamber within 30 seconds from their entry into the installation. They shall be conveyed as rapidly as possible from the entrance to the point of maximum concentration of the gas and shall be exposed to it for long enough to ensure that they remain unconscious until they have been killed.

5. The Minister may, on application, and subject to such conditions as he or she may specify, authorise the stunning of poultry by exposure to carbon dioxide or a mixture of other gases or refuse an application.

III. Specific Requirements for Killing.

1. Free bullet pistol or rifle.

These methods, which may be used to kill various species, in particular large farmed game and deer, are subject to authorisation by the Minister, who shall be satisfied, in particular, that these methods are used by duly qualified staff and are in compliance with Regulation 23.

2. Decapitation and dislocation of the neck.

These methods, which are to be used only for killing poultry, are subject to authorisation by the Minister, who shall be satisfied, in particular, that these methods are used by duly qualified staff and are in compliance with Regulation 23.

3. Electrocution and carbon dioxide.

The Minister may authorise the killing of various species by these methods provided that, in addition to Regulation 23, the specific provisions laid down in paragraphs 3 and 4 of Section II are complied with. The Minister may, to ensure the effectiveness of these methods, lay down the strength and duration of the current used and the concentration and length of exposure to carbon dioxide.

4. Vacuum chamber.

This method, which is to be used only for the killing without bleeding of certain animals for consumption belonging to farmed game species (quail, partridge and pheasant), is subject to authorisation by the Minister. To obtain authorisation the owner or person in charge of the animals shall ensure, in addition to compliance with Regulation 23, that:

(*a*) the animals are placed in an airtight chamber in which a vacuum is swiftly achieved by means of a powerful electric pump,

(*b*) the vacuum is maintained until the animals are dead,

(*c*) the animals are held in groups in transport containers which can be placed in the vacuum chamber, which is designed for that purpose.

Part 4.

BLEEDING OF ANIMALS.

1. For animals which have been stunned, bleeding shall be started as soon as possible after stunning and be carried out in such a way as to bring about rapid, profuse and complete bleeding. In any event, the bleeding shall be carried out before the animal regains consciousness.

2. All animals which have been stunned shall be bled by incising at least one of the carotid arteries or the vessels from which they arise.

After incision of the blood vessels, no further dressing procedures nor any electrical stimulation may be performed on the animals before the bleeding has ended.

3. Where one person is responsible for the stunning, shackling, hoisting and bleeding of animals, that person shall carry out those operations consecutively on one animal before carrying them out on another animal.

4. Manual back-up shall be available where poultry is bled by means of automatic neck-cutters so that, in the event of a breakdown, birds may be slaughtered immediately.

Part 5

KILLING METHODS FOR DISEASE CONTROL.

Permitted Methods.

1. Any method permitted under Part 3 that causes certain death.

2. Injection of an overdose of a drug with anaesthetic properties if the carcase is to be disposed of in accordance with the Animal By-products Regulation within the meaning of the European Communities (Transmissable Spongiform Encephalopathies and Animal By-Products) Regulations 2008 (S.I. No. 252 of 2008).

3. In addition, the Minister may, in compliance with Regulation 23, permit the use of other methods for killing conscious animals, ensuring in particular that:

(*a*) if methods are used which do not cause immediate death (for example, captive bolt shooting), appropriate measures are taken to kill the animals as soon as possible, and in any event before they regain consciousness,

(*b*) nothing more is done to the animals before it has been ascertained that they are dead.

4. Permitted methods of killing for disease control set out in this Schedule shall be carried out by or under the supervision of an authorised officer.

Part 6

METHODS OF KILLING FUR ANIMALS.

I. Permitted methods.

1. Mechanically-operated instruments which penetrate the brain.

2. Injection of an overdose of a drug with anaesthetic properties.

3. Electrocution with cardiac arrest.

4. Exposure to carbon monoxide.

5. Exposure to chloroform.

6. Exposure to carbon dioxide.

The Minister shall decide on the most appropriate method of killing for the different species concerned in compliance with Regulation 23.

II. Specific requirements.

1. Mechanically-operated instruments which penetrate the brain.

(*a*) Instruments shall be positioned so as to ensure that the projectile enters the cerebral cortex.

(*b*) This method is permitted only if it is followed by immediate bleeding.

2. Injection of an overdose of a drug with anaesthetic properties.

Only those anaesthetics, doses and applications which cause immediate loss of consciousness followed by death may be used.

3. Electrocution with cardiac arrest.

Electrodes shall be placed so that they span the brain and the heart and the minimum current level used shall lead to immediate loss of consciousness and cardiac arrest. However, for foxes, where electrodes are applied to the mouth and rectum, a current of an average value of 0.3 amps shall be applied for at least 3 seconds.

4. Exposure to carbon monoxide.

(*a*) The chamber in which the animals are exposed to the gas shall be designed, constructed and maintained in such a way as to avoid injury to the animals and allow them to be supervised.

(*b*) The animals shall be introduced into the chamber only after it has been filled with a concentration of carbon monoxide of at least 1% by volume, supplied by a source of 100% carbon monoxide.

(*c*) The gas produced by an engine specially adapted for that purpose may be used to kill mustelids and chinchillas provided that tests have shown that the gas used:

(i) has been suitably cooled,

(ii) has been sufficiently filtered, and

(iii) is free from any irritant matter or gas.

The animals cannot be placed in the chamber until the concentration of carbon monoxide has reached at least 1% by volume.

(*d*) When inhaled the gas shall first induce deep general anaesthesia and shall then cause certain death.

(*e*) The animals shall remain in the chamber until they are dead.

5. Exposure to chloroform.

Exposure to chloroform may be used to kill chinchillas provided that:

(*a*) the chamber in which the animals are exposed to the gas is designed, constructed and maintained in such a way as to avoid injury to the animals and allow them to be supervised;

(*b*) the animals are introduced into the chamber only if it contains a saturated chloroform-air compound;

(*c*) when inhaled, the gas first induces deep general anaesthesia and then causes certain death;

(*d*) the animals remain in the chamber until they are dead.

6. Exposure to carbon dioxide.

Carbon dioxide may be used to kill mustelids and chinchillas provided that-

(*a*) the chamber in which the animals are exposed to the gas is designed, constructed and maintained in such a way as to avoid injury to the animals and allow them to be supervised,

(*b*) the animals are introduced into the chamber only when the atmosphere contains the highest possible concentration of carbon dioxide supplied by a source of 100% carbon dioxide,

(*c*) when inhaled, the gas first induces deep general anaesthesia and then causes certain death, and

(*d*) the animals remain in the chamber until they are dead.

Part 7

KILLING OF SURPLUS CHICKS AND EMBRYOS IN HATCHERY WASTE.

I. Permitted methods for the killing of chicks.

1. Use of a mechanical apparatus causing rapid death.

2. Exposure to carbon dioxide.

3. However, the Minister may permit the use of other scientifically recognised killing methods provided that they comply with Regulation 5.

II. Specific requirements.

1. Use of a mechanical apparatus producing rapid death.

(*a*) The animals shall be killed by an apparatus which contains rapidly rotating mechanically operated killing blades or expanded polystyrene projections.

(*b*) The capacity of the apparatus shall be sufficient to ensure that all animals are killed immediately, even if they are handled in large numbers.

2. Exposure to carbon dioxide.

(*a*) The animals shall be placed in an atmosphere with the highest obtainable concentration of carbon dioxide, supplied by a source of 100% carbon dioxide.

(*b*) The animals shall remain in this atmosphere until they are dead.

III. Permitted method of the killing of embryos.

1. To kill any living embryos instantaneously, all hatchery waste shall be treated by the mechanical apparatus mentioned in paragraph 1 of Section II.

2. However, the Minister may permit the use of other scientifically recognised killing methods provided that they comply with Regulation 23.

Part 8

MONITORING AND FOLLOW-UP AT SLAUGHTER REGARDING CHICKENS REARED FOR MEAT PRODUCTION

1. Mortality

1.1 In the case of stocking densities higher than 33 kilogrammes per square metre, the documentation accompanying the flock shall include the daily mortality rate and cumulative daily mortality rate calculated by the owner or keeper and the hybrid or breed of the chickens.

1.2 Under the supervision of the veterinary inspector at the establishment where chickens are to be slaughtered, the data referred to at 1.1 and the number of broilers dead on arrival at the establishment shall be recorded, indicating the premises and house of origin. The veterinary inspector shall check the plausibility of data furnished under 1.1 taking into account the number of broilers slaughtered and the number dead on arrival.

2. Post mortem inspection

In the context of checks carried out under Regulation (EC) No. 854/ 2004 of the European Parliament and of the Council of 29 April 2004, the veterinary inspector at the establishment where chickens are to be slaughtered shall evaluate the results of the post mortem inspection to identify possible indications of poor welfare conditions such as abnormal levels of contact dermatitis, parasitism and systemic illness at the premises or a particular house at the premises of origin.

3. Communication of results

If the mortality rate referred to in paragraph 1 or the results of post mortem inspection referred to at paragraph 2 are consistent with poor animal welfare conditions, the veterinary inspector at the establishment where chickens are to be slaughtered shall communicate the data to the owner or keeper of the animals who shall take appropriate remedial action and make an official report.

L.S.

GIVEN under my Official Seal,
24 June 2010.

BRENDAN SMITH,
Minister for Agriculture, Fisheries and Food.

EXPLANATORY NOTE.

(This note is not part of the Instrument and does not purport to be a legal interpretation.)

These Regulations give effect to a series of European Directives concerning the protection of animals including broilers, laying hens, calves and pigs and animals being slaughtered.

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ARNA FHOILSIÚ AG OIFIG AN tSOLÁTHAIR
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OIFIG DHÍOLTA FOILSEACHÁN RIALTAIS,
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FOILSEACHÁIN RIALTAIS, AN RANNÓG POST-TRÁCHTA,
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Appendix No. 17

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STATUTORY INSTRUMENTS.

S.I. No. 588 of 2025

EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2025

S.I. No. 588 of 2025

EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2025

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S.I. No. 588 of 2025

EUROPEAN UNION (GOOD AGRICULTURAL PRACTICE FOR PROTECTION OF WATERS) REGULATIONS 2025

PART 1

PRELIMINARY

Citation, commencement and application

1. (a) These Regulations may be cited as the European Union (Good Agricultural Practice for Protection of Waters) Regulations 2025.

(b) These Regulations shall apply to all holdings in the State.

(c) These Regulations shall apply to all movements of organic fertilisers and applications of organic and inorganic fertiliser on holdings in the State.

(d) These Regulations shall come into effect on 1 January 2026.

Purpose of Regulations

2. The purpose of these Regulations is to give effect to Ireland's Nitrates Action Programme pursuant to Council Directive 91/676/EEC concerning the protection of waters against pollution caused by nitrates from agricultural sources.

Revocations

3. European Union (Good Agricultural Practice for Protection of Waters) Regulations 2022, the European Union (Good Agricultural Practice for Protection of Waters) (Amendment) Regulations 2022, the European Union (Good Agricultural Practice for Protection of Waters) (Amendment) (No. 2) Regulations 2022, the European Union (Good Agricultural Practice for Protection of Waters) (Amendment) Regulations 2023 and the European Union (Good Agricultural Practice for Protection of Waters) (Amendment) Regulations 2025 are hereby revoked.

Interpretation

4. (1) In these Regulations, save where the context otherwise requires—

"Act of 1992" means the Environmental Protection Agency Act, 1992 (No. 7 of 1992);

"Agency" means the Environmental Protection Agency established under section 19 of the Act of 1992;

"agriculture" includes the breeding, keeping and sale of livestock (including cattle, horses, pigs, poultry, sheep and any animal kept for the production of food, wool, or skins), the making and storage of silage, the cultivation of land, and the growing of crops (including agroforestry and horticultural crops);

"agroforestry" is a land-use system where trees are deliberately integrated into agricultural land management units;

Notice of the making of this Statutory Instrument was published in "Iris Oifigiúil" of 12*th December,* 2025.

"application to land", in relation to fertiliser, means the addition of fertiliser to land whether by spreading on the surface of the land, injection into the land, placing below the surface of the land or mixing with the surface layers of the land but does not include the direct deposition of manure to land by animals;

"aquifer" means a subsurface layer or layers of rock or other geological strata of sufficient porosity and permeability to allow either a significant flow of groundwater or the abstraction of significant quantities of groundwater;

"arable land" means "land that is generally under a system of crop rotation and either actively used for growing crops or is temporarily unused (fallow) and remains available for tillage and vegetable production;

"bankfull" means the water level at which point a water body is at the top of its banks and any further rise in water levels would result in it moving into the flood plain;

"biochemical oxygen demand" for the purposes of sub-article (2)(c)(i) means a 5 day biochemical oxygen demand test done in accordance with method ISO 5815-1:2003, International Organisation for Standardization, or any update of that method;

"cereal crop" means a type of grass with grains that can be eaten or used to make food (including barley, wheat, oats, triticale and rye);

"chemical fertiliser" means any fertiliser that is manufactured by an industrial process;

"commonage" means a land parcel which is held by two or more persons in specified shares or jointly and originally purchased from the Irish Land Commission under the Land Purchase Acts, including land over which two or more persons have grazing rights or the right to take turf;

"concentrate feedstuff" means livestock feed containing a high density of total digestible nutrients and are low in crude fibre content (less than 18% of dry matter) and are either feed materials in the raw or milled forms as individual feeds (referred to as straights); or a mixture of two or more feed materials blended or formulated into balanced rations for particular production purposes (referred to as compound feeds);

"crops grown under cover" means crops grown in greenhouses or cultivations grown under cover (e.g. in polytunnels);

"dairy cow" is any bovine animal that has calved and has been maintained on the holding for the purposes of producing milk for human consumption;

"dry matter" for the purposes of sub-article (2)(b)(ii) means a test for total solids done in accordance with method F, American Public Health Association, 21st Edition, 2005, or any update of that method;

"eligible area" in relation to a holding and the grassland stocking rate, means the eligible area for nutrients of the holding or the grassland as appropriate excluding areas under farm roads, paths, buildings, farmyards, woods, dense scrub, rivers, streams, ponds, lakes, sandpits, quarries, expanses of bare rock, areas of bogland not grazed, areas fenced off and not used for production, inaccessible areas and areas of forestry (including Christmas trees), or areas required to be totally destocked under a Commonage Framework Plan. In the event that such an application was made, the eligible area for nutrients is the lesser of the reference area or the claimed area for each Land Parcel Identification System (LPIS) parcel as submitted to the Department of Agriculture, Food and the Marine for Direct Payments for the year in question;

"farmyard manure" means a mixture of bedding material and animal excreta in solid form arising from the housing of cattle, sheep and other livestock excluding poultry;

"fertiliser" means any substance containing nitrogen, or phosphorus, or a nitrogen compound or phosphorus compound utilised on land to enhance growth of vegetation and

may include livestock manure, the residues from fish farms and sludges including sewage sludge;

"georeference" in the context of a soil sample means having Global Positioning System (GPS) coordinates linked to that soil sample;

"grass" means permanent grassland or temporary grassland (temporary implying leys of less than five years);

"grassland area" means the eligible area under the relevant crops as published by the Department of Agriculture, Food and the Marine;

"grassland farms" means holdings where 80% or more of the agricultural area available for manure application is grass;

"grassland stocking rate" means the total nitrogen produced by grazing livestock on the holding prior to exports, across the entire eligible grassland area. In the event that such an application was made, this is the grassland area as submitted to the Department of Agriculture, Food and the Marine for Direct Payments for the year in question;

"grazing livestock" means cattle (with the exclusion of veal calves), sheep, deer, goats and horses;

"groundwater" means all water that is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil;

"harvesting of cereals, beans or oilseed rape" means the gathering of the grain/oilseed rape/beans from the field;

"heavy rain" means rainfall meeting the criteria for yellow, orange or red rainfall warnings issued by Met Éireann;

"hedgerow" means a line of shrubs and/or tree species, planted and maintained in such a way as to form a barrier of sufficient width to control animals or to mark the boundary of an area of land. Hedgerows can range from neatly trimmed lines of dense shrub and/or briars and tree species, which generally form a stock proof barrier, to a line of individual mature trees with no stock proofing properties and all states in between;

"holding" means an agricultural production unit and, in relation to an occupier, means all the agricultural production units managed by that occupier;

"intersecting watercourse" means where a land parcel is sloped towards a watercourse and any surface water run-off would drain into that watercourse;

"late harvested crops" includes vegetable crops harvested after 15 September as well as fodder beet, sugar beet, main crop potatoes and maize excluding cereal crops and beans;

"legal entity" means an individual, partnership, company, or organisation that has legal rights and obligations;

"livestock" means all animals kept for use or profit (including cattle, horses, pigs, poultry, sheep and includes any animal kept for the production of food, wool or skins);

"livestock manure" means waste products excreted by livestock or a mixture of litter and waste products excreted by livestock, even in processed form;

"local authority" means a city council or county council within the meaning of the Local Government Act, 2001 (No. 37 of 2001);

"local authority shared service" means common or combined services provided to more than one local authority, the provision of which (to the local authorities concerned) enables, assists or facilitates the carrying out of any administrative task or process necessary for or incidental to the performance of a function assigned under these regulations to local authorities;

"low emission slurry spreading equipment" means trailing hose, trailing shoe or shallow injection systems which have not been modified;

"Met Éireann" means Ireland's national meteorological service;

"milking platform" means the grassland block on the holding within a 3km radius of an active milking parlour that is accessible for grazing by a dairy cow(s) at any stage during the year;

"milk producer" means a holding where one or more dairy cows are maintained for the purpose of producing milk for human consumption;

"the Minister" means the Minister for Housing, Local Government and Heritage;

"Moore Park St Jilles Grass Growth Model (MoST)" means a grass growth model that, can predict grass growth, grass nitrogen content and leaching at the paddock scale for Irish grazing and meteorological conditions;

"National Fertiliser Database" means the database, established by the Minister for Agriculture, Food and the Marine, containing the registers of Fertiliser Economic Operators and Professional Fertiliser End Users and the prescribed data submitted by both;

"new dairy entrant" means a dairy producing herd where no milk was produced for human consumption in the preceding calendar year;

"new entrant" means a natural person who has been assigned a herd number in the current or previous calendar year, and who has not previously held, nor has a beneficial interest in a herd number;

"Nitrates Directive" means Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources;

"nutrient exporter" means an occupier or a legal entity, or a person who takes control of, and exports organic fertilisers to a holding for application to land;

"occupier", in relation to a holding, includes the owner, a lessee, that is a natural person or legal entity entitled to occupy the holding or any other natural person or legal entity who is for the time being, in control of the holding;

"organic fertiliser" means any fertiliser other than chemical fertiliser and includes livestock manure, dungstead manure, farmyard manure, slurry, soiled water, silage effluent, spent mushroom compost, non-farm organic substances such as sewage sludge, industrial by-products and sludges and residues from fish farms;

"parcel" means an individual field or a group of fields, homogeneous regarding cropping, soil type and fertilisation practices;

"ploughing" means inversion of soil to a depth of 15 – 30cm and excludes shallow cultivation;

"poaching" is the damage that may be done to land and its underlying soil structure arising from the presence of livestock where the underlying risk may cause the transport of sediment and/or nutrients to watercourses;

"relevant local authority" means the local authority in whose administrative area a farm holding or part of a farm holding is situated;

"river basin district" means a river basin district established by the European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003) or any amendment thereof in relation to the establishment of river basin districts;

"sewage sludge" means—

(a) residual sludge from sewage plants treating domestic or urban waste waters and from other sewage plants treating waste waters of a composition similar to domestic and urban waste waters, whether or not it has been treated to form biosolids or sludge cake through treatment processes such as dewatering, composting, advanced digestion, thermal drying or lime stabilization;

(b) residual sludge from domestic wastewater treatment systems, septic tanks and other similar installations for the treatment of sewage, whether or not it has been treated to form biosolids or sludge cake through treatment processes such as dewatering, composting, advanced digestion, thermal drying or lime stabilization;

(c) residual sludge from sewage plants other than those referred to in paragraphs (i) and (ii)) whether or not it has been treated to form biosolids or sludge cake through treatment processes such as dewatering, composting, advanced digestion, thermal drying or lime stabilization;

"shallow cultivation" means any soil disturbance, completed at a shallow depth, increasing soil–seed contact that will promote seed germination;

"sloping steeply" means ground which has an average incline of 20% or more in the case of grassland or 15% or more in the case of other land;

"slurry" includes—

(a) excreta produced by livestock while in a building or yard, and

(b) a mixture of such excreta with rainwater, washings or other extraneous material or any combination of these, of a consistency that allows it to be pumped or discharged by gravity at any stage in the handling process but does not include soiled water;

"soil consolidation" means rolling soil to increase soil–seed contact and promote seed germination;

"soil test" means a soil sample taken in accordance with the soil sampling procedure set out in Schedule 1 and analysed in accordance with that Schedule, at a laboratory that meets the requirements of the Minister for Agriculture, Food and the Marine for this purpose;

"soiled water" has the meaning assigned by sub-article (2);

"stocking rate alterations" means situations where the holdings previous calendar year stocking rate is not representative due to factors outside of the holder's control, including mandatory de-stocking and herd movement restrictions arising from bovine diseases controls;

"Tailte Éireann" means Tailte Éireann established by the Tailte Éireann Act 2022 (No. 50 of 2022);

"Teagasc" means the Agriculture and Food Development Authority established in September 1988 under the Agriculture (Research, Training and Advice) Act, 1988;

"tidal waters" includes the sea and any estuary up to a high water mark medium tide and any enclosed dock adjoining tidal waters;

"Uisce Éireann" means Ireland's national regulated water utility;

"water supplier" means any person or organization supplying water for human consumption, other than Uisce Éireann;

"waters" includes—

(a) any (or any part of any) river, stream, lake, canal, reservoir, aquifer, pond, watercourse, or other inland waters, whether natural or artificial,

(b) any tidal waters, and

(c) where the context permits, any beach, river bank and salt marsh or other area which is contiguous to anything mentioned in paragraph (a) or (b), and the channel or bed of anything mentioned in paragraph (a) which is for the time being dry, but does not include a sewer;

"watercourse" means any body of water that is marked on a modern 1:5,000 scale Tailte Éireann map, and any feature where water collects or flows permanently, but does not include a sewer;

"waterlogged ground" means ground that is saturated with water such that any further addition will lead, or is likely to lead, to surface run-off;

and cognate words shall be construed accordingly;

(2) (a) In these Regulations "soiled water" includes, subject to this sub- article, water from concreted areas, hard standing areas, holding areas for livestock and other farmyard areas where such water is contaminated by contact with any of the following—

(i) livestock faeces or urine or silage effluent or animal feed,

(ii) chemical fertilisers,

(b) Notwithstanding sub-paragraph (a), soiled water may also include water that has become contaminated through it being used in the washing of a milking parlour(s), livestock handling area(s), livestock handling equipment, transport vehicles and trailers, other farm equipment, mushroom houses, vegetables, potatoes, fodder beet or sugar beet.

(c) In these Regulations, "soiled water" does not include any liquid where such liquid has either—

(i) a biochemical oxygen demand exceeding 2,500 mg per litre, or

(ii) a dry matter content exceeding 1% (10 g/L),

(d) For the purposes of these Regulations, soiled water which is stored together with slurry is deemed to be slurry.

(3) In these Regulations a reference to—

(a) an Article, Part or Schedule which is not otherwise identified is a reference to an Article, Part or Schedule of these Regulations,

(b) a sub-article or paragraph which is not otherwise identified is a reference to a sub-article or paragraph of the provision in which the reference occurs, and

(c) a period between a specified day in a month and a specified day in another month means the period commencing on the first-mentioned day in any year and ending on the second-mentioned day which first occurs after the first-mentioned day.

(4) In these Regulations a footnote to a table in Schedule 2 shall be deemed to form part of the table.

PART 2

FARMYARD MANAGEMENT

Minimisation of soiled water and application of soiled water to land

5. (1) An occupier of a holding shall take all such steps, as far as is practicable, for the purposes of minimising the amount of soiled water produced on the holding.

(2) Without prejudice to the generality of sub-article (1), an occupier of a holding shall ensure, as far as is practicable, that—

(a) clean water from roofs and unsoiled paved areas and that flowing from higher ground on to the farmyard is diverted away from soiled yard areas and prevented from entering storage facilities for livestock manure and other organic fertilisers, soiled water, and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps, and

(b) rainwater gutters and downpipes where required for the purposes of paragraph (a) are maintained in good working condition.

(3) The spreading of soiled water to land from milk producers is prohibited between 1 December and 31 December.

Collection and holding of certain substances

6. (1) Livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits, silage clamps or silage bales arising or produced in a building or yard on a holding shall, prior to its application to land or other treatment, be collected and held in a manner that prevents the run-off or seepage, directly or indirectly, into groundwaters or surface waters of such substances.

(2) The occupier of a holding shall not cause or permit the entry to waters of any of the substances specified in sub-article (1).

Provision and management of storage facilities

7. (1) Storage facilities for livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits, silage clamps or silage bales shall be maintained free of structural defect and be maintained and managed in such manner as is necessary to prevent run-off or seepage, directly or indirectly, into groundwater or surface water, of such substances.

(2) Storage facilities being provided on a holding on or after 31 March 2009 shall—

(a) be designed, sited, constructed, maintained and managed so as to prevent run-off or seepage, directly or indirectly, into groundwater or surface water of a substance specified in sub- article (1), and

(b) comply with such construction specifications for those facilities as may be approved from time to time by the Minister for Agriculture, Food and the Marine.

(3) Storage facilities other than those referred to in sub-article (2) shall be of such construction and design and shall be maintained and managed in such a manner so as to comply with the requirements of sub-article (1) and Article 6(2).

(4) In this article "storage facilities" includes out-wintering pads, earthen- lined stores, integrated constructed wetlands and any other system used for the holding or treatment of livestock manure or other organic fertilisers.

General obligations as to capacity of storage facilities

8. (1) The capacity of storage facilities for livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps on a holding shall be adequate to provide for the storage of all such substances as are likely to require storage on the holding for such period as may be necessary as to ensure compliance with these Regulations and the avoidance of water pollution.

(2) For the purposes of sub-article (1) an occupier shall ensure to have the storage capacity likely to be required during periods of adverse weather conditions when, due to extended periods of wet weather, frozen ground or otherwise, the application to land of livestock manure or soiled water is precluded.

(3) For the purposes of Articles 8 to 14, the capacity of storage facilities on a holding shall be disregarded insofar as the occupier does not have exclusive use of those facilities.

(4) For the purposes of Articles 10 to 14 the capacity of facilities required in accordance with these Regulations for the storage of manure from livestock of the type specified in Tables 1, 2 or 4 of Schedule 2 shall be determined by reference to the criteria set out in the relevant table and the rainfall criteria set out in Table 5 of that schedule and shall include capacity for the storage for such period as may be necessary for compliance with these Regulations of rainwater, soiled water or other extraneous water which enters or is likely to enter the facilities.

(5) Subject to sub-article (6), slurry produced on the holding during the previous winter must be applied to land or exported from the holding by 30 September.

(6) Notwithstanding sub-article (5), slurry may be spread between 1 and 15 October if permitted by the Minister, following consultation with the Minister for Agriculture, Food and the Marine and in accordance with the following specified scientific criteria to deal with exceptional circumstances—

(a) exceptional weather conditions leading up to the closed period must be demonstrated,

(b) the Moore Park St Jilles Grass Growth Model (MoST) must demonstrate sufficient growth for nutrient uptake,

(c) no heavy rain is forecast, and

(d) consideration may also be given to the situation pertaining on farms.

Capacity of storage facilities for effluents and soiled water

9. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of—

(a) effluent produced by ensiled forage and other crops shall equal or exceed the capacity specified in Table 6 of Schedule 2,

(b) For non-milk producers, soiled water storage capacity shall equal or exceed the capacity required to store all soiled water likely to arise on the holding during a period of 10 days if the soiled water storage facilities were constructed before 1 January 2015,

(c) For non-milk producers, soiled water storage capacity shall equal or exceed the capacity required to store all soiled water likely to arise on the holding during a period of 15 days if the soiled water storage facilities were constructed on or after 1 January 2015,

(d) With effect from 1 October 2028 the storage capacity requirement set in sub-paragraph (c) will apply to all non-milk producers.

(e) For milk producers with soiled water storage facilities constructed before 1 January 2015 the minimum storage capacity for soiled water shall be the greatest of the volume of soiled water produced per cow being milked as set out in Table 3 of Schedule 2, based on—

(i) the maximum number of cows being milked over a 10-day period in October, or

(ii) the maximum number of cows being milked over a 10-day period in November, or

(iii) the number of cows being milked every day in December, or

(iv) the maximum number of cows being milked over a 10-day period in January.

(f) For milk producers with soiled water storage facilities constructed on or after 1 January 2015 the minimum storage capacity for soiled water shall be the greatest of the volume of soiled water produced per cow being milked as set out in Table 3 of Schedule 2 based on—

(i) the maximum number of cows being milked over a 15-day period in October, or

(ii) the maximum number of cows being milked over a 15-day period in November, or

(iii) the number of cows being milked every day in December, or

(iv) the maximum number of cows being milked over a 15-day period in January.

(g) Notwithstanding point (e) above, with effect from 1 October 2028 the storage capacity requirement set out at point (f) above will apply to all milk producers.

Capacity of storage facilities for pig manure

10. (1) Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by pigs shall, subject to sub-article (2) and Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of 26 weeks.

(2) The period specified in Schedule 3 shall, in substitution for that prescribed by sub-article (1), apply in relation to livestock manure produced by pigs on a holding where all the following conditions are met—

(a) the number of pigs on the holding does not at any time exceed one hundred pigs, and

(b) the holding comprises a sufficient area of land for the application in accordance with these Regulations of all livestock manure produced on the holding.

Capacity of storage facilities for poultry manure

11. (1) Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by poultry shall, subject to sub-

article (2) and Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of 26 weeks.

(2) The period specified in Schedule 3 shall, in substitution for that prescribed by sub-article (1), apply in relation to livestock manure produced by poultry on a holding where all the following conditions are met—

(a) tillage or grassland farming is carried out on the holding,

(b) the number of poultry places on the holding does not exceed 2,000 places, and

(c) the holding comprises a sufficient area of land for the application in accordance with these Regulations of all livestock manure produced on the holding.

Capacity of storage facilities for manure from deer, goats, horses and sheep

12. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by deer, goats, horses and sheep shall, subject to Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during a period of six weeks.

Capacity of storage facilities for manure from cattle

13. Without prejudice to the generality of Article 8, the capacity of facilities for the storage on a holding of livestock manure produced by cattle shall, subject to Article 14, equal or exceed the capacity required to store all such livestock manure produced on the holding during the period specified in Schedule 3.

Reduced storage capacity in certain circumstances

14. (1) The capacity of facilities for the storage of livestock manure on a holding may, to such an extent as is justified in the particular circumstances of the holding, be less than the capacity specified in Article 10, 11, 12 or 13, as appropriate, in the case of a holding where—

(a) the occupier of the holding has a written contract providing exclusive access to adequate alternative storage capacity located outside the holding,

(b) the occupier has a written contract for access to a treatment facility for livestock manure, or

(c) the occupier has a written contract for the transfer of the manure to a person registered and permitted under and in accordance with the European Union (Animal By-products Regulations 2014 (S.I. No. 187 of 2014) and the Transmissible Spongiform Encephalopathies Regulations 2015 (S.I. No. 532 of 2015) to undertake the transport of manure.

(2) Subject to sub-article (3), the capacity of facilities for the storage of livestock manure may be less than the capacity specified in Article 12 or 13, as appropriate, in relation to—

(a) deer, goats, horses or sheep which are out-wintered at a grassland stocking rate which does not exceed the annualised equivalent of 100 kg nitrogen per hectare at any time during the period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure, or

(b) livestock (other than dairy cows, deer, goats, horses or sheep) which are out-wintered at a grassland stocking rate which does not exceed the annualised equivalent of 85 kg nitrogen per hectare at any time during the

period specified in Schedule 4 in relation to the application of organic fertiliser other than farmyard manure.

(3) Sub-article (2) shall apply only in relation to a holding where all the following conditions are met—

(a) all the lands used for out-wintering of the livestock are contained on the holding,

(b) the out-wintered livestock have free access at all times to the required lands,

(c) the amount of manure produced on the holding prior to export in the previous year did not exceed an amount containing 100 kg of nitrogen per hectare per annum,

(d) severe damage to the surface of the land by poaching does not occur, and

(e) the reduction in storage capacity is proportionate to the extent of out-wintered livestock on the holding.

PART 3

NUTRIENT MANAGEMENT

Interpretation, commencement etc.

15. (1) In this Part, "crop requirement", in relation to the application of fertilisers to promote the growth of a crop, means the amounts and types of fertilisers which are based on the relevant tables in Schedule 2 to apply to soil for the purposes of promoting the growth of the crop having regard to the foreseeable nutrient supply available to the crop from the fertilisers, the soil and from other sources.

(2) The amount of nitrogen or phosphorus specified in Table 8 or 9 of Schedule 2, as the case may be, in relation to a type of livestock manure or other substance specified in the relevant table shall for the purposes of this Part be deemed to be the amount of nitrogen or phosphorus, as the case may be, contained in that type of manure or substance except as may be otherwise specified in a certificate issued in accordance with Article 33.

(3) The amount of nitrogen or phosphorus available to a crop from a fertiliser of a type which is specified in Table 10 of Schedule 2 in the year of application of that fertiliser shall, for the purposes of this Part, be deemed to be the percentage specified in that table of the amount of nitrogen or phosphorus, as the case may be, in the fertiliser.

(4) The amount of nitrogen or phosphorus available to a crop from an organic fertiliser of a type which is not specified in Table 10 of Schedule 2 shall be deemed to be the amount specified in the table in relation to cattle manure or, where supported by the necessary analysis, the amount of nitrogen estimated on the basis of the C:N ratio of the compost in accordance with Table 10a unless a different amount has been determined in relation to that fertiliser by, or with the agreement of, the relevant local authority or the Agency, as the case may be.

(5) A reference in this Part to the "nitrogen index" or the "phosphorus index" in relation to soil is a reference to the index number assigned to the soil in accordance with Table 11 or 12 of Schedule 2, as the case may be, to indicate the level of nitrogen or phosphorus available from the soil.

(6) A maximum crude protein content of 14% is permissible in concentrate feed fed to dairy cows and other cattle aged two years old and over at grass between 15 April and

30 September. Records of crude protein content of concentrate feed shall be kept in accordance with Article 24(1)(i).

(7) On holdings with a previous year grassland stocking rate of 170 kg nitrogen per hectare from grazing livestock manure or above prior to export of livestock manure from the holding, a liming programme shall be prepared and implemented. The programme shall establish the following—

(a) a calculation of liming requirements for each parcel to achieve optimum pH,

(b) a lime application programme for the farm based on application of the full lime requirement outlined on the soil analysis report within two years of the date of issue of that report, and

(c) notwithstanding paragraph (b) above, where the lime requirement outlined on the soil analysis report exceeds 5 tonnes per hectare the requirement shall be to apply at least 5 tonnes per hectare within two years of the date of issue of that report.

(8) The stocking rate allowance for commonage land shall not exceed 50 kg organic nitrogen per hectare.

(9) Chemical fertiliser shall not be spread on commonage land.

Duty of occupier in relation to nutrient management

16. An occupier of a holding shall take as far as is practicable all such steps for the purposes of preventing the application to land of fertilisers in excess of crop requirement on the holding.

Requirements for milk producers and arable land in relation to nutrient management

17. (1) For milk producers and arable land the following requirements shall apply—

(a) For the purpose of determination of the milking platform organic and chemical fertiliser allowance, milk producers must declare their milking platform each year.

(b) For the purpose of determination of the stocking rate on the milking platform, the Minister for Agriculture, Food and the Marine will consider all dairy cows on the holding to be based on the milking platform. If that gives rise to a milking platform stocking rate greater than 259 kg organic N/ha, organic nitrogen produced on the holding must move outside the milking platform or a lower chemical fertiliser allowance will apply as set out in Table 14..

(c) Notwithstanding the requirements for cattle slurry in Article 19(1) where organic fertiliser(s) is applied to arable land post-harvest it must be incorporated into the soil and a crop sown within 21 days of application.

(d) Notwithstanding, sub-paragraph (1)(c) with the exception of arable land being sown to brassica spp or grass crops by 15 September, post-harvest application of organic fertiliser in the form of sewage sludge shall be prohibited in the Barrow Catchment and the Slaney & Wexford Harbour Catchment with effect from 1 January 2028.

(2) For the purposes of the determination of the grassland stocking rate in Tables 13, 15a and 15b the previous calendar year's stocking rate data shall be used.

(3) Notwithstanding sub-article (2) in the case of a new entrant or those subject to stocking rate alterations, for the purposes of the determination of the grassland stocking rate in Tables 13, 15a and 15b the lesser of the actual or projected current year grassland stocking rate shall be used.

(4) (a) For the purposes of this article, soil test results that do not state the corresponding georeference(s) or Land Parcel Identification System (LPIS) parcel(s) will be defaulted to Phosphorous Index 4.

(b) For the purposes of sub-paragraph (a), reports of soil test results must state the corresponding georeference(s) or LPIS parcel(s) represented by the soil sample. Where a soil analysis result represents more than one field or LPIS parcel a georeference for each field or the LPIS number for each parcel represented by the sample must be stated on the soil test result.

(c) Notwithstanding sub-paragraph (a), all occupiers of holdings that have a previous year grassland stocking rate of 130 kg N/ha or above prior to export of livestock manure, shall take soil tests and shall assume Phosphorous Index 4 until soil tests are taken.

(d) Notwithstanding sub-paragraph (a), new entrants or those subject to stocking rate alterations with an actual or projected current year grassland stocking rate of 130 kg N/ha or above prior to export of livestock manure, shall take soil tests and shall assume Phosphorous Index 4 until soil tests are taken.

(e) Notwithstanding sub-paragraph (a), all arable land shall be subject to soil tests and Phosphorous Index 4 shall be assumed until soil tests are taken.

(f) Notwithstanding sub-paragraph (a), occupiers that are not subject to sub paragraphs (b), (d) and (e), and do not have a soil test, the phosphorous index for soil shall be deemed to be Phosphorous Index 3.

(g) The soil test to be taken into account for the purposes of sub-paragraphs (a), (c), (d) and (e) in relation to soil shall, subject to paragraph (h), be the soil test most recently taken in relation to that soil.

(h) Where a period of four years or more has elapsed after the taking of a soil test, the results of that test shall be disregarded for the purposes of paragraphs (a), (c), (d) and (e) except in a case where that soil test indicates the soil to be at Phosphorus Index 4.

(i) The phosphorus fertilisation rate for soils with more than 20% organic matter shall not exceed the amounts permitted for Phosphorus Index 3 soils, subject to the provisions of paragraph (j).

(j) For the purposes of sub-paragraph (i), soils shall be deemed to have an organic matter content of 20% as defined on a Teagasc-EPA Indicative Soils map unless otherwise determined in soil tests carried out in accordance with Schedule 1.

(k) For the purposes of sub-paragraph (j), a soil test result determining organic matter content will be valid for 12 years following sampling.

(5) Without prejudice to the generality of sub-article (1) and subject to sub- article (6), the amount of available nitrogen or available phosphorus applied to promote the growth of a crop specified in Table 13, 15a, 16, 17, 18, 19, 22, 21, 22 or 23 of Schedule 2 shall not exceed the amount specified in the table in relation to that crop having regard to the relevant nitrogen index or phosphorus index, as the case may be, for the soil on which the crops are to be grown. In the case of crops not identified in the tables listed above, fertilisers shall be applied in accordance with Teagasc guidance as approved by the Minister for Agriculture, Food and the Marine.

(6) Increased phosphorus build-up on grassland on farms with grassland stocking rates of 130 kg nitrogen per hectare and above shall only be permitted in accordance with the rates contained in Table 15b provided that the following conditions are met—

(a) a soil test is carried out for soil phosphorus and soil organic matter contents; Soils must be deemed to have an organic matter content of 20% as defined on a Teagasc-EPA Indicative Soils map unless otherwise determined in soil tests carried out in accordance with this article.

(b) an occupier availing of the phosphorus build-up programme must engage the services of a Department of Agriculture, Food and the Marine approved Farm Advisory System adviser.

(c) a detailed farm nutrient management plan for the holding must be submitted in a format specified by the Minister for Agriculture, Food and the Marine.

(d) the occupier must participate in an appropriate training programme specified by the Minister for Agriculture, Food and the Marine for the purpose of meeting the requirements of these regulations.

(7) In the case of a holding on which grazing livestock are held, the amount of available phosphorus supplied to the holding by concentrated feedstuff shall be the amount fed to such livestock in excess of 300 kg per 92 kg of livestock manure nitrogen in the previous calendar year and the phosphorus content of such concentrated feedstuff shall, in the absence of a known phosphorus content or phosphorus content provided by the supplier, be deemed to be 0.5 kg phosphorus in respect of each 100 kg of such concentrated feedstuff.

(8) The nitrogen and phosphorus maximum rates in Tables 13, 15a, 15b, 16 and 17 are in addition to the nitrogen and phosphorus contained in grazing livestock manure produced on the holding.

(9) All new perennial rye grass (Lolium perenne) based reseeds on farms shall incorporate at least 1.5 kg/ha of naked clover seed or at least 2.5 kg/ha of pelleted clover seed, except in the case of land that is being reseeded for grazing by equines.

PART 4

PREVENTION OF WATER POLLUTION FROM FERTILISERS AND CERTAIN ACTIVITIES

Distances from a water body and other issues

18. (1) Chemical fertiliser shall not be applied to land within 3 m of any surface waters.

(2) Organic fertiliser or soiled water shall not be applied to land within—

(a) 200 m of the abstraction point of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 100 m^3 or more of water per day or serving 500 or more persons,

(b) 100 m of the abstraction point (other than an abstraction point specified in paragraph (a)) of any surface waters, borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10 m^3 or more of water per day or serving 50 or more persons,

(c) 25 m of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (a) or (b),

(d) 20 m of a lake shoreline or a turlough likely to flood,

(e) 15 m of exposed cavernous or karstified limestone features (such as swallow-holes and collapse features),

(f) subject to sub-article (12), 5 m of any surface waters (other than a lake or surface waters specified at paragraph (a) or (b)), or

(g) the distance specified in sub-article (2)(f) shall be increased to 10 m for a period of two weeks preceding and two weeks following the periods specified in Schedule 4.

(h) notwithstanding sub-article (2)(f), organic fertiliser or soiled water shall not be applied to land within 10 m of any surface waters where the land has an average incline greater than 10% sloping towards water.

(3) Notwithstanding the requirements of sub-articles (2)(a), (2)(b) and (2)(c), organic fertiliser or soiled water may be applied to land within—

(a) 30 m from the abstraction point in the case of any surface waters, bore-hole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10 m3 or more of water per day or serving 50 or more persons, or

(b) 15 m from the abstraction point in the case of any borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified in paragraph (a),

where the provisions of sub-article (4) are complied with.

(4) Organic fertiliser or soiled water may only be applied to land in accordance with sub-article (3) where a local authority, Uisce Éireann, or other water supplier (as the case may be) has completed a technical assessment of conditions in the vicinity of the abstraction point, including taking into account variation in soil and subsoil conditions, the landspreading pressures in the area, the type of abstraction, available water quality evidence and the likely risk to the water supply source and the local authority, in consultation with Uisce Éireann or other water supplier, where relevant, has determined that the distance does not give rise to a risk to the water supply and a potential danger to human health.

(5) A local authority may, following consultation with Uisce Éireann, or another water supplier, where relevant, decide to apply the landspreading restriction to the upstream catchment area and to the close proximity downstream of the abstraction point in the case of any surface waters.

(6) A local authority may, in the case of any particular abstraction point and following consultation with the Agency and, where relevant, Uisce Éireann, or other water supplier, specify a greater distance than that specified in sub-articles (2) or (3) where, following prior investigations by Uisce Éireann or other water supplier or the local authority (as the case may be), the local authority is satisfied that such distance is appropriate for the protection of waters being abstracted at that point. The distance so specified shall be determined by the local authority using an evidence-based approach which takes into account the natural vulnerability of the waters to contamination from land spreading, the potential risk to human health arising from the landspreading activity as well as the water quality evidence, including information on water quality trends.

(7) Notwithstanding the provisions of sub-articles (2), (3) and (6), a local authority shall, following prior investigations by Uisce Éireann or other water supplier or the local

authority (as the case may be) and following consultation with the Agency and, where relevant, Uisce Éireann or other water supplier, specify an alternative distance, including a landspreading exclusion area where necessary, in the case of a water abstraction for human consumption in a scheme supplying 10 m3 or more of water per day, or serving 50 or more persons, within a timeframe to be agreed with the Agency and, where relevant, Uisce Éireann or other water supplier, where—

(a) on the basis of the results of monitoring carried out for the purposes of Article 7 of the European Communities (Drinking Water) Regulations 2023 (S.I. No. 99/2023), the quality of water intended for human consumption does not meet the parametric values specified in Part I of the Schedule of those Regulations or the quality of water constitutes a potential danger to human health, and it appears to the local authority following consultation with the Agency and, where relevant, Uisce Éireann or other water supplier, that this is due to the landspreading of organic fertilisers or soiled water in the vicinity of the abstraction point, or

(b) investigations undertaken by Uisce Éireann or other water supplier as part of the management of a water supply scheme indicate that the landspreading activity presents a significant risk to the drinking water supply or a potential danger to human health having regard to catchment factors in the vicinity of the abstraction point including but not limited to slope, vulnerability, and hydrogeology, the scale and intensity of land spreading pressures, the type of water supply source and water quality evidence, including information on water quality trends.

(8) A distance specified by a local authority in accordance with sub-articles (3), (5), (6) and (7) may be described as a distance or distances from an abstraction point, a hydrogeological boundary or topographical feature or as an area delineated on a map or in such other way as appears appropriate to the authority.

(9) In relation to sub-articles (6) and (7), "prior investigations" means, in relation to an abstraction point, an assessment of the susceptibility of waters to contamination in the vicinity of the abstraction point having regard to—

(a) the direction of flow of surface water or groundwater, as the case may be,

(b) the slope of the land and its runoff potential,

(c) the natural geological and hydrogeological attributes of the area including the nature and depth of any overlying soil and subsoil and its effectiveness in preventing or reducing the entry of harmful substances to water, and

(d) where relevant, the technical specifications set out in the document "Groundwater Protection Schemes" published in 1999 (ISBN 1-899702-22-9) or any subsequent published amendment of that document.

(10) Where a local authority specifies a distance in accordance with either of sub-articles (3), (5), (6) or (7) the authority shall, as soon as may be—

(a) notify the affected landowners, Uisce Éireann or other water supplier, the Agency and the Department of Agriculture, Food and the Marine of the distance so specified,

(b) send to the Agency a summary of the report of any investigations undertaken and the reasons for specifying the alternative distance,

(c) make an entry in the register maintained in accordance with Article 31(6), and

(d) publish and maintain on the local authority website an updated schedule of setback distances specified for each drinking water supply.

(11) The Agency may issue advice or direction to Uisce Éireann, or another water supplier or a local authority in relation to any requirements including requirements for technical assessments and prior investigations arising under sub-articles (2), (3), (4), (5), (6), (7), (8) or (9) and Uisce Éireann, or other water supplier or a local authority (as the case may be) shall comply with any such advice or direction given.

(12) Where farmyard manure is held in a field prior to landspreading it shall be held in a compact heap and shall not be placed within—

(a) 250 m of the abstraction point of any surface waters or borehole, spring or well used for the abstraction of water for human consumption in a water scheme supplying 10 m^3 or more of water per day or serving 50 or more persons,

(b) 50 m of any other borehole, spring or well used for the abstraction of water for human consumption other than a borehole, spring or well specified at paragraph (a),

(c) 20 m of a lake shoreline or a turlough likely to flood,

(d) 50 m of exposed cavernous or karstified limestone features (such as swallow-holes and collapse features),

(e) 20 m of any surface waters (other than a lake or surface waters specified at paragraph (a)).

(13) Organic fertiliser shall not be held in a field at any time during the periods specified in Schedule 4 as applicable to that substance.

(14) Where there is inadequate facilities for the collection and storage of any potential effluent from silage bales, bales may only be stored at a maximum height of two bales, and at least 20 m from surface water or a drinking water abstraction point.

(15) No cultivation shall take place within 3 m of a watercourse identified on the modern 1:5,000 scale Tailte Éireann mapping or better, except in the case of grassland establishment or the sowing of grass crops.

(16) Supplementary feeding points shall not be located within 20 m of waters and shall not be located on bare rock.

(17) In the case of livestock holdings with a previous year grassland stocking rate of 170 kg nitrogen per hectare from livestock manure or above prior to export of livestock manure, bovines shall not be permitted to drink directly from watercourses identified on the modern 1:5,000 scale Tailte Éireann mapping or better. Where bovines are present on such a holding, in the absence of a physical barrier preventing bovine access within 1.5 m of a watercourse, a fence shall be placed at least 1.5 m from the top of the riverbank, as measured from the bankfull point, or in the absence of a riverbank at least 1.5 m from the water's edge. It will be permissible to move livestock across a watercourse to an isolated land parcel where necessary, provided that both sides of the watercourse are fenced.

(18) In the case of holdings identified in sub-article (17), supplementary drinking points shall not be located within 20 m of surface waters.

(19) There shall be no direct runoff of soiled water from farm roadways to waters. The occupier of a holding shall comply with any specification for farm roadways specified by the Minister for Agriculture, Food and the Marine pursuant to this requirement.

(20) There shall be no direct runoff of soiled waters to waters resulting from the poaching of land on the holding.

(21) For late harvested crops, a minimum uncultivated buffer of 6 m shall be put in place to protect any intersecting watercourses.

Requirements as to manner of application of fertilisers, soiled water etc.

19. (1)(a) Livestock manure, other organic fertilisers, effluents, soiled water and chemical fertilisers shall be applied to land in as accurate and uniform a manner as is practically possible.

(b) Low emission slurry spreading equipment shall be used for the application of slurry on holdings with a previous year's grassland stocking rates of 100 kg nitrogen per hectare from grazing livestock manure or above prior to export of livestock manure from the holding.

(c) Low emission slurry spreading equipment shall be used for the application of slurry produced by pigs on any holding.

(d) Low emission slurry spreading equipment shall be used for the application of slurry to arable land unless the slurry shall be incorporated into the soil within 24 hours.

(e) Notwithstanding sub-paragraph (b), where for operator health and safety reasons it would be inappropriate to comply with that requirement due to land within a grassland parcel sloping steeply, it is permitted to spread cattle slurry close to the ground using a downward-facing splashplate. In this scenario, the occupier must keep a record of such spreading including the LPIS number and the spreading date(s).

(2) Organic and chemical fertilisers or soiled water shall not be applied to land in any of the following circumstances—

(a) the land is waterlogged,

(b) the land is flooded or likely to flood,

(c) the land is snow-covered or frozen,

(d) heavy rain is forecast within 48 hours, or

(e) the ground is sloping steeply and there is a risk of water pollution having regard to factors such as surface runoff pathways, the presence of land drains, the absence of hedgerows to mitigate surface flow, soil condition and ground cover.

(3) A person shall, for the purposes of sub-article (2)(d), have regard to weather forecasts issued by Met Éireann.

(4) Organic fertilisers or soiled water shall not be applied to land—

(a) by use of an umbilical system with an upward-facing splashplate,

(b) by use of a tanker with an upward-facing splashplate,

(c) by use of a sludge irrigator mounted on a tanker, or

(d) from a road or passageway adjacent to the land irrespective of whether or not the road or passageway is within or outside the curtilage of the holding.

(5) Subject to sub-article (6), soiled water shall not be applied to land—

(a) in quantities which exceed in any period of 42 days a total quantity of 50,000 litres per hectare, or

(b) by irrigation at a rate exceeding 5 mm per hour.

(6) In an area which is identified on maps compiled by the Geological Survey of Ireland as "Extreme Vulnerability Areas on Karst Limestone Aquifers", soiled water shall not be applied to land—

(a) in quantities which exceed in any period of 42 days a total quantity of 25,000 litres per hectare, or

(b) by irrigation at a rate exceeding 3 mm per hour unless the land has a consistent minimum thickness of 1m of soil and subsoil combined.

(7) For the purposes of sub-article (6), it shall be assumed until the contrary is shown that areas so identified as "Extreme Vulnerability Areas on Karst Limestone Aquifers" do not have a consistent minimum thickness of 1 m of soil and subsoil combined.

Periods when application of fertilisers is prohibited

20. (1) Subject to this article, the application of fertiliser to land is prohibited during the periods specified in Schedule 4.

(2) Sub-article (1) shall not apply in relation to the application to land of—

(a) soiled water, subject to Article 5(3), or

(b) chemical fertilisers to meet the crop requirements of Autumn- planted cabbage or of crops grown under cover, or

(c) fertilisers whose application rate or usage rate is less than 1 kg per hectare of available nitrogen or phosphorus.

Limits on the amount of livestock manure to be applied

21. (1) The amount of livestock manure applied in any year to land on a holding, together with that deposited to land by livestock, shall not exceed an amount containing 170 kg of nitrogen per hectare. The amount considered to be applied to commonage shall not exceed 50 kg of nitrogen per hectare.

(2) For the purposes of sub-article (1), the amount of nitrogen produced by livestock and the nitrogen content of livestock manure shall be calculated in accordance with Tables 7, 8 and 9 of Schedule 2 except in the case of pig manure or poultry manure where a different amount is specified in a certificate issued in accordance with Article 33 in relation to that manure.

(3) For the purposes of sub-article (1), the area of a holding shall be deemed to be the eligible area of the holding.

Ploughing and the use of non-selective herbicides

22. (1) Where arable land is ploughed between 1 July and 30 November the necessary measures, shall be taken within 14 days of ploughing to provide for emergence of green cover from a sown crop. A rough surface shall be maintained prior to a crop being sown in the case of lands ploughed between 1 December and 15 January.

(2) Where grassland is ploughed between 1 July and 15 October the necessary measures shall be taken within 14 days of ploughing to provide for emergence of green cover from a sown crop.

(3) Grassland shall not be ploughed between 16 October and 30 November.

(4) (a) When a non-selective herbicide is applied to arable land or to grassland in the period between 1 July and 30 November the necessary measures shall be taken to provide for the emergence of green cover, within 6 weeks of that application.

(b) When a non-selective herbicide is applied to land after 15 October, the requirement in sub-article 4 (a) shall be reduced to 75% of the relevant cereal area where a contract is in place for a cereal crop which prohibits the application of a non-selective herbicide pre-harvest.

(5) Where green cover is provided for in compliance with this article, the cover shall not be removed by ploughing or by the use of a non-selective herbicide before 1 December unless a crop is sown within two weeks of its removal.

(6) In the case of land which is ploughed in the course of a ploughing competition under the auspices of the National Ploughing Association, a temporary exemption applies in the form of an extension to the time period specified in sub-article (1) or (2) for establishment of green cover after the land is ploughed.

PART 5
GENERAL

General duty of occupier

23. (1) An occupier of a holding shall ensure compliance with the provisions of these Regulations in relation to that holding.

(2) An occupier of a holding shall comply with any advice and/or directions which may be issued from time to time for the purposes of these Regulations by the Minister, the Minister for Agriculture, Food and the Marine or the Agency.

Keeping of records by occupier

24. (1) Records shall be maintained for each holding which shall indicate—

(a) total area of the holding,

(b) eligible area of the holding,

(c) cropping regimes and their individual areas,

(d) livestock numbers and type,

(e) an estimation of the annual fertiliser requirement for the holding and a copy of any Nutrient Management Plan prepared in relation to the holding,

(f) quantities and types of chemical fertilisers and lime moved on to or off the holding, including opening stock, records of purchase and closing stock as declared on the National Fertiliser Database,

(g) the results of any soil tests carried out in relation to the holding,

(h) the nature and capacity of facilities on the holding for the storage of livestock manure and other organic fertilisers, soiled water and effluents from dungsteads, farmyard manure pits, silage pits or silage clamps, including an assessment of compliance with Articles 9 to 14,

(i) the quantities and types of concentrate feedstuff to grazing livestock on the holding, and

(j) the location of any abstraction point of water used for human consumption from any surface waters, borehole, spring or well.

(2) Where organic fertiliser(s) are being moved off a holding or from a legal entity for the purpose of being applied to agricultural land, the nutrient exporter must notify the movement to the Department of Agriculture, Food and the Marine within a four day period of when the movement took place and in a format prescribed by the Minister for Agriculture Food and the Marine.

(3) In accordance with sub-article (2), an occupier must verify receipt of the organic fertiliser(s) to the Department of Agriculture, Food and the Marine in the manner prescribed by 14 July of each calendar year for organic fertilisers received in the period between 1 January and 30 June of each calendar year and by 14 January of the following year for organic fertiliser(s) received in the period between 1 July and 31 December of each calendar year.

(4) Where fertiliser is used on a holding and a certificate of the type mentioned in Article 15 or 21 was issued in relation to that fertiliser in accordance with Article 33, a copy of the certificate shall be retained and be available for inspection on the holding for a period of not less than five years from the expiry of validity of the certificate.

(5) Records shall be prepared for each calendar year by 14 February of the following year and—

(a) shall be retained for a period of not less than five years, or

(b) in the case of an organic matter test result, records shall be retained for a period of not less than 12 years.

(6) Notwithstanding sub-paragraphs (1), (2), (3), (4) and (5) an occupier shall, where requested by the Minister, the Minister for Agriculture, Food and the Marine, a local authority or the Agency, provide such information as is requested relating to the movement of organic fertilisers on or off the holding or to or from a legal entity.

(7) For the calculation of excretion rate bands—

(a) A milk producer shall maintain records of all milk deliveries to milk purchasers from that holding over the previous three calendar years, and shall make available, on an annual basis, to the Minister for Agriculture, Food and the Marine, or any third party certified by the Minister for Agriculture, Food and the Marine such records in order to determine the excretion rates of dairy cows on the holding in accordance with Table 7 and Table 7a of Schedule 2.

(b) If the record of all milk delivered to milk purchaser on an annual basis over the previous three calendar years from a holding is not submitted to the Minister for Agriculture, Food and the Marine, or a third party certified by the Minister for Agriculture, Food and the Marine, by 15 May of any year, the designation of that occupier's herd will be assigned, by default, to the highest excretion rate band as set out in Table 7 of Schedule 2 for that year, or until the occupier submits information to the satisfaction of the Minister for Agriculture, Food and the Marine confirming a different excretion rate band as set out in Table 7 of Schedule 2 is appropriate for their herd.

False or misleading information

25. A person shall not compile information which is false or misleading to a material extent or furnish any such information in any notice or other document for the purposes of these Regulations.

Authorised person

26. (1) In this article, "authorised person" means—

(a) a person who is an authorised person for the purposes of section 28 of the Local Government (Water Pollution) Act, 1977 (No. 1 of 1977), or

(b) a person appointed under sub-article (11) to be an authorised person for the purposes of these Regulations.

(2) An authorised person may for any purpose connected with these Regulations—

(a) enter and inspect any premises for the purposes of performing a function under these Regulations or of obtaining any information which he or she may require for such purposes,

(b) at all reasonable times, or at any time if he or she has reasonable grounds for believing that there is or may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, arising from the carrying on of an activity at a premises, enter any premises and bring onto those premises such other persons (including a member of the Garda Síochána) or equipment as he or she may consider necessary, or

(c) at any time if he or she has reasonable grounds for suspecting there may be a risk to the environment, or that an offence under these Regulations is being or is about to be committed, involving the use of any vehicle halt and board the vehicle and require the driver of the vehicle to take it to a place designated by the authorised person, and such a vehicle may be detained at that place by the authorised person for such period as he or she may consider necessary.

(3) An authorised person shall not enter into a private dwelling under this article unless one of the following conditions applies—

(a) the entry is effected with the consent of the occupier, or

(b) the entry is authorised by a warrant issued under sub-article (7).

(4) Whenever an authorised person enters any premises or boards any vehicle, under this article, he or she may—

(a) take photographs and carry out inspections, record information on data loggers, make tape, electrical, video or other recordings,

(b) carry out tests and make copies of documents (including records kept in electronic form) found therein and take samples,

(c) monitor any effluent, including trade effluent or other matter, which is contained in or discharged from a premises,

(d) carry out surveys, take levels, make excavations and carry out examinations of depth and nature of subsoil,

(e) require that the premises or vehicle or any part of the premises or anything in the premises or vehicle shall be left undisturbed for a specified period,

(f) require information from an occupier of the premises of any occupant of the vehicle or any person employed on the premises or any other person on the premises,

(g) require the production of, or inspect, records (including records held in electronic form) or documents, or take copies of or extracts from any records or documents, and

(h) remove and retain documents and records (including documents held in electronic form) for such period as may be reasonable for further examination, which the authorised person, having regard to all the circumstances, considers necessary for the purposes of exercising any function under these Regulations.

(5) (a) An authorised person who, having entered any premises or boarded any vehicle pursuant to these Regulations, considers that a risk to the environment arises from the carrying on of an activity at the premises or involving the use of the vehicle, may direct the owner or occupier of the premises or the driver of the vehicle to take such measures as are considered by that authorised person to be necessary to remove that risk.

(b) If the owner, occupier or driver referred to in paragraph (a) fails to comply with a direction of an authorised person under this subsection, the authorised person may do all things as are necessary to ensure that the measures required under the direction are carried out and the costs incurred by him or her in doing any such thing shall be recoverable from the owner or occupier by him or her, or the person by whom he or she was appointed.

(6) A person shall not—

(a) refuse to allow an authorised person to enter any premises or board any vehicle or to bring any person or equipment with him or her in the exercise of his or her powers,

(b) obstruct or impede an authorised person in the exercise of any of his or her powers,

(c) give to an authorised person information which is to his or her knowledge false or misleading in a material respect, or

(d) fail or refuse to comply with any direction or requirement of an authorised person.

(7) (a) Where an authorised person in the exercise of his or her powers under this article is prevented from entering any premises, or if the authorised person has reason to believe that evidence related to a suspected offence under these Regulations may be present in any premises and that the evidence may be removed therefrom or destroyed, or if the authorised person has reason to believe that there is a significant immediate risk to the environment, the authorised person or the person by whom he or she was appointed may apply to the District Court for a warrant under this article authorising the entry by the authorised person onto or into the premises.

(b) If, on application being made to the District Court under this article, the District Court is satisfied, on the sworn information of the authorised person that he or she has been prevented from entering a premises, the Court may issue a warrant authorising that person, accompanied, if the Court deems it appropriate by another authorised person or a member of the Garda Síochána, as may be specified in the warrant, at any time or times within one month from the date of the issue of the warrant, on production if so requested of the warrant, to enter, if need be by force, the premises concerned and exercise the powers referred to in sub-article (4) or (5).

(8) An authorised person may, in the exercise of any power conferred on him or her by these Regulations involving the bringing of any vehicle to any place, or where he or she anticipates any obstruction in the exercise of any other power conferred on him or her by these Regulations, request a member of the Garda Síochána to assist him or her in the

exercise of such a power and any member of the Garda Síochána to whom he or she makes such a request shall comply with this request.

(9) Any certificate or other evidence given, or to be given, in respect of any test, examination or analysis of any sample shall, in relation to that sample, be evidence, without further proof, of the result of the test, examination or analysis unless the contrary is shown.

(10) When exercising any power conferred on him or her by these Regulations an authorised person shall, if requested by any person affected, produce a certificate or other evidence of his or her appointment as an authorised person.

(11) A person may be appointed as an authorised person for the purposes of these Regulations by the Minister, the Minister for Agriculture, Food and the Marine or the Agency.

(12) In this article "premises" includes land whether or not there are any structures on the land.

Offences and related matters

27. (1) A person who contravenes a provision of Parts 2 to 5, excluding Article 18(5), (6), (7), (10) and (11), is guilty of an offence and shall be liable—

(a) on summary conviction to a Class A fine or to imprisonment for a term not exceeding 3 months or both, or

(b) on conviction on indictment to a fine not exceeding €500,000 or to imprisonment for a term not exceeding one year or to both such fine and such imprisonment.

(2) Where an offence under these Regulations has been committed by a body corporate and it is proved to have been so committed with the consent or connivance of or to be attributable to any neglect on the part of any person who, when the offence was committed, was a director, manager, secretary or other officer of the body corporate, or a person purporting to act in any such capacity, that person, as well as the body corporate, is guilty of an offence and liable to be proceeded against and punished as if guilty of the first-mentioned offence.

(3) Where the affairs of a body corporate or unincorporated body are managed by its members, sub-article (2) shall apply to the acts and defaults of a member in connection with the functions of management as if such a member were a director or manager of the body.

(4) A prosecution for a summary offence under these Regulations may be taken by a local authority or the Agency.

(5) A prosecution for a summary offence may be taken by a local authority whether or not the offence is committed in the functional area of the authority.

(6) Where a court imposes a fine or affirms or varies a fine imposed by another court for an offence under these Regulations, prosecuted by the Agency or a local authority, it shall, on the application of the Agency or local authority concerned (made before the time of such imposition, affirmation or variation), provide by order for the payment of the amount of the fine to the Agency or local authority, as the case may be, and such payment may be enforced by the Agency or local authority, as the case may be, as if it were due to it on foot of a decree or order made by the court in civil proceedings.

(7) Where a person is convicted of an offence under these Regulations the court shall, unless it is satisfied that there are special and substantial reasons for not so doing, order that person to pay to the Agency or local authority concerned the costs and expenses,

measured by the court, reasonably incurred by the Agency or local authority in relation to the investigation, detection and prosecution of the offence, including costs incurred in the taking of samples, the carrying out of tests, examinations and analyses and in respect of the remuneration and other expenses of employees, consultants and advisers.

(8) (a) Where a local authority has reason to believe that an offence has been or is being committed in relation to a holding the authority may by notice require the person who appears to the authority to be the occupier to provide such information as is specified in the notice in relation to the alleged offence and it shall be the duty of that person to provide such information within the time frame specified in the notice insofar as is known to him or her.

(b) A notice issued in accordance with paragraph (a) shall set out the provisions of Articles 23(1) and 25 and of sub-article (1).

(9) Where a local authority considers that an offence under these Regulations has been or is being committed in relation to a holding the authority shall take such enforcement measures as are warranted by the circumstances and as are necessary to ensure satisfactory compliance with these Regulations and which, save in the case of a trivial or insignificant offence or specific mitigating circumstances, shall include prosecution for the alleged offence.

(10) (a) Where on application by motion by the Agency or a local authority to the District Court, Circuit Court or the High Court, the court hearing the application is satisfied that a person has failed or is failing to comply with a provision of Parts 2 to 5 of these Regulations, the court may by order—

(i) direct the person to comply with the provisions,

(ii) make such other provision, including provision in relation to the payment of costs, as the court considers appropriate, and

(iii) make such interim or interlocutory order as it considers appropriate.

(b) An application for an order under this article may be made whether or not there has been a prosecution for an offence under these Regulations in relation to the relevant failure of compliance and shall not prejudice the initiation of a prosecution for an offence under these Regulations in relation to the failure of compliance.

(11) The powers, duties and functions assigned to a local authority or the Agency by this article are additional to, and not in substitution for, the powers, duties and functions assigned by the Local Government (Water Pollution) Acts 1977 and 1990 or any other statute.

(12) A local authority shall maintain a register of inspections undertaken of farm holdings and information received for the purposes of Article 27(8) and shall keep updated a record of all enforcement measures undertaken in accordance with the requirements of Article 27(9) and Article 30(6).

PART 6

FUNCTIONS OF PUBLIC AUTHORITIES

Minister for Agriculture, Food and the Marine

28. (1) The Minister for Agriculture, Food and the Marine shall carry out, or cause to be carried out, such monitoring and evaluation programmes in relation to farm practices as may be necessary to determine the effectiveness of measures being taken in accordance with these Regulations.

(2) The Minister for Agriculture, Food and the Marine shall, in relation to each year, make the overall results of monitoring and evaluations carried out in accordance with sub-article (1) available to the Agency, to the Minister and, on request, to a local authority.

(3) The Minister for Agriculture, Food and the Marine shall prepare and keep updated a register of all holdings and shall, on request, make a copy of the register available to the Minister, the Agency or a local authority.

(4) The Minister for Agriculture, Food and the Marine shall make available to the Minister, a local authority or the Agency a report of an inspection or inspections carried out for the purposes of these Regulations or upon written request other information in relation to any holding or holdings as the case may be where such transfer of data is necessary for the purposes of ensuring compliance with these Regulations.

(5) The Minister for Agriculture, Food and the Marine shall make available, upon written request, information in relation to any holding or holdings, as the case may be, where such transfer of data is necessary for the purposes of carrying out any functions set out in these regulations, including for the purpose of promoting compliance with these Regulations. Such information may be requested by the following—

(a) the Minister,

(b) an individual local authority,

(c) a representative local authority under a local authority shared service established for the purpose of carrying out functions set out in these regulations including for the purpose of promoting compliance with these Regulations,

(d) Teagasc for the purpose of promoting compliance with these Regulations,

(e) the Agency,

(f) A third party may be certified to provide a service for the Minister for Agriculture, Food and the Marine in the provision of data in order for the Minister for Agriculture, Food and the Marine to monitor and evaluate compliance with Article 21 and Table 7. The third party shall then confirm the banding of each respective dairy herd to the occupier of the holding and the Minister for Agriculture, Food and the Marine.

(6) The Minister for Agriculture, Food and the Marine shall ensure compliance with the Data Sharing and Governance Act, No. 5 of 2019 in making available any information under sub-article (5) above.

Making and review of action programme by the Minister

29. (1) The Minister shall, following consultation with the Minister for Agriculture, Food and the Marine and other interested parties in accordance with this article, prepare and publish not later than 31 December 2028, a programme of measures (hereafter in this article referred to as "an action programme") for the protection of waters against pollution from agriculture.

(2) An action programme required by sub-article (1) shall include all such measures as are necessary for the purposes of Article 5 of the Nitrates Directive and shall contain a review of the action programme most recently made for those purposes and of such additional measures and reinforced actions as may have been taken.

(3) The Minister shall ensure that all interested parties are given early and effective opportunities to participate in the preparation, review and revision of an action programme required by this article and for this purpose shall—

(a) inform interested parties by public notices or other appropriate means including electronic media, in relation to any proposals for the preparation, review or revision of an action programme,

(b) make available to interested parties information in relation to the proposals referred to in paragraph (a) including information about the right to participate in decision-making in relation to those proposals,

(c) provide an opportunity for comment by interested parties before any decision is made on the establishment, review or revision of an action programme,

(d) in making any such decision, take due account of the comments made by interested parties and the results of the public participation, and

(e) having examined any comments made by interested parties, make reasonable efforts to inform those parties of the decisions taken and the reasons and considerations on which those decisions are based, including information on the public participation process.

(4) The Minister shall ensure that such reasonable time is allowed as is sufficient to enable interested parties to participate effectively.

(5) Where the Minister publishes any information in accordance with this article, the Minister shall—

(a) do so in such manner as the Minister considers appropriate for the purpose of bringing that information to the attention of the public, and

(b) make copies of that information accessible to interested parties free of charge through a website or otherwise.

(6) The Minister shall specify by way of public notice on a website or otherwise the detailed arrangements made to enable public participation in the preparation, review or revision of an action programme, including—

(a) the address to which comments in relation to those proposals may be submitted, and

(b) the date by which such comments should be received.

(7) In this Article "interested parties" includes persons who—

(a) are carrying on any business which relies upon the water environment or which is affected, or likely to be affected, by the action programme, or

(b) are carrying on any activities which have or are likely to have an impact on water status, or

(c) have an interest in the protection of the water environment whether as users of the water environment or otherwise.

Agency

30. (1) The Agency shall prepare at four-yearly intervals a report in accordance with Article 10 of the Nitrates Directive and shall submit such report to the Minister.

(2) The Agency and Teagasc shall undertake assessments of the effectiveness of measures being implemented through the Sixth Nitrates Action Programme, in relation to achieving water quality outcomes, and shall submit a report or reports to the Minister by 1 October 2027 with the results of that assessment and with recommendations as to such additional measures, if any, as appear to be necessary to prevent and reduce water pollution from agricultural sources. In preparing the reports required under sub-articles (1) and (2) the Agency shall consult with the Department of Agriculture, Food and the Marine and the coordinating local authority in each river basin district, and such other persons as it considers appropriate.

(3) The Department of Agriculture, Food and the Marine, the relevant local authorities, Uisce Éireann, and other water suppliers shall provide the Agency with such information appropriate to their functions as may be requested by the Agency for the purposes of these Regulations.

(4) Each monitoring programme prepared by the Agency for the purposes of Article 10 of European Communities (Water Policy) Regulations, 2003 (S.I. No. 722 of 2003) shall include provision for such monitoring as is necessary for the purposes of these Regulations.

(5) The Agency shall make recommendations and shall, where considered necessary, give directions to each local authority in relation to the monitoring and inspections to be carried out, or other measures to be taken, by the authority for the purposes of these Regulations. The Agency may revise such recommendations and directions at such times thereafter as the Agency considers appropriate.

(6) The powers, duties and functions assigned to the Agency by these Regulations are additional to, and not in substitution for, the powers, duties and functions assigned to the Agency by section 63 of the Environmental Protection Agency Act, 1992 (No. 7 of 1992) or any other statute.

Local authorities

31. (1) A local authority shall carry out, or cause to be carried out, such monitoring of surface waters and groundwater at selected measuring points within its functional area as makes it possible to establish the extent of pollution in the waters from agricultural sources and to determine trends in the occurrence and extent of such pollution.

(2) A local authority shall carry out or cause to be carried out such inspections of farm holdings as is necessary for the purposes of these Regulations and shall aim to coordinate its inspection activities with inspections carried out by other public authorities.

(3) For the purposes of sub-article (2) a local authority shall aim to develop co-ordination arrangements with other public authorities with a view to promoting consistency of approach in inspection procedures and administrative efficiencies between public authorities and to avoid any unnecessary duplication of administrative procedures and shall have regard to any inspection protocol which may be developed by the Minister, following consultation with the Minister for Agriculture, Food and the Marine.

(4) A local authority shall, in the exercise of its functions for the purposes of these Regulations—

(a) consult to such extent as it considers appropriate with the Minister, the Minister for Agriculture, Food and the Marine, the Agency, Uisce Éireann and such other persons as it considers appropriate, and

(b) have full regard to any recommendations made, and comply with any direction given, to the authority by the Agency in accordance with Article 30.

(5) A local authority shall follow any protocol established by the Minister for furnishing a report of an inspection or inspections to the Department of Agriculture, Food and the Marine and such other persons as it considers appropriate for the purposes of these Regulations where non-compliance has been detected.

(6) A local authority shall maintain a register of all prior investigations carried out by the local authority itself or by Uisce Éireann or other water supplier within its jurisdiction, and distances specified, for the purposes of Article 18.

Compliance with Data Protection Acts

32. The provision of information by a local authority, the Agency or the Minister for Agriculture, Food and the Marine in accordance with Article 28, 30 or 31 of these Regulations shall not be a breach of the Data Protection Acts, 1988, 2003 and 2018.

Certificate in relation to nutrient content of fertiliser

33. (1) A certificate of the type specified in Article 15 or 21 may be issued by a competent authority where the authority is satisfied that the nutrient content of the fertiliser in question has been assessed on the basis of appropriate methodologies based on net farm balance and is as specified in the certificate.

(2) A certificate issued under this Article shall be valid for such period, not exceeding twelve months, as shall be specified in the certificate.

(3) In this article "competent authority" means—

(a) the Agency in relation to fertiliser arising in an activity in relation to which there is in force a licence under Part IV of the Act of 1992, and

(b) the Minister for Agriculture, Food and the Marine in relation to any other fertiliser.

(4) Notice of the methodologies used for the purposes of sub-article (1) shall be notified to the European Commission by the competent authority.

Exemption for exceptional circumstances for research

34. (1) A temporary exemption from a requirement of these Regulations may be granted to a person by the Agency or the Minister for Agriculture, Food and the Marine in the case of exceptional circumstances relating to research.

(2) A temporary exemption for the purposes of sub-article (1) shall be granted by way of certificate issued to the person carrying out the research by the Agency or the Minister for Agriculture, Food and the Marine and shall be subject to such conditions, if any, as are specified in the certificate.

(3) A certificate issued for the purposes of this article shall specify the nature, extent and duration of the exemption to which the certificate relates and a copy of the certificate shall be sent as soon as may be to the relevant local authority.

SCHEDULE 1

SOIL TEST

A soil test refers to the results of an analysis of a soil sample carried out by a soil-testing laboratory that meets the requirements of the Minister for Agriculture, Food and the Marine for this purpose.

The analysis for phosphorus and, where appropriate, organic matter content and soil pH, and the taking of soil samples shall be carried out in accordance with the procedures below.

Analysis for Phosphorus

The Morgan's extractable P test as detailed below shall be used to determine the Soil P Index.

Preparation of soil sample

The soil shall be dried at 40°C for at least 24 hours (longer if necessary to ensure complete drying) in a forced draught oven with moisture extraction facilities. It shall then be sieved through a 2 mm mesh screen to remove stones and plant debris. After thorough mixing, it shall be sub-divided to obtain a representative sample. Where large samples are received at the laboratory, the entire sample shall be dried and sieved prior to sub-sampling for analysis.

Morgan's extracting solution

Constituents— 1,400 ml of 40% NaOH in approximately 15 litres of water. Add 1,440 ml of glacial acetic acid. Make up to 20 litres with water and adjust pH to 4.8. The pH of the solution must be checked regularly and adjusted as necessary before use. A volume ratio of one part sieved soil to five parts of solution must be used, e.g. 6 ml of the prepared soil sample is extracted with a 30 ml volume of Morgan's extracting solution. The sample shall be shaken for 30 minutes to get a suitable mix and permit intended reaction, after which it is filtered through a No. 2 Whatman filter paper into vials for analysis. The filtered extract shall be analysed using standard laboratory techniques.

Results shall be reported in mg per litre.

Analysis of organic matter

Organic matter content shall be determined by loss on ignition.

Place a quantity of the prepared soil sample in an oven for 16 hours at 105°C. Remove and cool in a desiccator. Put approximately 4 g of this soil into a pre- weighed crucible and determine the weight of the soil (initial weight). Place in a muffle furnace at 500°C for 16 hours for ashing. Remove the crucible, cool in a desiccator and determine the weight of the ash (final weight).

The organic matter of the soil is the difference in weight between the initial and final weights expressed as a percentage of the initial weight.

Analysis of soil pH

Soil pH shall be determined by measuring pH in a soil:water suspension of 1:2 ratio. Place 10 ml of dried sieved soil and 20 ml of deionised water into a suitable container. Mix thoroughly and allow to stand for at least 10 minutes. Stir for 30 seconds, and allow to settle immediately before recording the pH on a meter calibrated using buffer solutions of pH 4.0 and 7.0

Soil Sampling Procedure

The soil sample shall be taken in accordance with the procedure as specified below—

a) Separate samples shall be taken from areas that are different in soil type, previous cropping history, slope, drainage or persistent poor yields.

b) The sampling area shall not exceed 4 hectares. Exceptionally, where soil types and cropping of lands were similar during the previous five years, a sample area of up to 5 hectares shall be deemed acceptable.

c) Any unusual spots such as old fences, ditches, drinking troughs, dung or urine patches or where fertiliser or lime has been heaped or spilled shall be avoided during sampling.

d) A field shall not be sampled for phosphorus until 3 months after the last application of any fertiliser containing this nutrient (chemical or organic).

e) A field shall not be sampled for soil pH until two years after the last application of ground limestone

f) The sampling pattern shown in the figure below shall be followed. A soil core shall be taken to the full 100 mm depth. 20 cores shall be taken from the sampling area and placed in the soil container to make up the sample. Ensure the container is full of soil.

g) The field and sample numbers shall be written/attached onto the soil container and the georeference(s) for each field or the LPIS number(s) for each parcel represented by the sample shall be submitted to the laboratory for inclusion on the sample's test result.

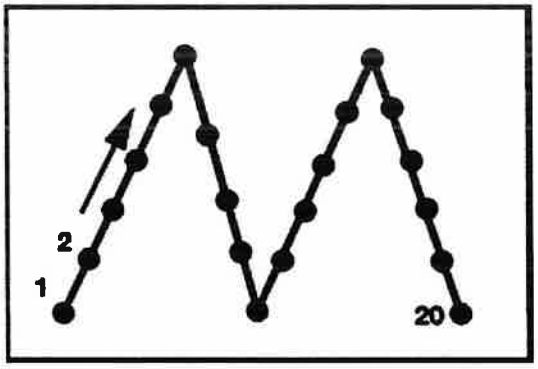

Figure 1: Sampling pattern

SCHEDULE 2

Article 8

CRITERIA AS TO STORAGE CAPACITY AND NUTRIENT MANAGEMENT

Table 1 Slurry storage capacity required for sows and pigs

Unit type	m^3/week[1]				
Water:meal ratio changing for finishers only	2.0:1	2.5:1	3.0:1	3.5:1	4.0:1
Breeding unit (per sow place)	-	-	-	-	0.174
Integrated unit (per sow place)	0.312	0.355	0.398	0.441	0.483

Finishing unit (per pig)	0.024	0.031	0.039	0.046	0.053

[1]An additional 200 mm freeboard must be provided in all covered tanks and 300 mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 2 Slurry storage capacity required for cattle, sheep and poultry

Livestock type	m^3/week[1]
Dairy cow	0.33[2]
Suckler cow	0.29
Cattle > 2 years	0.26
Cattle (18-24 months old)	0.26
Cattle (12-18 months old)	0.15
Cattle (6-12 months old)	0.15
Cattle (0-6 months old)	0.08
Lowland ewe	0.03
Upland ewe	0.02
Lamb-finishing	0.01
Poultry — layers per 1000 birds (30% DM)	0.81

[1]An additional 200 mm freeboard must be provided in all covered tanks and 300 mm freeboard in all uncovered tanks. Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.
[2]With effect from 1 October 2028 the slurry storage capacity required per dairy cow shall be 0.40 m^3/week.

Table 3 Soiled water storage capacity required for dairy cows

Livestock type	m^3/week[1, 2]
Dairy cow	0.21

[1]Soiled water which is stored together with slurry is deemed to be slurry.
[2]With effect from 1 October 2028 the soiled water storage capacity required per dairy cow shall be 0.30 m^3/week.

Table 4 Storage capacity required for dungstead manure

Livestock type	Solid fraction (m^3/week)	Seepage fraction (m^3 /week)[1]
Dairy cow	0.28	0.04
Suckler cow	0.25	0.03
Cattle > 2 years	0.23	0.02
Cattle (18-24 months old)	0.23	0.02
Cattle (12-18 months old)	0.13	0.01
Cattle (6-12 months old)	0.13	0.01
Cattle (0-6 months old)	0.07	0.01

[1]Allowance must also be made for net rainfall during the specified storage period for uncovered tanks.

Table 5 Average net rainfall during the specified storage period

County	Millimetres per week
Carlow	24
Cavan	27
Clare	32
Cork	37

Donegal	38
Dublin	17
Galway	34
Kerry	45
Kildare	18
Kilkenny	23
Laois	22
Leitrim	33
Limerick	26
Longford	23
Louth	20
Mayo	40
Meath	19
Monaghan	23
Offaly	20
Roscommon	26
Sligo	32
Tipperary	27
Waterford	31
Westmeath	21
Wexford	25
Wicklow	33

Article 9

Table 6 Storage capacity required for effluent produced by ensiled forage

Crop	Minimum storage requirement (m^3/100 tonnes)	
	Short Term Storage[1]	Full Storage
Grass	7	21
Arable silage	7	21
Maize	4	10
Sugar beet tops	15	50

[1]Only permitted where a vacuum tanker or an irrigation system is available on the holding.

Article 14 and 21

Table 7 Annual nutrient excretion rates for livestock

Livestock type	Total Nitrogen kg/year	Total Phosphorus kg/year
Dairy cow band 1[12]	80[5]	12
Dairy cow band 2[3]	92[5]	13.6
Dairy cow band 3[4]	106[5]	15.8
Suckler cow	65	10
Calf (0 to 90 days of age)	1[a]	0.1[a]
Cattle (aged 91 days and older for the remainder of the first year of life)	20[b]	2.8[b]
Cattle (female 1-2 years old)	55	8
Cattle (male 1-2 years old)	61	9

Cattle > 2 years[6]	65	10
Upland[7] ewe & her lambs	7	1
Lowland[8] ewe & her lambs	13	2
Upland[7] hogget	4	0.6
Lowland[8] hogget	6	1
Goat	9	1
Horse (>3 years old)	50	9
Horse (2-3 years old)	44	8
Horse (1-2 years old)	36	6
Horse foal (< 1 year old)	25	3
Donkey/small pony	30	5
Deer (red) 6 months-2 years	13	2
Deer (red) > 2 years	25	4
Deer (fallow) 6 months-2 years	7	1
Deer (fallow) > 2 years	13	2
Deer (sika) 6 months-2 years	6	1
Deer (sika) > 2 years	10	2
Breeding unit (per sow place)	35	8
Integrated unit (per sow place)	87	17
Finishing unit (per pig place)	9.2	1.7
Laying hen per bird place	0.56	0.12
Broiler per bird place	0.24	0.09
Turkey per bird place	1	0.4

[1] The Nitrogen and Phosphorus excretion rate of the dairy cow will be determined by the average milk yield per annum for the three preceding years or the year preceding the implementation of the respective band as explained in footnote 2, 3 and 4. For a new dairy entrant the dairy cow excretion rate band will be determined by the average milk yield for the year in question.

[2] <4,500 kg milk yield per annum.

[3] 4,500 – 6,500 kg milk yield per annum.

[4] >6,500 kg milk yield per annum.

[5] dairy cows in herds where the farmer has elected to limit the annual average crude protein in concentrate feed fed to dairy cows to a maximum of 15% or a value below this will be considered to have the annual nitrogen excretion rates set out in Table 7a.

[6] A cow on a non-milk producer holding shall be considered to be a suckler cow or a bovine >2 years.

[7] Upland includes Mountain and Pure Bred Mountain types.

[8] Lowland includes Lowland Cross, Mountain Cross, Lowland and Pure Bred Lowland types.

[a] Total applicable for the 90-day period.

[b] Total applicable for remainder of the animal's first year from 91 days of age onwards.

Table 7a Annual Nitrogen Excretion rates for Dairy Cows in herds where the farmer has elected to limit the annual average crude protein in concentrate feed fed to dairy cows to a maximum of 15% or a value below this.

Farmers who wish to avail of the nutrient excretion rates outlined below must elect to do so and provide records in a manner prescribed by the Minister for Agriculture, Food and the Marine.

	Nitrogen Excretion Rate kg/cow/year		
Dairy Cow Band for year	**Band 1[a]**	**Band 2 [a]**	**Band 3 [a]**
Average crude protein in concentrate feedstuff[b] fed to dairy cows for the year greater than 14% but less than or equal to 15%[c]	79	90	103
Average crude protein in concentrate feedstuff[b] fed to dairy cows for the year greater than 13% but less than or equal to 14% [c]	78	89	100
Average crude protein in concentrate feedstuff[b] fed to dairy cows for the year less than or equal to 13% [c]	76	87	98

[a] As set out in Table 7.

[b] Average crude protein in concentrate feedstuff is rounded to the nearest integer.

[c] Average crude protein is on an "as fed" basis. It shall be based on the average crude protein across all concentrate feed fed to dairy cows in the preceding calendar year. In the case of a new dairy entrant, it shall be based on the average crude protein across all concentrate feed fed to dairy cows in the current calendar year.

Table 8 Amount of nutrient contained in 1m3 of slurry

Livestock type	Total Nitrogen (kg)	Total Phosphorus (kg)
Cattle	2.4	0.5
Pig	4.2	0.8
Sheep	10.2	1.5
Poultry — layers 30% DM	13.7	2.9

For the purposes of calculation, assume that 1 m^3 = 1,000 litres = 1 tonne = 1000 kg.

Table 9 Amount of nutrients contained in 1 tonne of organic fertilisers other than slurry

Livestock type		Total Nitrogen (kg)	Total Phosphorus (kg)
Poultry manure	broilers/deep litter	28.0	6.0
	layers 55% dry matter	23.0	5.5
	turkeys	28.0	13.8
Dungstead manure (cattle)		3.5	0.9
Farmyard manure		4.5	1.2
Spent mushroom compost		8	1.5
Sewage sludge		Total nitrogen and total phosphorus content per tonne shall be declared by the supplier in accordance with the Waste Management (Use of Sewage Sludge in Agriculture) Regulations,1998 to 2001 and any subsequent amendments thereto and this must be submitted to the local authority and the Minister for Agriculture, Food and the Marine.	
Food processing residues and other products not listed above		Total nitrogen and total phosphorus content per tonne based on certified analysis shall be provided by the supplier. This must be submitted to the local authority and the Minister for Agriculture, Food and the Marine.	

Article 15

Table 10 Nutrient availability in fertilisers

Fertiliser	Availability (%)		
	Nitrogen	Phosphorus[2]	
		Soil Index 1& 2[1]	Soil Index 3 & 4
Chemical	100	100	100
Pig and poultry manure	50	50	100
Farmyard manure	30	50	100
Spent mushroom compost	20	50	100
Cattle and other livestock manure (including that produced on the holding)	40	50	100

[1]The nutrient availability of Phosphorus is 100% available when Phosphorus containing fertilisers are applied to peat soils and/or soils with more than 20% organic matter with a Phosphorus Index of 1 or 2.
[2.] The fertilisation rates for peat soils and/or soils with more than 20% organic matter must not exceed the amounts permitted for Phosphorus Index 3 soils, subject to the provisions in Article 18(3).

Table 10a Nutrient availability in compost

Compost C:N ratio[1]	N availability (%)
<10	25
12.5	17.5
15.0	10
17.5	5.5
>20	0.0

[1] The determination of the C:N ratio shall be based on a methodology agreed with the Agency or the Minister for Agriculture, Food and the Marine.

Table 11 Determining Nitrogen Index for tillage crops

Tillage crops that follow permanent pasture			
Nitrogen Index			
Index 1	Index 2	Index 3	Index 4
The 5th tillage crop following permanent pasture. For subsequent tillage crops use the continuous tillage table.	The 3rd or 4th tillage crop following permanent pasture. If original permanent pasture was cut only, use Index 1.	The 1st or 2nd tillage crop following permanent pasture (see also Index 4). If original permanent pasture was cut only, use Index 2.	The 1st or 2nd tillage crop following very good permanent pasture which was grazed only.
Continuous tillage: — crops that follow short leys (1-4 years) or tillage crops			
Previous crop			
Index 1	Index 2	Index 3	Index 4
Cereals Maize	Sugar beet Fodder beet Potatoes Mangels Kale Oil seed rape Peas Beans		
	Leys (1-4 years) grazed or cut and grazed		
	Swedes removed	Swedes grazed in situ	
Vegetables receiving less than 200 kg/ha nitrogen	Vegetables receiving more than 200 kg/ha nitrogen		

Table 12 Phosphorus Index system

Soil phosphorus index	Soil phosphorus ranges (mg/l)	
	Grassland	Other crops
1	0.00-3.04	0.00-3.04
2	3.05-5.04	3.05-6.04
3	5.05-8.00	6.05-10.00
4	> 8.01	>10.01

Table 13 Annual maximum fertilisation rates of nitrogen on grassland

Grassland Stocking Rate (kg/ha in previous year)[1]	Available Nitrogen[2, 4, 5] (kg/ha)
≤85	90
86-130	114
131-170	185
For those greater than 170 kg/ha in previous year[3]	
171-210	241
>210[6]	214

[1] For new entrants or occupiers with stocking rate alterations the grassland stocking rate shall be the lesser of the actual or projected current year grassland stocking rate.

[2] The maximum nitrogen fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding. Where a derogation applies on the holding derogation rates apply based on stocking rate of the holding. For a new derogation applicant they may apply the derogation rate of 214 kg/ha for the 1st year only and from year 2 onwards must use rates as per the previous year's Grassland Stocking Rate on the holding.

[3] This table does not imply any departure from Article 21(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170 kg nitrogen per hectare per year, including that deposited by the animals themselves (or the appropriate higher limit in the case of a holding to which a derogation has been granted, in accordance with the Nitrates Directive).

[4] Application of these fertilisation rates to an eligible area, must exclude uninhibited urea products in solid form, which are a chemical fertiliser with ureic N content of 1% or above, including those products containing secondary macronutrients (e.g. sulphur) and/or micronutrients (e.g. selenium) and excluding liquid products and those products containing uninhibited urea and phosphorus.

[5] The application of nitrogen from livestock manure (including that deposited by the animals themselves) to the eligible grassland area shall not exceed the maximum allowable nitrogen per hectare per year, as appropriate, in the case of a holding to which a derogation has been granted, in accordance with the Nitrates Directive.

[6] For milk producers with a previous year milking platform stocking rate >259 kg organic N/ha, the holding must adhere to the maximum allowance of chemical Nitrogen based on that milking platform stocking rate and the quantity of organic nitrogen that is moved outside the milking platform as set out in Table 14, as appropriate to the holding.

Table 14

Requirement to move organic Nitrogen produced by dairy cows on the holding to outside of the milking platform based, on annual milking platform stocking rate and chemical Nitrogen allowance for the milking platform.

Milking platform available chemical nitrogen allowance 114 kg N/ha[3]				
Milking Platform Stocking Rate (kg N/ha)[1]	≤386	387-406	407-426	≥427
Minimum quantity of organic N (kg N/ha) to move outside the milking platform[2]	None	20	40	≥41
Milking platform available chemical nitrogen allowance 150 kg N/ha[3]				
Milking Platform Stocking Rate (kg N/ha)[1]	≤350	351-370	371-390	≥391
Minimum quantity of organic N (kg N/ha) to move outside the milking platform[2]	None	20	40	≥41
Milking platform available chemical nitrogen allowance 185 kg N/ha[3]				
Milking Platform Stocking Rate (kg N/ha)[1]	≤315	316-335	336-355	≥356
Minimum quantity of organic N (kg N/ha) to move outside the milking platform[2]	None	20	40	≥41
Milking platform available chemical nitrogen allowance 200 kg N/ha[3]				
Milking Platform Stocking Rate (kg N/ha)[1]	≤300	301-320	321-340	≥341
Minimum quantity of organic N (kg N/ha) to move outside the milking platform[2]	None	20	40	≥41
Milking platform available chemical nitrogen allowance 214 kg N/ha[3]				
Milking Platform Stocking Rate (kg N/ha)[1]	≤286	287-306	307-326	≥327
Minimum quantity of organic N (kg N/ha) to move outside the milking platform[2]	None	20	40	≥41
Milking platform available chemical nitrogen allowance 241 kg N/ha[3]				
Milking Platform Stocking Rate (kg N/ha)[1]	≤259	260-279	280-299	≥300
Minimum quantity of organic N (kg N/ha) to move outside the milking platform[2]	None	20	40	≥41

[1]The milking platform stocking rate for the year 2026 will be based on the current year. For subsequent years, it will be based on the preceding year's milking platform stocking rate. For new dairy entrants it will be based on the current year.

[2]Kg of organic N/ha of land constituting the milking platform, that shall be moved in the form of organic manure collected from the dairy cow during the year.

[3]The chemical nitrogen allowance on a per hectare basis for the milking platform shall not exceed the holding's overall chemical nitrogen allowance on a per hectare basis as set out in Table 13.

Table 15a Annual maximum fertilisation rates of phosphorus on grassland

Grassland stocking rate (kg/ha in previous year)[1]	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) [2,3,6]			
≤85	27	17	7	0
86-130	30	20	10	0
131-170	33	23	13	0
Grassland stocking rate greater than 170 kg/ha/year[4,5,7]				
171-210	36	26	16	0
>210	39	29	19	0

[1] For new entrants or occupiers with stocking rate alterations the grassland stocking rate shall be the lesser of the actual or projected current year grassland stocking rate.

[2] The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Index 3 soils, subject to the provisions in Article 17(4).

[3] Manure produced by grazing livestock on a holding may be applied to Index 4 soils (as per soil test result or assumed where subject to the provisions in Article 17(4) on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at phosphorus indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.

[4] The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.

[5] This table does not imply any departure from Article 21(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170 kg Nitrogen per hectare per year, including that deposited by the animals themselves (or the appropriate higher limit in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).

[6] An additional 15 kg of phosphorus per hectare may be applied on soils at phosphorus indices 1, 2, or 3 for each hectare of grass crop establishment undertaken.

[7] For a new derogation applicant, where the holdings soils phosphorus indices 1, 2 or 3, they may apply the derogation rate applicable to Grassland Stocking Rate of 170-210 kg/ha for the 1st year only and from year 2 onwards must use rates as per the previous year's Grassland Stocking Rate on the holding.

Table 15b Annual maximum fertilisation rates of phosphorus on grassland adopting increased P build-up application rates

Grassland stocking rate (kg/ha in previous year)[1]	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha) [2,3,6]			
131-170	63	43	13	0
Grassland stocking rate greater than 170 kg/ha/year[4,5,7]				
171-210	66	46	16	0
>210	69	49	19	0

[1] For new entrants or occupiers with stocking rate alterations the grassland stocking rate shall be the lesser of the actual or projected current year grassland stocking rate.

[2] The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Phosphorus Index 3 soils, subject to the provisions in Article 17(4).

[3] Manure produced by grazing livestock on a holding may be applied to Phosphorus Index 4 soils as per soil test result or assumed where subject to the provisions in Article 17(4) on that holding in a situation where there is a surplus of such manure remaining after the phosphorus fertilisation needs of all crops on soils at Phosphorus Indices 1, 2 or 3 on the holding have been met by the use only of such manure produced on the holding.

[4] The maximum phosphorus fertilisation of grassland shall not exceed that specified for stocking rates less than or equal to 170 kg/ha/year unless a minimum of 5% of the eligible area of the holding is used to grow crops other than grass or a derogation applies in respect of the holding.

[5] This table does not imply any departure from Article 21(1) which prohibits the application to land on a holding of livestock manure in amounts which exceed 170 kg Nitrogen per hectare per year, including that deposited by the animals themselves (or the appropriate higher limit in the case of a holding to which a derogation has been granted in accordance with the Nitrates Directive).

[6] An additional 15 kg of phosphorus per hectare may be applied on soils at Phosphorus Indices 1, 2, or 3 for each hectare of grass crop establishment undertaken.

[7] For a new derogation applicant, where the holdings soils Phosphorus Indices 1, 2 or 3, they may apply the derogation rate applicable to Grassland Stocking Rate of 170-210 kg/ha for the 1st year only and from year 2 onwards must use rates as per the previous year's Grassland Stocking Rate on the holding.

Table 16 Annual maximum fertilisation rates of available nitrogen on grassland areas where hay or silage is being cut for sale on holdings with no grazing livestock or a previous year grassland stocking rate of ≤85 kg N/ha

	Available nitrogen (kg/ha) [1,2,3,]
First cut of silage	85
Second cut of silage or a cut of hay	70
Third cut of silage	30

[1] Application of these fertilisation rates to an eligible area, must exclude uninhibited urea products in solid form, which are a chemical fertiliser with ureic N content of 1% or above, including those products containing secondary macronutrients (e.g. sulphur) and/or micronutrients (e.g. selenium) and excluding liquid products and those products containing uninhibited urea and Phosphorus.
[2] The maximum allowance is based on a total of three cuts of silage being taken for sale off the holding.
[3] The rates in Table 16 only apply where the occupier has written evidence of sale of the silage or hay.

Table 17 Annual maximum fertilisation rates of phosphorus on grassland areas where hay or silage is being cut for sale on holdings with no grazing livestock or a previous year grassland stocking rate of ≤85 kg N/ha[2]

	Phosphorus Index[3]			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
First cut of silage or a cut of hay	40	30	20	0
Second cut of silage	10	10	10	0
Third cut of silage	10	10	10	0

[1] The fertilisaton rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Phosphorus Index 3 soils, subject to the provisions in Article 17(4).
[2] The rates in Table 17 only apply where the occupier has written evidence of sale of the silage or hay to a farmer maintaining livestock.
[3] Maximum allowance is based on a total of three cuts of silage being taken for sale off the holding.

Table 18 Maximum fertilisation rates of nitrogen on tillage crops

Crop	Nitrogen Index			
	1	2	3	4
	Available Nitrogen (kg/ha)[5]			
Winter Wheat [1,2]	210	180	120	80
Spring Wheat [1,2]	160	130	95	60
Winter Barley [1]	180	155	120	80
Spring Barley [1,3]	135	100	75	40
Winter Oats[1]	145	120	85	45
Spring Oats[1]	110	90	60	30
Sugar Beet	195	155	120	80
Fodder Beet	195	155	120	80
Potatoes: Main Crop, >120 days[4]	250	190	170	140
Potatoes: Maincrop/seed, 90-120 days[4]	270	230	210	180
Potatoes: Early, 60-90 days[4]	210	170	150	120
Potatoes: Salad, <60 days[4]	140	120	100	60
Maize	180	140	110	75
Field Peas/Beans	0	0	0	0
Oil Seed Rape	225	180	160	140
Linseed	75	50	35	20
Swedes/Turnips	90	70	40	20
Kale	150	130	100	70
Forage Rape	130	120	110	90

[1] Where proof of higher yields is available, an additional 20 kg N/ha may be applied for each additional tonne above the following yields:

Winter Wheat — 9.0 tonnes/ha
Spring Wheat — 7.5 tonnes/ha
Winter Barley — 8.5 tonnes/ha
Spring Barley — 6.5 tonnes/ha
Winter Oats — 7.5 tonnes/ha
Spring Oats — 6.5 tonnes/ha

The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.

[2] Where milling wheat is grown under a written contract to a purchaser of milling wheat, an extra 30 kg N/ha may be applied.

[3] Where malting barley is grown under a written contract to a purchaser of malting barley, an extra 20 kg N/ha may be applied where it is shown on the basis of agronomic advice that additional nitrogen is needed to address a proven low protein content in the grain.

[4] Length of growing season

[5] Application of these fertilisation rates to an eligible area, must exclude uninhibited urea products in solid form, which are a chemical fertiliser with ureic N content of 1% or above, including those products containing secondary macronutrients (e.g. sulphur) and/or micronutrients (e.g. selenium) and excluding liquid products and those products containing uninhibited urea and phosphorus.

Table 19 Maximum fertilisation rates of phosphorus on tillage crops

Crop	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
Winter Wheat [2,3,5]	45	35	25	0
Spring Wheat [2,3]	45	35	25	0
Winter Barley [2,3,5]	45	35	25	0
Spring Barley [2,3]	45	35	25	0
Winter Oats [2,3,5]	45	35	25	0
Spring Oats [2,3]	45	35	25	0
Sugar Beet	70	55	40	20
Fodder Beet	70	55	40	20
Potatoes: Main Crop	125	100	75	50
Potatoes: Early	125	115	100	50
Potatoes: Seed/Salad	125	115	100	85
Maize	70	50	40	20[4]
Field Peas	40	25	20	0
Field Beans	50	40	20	0
Oil Seed Rape	55	45	35	0
Linseed	35	30	20	0
Swedes/Turnips	70	60	40	40
Kale	60	50	30	0
Forage Rape	40	30	20	0

[1] The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Phosphorus Index 3 soils.

[2] Where proof of higher yields is available, an additional 3.8 kg P/ha may be applied on soils at Phosphorus Index 1, 2, or 3 for each additional tonne above a yield of 6.5 tonnes/ha. The higher yields shall be based on the best yield achieved in any of the three previous harvests, at 20% moisture content.

[3] Where pH is greater than or equal to 7, 20 kg P/ha may be applied on soils at Phosphorus Index 4.

[4] Must be incorporated prior to or during sowing.

[5] For winter cereals on soils of Phosphorus Index 1 and 2, 20 kg of the maximum P fertilisation rate may be applied up to 31 October, which must be incorporated prior to or during sowing.

Table 20 Maximum fertilisation rates of nitrogen on vegetable crops

Crop	Nitrogen Index				Maximum additional supplementation (Top dressing)
	1	2	3	4	
	Available Nitrogen (kg/ha)[1]				
Asparagus (Establishment)	140	115	95	70	
Asparagus (After harvest)	0	0	0	0	70
Broad Beans	0	0	0	0	
French Beans	90	85	75	70	
Beetroot	140	125	105	90	
Brussels Sprouts	120	115	105	100	180
Spring Cabbage	50	35	15	0	250
Other Cabbage	150	135	115	100	100
Broccoli	120	115	100	90	120
Cauliflower (Winter and Spring)	75	50	25	0	150
Cauliflower (Summer and Autumn)	120	85	65	40	120
Carrots	90	70	40	0	
Celery	120	85	65	50	180
Courgettes	140	125	105	90	
Leeks	150	130	100	80	150
Lettuce	100	90	80	70	50
Onions	70	60	50	40	70
Scallions	90	80	70	60	60
Parsley	100	80	60	40	150
Parsnips	100	85	70	50	70
Peas (Market)	0	0	0	0	
Rhubarb	100	90	80	70	200
Spinach	140	125	105	90	100
Swedes (Horticultural)	70	45	25	20	30
Swedes (Transplanted crops)	90	60	30	0	

[1]Application of these fertilisation rates to an eligible area, must exclude uninhibited urea products in solid form, which are a chemical fertiliser with ureic N content of 1% or above, including those products containing secondary macronutrients (e.g. sulphur) and/or micronutrients (e.g. selenium) and excluding liquid products and those products containing uninhibited urea and phosphorus.

Table 21 Maximum fertilisation rates of phosphorus on vegetable crops

Crop	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
Asparagus (Establishment)	65	45	35	20
Asparagus (After harvest)	27	22	15	10
Broad Beans	65	45	35	20
French Beans	65	45	35	20
Beetroot	65	45	35	20
Brussels Sprouts	65	45	35	20
Spring Cabbage	65	45	35	20
Other Cabbage	65	45	35	20
Broccoli	65	45	35	20
Cauliflower (Winter and Spring)	65	45	35	20
Cauliflower (Summer and Autumn)	65	45	35	20
Carrots	65	45	35	20
Celery	88	65	55	28
Courgettes	65	45	35	20
Leeks	65	45	35	20
Lettuce	80	60	40	20
Onions	65	45	35	20
Scallions	65	45	35	20
Parsley	65	45	35	20
Parsnips	65	45	35	20
Peas (Market)	65	45	35	20
Rhubarb	65	45	35	20
Spinach	65	45	35	20
Swedes (Horticultural)	70	60	45	35
Swedes (Transplanted crops)	70	60	45	35

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for phosphorus Index 3 soils.

Table 22 Annual maximum fertilisation rates of nitrogen on fruit/soft fruit crops

	Available Nitrogen (kg/ha)[1]
Apples (Dessert)	125
Apples (Culinary)	125
Pears	50
Cherries	70
Plums	70
Blackcurrants	80
Gooseberries	40
Raspberries	60
Strawberries	50
Redcurrants	60
Loganberries	50
Blackberries	50

[1]Application of these fertilisation rates to an eligible area, must exclude uninhibited urea products in solid form, which are a chemical fertiliser with ureic N content of 1% or above, including those products containing secondary macronutrients (e.g. sulphur) and/or micronutrients (e.g. selenium) and excluding

liquid products and those products containing uninhibited urea and Phosphorus.

Table 23 Annual maximum fertilisation rates of phosphorus on fruit/soft fruit crops

	Phosphorus Index			
	1	2	3	4
	Available Phosphorus (kg/ha)[1]			
Apples (Dessert)	25	16	12	8
Apples(Culinary)	20	12	10	8
Pears	16	8	4	0
Cherries	16	8	4	0
Plums	16	8	4	0
Blackcurrants	20	16	12	8
Gooseberries	20	16	12	8
Raspberries	20	16	12	8
Strawberries	16	8	4	0
Redcurrants	20	16	12	8
Loganberries	20	16	12	8
Blackberries	20	16	12	8

[1]The fertilisation rates for soils which have more than 20% organic matter shall not exceed the amounts permitted for Phosphorus Index 3 soils.

SCHEDULE 3

Articles 10, 11, 13 and 16

STORAGE PERIODS FOR LIVESTOCK MANURE

1. The storage period specified for the purposes of Articles 10(2), 11(2), and 13 is—

   (a) 16 weeks in relation to holdings in counties Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford and Wicklow,

   (b) 18 weeks in relation to holdings in counties Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo and Westmeath,

   (c) 20 weeks in relation to holdings in counties Donegal and Leitrim, and

   (d) 22 weeks in relation to holdings in counties Cavan and Monaghan.

2. Where 20% or more of a holding lies within one or more counties of higher storage requirement as specified in paragraph (1), the holding shall be deemed for the purposes of this Schedule to lie wholly within the county in relation to which the longest storage period is specified.

SCHEDULE 4

Articles 14, 18 and 20

PERIODS WHEN APPLICATION OF FERTILISERS TO LAND IS PROHIBITED

1. In counties Carlow, Cork, Dublin, Kildare, Kilkenny, Laois, Offaly, Tipperary, Waterford, Wexford and Wicklow, the period during which the application of fertilisers to land is prohibited in the period from—

(a) 15 September to 29 January in the case of the application of chemical fertiliser and not withstanding sub-paragraph (4),

(b) 1 October to 12 January in the case of the application of organic fertiliser (other than farmyard manure) and not withstanding sub-paragraph (5),

(c) 1 November to 12 January in the case of the application of farmyard manure.

2. In counties Clare, Galway, Kerry, Limerick, Longford, Louth, Mayo, Meath, Roscommon, Sligo and Westmeath, the period during which the application of fertilisers to land is prohibited is the period from—

(a) 15 September to 29 January in the case of the application of chemical fertiliser and not withstanding sub-paragraph (4),

(b) 1 October to 15 January in the case of the application of organic fertiliser (other than farmyard manure) and not withstanding sub-paragraph (5),

(c) 1 November to 15 January in the case of the application of farmyard manure.

3. In counties Cavan, Donegal, Leitrim and Monaghan, the period during which the application of fertilisers to land is prohibited is the period from—

(a) 15 September to 14 February in the case of the application of chemical fertiliser and not withstanding sub-paragraph (4),

(b) 1 October to 31 January in the case of the application of organic fertiliser (other than farmyard manure) and not withstanding sub-paragraph (5),

(c) 1 November to 31 January in the case of the application of farmyard manure.

4. In relation to the prohibited periods for spreading chemical fertiliser, the Minister may, following consultation with the Minister for Agriculture, Food and the Marine, publish updated criteria for the application of chemical fertiliser in exceptional circumstances from 15 January. The spreading of all chemical fertiliser from 15 January shall be in accordance with these criteria.

5. In relation to the commencement of the closed period for slurry application, the Minister may, following consultation with the Minister for Agriculture, Food and the Marine, publish updated criteria for the application of slurry in exceptional circumstances from 1 October to 15 October. The spreading of all slurry from 1 October to 15 October shall be in accordance with these criteria.

L.S.

GIVEN under my Official Seal,
8 December, 2025.

JAMES BROWNE,
Minister for Housing, Local Government and Heritage.

EXPLANATORY NOTE

(*This note is not part of the Instrument and does not purport to be a legal interpretation.*)

These Regulations, which give effect to Ireland's Sixth Nitrates Action Programme, provide statutory support for good agricultural practice to protect waters against pollution from agricultural sources and include measures such as

- periods when land application of fertilisers is prohibited,
- limits on the land application of fertilisers,
- storage requirements for livestock manure, and
- monitoring of the effectiveness of the measures in terms of agricultural practice and impact on water quality.

The Regulations give further effect to several European Directives including Directives in relation to protection of waters against pollution from agricultural sources ("the Nitrates Directive"), dangerous substances in water, waste management, protection of groundwater, public participation in policy development and water policy (the Water Framework Directive).

The Regulations revoke the European Communities (Good Agricultural Practice for Protection of Waters) Regulations, 2022 and other subsequent amending regulations.

BAILE ÁTHA CLIATH
ARNA FHOILSIÚ AG OIFIG AN tSOLÁTHAIR
Le ceannach díreach ó
FOILSEACHÁIN RIALTAIS,
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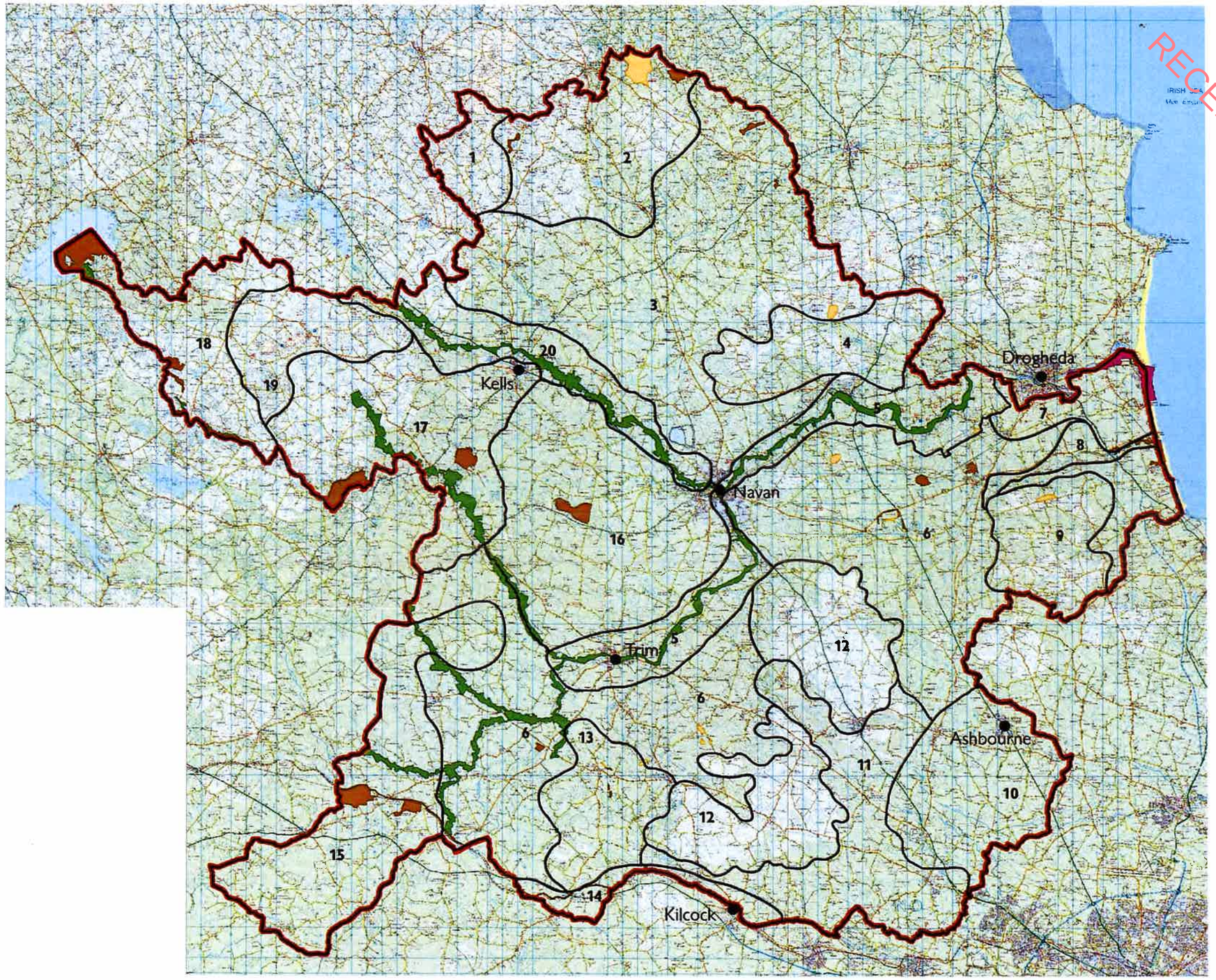
Appendix No. 18

Extracts from Meath Co. Development Plan



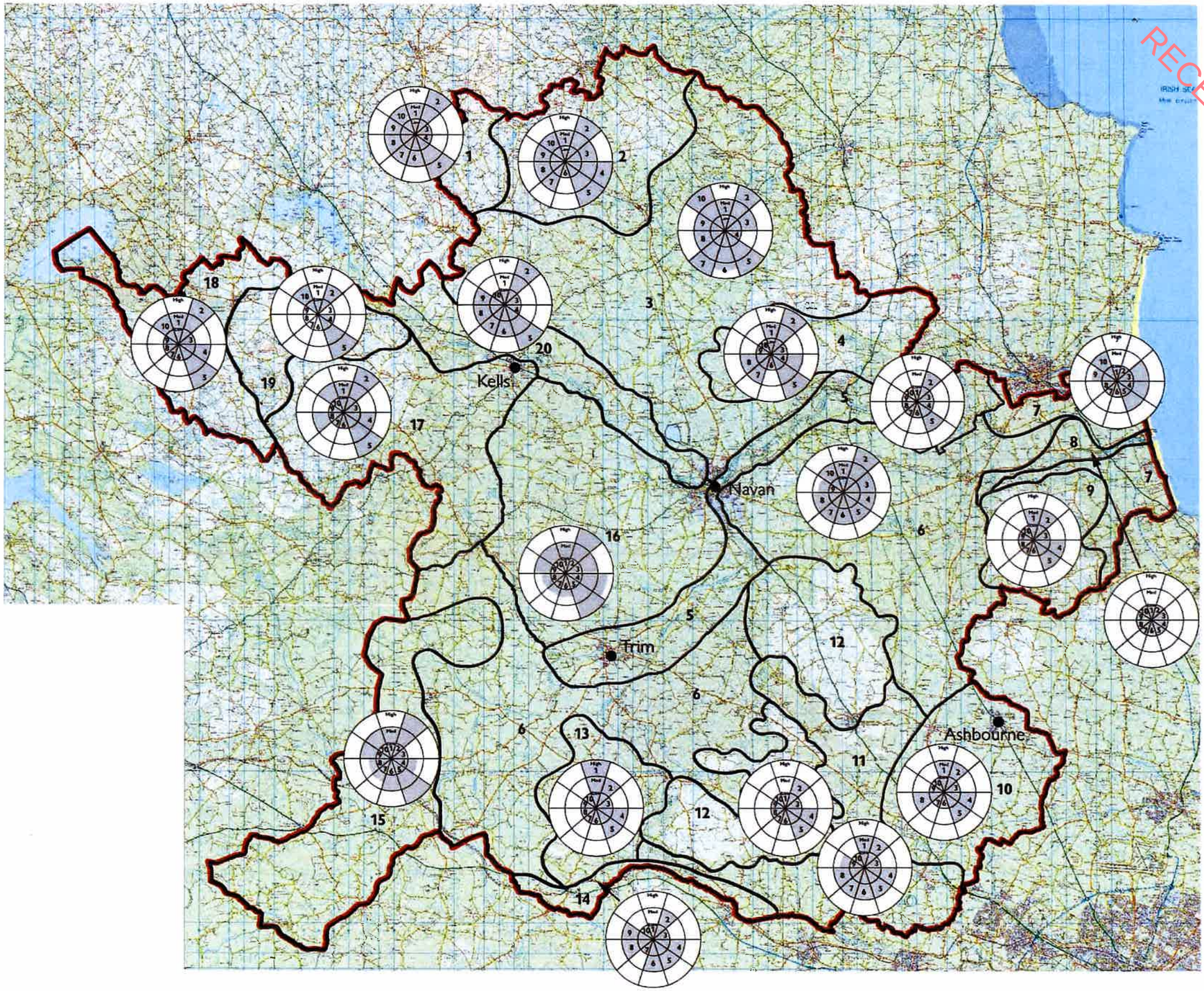
KEY

- Candidate Special Area of Conservation (SAC)
- Special Protection Area (SPA)
- Proposed Natural Heritage Area (pNHA)
- Important Habitats Formerly ASI
- 7 Landscape Character Area Boundary

N

0 1 2 3 4 8 12 Kilometers

map 16: ecological sites



KEY

1. Teervurcher Uplands
2. North Meath Lakelands
3. North Navan Lowlands
4. Rathkenny Hills
5. Boyne Valley
6. Central Lowlands
7. Coastal Plains
8. Nanny Valley
9. Bellewstown Hills
10. The Ward Lowlands
11. South East Lowlands
12. Tara Skryne Hills
13. Rathmoylan Lowlands
14. Royal Canal
15. South West Lowlands
16. West Navan Lowlands
17. South West Kells Lowlands
18. Lough Sheelin Uplands
19. Loughcrew & Slieve na Calliagh Hills
20. Blackwater Valley

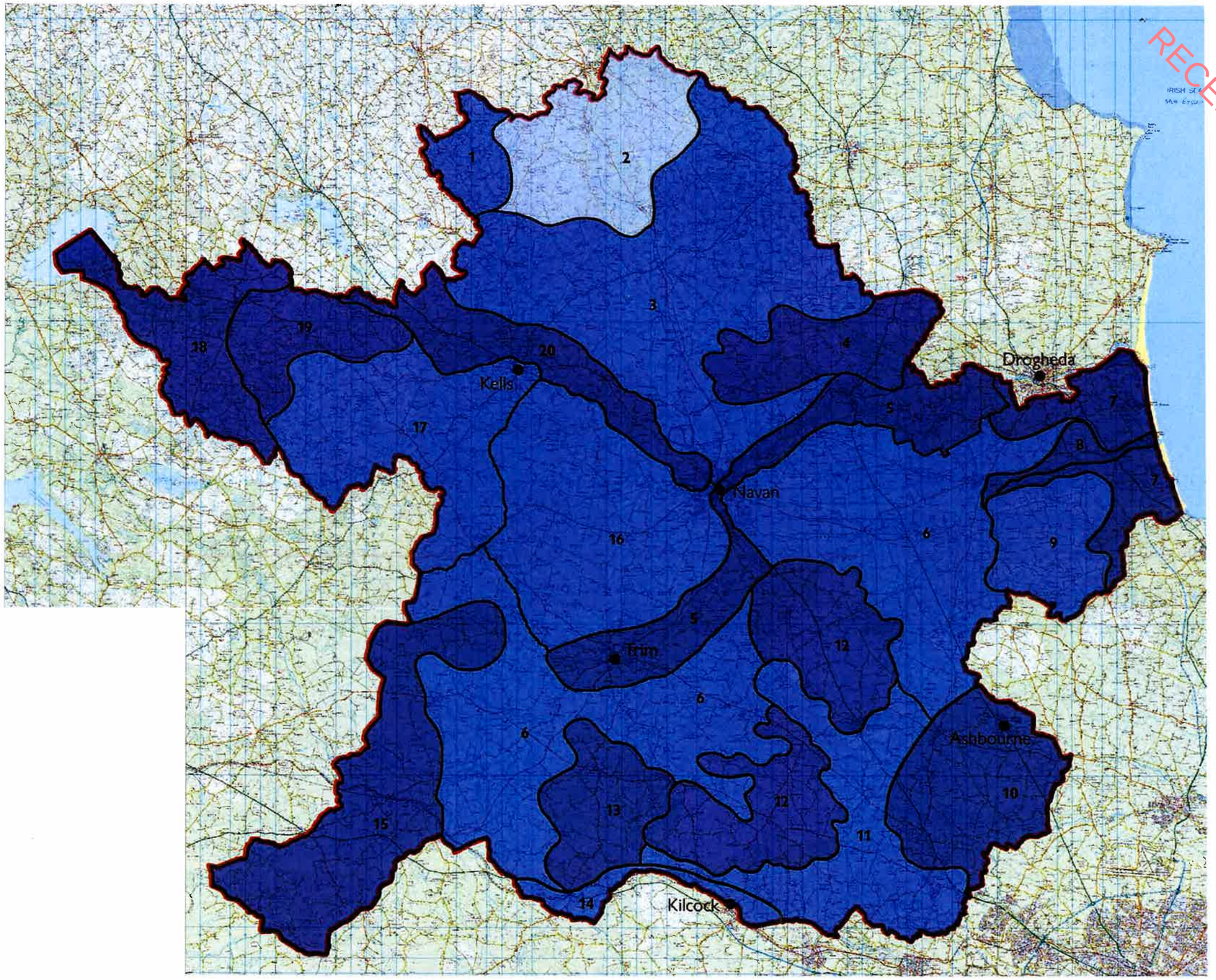
7 Landscape Character Area Boundary

Likely Indicative Types of Development

1. Large farm buildings
2. Visitor facilities
3. Multi-house developments
4. One-off houses
5. Conversion of existing buildings
6. Overhead cables, substations and masts
7. Roads and railways
8. Underground services
9. Wind turbines
10. Biomass and forestry

N

0 1 2 3 4 8 12 Kilometers



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20. Blackwater Valley

7 Landscape Character Area Boundary

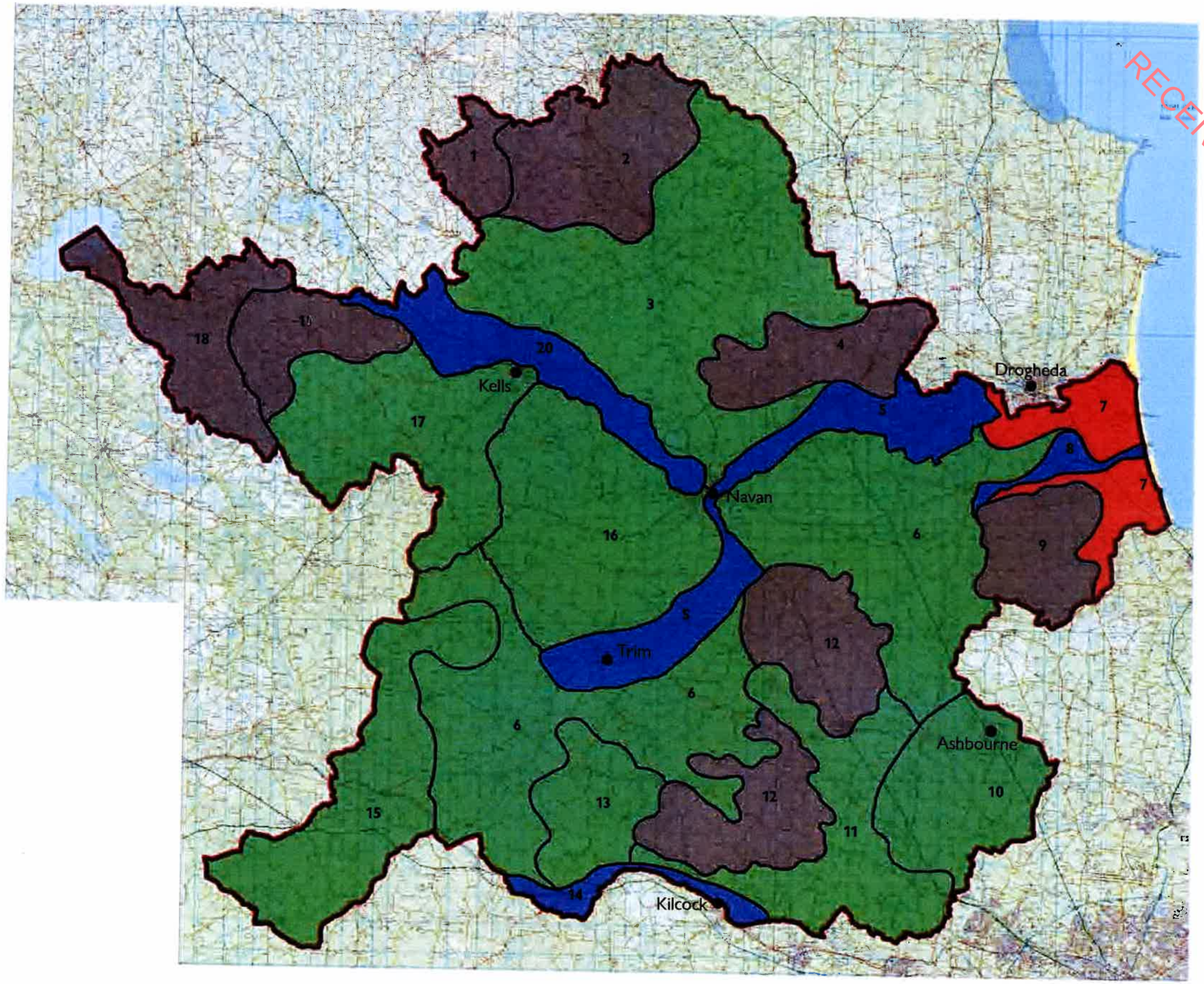
High Sensitivity

Moderate Sensitivity

Low Sensitivity

N

0 1 2 3 4 8 12 Kilometers



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20. Blackwater Valley

7 Landscape Character Area Boundary

River Corridors and Estuaries

Lowland Landscapes

Hills and Upland Areas

Coastal Landscape

N

0 1 2 3 4 8 12 Kilometers

map 01: landscape character types

ADOPTED
Meath County Development Plan 2021-2027

Rural Area Types: Development Pressure

Map 9.1

LEGEND

Rural Area Type

- Rural Area under Strong Urban Influence
- Strong Rural Area
- Low Development Pressure Area

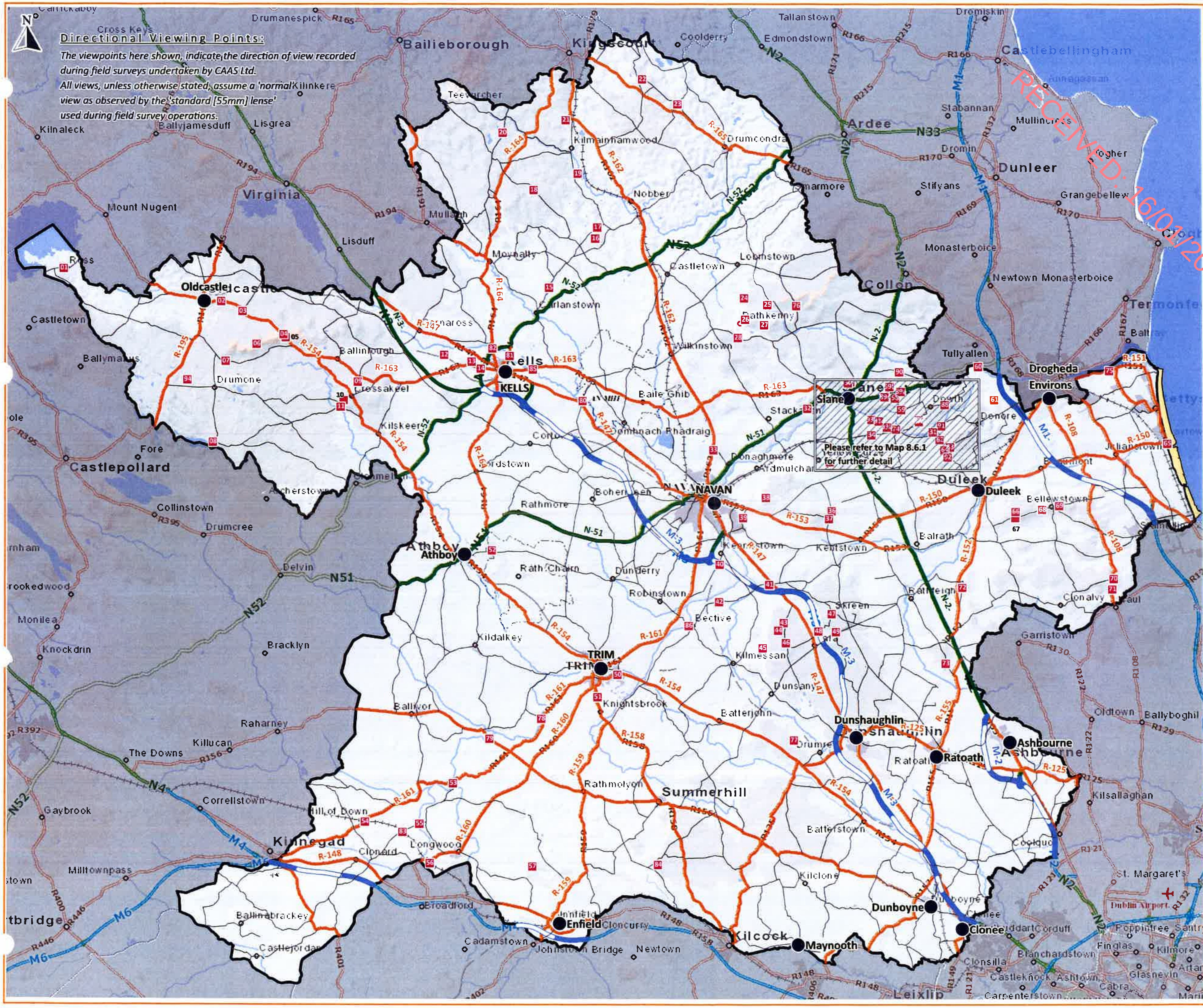
Meath County Development Plan 2021-2027

comhairle chontae na mí
meath county council

An Roinn um Pleanáil
Planning Department

Further Information:
email: planning@meathcoco.ie
http://countydevelopmentplanreview.meath.ie/

Date: November 2021
Scale: NTS



ADOPTED
Meath County Development Plan 2021 - 2027

Views & Prospects

Map 8.6

LEGEND

Views & Prospects

■ View Reference

PLEASE NOTE:
This map MUST be read in conjunction with the accompanying Written Statement 'Protected Views & Prospects'.

Additional Views & Prospects are identified on each respective Settlement Map (larger scale) and in their accompanying Written Statements.

CAAS

Note:
Data Source 'Views & Prospects' is CAAS Ltd to whom all rights are reserved.

Meath County Development Plan 2021-2027

comhairle chontae na mí
meath county council

An Roinn um Pleanáil
Planning Department

Further information:
email: planning@meathcoco.ie
http://countydevelopmentplanreview.meath.ie/

Date: November 2021

Scale: NTS

Appendix No. 19

Surface Water Drainage Proposal

HYDROCARE
ENVIRONMENTAL LTD

Environmental Consultants
Unit 8 Duleek Court,
Duleek, Co. Meath

Tel: 0419842378 Mob: 0877905155 Email: info@hydrocare.ie

dalJob Ref: 25-331

25/11/2025

Planning Department
Meath County Council,
Buvinda House,
Dublin Road,
Navan,
Co. Meath

Re: Further Information Request Planning Ref: 25/60646

Applicant: Bogue Pigs Unlimited Company

Site Address: Ballinrink, Oldcastle, Co. Meath

To whom it may concern,
Hydrocare Environmental Ltd have been retained by the applicant to deal with Item Number 6 of the Further Information Request regarding surface water treatment and disposal.

Please see appended herewith the Surface Water Drainage Proposal Report for this development site.

Yours sincerely,

Daniel Nolan

Daniel Nolan, BA BAI, Msc Environmental Engineering, FETAC Site Assessor, MIEI

Tel / Fax: (041) 9842378
Mobile : (087) 7905155
Vat. No. 3349164IH

E-Mail: info@hydrocare.ie
Website: www.hydrocare.ie

SURFACE WATER DRAINAGE PROPOSAL

Applicant:

Bogue Pigs Unlimited Company

Address:

Ballinrink, Oldcastle, Co. Meath

25th November 2025

Prepared By:

Hydrocare Environmental Ltd.
Unit 8, Duleek Court, Duleek, Co. Meath A92 EN27

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HYDROCARE
ENVIRONMENTAL LTD

Document Control Sheet

HCE Ref. No.: 25-331

Applicant: Bogue Pigs Unlimited Company

Site Location: Ballinrink, Oldcastle, Co. Meath

Revision: V1

Status: FINAL

Prepared by: Adrian Bacaoanu, *MSc. Sustainable Energy Engineering, BSc. Applied Physics*

Signed: _____

Approved by: Daniel Nolan, *BA BAI, MSc Environmental Engineering, FETAC Site Assessor, MIEI*

Signed: _____

CONTENTS

HYDROCARE ENVIRONMENTAL LTD

Tel: 0419842378 Mob: 0877905155

Environmental Consultants
Unit 8, Duleek Court,
Duleek, Co. Meath, A92 EN27
Email: info@hydrocare.ie

INTRODUCTION

Hydrocare Environmental Ltd, has been retained by the applicant to prepare and design a surface water drainage system for an agricultural development at Ballinrink, Oldcastle, Co. Meath.

The applicant has applied for planning permission under the planning ref. no. 25/60646 to;

A. *Demolish/decommission 13 No. existing pig houses, 5 No. additional modular type pig houses and 1 No. store (Ref. 2-5 and 8-22 inclusive).*
B. *Construct 5 No. replacement pig houses, an extension to 1 No existing pig house, and, 1 No. general purpose store, together with all ancillary structures and all associated site works arising from the above proposed development, and in lieu of developments previously approved under planning Ref. 24/60324, at Ballinrink, Oldcastle, Co. Meath. An Environmental Impact Assessment Report (E.I.A.R.) relating to this proposed development will be submitted with this planning application.*

As part of this planning application ref. no. 25/60646 the planning authority has sought Further Information for this development. Item 6 of the Further Information request states:

The applicant shall submit the following further information in relation to surface water treatment and disposal;

a) *The applicant has submitted a surface water design that does not comply with Meath County Councils requirements for the treatment of surface water. The applicant shall submit a revised surface water system that is SuDs compliant, that is in accordance with the below mentioned guidelines and that is designed by a suitably qualified and competent consultant.*
b) *The applicant shall submit a detailed topographical survey highlighting any existing open drain/ditch/watercourse within the vicinity of the subject development which shall include invert levels, top of bank levels and existing outfall details. The survey shall also include all details of any drainage systems on the existing site, including invert levels, cover levels, pipe sizes, pipe gradients, existing outfall details and existing level details for the proposed swale.*
c) *The applicant shall submit longitudinal sections for the proposed surface water network.*
d) *The applicant shall provide BRE 365 infiltration test results for the site. Details of the winter ground water level shall also be provided.*
e) *The applicant shall submit details for the proposed gravel weir/check dams and maintenance plan for the same.*
f) *The applicant shall locate a Class 1 petrol interceptor upstream of the proposed swale.*
g) *The applicant shall identify uncovered areas where surface water run-off may be contaminated and propose a suitable drainage system for soiled water.*
h) *All work shall comply fully with the Greater Dublin Strategic Drainage Study (GDSDS) Regional Drainage Policies Volume 2, for New Developments.*
i) *All work shall comply fully with the Greater Dublin Regional Code of Practice for Drainage Works Volume 6.*

Hydrocare Environmental Ltd. has been retained by the applicant to design a surface water drainage system for this development in response to Item 6 of the Further Information request.

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SITE DESCRIPTION

SITE LOCATION

The proposed development is located at Ballinrink, Oldcastle, Co. Meath. The site is situated in a rural setting surrounded primarily by agricultural fields. The development site location and surrounding lands are appropriately zoned RA –Rural Area based on the Meath County Development Plan 2021-2027. The zoning objective for this area is "*To protect and promote in a balanced way, the development of agriculture, forestry and rural-related enterprise, biodiversity, the rural landscape, and the built and cultural heritage.*"

The subject development location is a brownfield site which comprises primarily of existing agricultural sheds/pig houses used as part of the applicant's operations. As part of this application, it is proposed to demolish/decommission the existing buildings and replace with new pig houses, stores and associated structures. The subject site will be accessed by an existing access lane. The proposed development site can be seen below in Figure 1.

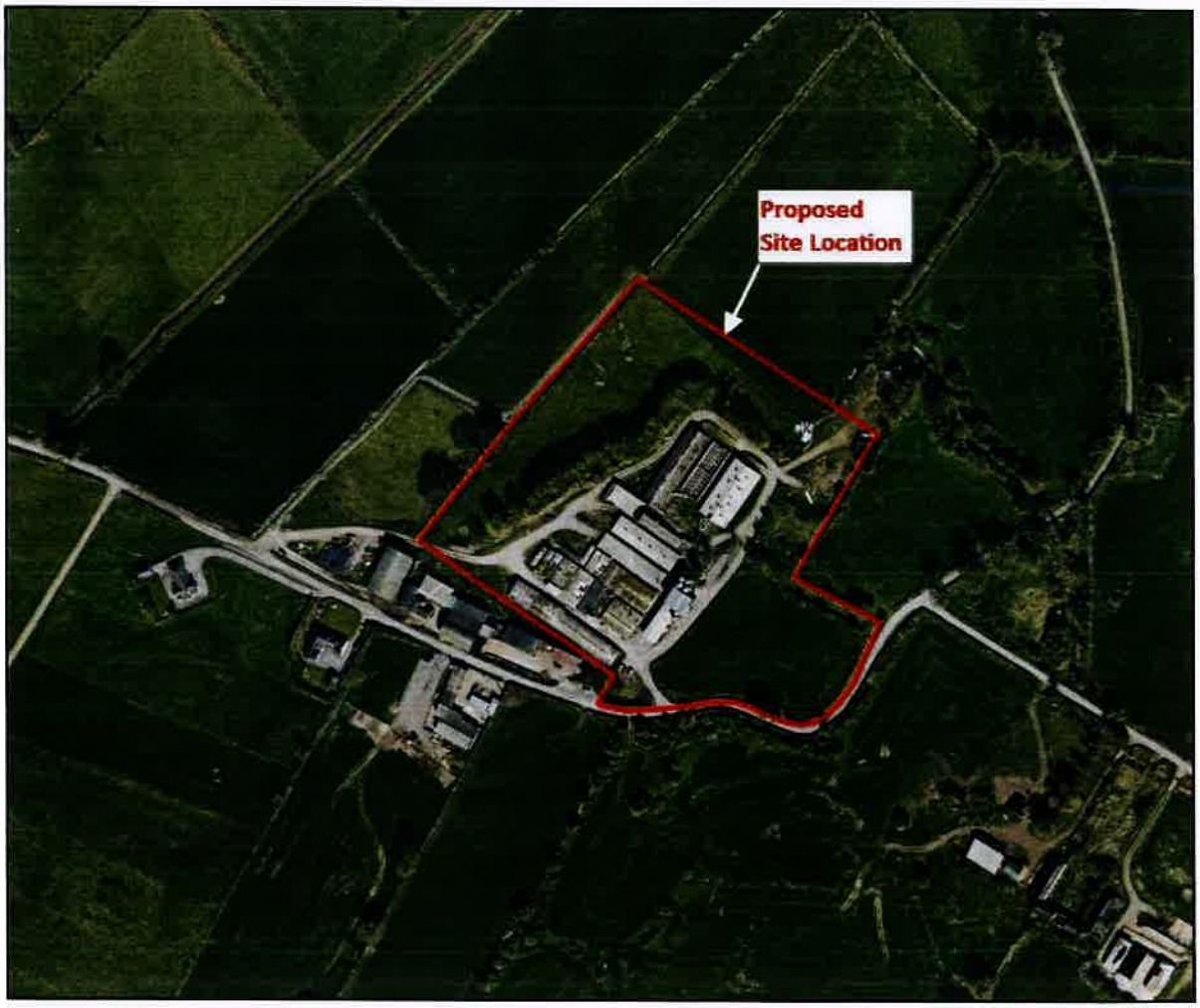

Figure 1 - Proposed Site Location

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Duleek, Co. Meath, A92 EN27
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SITE DESCRIPTION

The proposed development covers an area of approximately 4.0524Ha (40,524m²). This is a brownfield site as can be seen above in Figure 1. The proposed development site is located within the rural setting. A topographical survey was carried out across the entire development site area. There is a strong slope on the site primarily from the southern corner down to the north corner of the site.

The highest existing GL is ca. 81.50mOD, which is located along the south corner of the proposed development site, at the existing site entrance. The lowest level is ca. 65.10mOD which is located near the north corner of the proposed development site. The proposed site layout and contour levels can be seen below in Figure 2. The complete, to scale site layout drawing and topographical survey has been appended with this report.

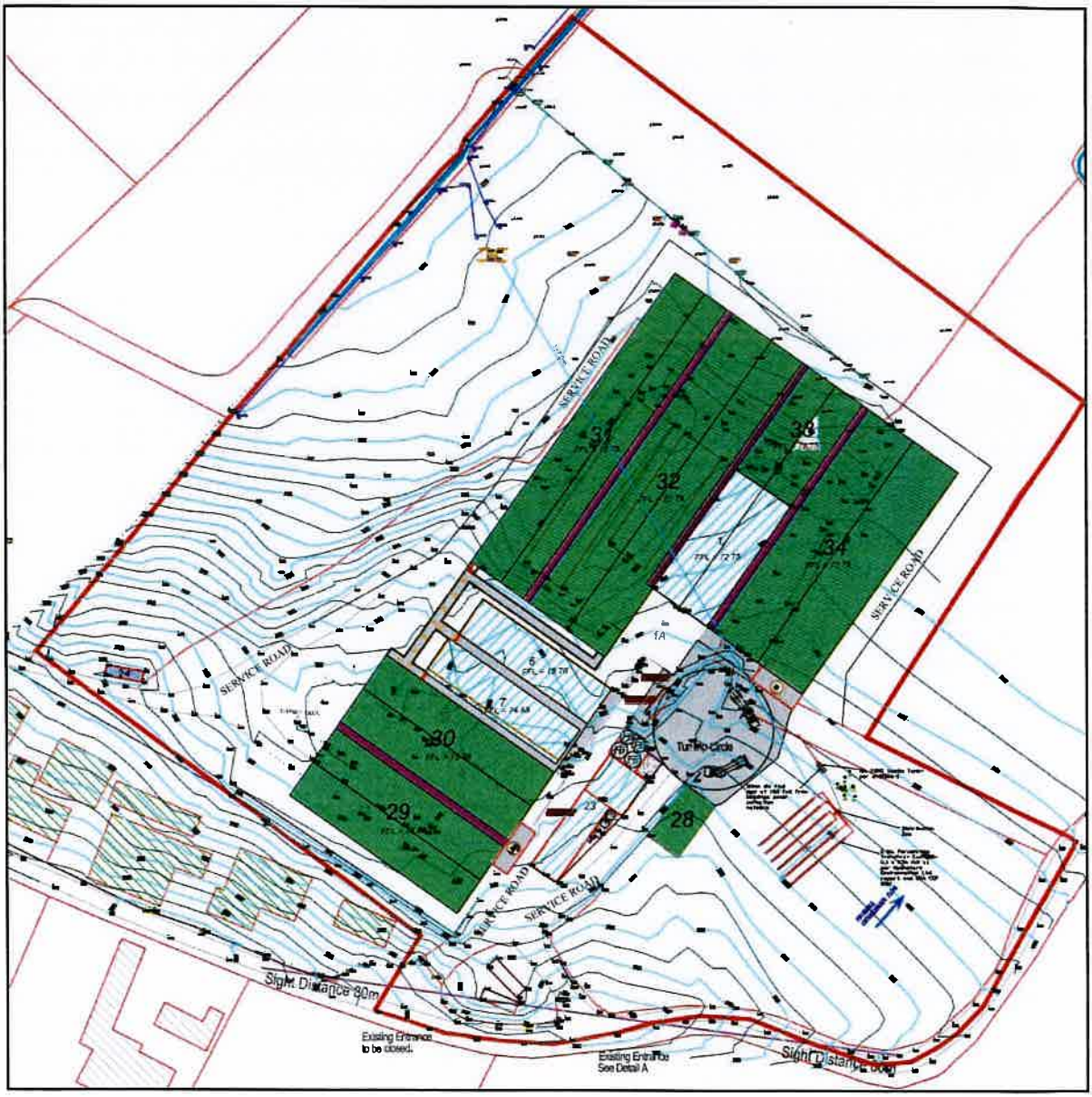

Figure 2 – Proposed Site Layout

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It is evident that the overland flow paths of the site in its pre-development configuration are primarily to the northern corner of the site towards the existing ditch drain network. The predicted pre-development overland flow paths for the site can be seen below in Figure 3.

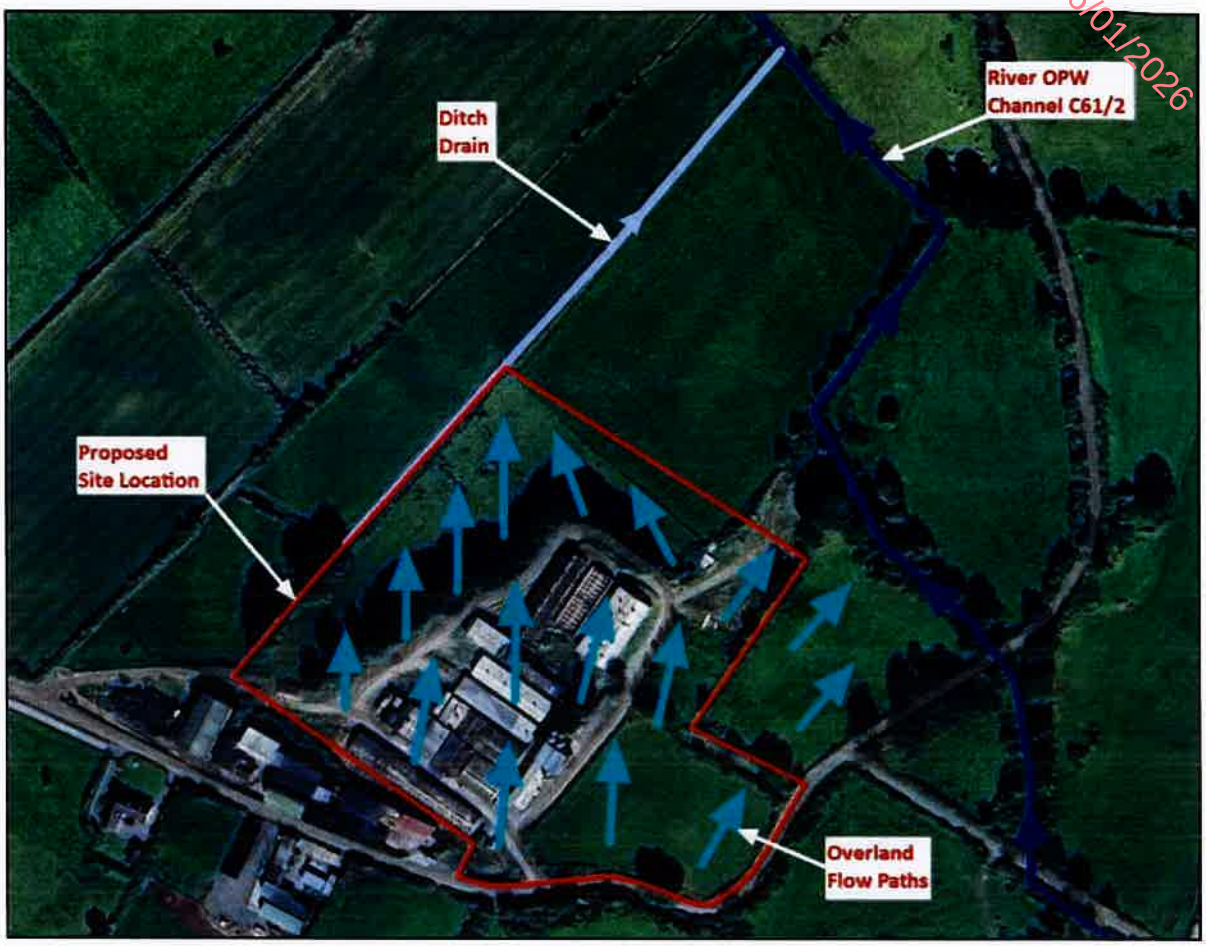

Figure 3 –Pre-Development Overland Flow Paths

PROPOSED DEVELOPMENT

The applicant is seeking permission for:

A. *Demolish/decommission 13 No. existing pig houses, 5 No. additional modular type pig houses and 1 No. store (Ref. 2-5 and 8-22 inclusive).*
B. *Construct 5 No. replacement pig houses, an extension to 1 No existing pig house, and, 1 No. general purpose store, together with all ancillary structures and all associated site works arising from the above proposed development, and in lieu of developments previously approved under planning Ref. 24/60324, at Ballinrink, Oldcastle, Co. Meath. An Environmental Impact Assessment Report (E.I.A.R.) relating to this proposed development will be submitted with this planning application.*

The proposed site layout can be seen above in Figure 2.

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RECEIVING WATERCOURSES

The proposed new surface water drainage system will cater for the rainwater runoff arising from all the impermeable surfaces at this development site. The surface water drainage system will outfall at a controlled flow rate to the existing ditch drain network along the northwest site boundary.

There are no apparent alternative discharge points such as public stormwater drainage infrastructure local to this proposed development site. The proposed new surface water drainage system will be located primarily in the northern section of the existing development site. This is towards the bottom section of the site, where it is possible to collect all the rainfall runoff from the development. The existing ditch drain network to the northwest is connected to a river, OPW Channel C61/2, ca. 195m downstream of the proposed outfall point of the surface water drain. The existing ditch drain has a very small upstream catchment area, as it stars ca. halfway along the west site boundary.

It is proposed to outfall at a controlled outfall flow rate from this development site to the ditch drain at the northwest corner of the site which is connected to the receiving watercourse OPW Channel C61/2. In its existing configuration, the runoff from the development area is to the northwest corner of the site towards the ditch drain. This has always been the receiving watercourse for the surface water runoff from this site, and this will be maintained post-development.

The outfall flow rate from the proposed new surface water drainage system will be controlled to the 1-year greenfield runoff rate of the site or 2l/s/ha whichever is greater. This will greatly improve on the existing conditions of the site, by attenuating runoff storage volumes within the site boundary, reducing the outfall flow rates, and creating a time delay for the discharge to the receiving watercourse.

It is proposed to capture the surface water runoff from this development in a number of SuDS features and devices and discharge to the ditch drain at a controlled outfall flow rate. This will ensure that the peak flows are attenuated, particularly during the typical 10-year, 30-year, and 100-year rainfall events, including a 20% allowance for climate change.

SURFACE WATER DRAINAGE

The proposed surface water drainage design for this development will aim to incorporate the SuDS Management Train. The proposed system will include a number of SuDS features and devices designed to promote the capture, treatment, and infiltration of surface water locally within the site boundary while restricting the runoff to the public storm drain.

The proposed surface water drainage system has been designed to be in compliance with the *Greater Dublin Strategic Drainage Study (GDSDS) Regional Drainage Policies Volume 2, for New Developments*, the *Greater Dublin Regional Code of Practice for Drainage Works Volume 6*, and the *Meath County Development Plan 2021-2027*.

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INFILTRATION RATE TESTING

Two site-specific infiltration tests were carried out by Hydrocare Environmental Ltd. to the north of the proposed development near where the proposed SuDS will be located. The infiltration tests were dug to a depth of 1.4m BGL. No elevated water table was established in either test hole up to a depth of 1.4m. The tests yielded fast infiltration rate results of $1.3x10^{-5}$m/s and $1.52x10^{-5}$m/s. The infiltration rate report has been included in Appendix A of this Report.

The infiltration rate test resulted in a fast drainage rate with no elevated water table level. The WRAP mapping for the area suggests a Soil Type 1 with a Soil Index of 0.1 is appropriate. Based on the infiltration rate results, it is considered appropriate to use Soil Type 1 for calculating the Greenfield Runoff Rate of the site. This will result in the lowest greenfield runoff rate for the site, and the highest volume of attenuation storage.

GREENFIELD RUNOFF RATE

The proposed development is located primarily on a greenfield area. The post-development runoff rates from this development must be restricted to the greenfield runoff rate of the site or 2l/s/Ha, whichever is greater. The greenfield runoff rate of the site has been calculated based on the IH124 Flood Estimation for Small Catchments shown below in Figure 4.

The QBAR greenfield runoff rate of the development site was calculated based on the 4.0524Ha area of the development site. The QBAR greenfield runoff rate was calculated to be 1l/s and the 1-year greenfield runoff rate for the development site is 0.85l/s. However, both the Q_{BAR} and Q_1 outfall flow rates are lower than 2l/s/Ha. Therefore, it is proposed to control the outfall flow rate to 2l/s. As this development site has a total area of 4.0524Ha, the outfall flow rate shall be 8.1l/s. This will be a net improvement compared to the existing brownfield development site, particularly in the less severe but more common rainfall events.

The greenfield runoff rate was also calculated utilising the online HR Wallingford Greenfield Runoff Rate Estimation Tool available at www.uksuds.com. The online tool estimates the 1-year greenfield runoff rate of the site to be 0.9l/s. The report generated by the HR Wallingford Greenfield Runoff Rate Estimation Tool has been included in Appendix A of this report.

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IH124 Greenfield Runoff Rate Calculation

Monday 24 November 2025

Client: Bogue Pigs Unlimited Company
Site Location: Ballinrink, Oldcastle, Co. Meath

Agent: CLW Environmental Engineers, The Mews, 23 Farnham St, Cavan, Co. Cavan

The IH124 method was specifically introduced as an update to the original Flood Studies Report (1975) to address the runoff from small catchments (CIRIA C697 and IH124)

$$Q_{BAR}\ RURAL\ (m^3/s) = 0.00108\ AREA^{0.89} \times SAAR^{1.17} \times SOIL^{2.17}$$

- Q_{BAR} RURAL Is the mean annual flood flow from a rural catchment (43% AEP or 2.3 year return period).
- AREA is the area of the catchment (km^2)
- SAAR is the standard average annual rainfall
- SOIL is the Soil Index, SOIL - 0.1 SOIL1 + 0.3 Soil2 + 0.37 Soil3 +0.47 Soil4 + 0.53 Soil5
- The soil type is selected based on the Flood Studies or the Wallingford Procedure WRAP maps.

Inputs

AREA:	4.0524	Ha	Site AREA is 4.0524Ha. As site is <50Ha, use 50Ha
SAAR:	970	mm	Grid Reference E:249172 N:280342 - Met Eireann Mean Annual Rainfall Data
Soil:	0.1		FSR SPR value for SOIL type 1 is 0.1

Outputs

Q_{BAR} RURAL (l/s/Ha)-	0.25
Site Area (Ha)-	4.0524
Q_{BAR} RURAL (l/s)-	1.00

	l/s
Q_1 =	0.85
Q_{30} =	2.09
Q_{100} =	2.60

Growth Curve Factors (GDSDS)	
Return Period (years)	Growth Curve Factor
1	0.85
Q_{BAR}	1
10	1.7
30	2.1
100	2.61
200	2.9

Figure 4 - Greenfield Runoff Rate Calculations

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BREAKDOWN OF SITE AREAS

Table 11.4 of the CIRIA SuDS Manual 2015 provides typical runoff coefficients to be applied for different impermeable areas. Table 11.4 of the CIRIA SuDS Manual 2015 can be seen below in Figure 5. A 95% runoff coefficient was applied to the roof areas of the proposed sheds. A 75% runoff coefficient was applied to the concrete pad, footpath areas, and roadway surfaces.

Suggested initial runoff coefficients for RWH yield analysis (from BS 8515:2009+A1:2013)	
Surface type	**Runoff coefficient**
Pitched roof with profiled metal sheeting	0.95
Pitched roof with tiles	0.90
Flat roof without gravel	0.80
Flat roof with gravel	0.60
Green roof, intensive[1]	0.30
Green roof, extensive[1]	0.60
Permeable pavement (concrete blocks)[2]	0.60
Road/pavement	0.75

Figure 5 - Table 11.4 of the CIRIA SuDS Manual 2015

The breakdown of the site areas can be seen in Table 1 below. By applying a runoff co-efficient to the impermeable surfaces, the effective total runoff area of the site was reduced to 14,536.1m^2.

	Measured Area	Effective Runoff Area
Total Site Area	40,524m^2	
Existing Building 1 Roof Area	613.6m^2	582.9m^2
Proposed Extension 1A Roof Area	354.2m^2	336.5m^2
Existing Building 6 Roof Area	414.8m^2	394.1m^2
Existing Building 7 Roof Area	413.9m^2	393.2m^2
Existing Building 23 Roof Area	313.3m^2	297.6m^2
Proposed Building 28 Roof Area	150m^2	142.5m^2
Proposed Building 29 Roof Area	1,090.5m^2	1,036m^2
Proposed Building 30 Roof Area	1,090.5m^2	1,036m^2
Proposed Building 31 Roof Area	1,496.2m^2	1,421.4m^2
Proposed Building 32 Roof Area	2,093.3m^2	1,988.6m^2
Proposed Building 33 Roof Area	548.3m^2	520.9m^2
Proposed Building 34 Roof Area	1,975.8m^2	1,877m^2
Proposed Concrete Pad Area	1,180.4m^2	885.3m^2
Proposed Footpath Areas	443.8m^2	332.9m^2
Service Road Areas	4,383.5m^2	3,287.6m^2
Remaining Green Areas	23,961,9m^2	
Total Effective Runoff Area		14,536.1m^2

Table 1 - Breakdown of Impermeable Areas

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SUDS MANAGEMENT TRAIN

The proposed surface water drainage system has been designed in compliance with the *Greater Dublin Strategic Drainage Study (GDSDS) Regional Drainage Policies Volume 2, for New Developments,* and the *Greater Dublin Regional Code of Practice for Drainage Works Volume 6.*

Surface water drainage systems developed in-line with the ideals of sustainable development are collectively referred to as sustainable drainage systems (SuDS). They are a mandatory requirement of each Local Sanitary Authority. SuDS are a method of replicating the natural characteristics of rainfall runoff from any site. They provide hydraulic, water quality and environmental benefits. Some form of infiltration or retention/storage normally achieves this.

These systems are designed both to manage the environmental risks resulting from urban runoff and to contribute wherever possible to environmental enhancement. SuDS objectives are to minimise the impacts from the development on the quantity and quality of the runoff and maximise amenity and biodiversity opportunities. The objectives should all have equal standing, and the ideal solution will achieve benefits in all three categories, although the extent to which this is possible will depend on site characteristics and constraints. The philosophy of SuDS is to replicate, as closely as possible, the natural drainage from a site before development.

To mimic the natural catchment processes as closely as possible, a "management train" is required. This concept is fundamental to designing a successful SuDS scheme – it uses drainage techniques in series to incrementally reduce pollution, flow rates and volumes. A stormwater management system or treatment train which incorporates a number of SuDS features ensures that the surface water run-off quantity and run-off quality from this development site are improved.

The hierarchy of techniques that should be considered in developing the management train are as follows:

- Prevention – the use of good site design and site housekeeping measures to prevent runoff and pollution (e.g. sweeping to remove surface dust and detritus from car parks), and rainwater reuse/harvesting. Prevention policies should generally be included within the site management plan.
- Source control – control of runoff at or very near its source (e.g. soakaways, other infiltration methods, green roofs, pervious pavements).
- Site control – management of water in a local area or site (e.g. routing water from building roofs and car parks to a large soakaway, infiltration or detention basin).

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SUDS FEATURES SELECTION HIERARCHY

Table 2 below showcases the hierarchy of selection for different SuDS devices and features for this development site and why some were selected and others not.

SuDS Measures	Used on Site	Selection/Elimination Rationale	Area of Feature (m^2)	Atten. Volume (m^3)
Source Control				
Swales	Yes	Best suited SuDS feature for the development site.	1,322.5	961
Tree Pits	No	Other SuDS Features Selected.	NA	NA
Downpipe Planters	No	Roof area is too large.	NA	NA
Rainwater Harvesting	No	Roof area is too large for downpipe rainwater harvesting.	NA	NA
Soakaways	No	Large impermeable surfaces unsuited for soakaways.	NA	NA
Infiltration Trenches	No	Not considered for the same reason as soakaways.	NA	NA
Permeable Pavement (Grasscrete, Block Paving, Porous Asphalt)	No	This is an agricultural development where heavy machinery will pass, and permeable pavement may not be best suited.	NA	NA
Green Roofs	No	Roof style and material pre-selected by architects.	NA	NA
Green Wall	No	The wall style and choice selected by architect.	NA	NA
Filter Strips	No	Not considered for the same reason as soakaways.	NA	NA
Bio-Retention/ Raingarden	No	Swales favoured as there is concern with contamination if water is stored permanently on site.	NA	NA
Blue Roofs	No	Roof style and material pre-selected by architects.	NA	NA
Filter Drain	No	Not considered for the same reason as soakaways.	NA	NA
Site Control				
Detention Basin	No	Swales selected instead.	NA	NA
Retention Basin	No	Swales selected instead.	NA	NA
Regional Control				
Ponds	NA	The development site is too small to consider regional controls.	NA	NA
Wetlands	NA	The development site is too small to consider regional controls.	NA	NA
Other				
Petrol/Oil Interceptor	Yes	This is an agricultural development which will see vehicular traffic and it is best practice to include a Petrol/ Oil Interceptor.	NA	NA
Attenuation Tank	No	All required attenuation volume storage can be catered for by the proposed Swales.	NA	NA
Oversized Pipes	No	Not required.	NA	NA

Table 2 - Hierarchy of Selected SuDS Features

A performance table assessing the 4 pillars of SuDS (Quantity, Quality, Biodiversity, Amenity) has been prepared for the selected surface water drainage features for this development. The performance table can be seen below in Table 3.

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4 Pillars of SuDS				
	Quantity	**Quality**	**Biodiversity**	**Amenity**
Source Control				
Swales	Good	Good	Good	Good
Site Control				
NA	NA	NA	NA	NA
Other				
Petrol/Oil Interceptor	Moderate	Good	Poor	Poor

Table 3 - Assessment Under 4 Pillars of SuDS

SWALES

Swales are shallow, broad and vegetated channels designed to store and/or convey runoff and remove pollutants. They may be used as conveyance structures to pass the runoff to the next stage of the treatment train and can be designed to promote infiltration where soil and groundwater conditions allow. Additionally, check dams and berms also can be installed across the flow path of a swale in order to promote sediment settling and infiltration.

The main advantages of swales from a SuDS perspective are that they are easy to incorporate into landscaping, are good at removal of urban pollutants, reduce runoff rates and volumes, and that pollutants and blockages are visible and easily remediated. A disadvantage a swale as a SuDS feature is that it is not the most suitable for steep sites. A schematic drawing of a typical swale can be seen below in Figure 6.

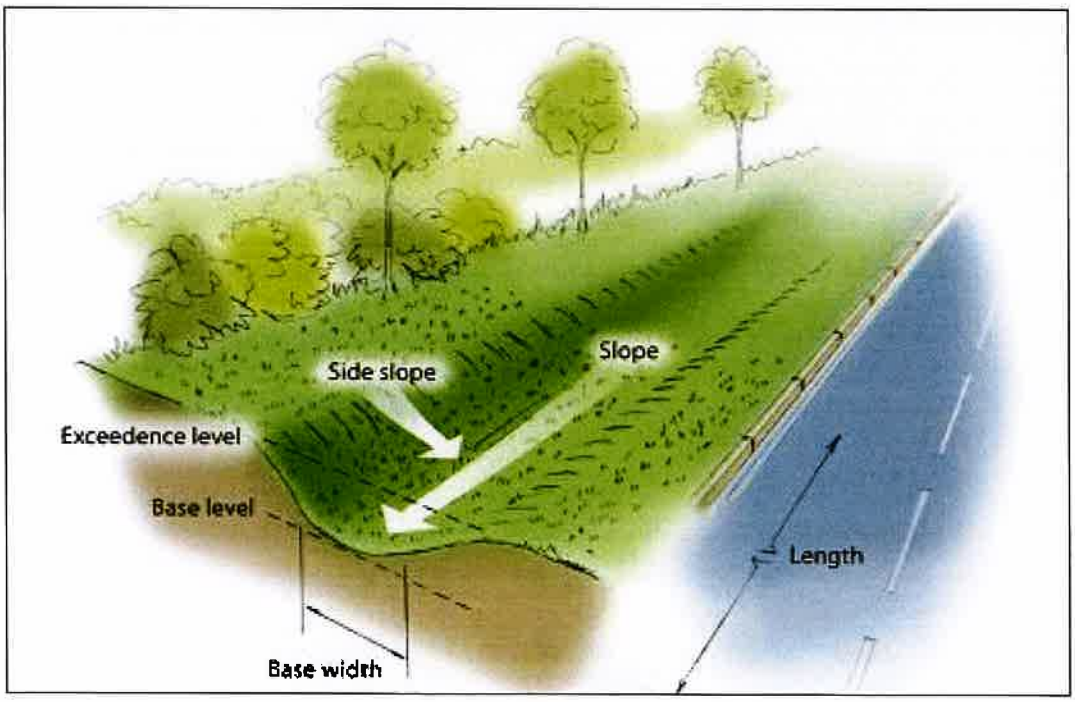

Figure 6 - Typical Schematic of a Swale

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It is proposed to install one swale at the bottom of the development site with a controlled outfall to the existing ditch drain to the northwest. To ensure that the proposed swale functions as intended at this development site, its configuration has been set so that it is approximately aligned longitudinally with the contours of the site. A number of check-dams are proposed to be installed within the swale to restrict and retain runoff water across the entire swale rather than ponding at the low section. Additionally, it is proposed to cut and fill the GL of the location of the swale to ensure that a consistent gradient and outfall can be maintained. This will significantly reduce the steepness of the site at the proposed swale location ensuring that it can function satisfactorily. An image of a constructed swale with gravel check dams can be seen below in Figure 7.

Figure 7 - Swale with Check Dams – (https://megamanual.geosyntec.com/npsmanual/checkdams.aspx)

The swale will also contain berms/check dams constructed from a permeable stone material to maximise the attenuation storage within the swale. A schematic of the proposed configuration can be seen in the attenuation storage long section drawing.

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OIL/PETROL INTERCEPTOR

A petrol/oil interceptor or separator is a trap used to filter out hydrocarbon pollutants from rainwater runoff. There are two classes of interceptors which are defined by performance.

Class 1: Class 1 Interceptors are designed to achieve a concentration of less than 5mg/L of oil under standard test conditions. These conditions are required for discharges to surface water drains and the water environment.

Class 2: Class 2 Separators are designed to achieve a concentration of less than 100 mg/L oil under standard test conditions and are suitable for dealing with discharges where a lower quality requirement applies, such as discharges to the foul sewer.

For this proposed development site, it is proposed to install a Kingspan Klargester NSBE030 to cater for the runoff from the proposed development impermeable areas. The proposed interceptor shall be located upstream of the proposed swale to capture any hydrocarbons upstream of the attenuation storage system.

A typical cross section of a Class 1 By-Pass Petrol/Oil Interceptor can be seen in Figure 8 below.

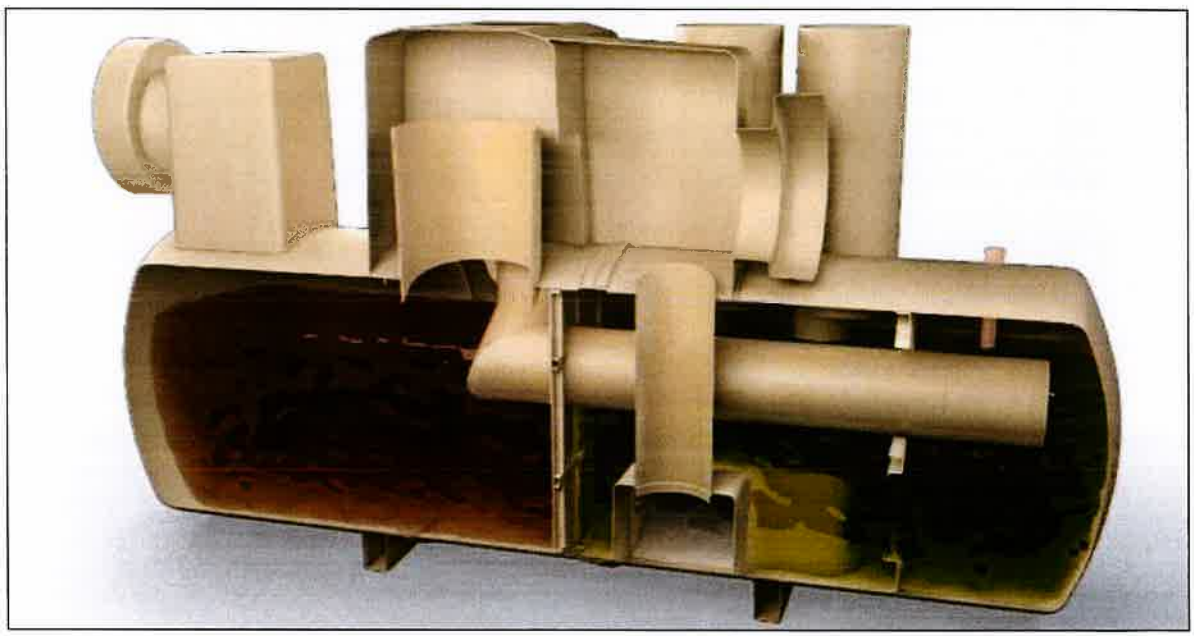

Figure 8 - Cross Section of a Class 1 By-Pass Petrol/Oil Interceptor

DESIGN PARAMETERS

The proposed swale system is appropriately sized to cater for the entire runoff from this development site during the peak 100-year rainfall event including an allowance of 20% for climate change without flooding. The lowest point of the base of the proposed swale attenuation system shall be 65.51mOD, above the top bank of the receiving ditch drain.

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REQUIRED ATTENUATION VOLUME

The required attenuation volume for the impermeable surface areas for the proposed development can be seen in Figure 9 below. The minimum required attenuation storage volume is 360.96m³ and this occurs during the 24-hour duration storm event for the 100-year return period including 20% allowance for climate change.

Return Period (Years):	100
Impermeable Area (m^2):	14536.10
Controlled Outflow (l/s):	8.10
Climate Change Increase Allowance:	20%

Required Attenuation Volume

Client: *Bogue Pigs Unlimited Company*

Site Location: Ballinrink, Oldcastle, Co. Meath

Agent: *CLW Environmental Engineers, The Mews, 23 Farnham St, Cavan, Co. Cavan*

Duration (time)	Duration (secs)	Rainfall Depth (mm)	Rainfall Depth Incl. Climate Change (mm)	Rainfall Intensity (mm/s)	Inflow Rate (m^3/s)	Inflow Rate (l/s)	Overflow Flow Rate (l/s)	Storage Rate (l/s)	Storage Volume (Litres)	Storage Volume (m^3)
5 mins	300	13.9	16.68	0.05560	0.80821	808.21	8.1	800.11	240032.1	240.0321
10 mins	600	19.4	23.28	0.03880	0.56400	564.00	8.1	555.90	333540.4	333.5404
15 mins	900	22.8	27.36	0.03040	0.44190	441.90	8.1	433.80	390417.7	390.4177
30 mins	1,800	28.2	33.84	0.01880	0.27328	273.28	8.1	265.18	477321.6	477.3216
1 hours	3,600	34.9	41.88	0.01163	0.16910	169.10	8.1	161.00	579611.9	579.6119
2 hours	7,200	43.1	51.72	0.00718	0.10442	104.42	8.1	96.32	693487.1	693.4871
3 hours	10,800	48.8	58.56	0.00542	0.07882	78.82	8.1	70.72	763754	763.754
4 hours	14,400	53.3	63.96	0.00444	0.06456	64.56	8.1	56.46	813089	813.089
6 hours	21,600	60.4	72.48	0.00336	0.04878	48.78	8.1	40.68	878616.5	878.6165
9 hours	32,400	68.3	81.96	0.00253	0.03677	36.77	8.1	28.67	928938.8	928.9388
12 hours	43,200	74.6	89.52	0.00207	0.03012	30.12	8.1	22.02	951351.7	951.3517
18 hours	64,800	84.5	101.4	0.00156	0.02275	22.75	8.1	14.65	949080.5	949.0805
24 hours	86,400	92.3	110.76	0.00128	0.01863	18.63	8.1	10.53	910178.4	910.1784
2 Days	172,800	104.5	125.4	0.00073	0.01055	10.55	8.1	2.45	423146.9	423.1469
3 Days	259,200	115.6	138.72	0.00054	0.00778	7.78	8.1	-0.32	-83072.2	-83.0722
4 Days	345,600	125.6	150.72	0.00044	0.00634	6.34	8.1	-1.76	-608479	-608.479
6 Days	518,400	143.8	172.56	0.00033	0.00484	4.84	8.1	-3.26	-1690691	-1690.69
8 Days	691,200	160.3	192.36	0.00028	0.00405	4.05	8.1	-4.05	-2802556	-2802.56

Figure 9 - Required Attenuation Volume Calculations

ATTENUATION VOLUME CALCULATIONS

It is considered that the swale system must provide the full attention volume storage required for this development. The calculations for the attenuation storage volume provided by the swale for the development can be seen below in Figure 10.

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Required Storage for 1 in 100 year Peak Rainfall Event:		
951.35 m^3	See Attenuation Volume Calculation Overleaf	
Proposed Attenuation System		
Proposed New Swale		
Void Ratio:	95%	
Length:	115	
Width:	11.5	
Depth:	1	
Bank Slope 1 in:	3	
Attenuation Volume:	961.00 m^3	
Total Volume:	**961.00**	**Proposed Storage Volume is Sufficient**

Figure 10 - Attenuation Storage Volume Calculations

An attenuation storage system comprised of 1 swale sized 115m(L) x 11.5m(w) x 1m(D) can provide a minimum storage capacity of 961m^3. In excess of the minimum required storage capacity of 951.4m^3 for the proposed impermeable surfaces of this new development. Please see the drainage layout drawing included in Appendix A of this report or the configuration of the swale.

SWALE MAINTENANCE PLAN

1. Inspection Schedule

After major storms: Check for erosion, sediment buildup, standing water >48 hrs, and damage to check dams.

Monthly: Inspect vegetation, flow paths, inlets/outlets, and look for debris, invasive plants, or burrows.

2. Key Maintenance Actions

Sediment:

Remove sediment when deposition behind any check dam reaches 30–50% of design depth.
Dispose or spread sediment without damaging vegetation.

Vegetation:

Maintain plant height at (10–20 cm).
Reseed bare areas promptly.
Remove invasives twice per year.

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Erosion Control:
Repair rills or gullies with soil and compaction.
Restore rock aprons where scour occurs.
Fix undercutting or burrows immediately.

Check Dam Maintenance:
Rock dams: Replace displaced stones; keep centre lower than edges.

Hydraulic Function:
Clear blockages at inlets/outlets.
Ensure even flow across the swale; correct high/low spots.

3. Seasonal Tasks

Spring: Reseed, clear debris, fix frost heave.
Summer: Vegetation care, irrigation for new plants.
Autumn: Final mowing, leaf removal, repair scour.
Winter: Keep critical inlets/outlets clear of ice; avoid heavy equipment on thawing soils.

4. Performance Indicators

Water infiltrates and outfalls within 24 – 48 hours.
Check dams remain structurally intact.
Vegetation covers >90% of soil.
Minimal erosion along the swale channel.

DESIGN CONSIDERATIONS

- The proposed surface water drainage system has been assessed based on the 100-year rainfall returns +20% allowance for climate change.
- The systems have been assessed and modelled for all storm durations ranging from 5 mins up to 8 days.
- Controlled outfall flow rates totalling up to 8.1l/s (equalling 2l/s/ha) were applied at the downstream outfall point of the system.
- Included in Appendix A is a layout of the proposed surface water drainage network and the proposed long section drawings through the different sections and features of the network.
- The proposed flow control device shall be a Hydro-Brake Optimum Vortex Flow Control Device (or similar approved device).
- The flow control devices shall be installed within a chamber such as a manhole in line with manufacturer specifications and shall be fitted with a minimum 225mm outlet pipe.
- It is proposed to install a pull cord by-pass for a high-level overflow during exceedance storm events.
- A penstock valve (Athlon Penstock ASA or similar approved device) must be installed at the inlet to the flow control chamber/manhole for maintenance.

- The proposed Class 1 By-Pass Petrol/Oil Interceptors (Kingspan NSBE030 or similar approved devices) will be located upstream of the proposed swales.
- The outfall to the existing ditch drain network shall incorporate a headwall with a non-return flap valve.
- A topographical survey was taken for this development site, including details of the receiving ditch drain.

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APPENDIX A

- Refer overleaf for the scaled topographical survey for this proposed development site.
- Refer overleaf for the Infiltration Rate Testing Report.
- Refer overleaf for scaled site layout drawings.
- Refer overleaf for the surface water drainage system layout and long section drawings.
- Refer overleaf for the HR Wallingford Greenfield Runoff Rate Report.

INFILTRATION RATE TESTING

Per

BRE Digest 365 TEST METHOD

Applicant: Bogue Farms
Site Location: Ballinrink, Oldcastle, Co. Meath

DATE OF REPORT: 20th November 2025

Prepared by

HYDROCARE
ENVIRONMENTAL LTD

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HCE Ref: 25-331

CLW Environmental Engineers
The Mews,
23 Farnham Street,
Cavan,
Co. Cavan

20th November 2025

FAO: Paraic Fay,, Engineer

Applicant: Bogue Farms
Site Location: Ballinrink, Oldcastle, Co. Meath

Infiltration testing was carried out on 30th September 2025 at the above location per BRE digest 365 method. Results of testing are summarised below for your information.

Test Hole No.	*Depth of Hole [mBGL]*	*Water Table Level [mBGL] (N/A if not encounterd)*	*Bedrock Level [mBGL] (N/A if not encounterd)*	*Infiltration Rate [m/s]*
1	1.40	NA	NA	1.30E-05
2	1.40	NA	NA	1.52E-05

Further information relating to specific test details are appended herewith for your information.

Yours sincerely,

Daniel Nolan, BA BAI, Msc Environmental Engineering, FETAC Site Assessor, MIEI

Hydrocare Environmental Ltd. - BRE365 Design Calculations

CLIENT:	**Bogue Farms**
LOCATION:	**Ballinrink, Oldcastle, Co. Meath**
TEST HOLE NO.:	**1**

Infiltration Rate

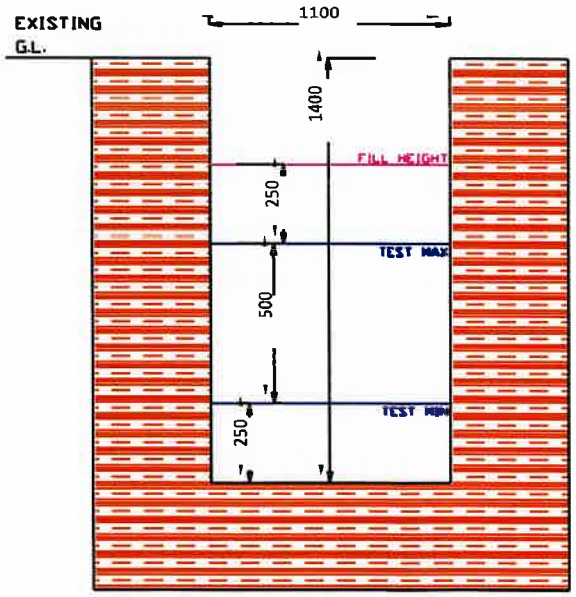
Test Hole Information:	
Length [m]	1.70
Width [m]	1.10
Depth of hole [m]	1.40
Water filled to [mBGL]	0.40
Water Table [mBGL]	NA
Base of Test [mBGL]	1.40
Bedrock [mBGL]	NA
Drop Time [min]	256

V_{p75-25} = 1.7 x 1.1 x (0.75 - 0.25) = 0.935 m^3

A_{p50} = (1.7 x 0.5 x 2) + (1.1 x 0.5 x 2) + (1.7 x 1.1) = 4.67 m^2

$$f = \frac{0.935}{4.67 \times 255.905511811024 \times 60} = 1.30E\text{-}05 \text{ m/s}$$

Note: Base of test is bottom of test hole unless water table is encountered



BRE 365 TEST HOLE

Date: 30th September 2025
Client: Bogue Farms
Location: Ballinrink, Oldcastle, Co. Meath

Hydrocare Environmental Ltd. - BRE365 Design Calculations

CLIENT:	**Bogue Farms**
LOCATION:	**Ballinrink, Oldcastle, Co. Meath**
TEST HOLE NO.:	**2**

Infiltration Rate

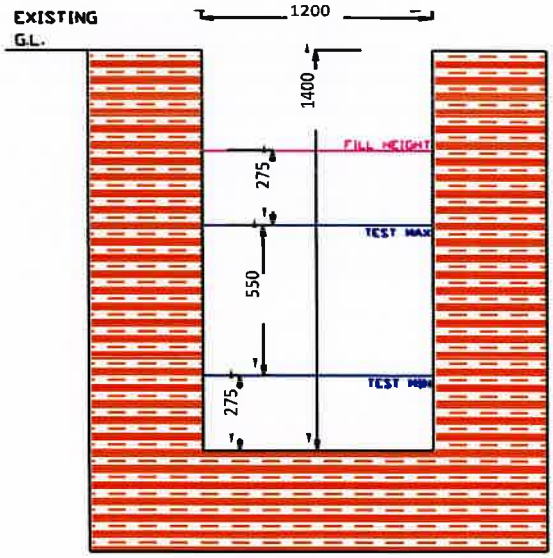
Test Hole Information:	
Length [m]	1.80
Width [m]	1.20
Depth of hole [m]	1.40
Water filled to [mBGL]	0.30
Water Table [mBGL]	NA
Base of Test [mBGL]	1.40
Bedrock [mBGL]	NA
Drop Time [min]	238

V_{p75-25} = 1.8 x 1.2 x (0.825 - 0.275) = 1.188 m^3

A_{p50} = (1.8 x 0.55 x 2) + (1.2 x 0.55 x 2) + (1.8 x 1.2) = 5.46 m^2

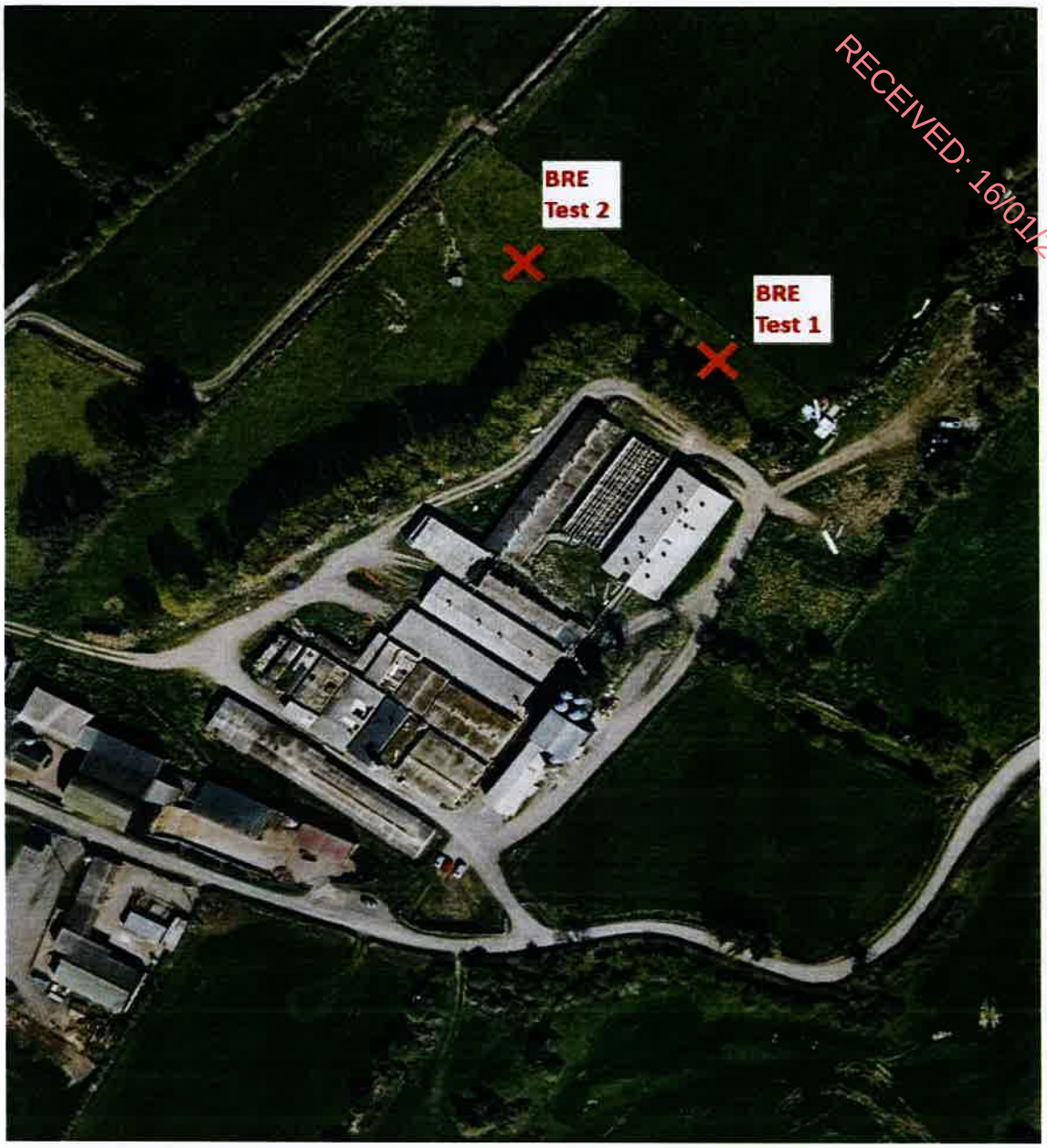
$$f = \frac{1.188}{5.46 \times 238.188976377953 \times 60} = 1.52E\text{-}05 \text{ m/s}$$

Note: Base of test is bottom of test hole unless water table is encountered



BRE 365 TEST HOLE

Date: 30th September 2025
Client: Bogue Farms
Location: Ballinrink, Oldcastle, Co. Meath



Met Eireann
Return Period Rainfall Depths for sliding Durations
Irish Grid: Easting: 254542, Northing: 277615,

	Interval		Years								
DURATION	6months,	1year,	2,	3,	4,	5,	10,	20,	30,	50,	75,	100,	120,
5 mins	2.7,	3.7,	4.3,	5.1,	5.7,	6.1,	7.5,	9.1,	10.1,	11.6,	12.9,	13.9,	14.6,
10 mins	3.7,	5.2,	5.9,	7.1,	7.9,	8.5,	10.5,	12.7,	14.1,	16.2,	18.0,	19.4,	20.3,
15 mins	4.4,	6.1,	7.0,	8.3,	9.3,	10.0,	12.3,	14.9,	16.6,	19.0,	21.2,	22.8,	23.9,
30 mins	5.8,	7.9,	9.1,	10.7,	11.9,	12.8,	15.6,	18.8,	20.8,	23.7,	26.3,	28.2,	29.5,
1 hours	7.6,	10.3,	11.7,	13.8,	15.2,	16.3,	19.8,	23.6,	26.1,	29.5,	32.6,	34.9,	36.4,
2 hours	10.0,	13.5,	15.2,	17.8,	19.5,	20.8,	25.0,	29.7,	32.7,	36.8,	40.4,	43.1,	45.0,
3 hours	11.8,	15.7,	17.7,	20.7,	22.6,	24.1,	28.8,	33.9,	37.2,	41.8,	45.8,	48.8,	50.9,
4 hours	13.3,	17.5,	19.7,	22.9,	25.0,	26.6,	31.7,	37.3,	40.9,	45.8,	50.1,	53.3,	55.5,
6 hours	15.6,	20.5,	23.0,	26.6,	29.0,	30.8,	36.5,	42.7,	46.6,	52.1,	56.8,	60.4,	62.7,
9 hours	18.4,	23.9,	26.8,	30.8,	33.5,	35.5,	41.9,	48.8,	53.2,	59.2,	64.4,	68.3,	71.0,
12 hours	20.7,	26.7,	29.8,	34.2,	37.1,	39.3,	46.2,	53.7,	58.4,	64.9,	70.4,	74.6,	77.4,
18 hours	24.3,	31.2,	34.7,	39.7,	42.9,	45.4,	53.1,	61.4,	66.6,	73.7,	79.9,	84.5,	87.6,
24 hours	27.3,	34.9,	38.7,	44.1,	47.6,	50.3,	58.6,	67.5,	73.1,	80.8,	87.3,	92.3,	95.5,
2 days	34.4,	43.0,	47.2,	53.3,	57.1,	60.0,	69.1,	78.6,	84.5,	92.6,	99.4,	104.5,	107.9,
3 days	40.5,	50.0,	54.6,	61.2,	65.3,	68.5,	78.2,	88.3,	94.6,	103.0,	110.2,	115.6,	119.1,
4 days	46.0,	56.3,	61.3,	68.3,	72.8,	76.1,	86.4,	97.1,	103.7,	112.6,	120.0,	125.6,	129.3,
6 days	56.1,	67.8,	73.4,	81.2,	86.2,	89.9,	101.2,	112.9,	120.2,	129.8,	137.8,	143.8,	147.8,
8 days	65.4,	78.2,	84.4,	93.0,	98.4,	102.4,	114.7,	127.3,	135.0,	145.3,	153.9,	160.3,	164.5,
10 days	74.1,	88.1,	94.8,	104.0,	109.8,	114.1,	127.3,	140.7,	148.9,	159.8,	168.8,	175.6,	180.0,
12 days	82.5,	97.5,	104.6,	114.5,	120.7,	125.3,	139.2,	153.3,	162.0,	173.4,	183.0,	190.0,	194.6,
16 days	98.5,	115.4,	123.3,	134.3,	141.2,	146.3,	161.6,	177.2,	186.6,	199.1,	209.4,	217.1,	222.0,
20 days	113.8,	132.4,	141.2,	153.1,	160.6,	166.2,	182.8,	199.6,	209.8,	223.1,	234.2,	242.4,	247.7,
25 days	132.3,	152.9,	162.5,	175.7,	183.9,	189.9,	208.0,	226.2,	237.2,	251.6,	263.5,	272.3,	278.0,

NOTES:
These values are derived from a Depth Duration Frequency (DDF) Model update 2023
For details refer to:
'Mateus C., and Coonan, B. 2023. Estimation of point rainfall frequencies in Ireland. Technical Note No. 68. Met Eireann',
Available for download at:
http://hdl.handle.net/2262/102417

Greenfield runoff rate estimation tool

wallingford www.uksuds.com | Greenfield runoff rate estimation tool (https://www.uksuds.com/)

iis is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with ıvı. ıment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 IRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be e basis for setting consents for the drainage of surface water runoff from sites.

roject details

te	24/11/2025
ılculated by	A. Bacaoanu
ference	25-331
ɔdel version	2.2.2

ɔcation

:e name	Bogue Pigs Unlimited Company
: ation	Ballinrink, Oldcastle, Co. Meath

:e easting (Irish Grid)	249197
:e northing (Irish Grid)	280346
:e easting (Irish Transverse Mercator)	649138
:e northing (Irish Transverse Mercator)	780363

ite details

t te area (ha)	4.0524	ha

reenfield runoff

lethod

ethod	IH124

l124

	My value		Map value
AR (mm)	1001 mm		1001
w should SPR be derived?	WRAP soil type		
AP soil type	1		1
R	0.1		
ar (IH124) (l/s)	1 l/s		

rowth curve factors

	My value		Map value
drological region	12		12
ear growth factor	0.85		
ear growth factor	0.95		
year growth factor	1.72		
year growth factor	2.13		
) year growth factor	2.61		
0 year growth factor	2.86		

esults

ethod	IH124
w rate 1 year (l/s)	0.9 l/s
w rate 2 year (l/s)	1.0 l/s
w rate 10 years (l/s)	1.8 l/s
w rate 30 years (l/s)	2.2 l/s
w rate 100 years (l/s)	2.7 l/s
w rate 200 years (l/s)	3.0 l/s

ase note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal ce. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent 'zero' ures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

sclaimer

HYDROCARE
ENVIRONMENTAL LTD

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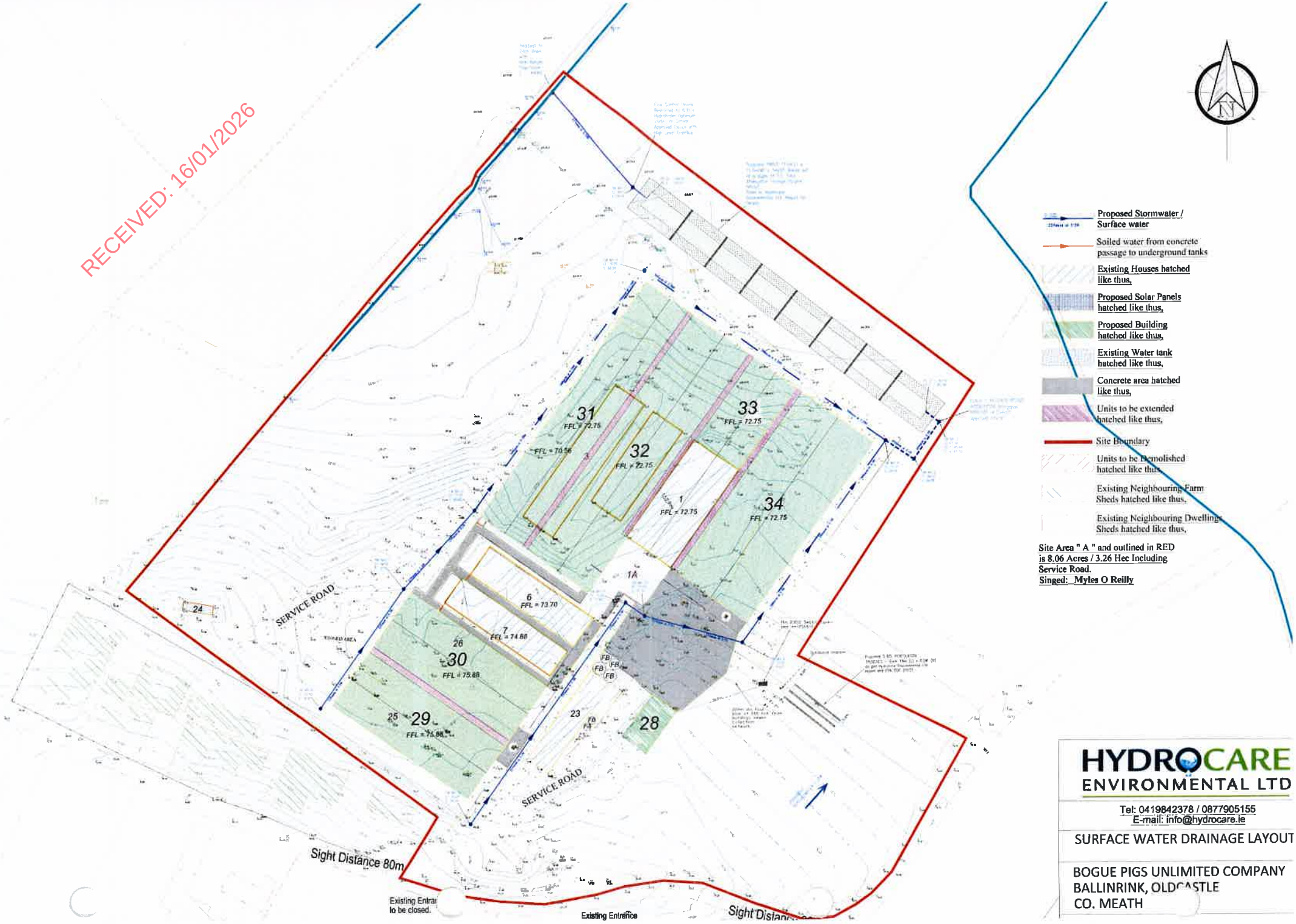
TOPOGRAPHICAL SURVEY

BOGUE PIGS UNLIMITED COMPANY
BALLINRINK, OLDCASTLE
CO. MEATH



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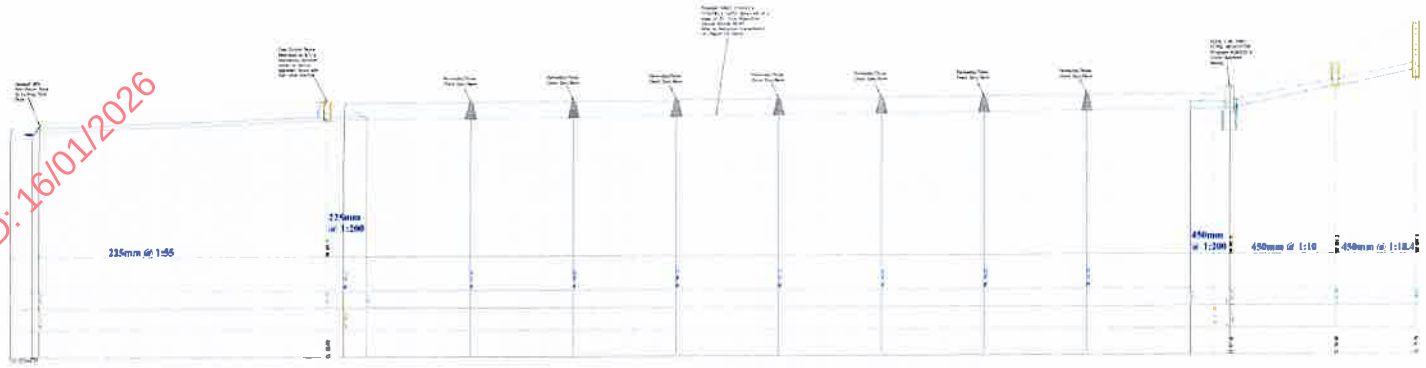
SURFACE WATER DRAINAGE LAYOUT

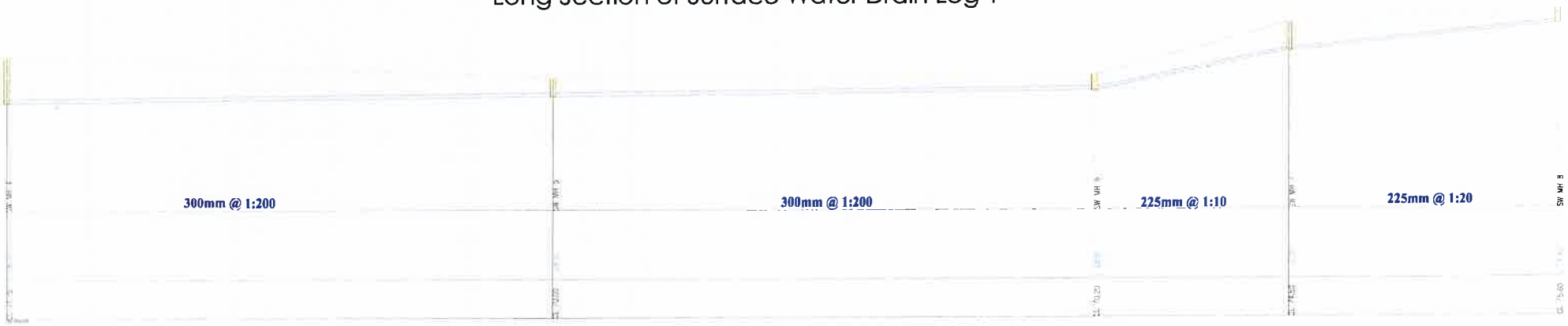
BOGUE PIGS UNLIMITED COMPANY
BALLINRINK, OLDCASTLE
CO. MEATH

FOR PLANNING PURPOSES ONLY
NOT CONSTRUCTION ISSUE

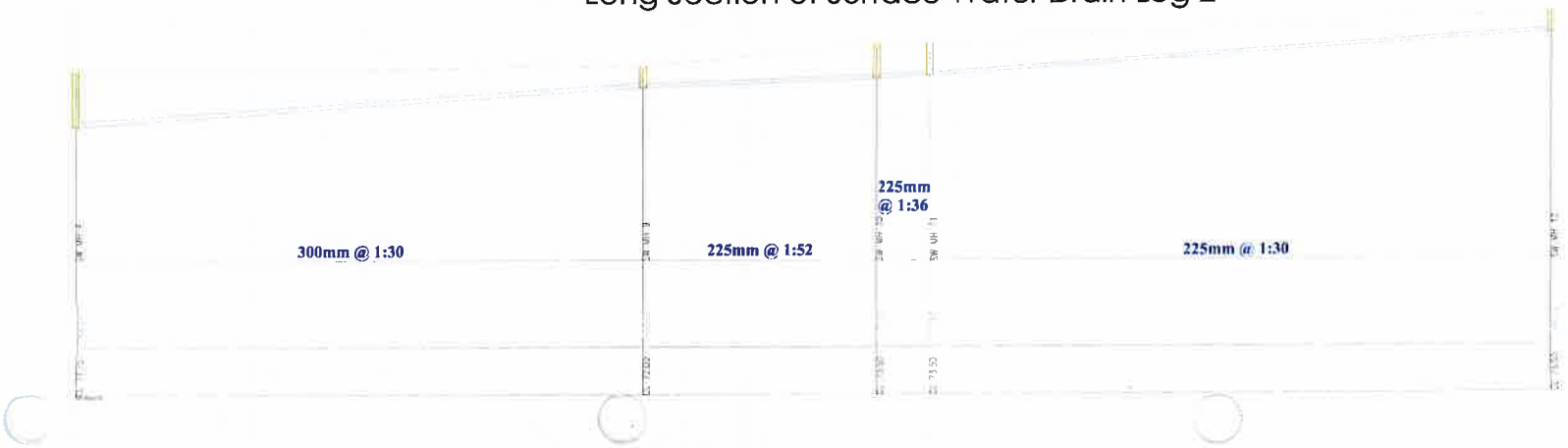
Long Section of Swale Drainage System



Long Section of Surface Water Drain Leg 1



Long Section of Surface Water Drain Leg 2



HYDROCARE ENVIRONMENTAL LTD
Tel: 0419842378 / 0877905155
E-mail: info@hydrocareenvironmental.ie

SW Drainage Long Sections

BOGUE [illegible] LIMITED COMPANY
BALLIN[illegible] LDCASTLE
CO. MEA[illegible]

fpmccann

Precast Concrete Solutions

Headwalls

Drainage & Water Management

Introduction

FP McCann's precast concrete headwalls provide an ideal end connection point to outfall pipes into open watercourses such as rivers, culverts, collection and balancing ponds. They are a very efficient alternative to intrusive shuttering of soil embankments and costly on-site formwork with ready-mixed concrete, making them particularly suitable for use in hard to reach locations and in environmentally sensitive areas.

Where time constraints exist such as in tidal flow situations, concrete headwalls can be quickly positioned, secured and backfilled, providing immediate stability around the point of water discharge.

The FP McCann headwall range can accommodate pipe sizes from DN150 to DN2100 and is suitable for usage with box culverts. Additionally, accessories such as flap valves, penstocks, silt traps, handrails and safety grating can be built in as part of the specification.

A front weir wall can be fabricated onto any of the standard headwall range on request and installation is quick and easy.

Benefits

- **Headwalls are designed to EC2 and manufactured to BS EN 13369. (Full design calculations available to illustrate design assumptions).**
- **Prefabricated off-site**
- **Speedy and efficient to install**
- **Durable, long-lasting and low maintenance**
- **No on-site shuttering or formwork required**
- **Provides immediate stability and reduces soil erosion**
- **Valve and safety accessories available**
- **Cost-effective solution**
- **Significantly reduces the potential for floating debris to block the watercourse**
- **Installation with 2 or 3 lifting anchors**
- **Flap valves and grates available**
- **Reduces carbon footprint as no need to bring in lorries to site to pour in-situ**
- **The extended toe unit is available for all sizes making the entire headwall range compliant with Sewers for Adoption (SFA) and Sewers for Scotland**
- **The headwalls are considered to accord with the requirements indicated in Fig. C.5 (Typical Details) of Sewers for Adoption**

Key Site Safety Benefits

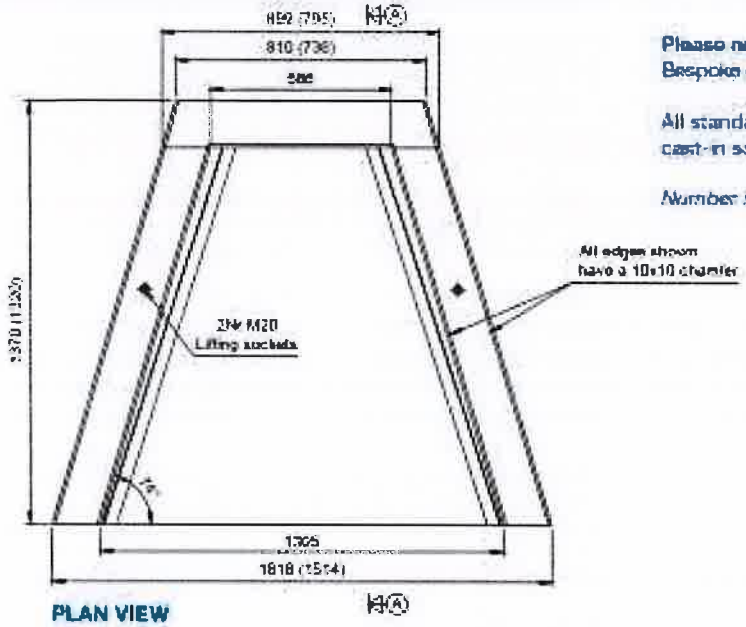
Safety hand rails can be used with our full range of headwalls. Health and safety risks are minimised because the construction work takes place off-site and installation is quick and easy.

Headwall Range - Quick Reference Guide

Headwall Range	Up to & including Pipe Sizes	Max Pipe O.D. mm	Page No.
HW Small 100	300	450	4
HW Small 150	300	450	4
HW Medium 100	450	630	5
HW Medium 150	450	630	5
HW Large 100	900	1130	6
HW Large 200	900	1130	6
HW XL-T1	1500	1800	7
HW XL-T2	1050	1350	8
HW XL-T3	675	950	9
HW XL-T4	375	550	10
HW XXL-T1	2100	2450	11
HW XXL-T2	1500	1800	12
HW XXL-T3	1050	1350	13
HW XXL-T4	525	800	14

• Small
headwall

Pipe size: up to 300mm

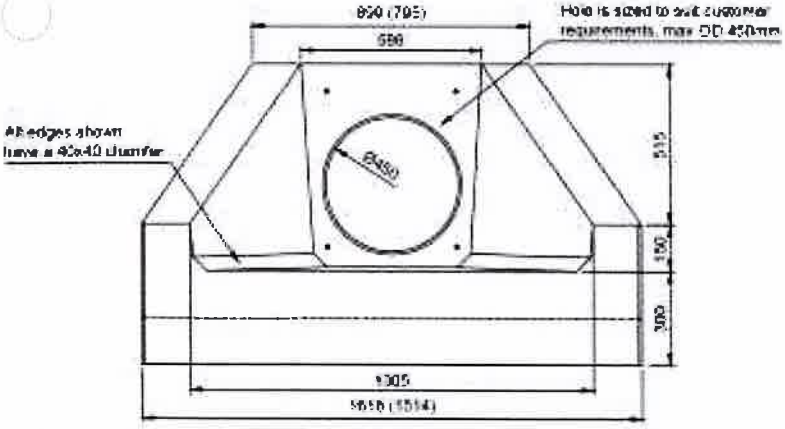


PLAN VIEW

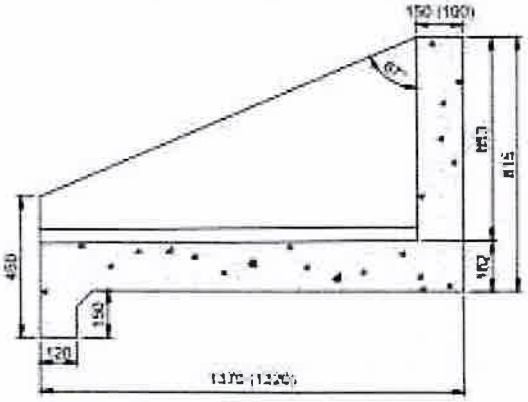
Please note:
Bespoke grates and handrails are available upon request.

All standard headwalls are supplied complete with toe and 2 or 3 cast-in screw thread sockets and lifting loops.

Number in brackets relates to small headwall with 140mm wall.



FRONT ELEVATION



SECTION A-A

Headwall Range	Up to and including Pipe Sizes	Max Pipe O.D.	Back Wall Height (external)	Front Wall Height (external)	Backwall Width (internal)	Front Wall Width (internal)	Headwall Length	Standard Invert Level (variable)	Wall Thickness	Floor Thickness	Approx. weight kg
KW Small 100	300	450	615	450	586	1305	1320	100	100	162	1100
KW Small 150	300	450	815	450	586	1305	1370	100	150	162	1390

Design Data

Hydro-Brake® Optimum

Vortex Flow Control

Inspired by nature and engineered to deliver the perfect curve, the Hydro-Brake® Optimum is the most advanced vortex flow control available. There is no equivalent to the Hydro-Brake® Optimum when it comes to delivering the best possible hydraulic performance with a passive flow control.

With a wide range of configurations and options available, the Hydro-Brake® Optimum is able to provide precision flow control to suit the vast majority of applications.

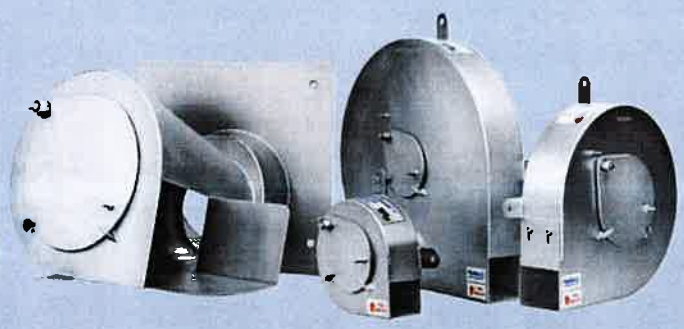


Figure 1 - The Hydro-Brake® Optimum is designed and manufactured to deliver precise, repeatable flow control.

Precision Engineered Vortex Flow Controls

Each Hydro-Brake® Optimum is custom configured to suit the application and is manufactured under strict quality assurance procedures to deliver precise flow control to exacting requirements.

Every unit is backed by significant R&D investment to fine-tune the performance, meaning that the Hydro-Brake® Optimum is the only vortex flow control to have been independently certified by the BBA and WRc.

BBA APPROVAL INSPECTION TESTING CERTIFICATION CERTIFICATE 08/4596

wrc approved PT/409/0417

Benefits

- Manufactured from high grade stainless steel.
- Future proof – adjustable or replaceable inlet plates available to alter flow rates post-installation.
- Configurations available to suit a wide variety of installations.
- Large cross sectional area at all heads.
- Simple installation.
- Self-activating.
- No moving parts or external power requirement.

Versatile and Flexible

At Hydro International, we pride ourselves on providing solutions that meet your requirements, rather than providing a standard solution and asking you to compromise on your project needs.

The Hydro-Brake® Optimum offers designers options to precision-engineer a vortex flow control to:

- Minimise upstream storage volumes.
- Maximise internal (inlet & outlet) cross sectional areas to prevent blockages.
- Build-in a climate change factor to allow for future changes in flow rate.

Furthermore, if you need to retrofit a flow control, our dedicated team of engineers can assist with providing a customised Hydro-Brake® Optimum suitable for installation into existing drainage infrastructure.

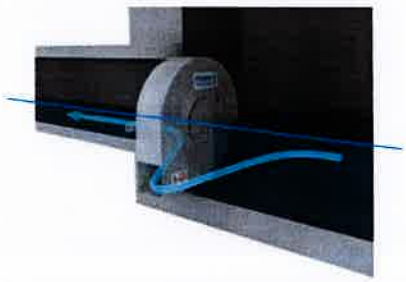
Design Data
Hydro-Brake® Optimum
Vortex Flow Control

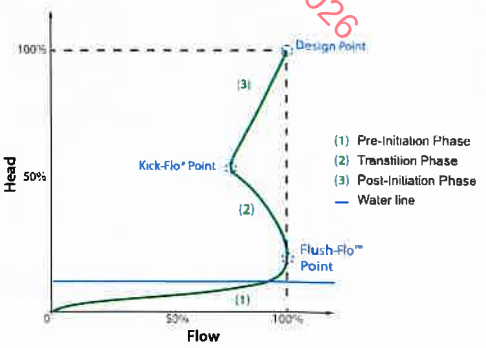
Operating Principles

The hydraulic behaviour of the Hydro-Brake® Optimum is described by its hydraulic characteristic curve, which relates the discharge flow from the unit to the hydraulic head acting upon that unit.

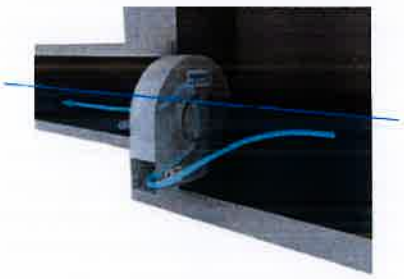
The hydraulic characteristic curve consists of three distinct sections, each corresponding to a different governing flow control regime:

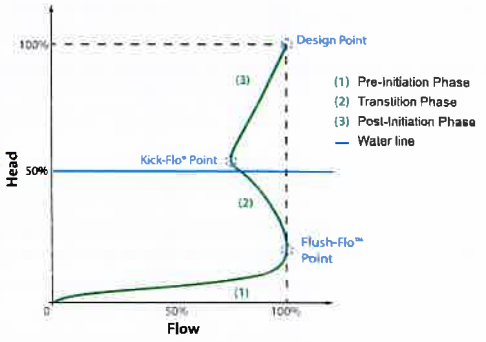
1. The pre-initiation phase – governed by orifice flow and defined on the characteristic curve as the region between the origin and the point at which the vortex begins to have a throttling effect (Flush-Flo™ point). In this region, the depth of water is below the soffit of the outlet orifice of the Hydro-Brake® Optimum.



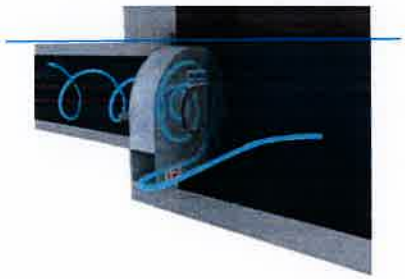


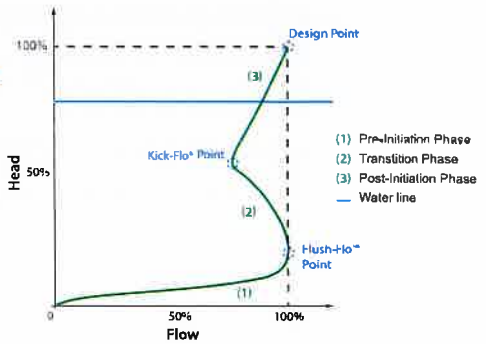
2. The transition phase – governed by vortex formation and defined on the characteristic curve as the region between the Flush-Flo™ and the point at which the vortex has fully initiated (Kick-Flo® point). In this region the vortex will continually form and collapse. A trapped volume of air inside the Hydro-Brake® Optimum will exert a backpressure and cause the discharge rate to reduce even though the hydraulic head continues to increase.





3. The post-initiation phase – governed by stable vortex flow and defined on the characteristic curve as the region above the Kick-Flo® point. A stable vortex is formed and sustained. An air filled core at the centre of the vortex acts as a pseudo-physical flow restriction by reducing the cross sectional area available for the passage of water.





Design Flexibility

It is possible for the Design Point to be achieved using a number of different flow control configurations, each with a different hydraulic response or characteristic curve.

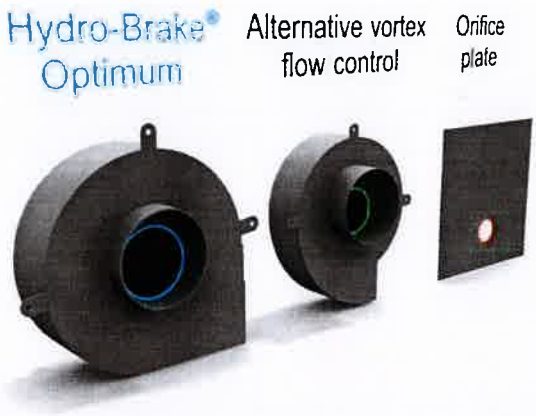
An in-depth understanding of the flow regimes and interactions at each stage of the hydraulic characteristic curve allows custom configuration of the Hydro-Brake® Optimum to achieve the hydraulic profile best suited to the site requirements.

Hydro-Brake® Flow Control Series
Hydro-Brake® Hotline: 01275 337937
hydrobrake@hydro-int.com

Resilience by Design

Hydro-Brake® Optimum has outlets (clearances) up to 20% larger than competitor products to minimise the risk of blockages. All units are fitted with a pivoting bypass door to enable full access to the internal chamber and the outlet structure in the event that a blockage does occur.

All Hydro-Brake® Optimum units can also be supplied with an adjustable or replaceable inlet to future-proof the device, allowing flows to be altered post-installation, to account for site expansion or climate change.



Expert Design Support Services

Hydro International's professional engineers work with you to provide expert technical and aftersales support to ensure your projects meet exacting design requirements and deliver the very best hydraulic controls for your site.

With over 35 years' experience of flow control knowledge and experience, Hydro International's design support team is available to advise on any aspect of water flow management, including detailed modelling of vortex flow controls and composite outlet structures.

Call the Hydro-Brake® Hotline on: 01275 337937 or email hydrobrake@hydro-int.com

Hydro-Brake® Optimum Design Tool

Engineers have the flexibility to try out any number of flow control iterations and explore their impact on hydraulic performance.

The Hydro-Brake® Optimum Design Tool allows you to quickly and easily compare a number of different flow control options for your site to develop the most robust and sustainable drainage solution possible.

In just 3 simple steps you can obtain:

- Detailed dimensional drawings
- Hydraulic modelling data for direct import or copy/ paste into commercial hydraulic modelling software

www.hydrobrakeoptimum.com

Full MicroDrainage® Compatibility

Engineers can carry out sizing and flow rate calculations and conduct hydraulic modelling of drainage networks containing Hydro-Brake® Optimum units using the industry-standard MicroDrainage® modelling software.

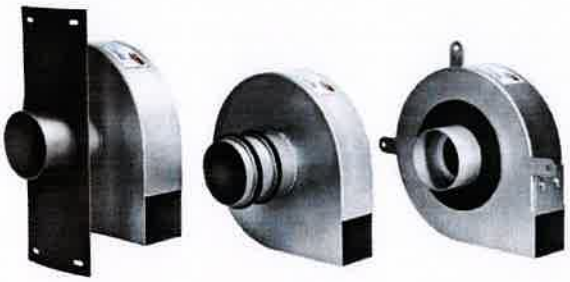
XP Solutions

Micro Drainage

Guides to modelling the Hydro-Brake® Optimum using the Hydro-Brake® Optimum Design Tool and MicroDrainage® are available for download at: www.hydrobrakeoptimum.com

Easy to Install

Hydro-Brake® Optimum has a range of mounting options for ease of installation or can be supplied ready fitted into a manhole chamber (with or without a weir wall) for simple plug-and-play installation. There are no set-up or commissioning requirements.



The Hydro-Brake® Flow Control Series

As a brand leader for vortex flow controls for more than 30 years, Hydro International continues to set the standard in flow control management technologies.

At Hydro International, we pride ourselves on our engineering excellence and in developing a range of flow control solutions, we have invested in significant research & development to validate their performance.

Hydro-Brake® Orifice

The low-cost option for unconstrainted sites (shown with optional screen).

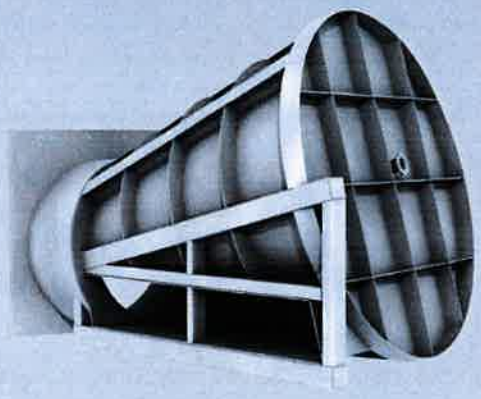
Hydro-Brake® Optimum

The vortex flow control with no equvalent, delivering Nature's Perfect Cuve with no moving parts and independently verified by the BBA and WRc.

Hydro-Brake® Agile

Precision engineered flow control for highly constrained applications.

Hydro-Brake® Flood Alleviation



The vortex controlled solution to watercourse flooding.

Hydro International
Shearwater House, Clevedon Hall Estate, Victoria Road, Clevedon, BS21 7RD
Hydro-Brake® Optimum Flow Control Design Data Sheet C/0118

Hydro-Brake® Flow Control Series
Hydro-Brake® Hotline: 01275 337937
hydrobrake@hydro-int.com

SEPARATORS

A RANGE OF FUEL/OIL SEPARATORS
FOR PEACE OF MIND

Kingspan

Klargester

60 YEARS OF
Expertise &
1955–2015 Innovation

Separators

A RANGE OF FUEL/OIL SEPARATORS FOR PEACE OF MIND

Surface water drains normally discharge to a watercourse or indirectly into underground waters (groundwater) via a soakaway. Contamination of surface water by oil, chemicals or suspended solids can cause these discharges to have a serious impact on the receiving water.

The Environment Regulators, Environment Agency, England and Wales, SEPA, Scottish Environmental Protection Agency in Scotland and Department of Environment & Heritage in Northern Ireland, have published guidance on surface water disposal, which offers a range of means of dealing with pollution both at source and at the point of discharge from site (so called 'end of pipe' treatment). These techniques are known as 'Sustainable Drainage Systems' (SuDS).

Where run-off is draining from relatively low risk areas such as car-parks and non-operational areas, a source control approach, such as permeable surfaces or infiltration trenches, may offer a suitable means of treatment, removing the need for a separator.

Oil separators are installed on surface water drainage systems to protect receiving waters from pollution by oil, which may be present due to minor leaks from vehicles and plant, from accidental spillage.

Effluent from industrial processes and vehicle washing should normally be discharged to the foul sewer (subject to the approval of the sewerage undertaker) for further treatment at a municipal treatment works.

SEPARATOR STANDARDS AND TYPES

A British (and European) standard (EN 858-1 and 858-2) for the design and use of prefabricated oil separators has been adopted. New prefabricated separators should comply with the standard.

SEPARATOR CLASSES

The standard refers to two 'classes' of separator, based on performance under standard test conditions.

CLASS I

Designed to achieve a concentration of less than 5mg/l of oil under standard test conditions, should be used when the separator is required to remove very small oil droplets.

CLASS II

Designed to achieve a concentration of less than 100mg/l oil under standard test conditions and are suitable for dealing with discharges where a lower quality requirement applies (for example where the effluent passes to foul sewer).

Both classes can be produced as full retention separators. The oil concentration limits of 5 mg/l and 100 mg/l are only applicable under standard test conditions. It should not be expected that separators will comply with these limits when operating under field conditions.

FULL RETENTION SEPARATORS

Full retention separators treat the full flow that can be delivered by the drainage system, which is normally equivalent to the flow generated by a rainfall intensity of 65mm/hr.

On large sites, some short term flooding may be an acceptable means of limiting the flow rate and hence the size of full retention systems.

BYPASS SEPARATORS

Bypass separators fully treat all flows generated by rainfall rates of up to 6.5mm/hr. This covers over 99% of all rainfall events. Flows above this rate are allowed to bypass the separator. These separators are used when it is considered an acceptable risk not to provide full treatment for high flows, for example where the risk of a large spillage and heavy rainfall occurring at the same time is small.

FORECOURT SEPARATORS

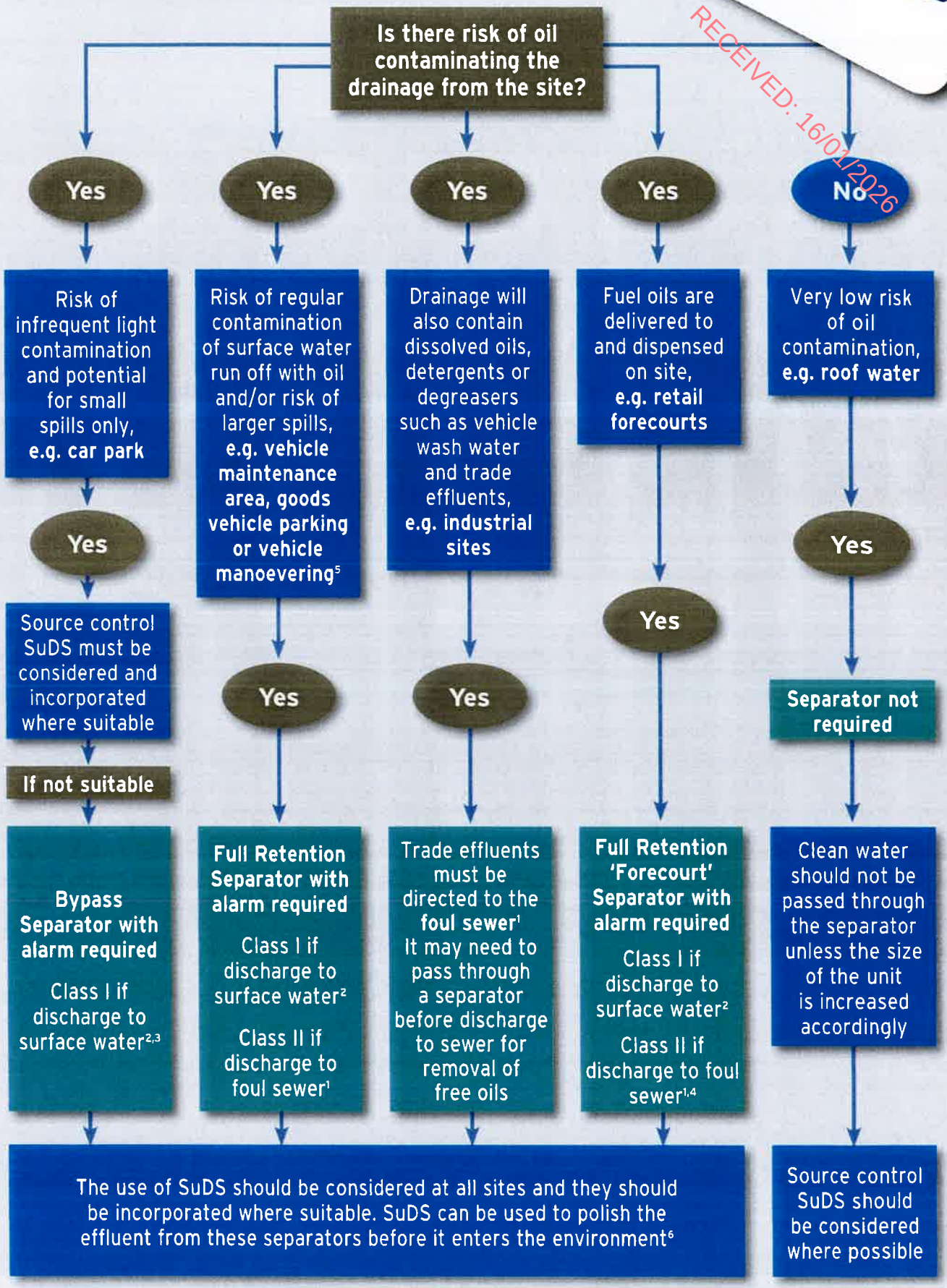
Forecourt separators are full retention separators specified to retain on site the maximum spillage likely to occur on a petrol filling station. They are required for both safety and environmental reasons and will treat spillages occurring during vehicle refuelling and road tanker delivery. The size of the separator is increased in order to retain the possible loss of the contents of one compartment of a road tanker, which may be up to 7,600 litres.

SELECTING THE RIGHT SEPARATOR

The chart on the following page gives guidance to aid selection of the appropriate type of fuel/oil separator for use in surface water drainage systems which discharge into rivers and soakaways.

For further detailed information, please consult the Environment Agency Pollution Prevention Guideline 03 (PPG 3) 'Use and design of oil separators in surface water drainage systems' available from their website.

Kingspan Klargester has a specialist team who provide technical assistance in selecting the appropriate separator for your application.



1 You must seek prior permission from your local sewer provider before you decide which separator to install and before you make any discharge.
2 You must seek prior permission from the relevant environmental body before you decide which separator to install.
3 In this case, if it is considered that there is a low risk of pollution a source control SuDS scheme may be appropriate.
4 In certain circumstances, the sewer provider may require a Class 1 separator for discharges to sewer to prevent explosive atmospheres from being generated.
5 Drainage from higher risk areas such as vehicle maintenance yards and goods vehicle parking areas should be connected to foul sewer in preference to surface water.
6 In certain circumstances, a separator may be one of the devices used in the SuDS scheme. Ask us for advice.

Bypass NSB RANGE

APPLICATION

Bypass separators are used when it is considered an acceptable risk not to provide full treatment, for very high flows, and are used, for example, where the risk of a large spillage and heavy rainfall occurring at the same time is small, e.g.

- Surface car parks.
- Roadways.
- Lightly contaminated commercial areas.

PERFORMANCE

Klargester were one of the first UK manufacturers to have separators tested to EN 858-1. Klargester have now added the NSB bypass range to their portfolio of certified and tested models. The NSB number denotes the maximum flow at which the separator treats liquids. The British Standards Institute (BSI) tested the required range of Kingspan Klargester Bypass separators and certified their performance in relation to their flow and process performance assessing the effluent qualities to the requirements of EN 858-1. Klargester bypass separator designs follow the parameters determined during the testing of the required range of bypass separators.

Each bypass separator design includes the necessary volume requirements for:

- Oil separation capacity.
- Oil storage volume.
- Silt storage capacity.
- Coalescer.

The unit is designed to treat 10% of peak flow. The calculated drainage areas served by each separator are indicated according to the formula given by PPG3 NSB = 0.0018A(m2). Flows generated by higher rainfall rates will pass through part of the separator and bypass the main separation chamber.

Class I separators are designed to achieve a concentration of 5mg/litre of oil under standard test conditions.

FEATURES

- Light and easy to install.
- Inclusive of silt storage volume.
- Fitted inlet/outlet connectors.
- Vent points within necks.
- Oil alarm system available (required by EN 858-1 and PPG3).
- Extension access shafts for deep inverts.
- Maintenance from ground level.
- GRP or rotomoulded construction (subject to model).

To specify a nominal size bypass separator, the following information is needed:-

- The calculated flow rate for the drainage area served. Our designs are based on the assumption that any interconnecting pipework fitted elsewhere on site does not impede flow into or out of the separator and that the flow is not pumped.
- The drain invert inlet depth.
- Pipework type, size and orientation.

SIZES AND SPECIFICATIONS

UNIT NOMINAL SIZE	FLOW (l/s)	PEAK FLOW RATE (l/s)	DRAINAGE AREA (m²)	STORAGE CAPACITY (litres) SILT	STORAGE CAPACITY (litres) OIL	UNIT LENGTH (mm)	UNIT DIA. (mm)	ACCESS SHAFT DIA. (mm)	BASE TO INLET INVERT (mm)	BASE TO OUTLET INVERT	STANDARD FALL ACROSS (mm)	MIN. INLET INVERT (mm)	STANDARD PIPEWORK DIA.
NSBP003	3	30	1670	300	45	1700	1350	600	1420	1320	100	500	160
NSBP004	4.5	45	2500	450	60	1700	1350	600	1420	1320	100	500	160
NSBP006	6	60	3335	600	90	1700	1350	600	1420	1320	100	500	160
NSBE010	10	100	5560	1000	150	2069	1220	750	1450	1350	100	700	315
NSBE015	15	150	8335	1500	225	2947	1220	750	1450	1350	100	700	315
NSBE020	20	200	11111	2000	300	3893	1220	750	1450	1350	100	700	375
NSBE025	25	250	13890	2500	375	3575	1420	750	1680	1580	100	700	375
NSBE030	30	300	16670	3000	450	4265	1420	750	1680	1580	100	700	450
NSBE040	40	400	22222	4000	600	3230	1920	600	2185	2035	150	1000	500
NSBE050	50	500	27778	5000	750	3960	1920	600	2185	2035	150	1000	600
NSBE075	75	750	41667	7500	1125	5841	1920	600	2235	2035	200	950	675
NSBE100	100	1000	55556	10000	1500	7661	1920	600	2235	2035	200	950	750
NSBE125	125	1250	69444	12500	1875	9548	1920	600	2235	2035	200	950	750

Rotomoulded chamber construction GRP chamber construction * Some units have more than one access shaft – diameter of largest shown.

Full Retention NSF RANGE

APPLICATION

Full retention separators are used in high risk spillage areas such as:

- Fuel distribution depots.
- Vehicle workshops.
- Scrap Yards

PERFORMANCE

Kingspan Klargester were the first UK manufacturer to have the required range (3-30 l/sec) certified to EN 858-1 in the UK. The NSF number denotes the flow at which the separator operates.

The British Standards Institute (BSI) have witnessed the performance tests of the required range of separators and have certified their performance, in relation to their flow and process performance to ensure that they met the effluent quality requirements of EN 858-1. Larger separator designs have been determined using the formulas extrapolated from the test range.

Each full retention separator design includes the necessary volume requirements for:

- Oil separation capacity.
- Silt storage capacity.
- Automatic closure device.
- Oil storage volume.
- Coalescer (Class I units only).

Klargester full retention separators treat the whole of the specified flow.

FEATURES

- Light and easy to install.
- Class I and Class II designs.
- 3-30 l/sec range independently tested and performance sampled, certified by the BSI.
- Inclusive of silt storage volume.
- Fitted inlet/outlet connectors.

- Oil alarm system available.
- Vent points within necks.
- Extension access shafts for deep inverts.
- Maintenance from ground level.
- GRP or rotomoulded construction (subject to model).

To specify a nominal size full retention separator, the following information is needed:-

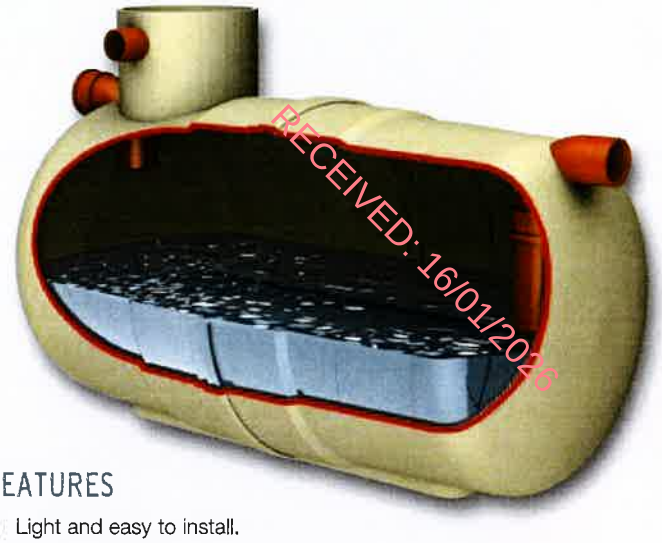
- The calculated flow rate for the drainage area served. Our designs are based on the assumption that any interconnecting pipework fitted elsewhere on site does not impede flow into or out of the separator and that the influent is not pumped.
- The required discharge standard. This will decide whether a Class I or Class II unit is required.
- The drain invert inlet depth.
- Pipework type, size and orientation.

SIZES AND SPECIFICATIONS

UNIT NOMINAL SIZE	FLOW (l/s)	DRAINAGE AREA (m²) PPG-3 (0.018)	STORAGE CAPACITY (litres) SILT	OIL	UNIT LENGTH (mm)	UNIT DIA. (mm)	BASE TO INLET INVERT (mm)	BASE TO OUTLET INVERT	MIN. INLET INLET (mm)	STANDARD PIPEWORK DIA. (mm)
NSFP003	3	170	300	30	1700	1350	1420	1345	500	160
NSFP006	6	335	600	60	1700	1350	1420	1345	500	160
NSFA010	10	555	1000	100	2610	1225	1050	1000	500	200
NSFA015	15	835	1500	150	3910	1225	1050	1000	500	200
NSFA020	20	1115	2000	200	3200	2010	1810	1760	1000	315
NSFA030	30	1670	3000	300	3915	2010	1810	1760	1000	315
NSFA040	40	2225	4000	400	4640	2010	1810	1760	1000	315
NSFA050	50	2780	5000	500	5425	2010	1810	1760	1000	315
NSFA065	65	3610	6500	650	6850	2010	1810	1760	1000	315
NSFA080	80	4445	8000	800	5744	2820	2500	2450	1000	300
NSFA100	100	5560	10000	1000	6200	2820	2500	2450	1000	400
NSFA125	125	6945	12500	1250	7365	2820	2500	2450	1000	450
NSFA150	150	8335	15000	1500	8675	2820	2550	2450	1000	525
NSFA175	175	9725	17500	1750	9975	2820	2550	2450	1000	525
NSFA200	200	11110	20000	2000	11280	2820	2550	2450	1000	600

Rotomoulded chamber construction GRP chamber construction

Washdown & Silt



APPLICATION

This unit can be used in areas such as car wash and other cleaning facilities that discharge directly into a foul drain, which feeds to a municipal treatment facility.

If emulsifiers are present the discharge must not be allowed to enter an NS Class I or Class II unit.

- Car wash.
- Tool hire depots.
- Truck cleansing.
- Construction compounds cleansing points.

PERFORMANCE

Such wash down facilities must not be allowed to discharge directly into surface water but must be directed to a foul connection leading to a municipal treatment works as they utilise emulsifiers, soaps and detergents, which can dissolve and disperse the oils.

FEATURES

- Light and easy to install.
- Inclusive of silt storage volume.
- Fitted inlet/outlet connectors.
- Vent points within necks.
- Extension access shafts for deep inverts.
- Maintenance from ground level.

SIZES AND SPECIFICATIONS

REF.	TOTAL CAPACITY (litres)	MAX. REC. SILT	MAX. FLOW RATE (l/s)	LENGTH (mm)	DIAMETER (mm)	ACCESS SHAFT DIA. (mm)	BASE TO INLET INVERT (mm)	BASE TO OUTLET INVERT (mm)	STANDARD FALL ACROSS UNIT (mm)	MIN. INLET INVERT (mm)	STANDARD PIPEWORK DIA. (mm)	APPROX EMPTY (kg)
W1/010	1000	500	3	1123	1225	460	1150	1100	50	500	160	60
W1/020	2000	1000	5	2074	1225	460	1150	1100	50	500	160	120
W1/030	3000	1500	8	2952	1225	460	1150	1100	50	500	160	150
W1/040	4000	2000	11	3898	1225	460	1150	1100	50	500	160	180
W1/060	6000	3000	16	4530	1440	600	1360	1310	50	500	160	320
W1/080	8000	4000	22	3200	2020	600	2005	1955	50	500	160	585
W1/100	10000	5000	27	3915	2020	600	2005	1955	50	500	160	680
W1/120	12000	6000	33	4640	2020	600	2005	1955	50	500	160	770
W1/150	15000	7500	41	5435	2075	600	1940	1890	50	500	160	965
W1/190	19000	9500	52	6865	2075	600	1940	1890	50	500	160	1200

Car Wash Silt Trap

APPLICATION

Car Wash silt trap is designed for use before a separator in car wash applications to ensure effective silt removal.

FEATURES

- FACTA Class B covers.
- Light and easy to install.
- Maintenance from ground level.

Forecourt

APPLICATION

The forecourt separator is designed for installation in petrol filling station forecourts and similar applications. The function of the separator is to intercept hydrocarbon pollutants such as petroleum and oil and prevent their entry to the drainage system, thus protecting the environment against hydrocarbon contaminated surface water run-off and gross spillage.

PERFORMANCE

Operation ensures that the flow cannot exit the unit without first passing through the coalescer assembly.

In normal operation, the forecourt separator has sufficient capacity to provide storage for separated pollutants within the main chamber, but is also able to contain up to 7,600 litres of pollutant arising from the spillage of a fuel delivery tanker compartment on the petrol forecourt. The separator has been designed to ensure that oil cannot exit the separator in the event of a major spillage, subsequently the separator should be emptied immediately.

FEATURES

- Light and easy to install.
- Inclusive of silt storage volume.
- Fitted inlet/outlet connectors.
- Vent points within necks.
- Extension access shafts for deep inverts.
- Maintenance from ground level.
- Class I and Class II design.
- Oil storage volume.
- Coalescer (Class I unit only).
- Automatic closure device.
- Oil alarm system available.

INSTALLATION

The unit should be installed on a suitable concrete base slab and surrounded with concrete or pea gravel backfill. See sales drawing for installation.

If the separator is to be installed within a trafficked area, then a suitable cover slab must be designed to ensure that loads are not transmitted to the unit.

The separator should be installed and vented in accordance with Health and Safety Guidance Note HS(G)41 for filling stations, subject to Local Authority requirements.

SIZES AND SPECIFICATIONS

ENVIROCEPTOR CLASS	TOTAL CAP. (litres)	DRAINAGE AREA (m^2)	MAX. FLOW RATE (l/s)	LENGTH (mm)	DIAMETER (mm)	ACCESS SHAFT DIA. (mm)	BASE TO INLET INVERT (mm)	BASE TO OUTLET INVERT (mm)	STD. FALL ACROSS UNIT (mm)	MIN. INLET INVERT (mm)	STD. PIPEWORK (mm)	EMPTY WEIGHT (kg)
I	10000	555	10	3963	1920	600	2110	2060	50	400	160	500
II	10000	555	10	3963	1920	600	2110	2060	50	400	160	500
I	10000	1110	20	3963	1920	600	2110	2060	50	400	200	500
II	10000	1110	20	3963	1920	600	2110	2060	50	400	200	500

Alarm Systems

British European Standard EN 858-1 and Environment Agency Pollution Prevention Guideline PPG3 requires that all separators are to be fitted with an oil level alarm system and that it should be installed and calibrated by a suitably qualified technician so that it will respond to an alarm condition when the separator requires emptying.

- Easily fitted to existing tanks.
- Excellent operational range.
- Visual and audible alarm.
- Additional telemetry option.

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