Scottish & Southern Electricity Networks

TRANSMISSION

Spittal to Loch Buidhe to Beauly 400 kV OHL Connection

Environmental Impact Assessment

Volume 5 | Technical Appendix

Appendix 10.4 | Site Water Management and Pollution Prevention Plan

July 2025

PROJECT DETAILS	
Client	Scottish & Southern Electricity Networks (SSEN)
Project Title	LT428 400kV Banniskirk – Carnaig OHL
Project Number	1002-001579
Business Unit	M4 - ENERGY

MANAGEMENT PLAN

LT428 400kV Banniskirk - Carnaig OHL

SITE WATER MANAGEMENT & POLLUTION PREVENTION PLAN

ID 3.0.6

ISSUE CONTROL		
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	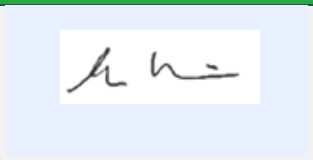	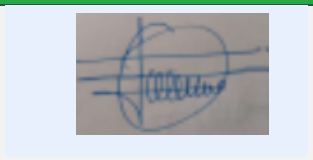	
Alex Hemming **Senior Environment & Sustainability Manager** **29/05/2024**	**Andrew Wilkinson** Senior SHES Manager 29/05/2024	**Francisco Gomes** Project Manager 29/05/2024	
Main Author	**Reviewer**	**Approver**	**Accepted on behalf of Client (*if applicable*)**

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Contents

1 Introduction

The plan has been specifically produced to illustrate the methods for managing water and prevention pollution during the construction phase including management of construction site runoff and working in and around watercourses (including crossings and diversions, where required). The excavations and stripped terrain will expose topsoil / peat and subsoil in the area creating silt. This plan will demonstrate how the works will manage the exposed silt and therefore prevent any silty runoff from the works interacting with the watercourses and surface waters along the route.

The plan will also detail the emergency procedure in place. This will ensure a swift reaction to any unlikely discharges to the watercourses.

The water management plan has been developed in accordance with 'The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended)' and the Banniskirk 400kV OHL Construction Environmental Management Plan (CEMP).

The contents of this document will be briefed out and working copies be made readily available throughout the lifetime of the project to ensure all involved in the works are suitably aware of the potential issues and how to prevent them. It will also be updated in line with temporary drainage designs as the develop.

2 Project Details

2.1 Scope

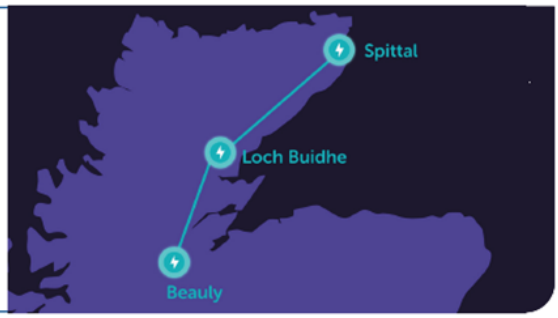
2.1.1 The overall project scope covers construction of new 400kV Substations at Loch Buidhe and Spittal and the associated 400kV Overhead Line (OHL) connection. The plan deals specifically with the construction works associated with the new 400kV OHL between Spittal and Loch Buidhe.

Based on the requirements outlined in the ESO's Pathway to 2030 Holistic Network Design, we have developed proposals to reinforce the onshore corridor between Spittal and Beauly, via Loch Buidhe. To facilitate this connection, and others as part of the wider strategy, new additional 400kV substations and associated infrastructure is also required in these three locations.

Due to the criticality of these works, there is a requirement for accelerated development and delivery to meet the 2030 connection dates.

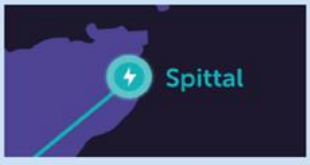
Spittal – Loch Buidhe – Beauly 400kV connection

This reinforcement project spans a significant length of the north of Scotland and will involve the construction of a new 400kV overhead line connection, between the new proposed substations at Spittal, Loch Buidhe and Beauly.



New Spittal area 400kV substation and HVDC converter station

A new 400kV substation is essential to enable the existing substation to connect onto the new Spittal – Loch Buidhe – Beauly 400kV overhead line (OHL) and provide a reinforcement for the Spittal – Peterhead HVDC subsea cable link. A High Voltage Direct Current (HVDC) converter station is also required in the vicinity of the new Spittal substation site to connect the Spittal – Peterhead HVDC subsea link project.



New Loch Buidhe area 400kV substation

A new 400kV substation is required near the existing 275kV substation at Loch Buidhe to provide a connection for the existing transmission infrastructure onto the new Spittal – Beauly 400kV OHL.

2.2 Location

2.2.1 The overall construction phase covers various locations between Loch Buidhe and Spittal.

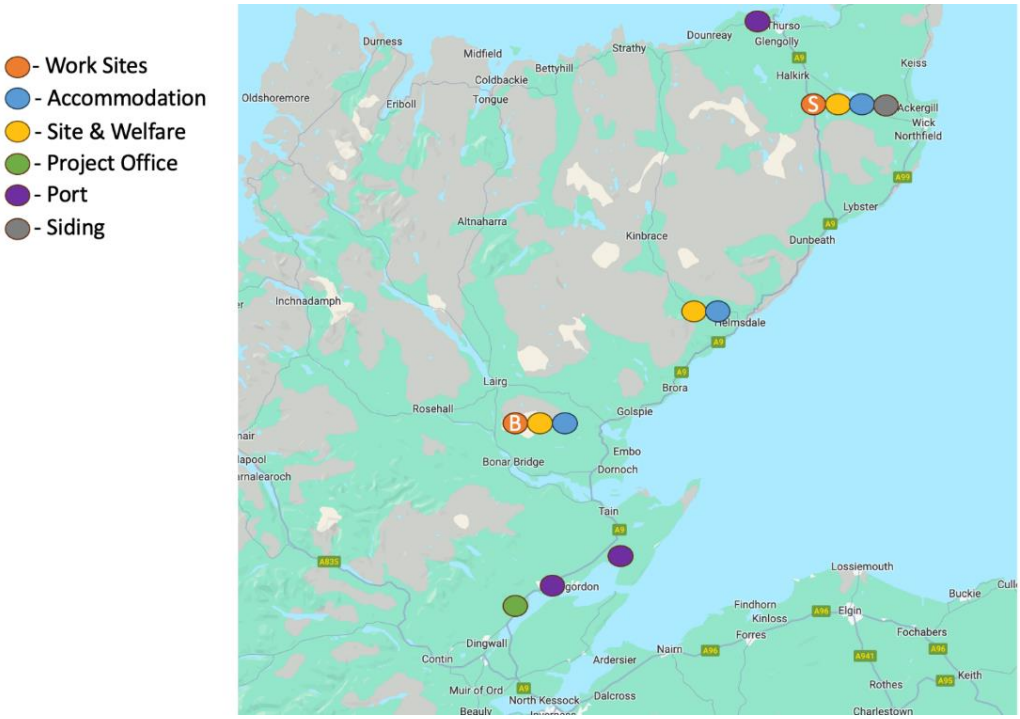


Figure 1: Overall project location

3 Water Resources

3.1.1 The overall route map is shown in Figure 2 below. A more detailed set of maps can be seen in Appendix A. Appendix A shows the location of minor watercourses (light blue lines); major watercourses (blue lines) and flood zones (light blue low risk, blue medium risk and dark blue high risk shaded areas). There are a number of watercourses in the vicinity and cutting across the proposed works which will need to be avoided or if this is not possible mitigated during the construction.

Figure 2: Proposed route of the OHL between the new Carnaig & Banniskirk substations

4 Methodology for crossing Watercourses

4.1 Crossing Methodology

4.1.1 Watercourse crossings may be required for site access for the construction works as well as adjustments and realignment for the permanent works. Based on the level of environmental risk the chosen method of crossing will be to 'open cut' the watercourses where this is required.

4.2 Flume method

4.2.1 A flume will work by creating a temporary tunnel through which the water can pass whilst the relevant crossing works are done, machinery will also be able to pass above the flume without the need for any material to enter the watercourse.

4.2.2 The flume would be constructed out of either steel or plastic pipe and will be of sufficient length so as to avoid been undermined during excavation under the flume. The flume will also be of a big enough size to be able to safely contain and not impede the flow of water in the watercourse. In some cases, twin flumes, positioned side by side, may be required in order to provide sufficient capacity to reflect the expected maximum flows of the existing watercourse.

4.2.3 A 30m buffer zone will be marked out in the vicinity of any watercourses to prevent the storage of materials or any refuelling activities occurring within this area.

4.2.4 The flume would be installed by first placing silt mitigation such as silt fencing and hay bales at the proposed exit of the flume, this would ensure any silt disturbed during the construction is trapped and not allowed to enter the watercourse.

4.2.5 The entrance to the flume would then be constructed; the water would be channelled at the entrance to ensure that all water flows through the flume.

4.2.6 The flume would be installed and bedded at each end using puddle clay to ensure that the crossing can be excavated dry. Sandbags would be placed at the entrance, exit and around the channel with silt fencing to ensure no silt here can be disturbed and enter the watercourse. The silt mitigation would remain at the flume throughout the works to prevent any silt entering the watercourse.

4.2.7 If deemed necessary, over pumping equipment with a suitable filter (10ml screen) will be on standby at the watercourse crossing should any unforeseen problems arise. The over pumping technique is explained in the flowing section.

4.2.8 Assessment shall be made of the risks to wildlife and particularly fish before the works commence by a suitably qualified Ecological Clerk of Works (ECoW).

4.2.9 The flume and mitigation will be checked at the start and end of every shift using the 'Murphy Watercourse Monitoring Booklet' (0000-JMS-ZZ-XX-FM-Z-0049_C01_A1) and will be cleared as required throughout the works (See Fig.3)

Contract	
Date	
Time:	

Colour:	
Has this changed from earlier?	☐ YES ☐ NO
Water Transparency:	
Has this changed from earlier?	☐ YES ☐ NO
If Cloudy - is it cloudy upstream?	☐ YES ☐ NO
Water Flow:	
Weather:	
How Close are we working to the Watercourse?	
Silt Polution?	☐ YES ☐ NO
Oily Sheen on Surface?	☐ YES ☐ NO
Scums?	☐ YES ☐ NO
Foams?	☐ YES ☐ NO
Dead Fish?	☐ YES ☐ NO
Dead Animals?	☐ YES ☐ NO
Dead Plants?	☐ YES ☐ NO

Checked by:

Name (print):	
Signature:	

GRP-JMS-ZZ-XX-FM-Z-0049_C01_A1

Figure 3: Watercourse monitoring booklet

4.2.10 Flume entrance examples:

Figure 4: Example of Flume entrance

Figure 5: Example of Flume entrance

4.2.11 Flume exit examples:

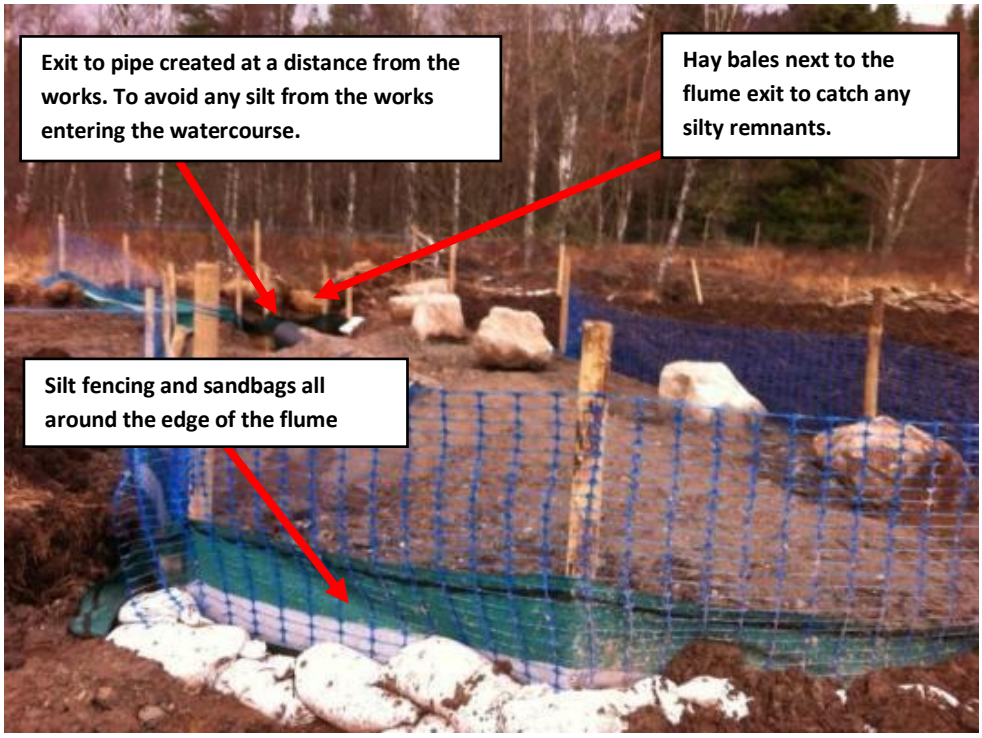


Figure 6: Example of flume exit

Figure 7: Example of flume exit

Figure 8: Example of flume exit

4.3 Over-pumping Methodology

4.3.1 The over pumping method would only be used in locations where fluming is deemed unsuitable. The potential requirement for the pumps would be monitored through weather forecasts and alerts which will be used as a pre warning for potential high-water levels.

4.3.2 The pump would be placed upstream of the works with a suitable filter system such as hay bales or silt fencing. The discharge hoses will then be routed across the site with the exit points back in the watercourse downstream of the works.

4.3.3 The watercourse will then be dammed at the either side of the pump and the hose exits with clay plugs, with dams sufficient to hold the water and to allow for any sudden rises in water level. The area between the plugs can then be pumped dry to allow for the excavation to be completed across a dry watercourse channel.

4.3.4 The pumps will have the capacity to deal raises in the volume of water within the watercourses and the discharge hose will be positioned to prevent any scouring of the watercourse bed.

Figure 9: Example of an over pumping system

5 Watercourse Consents

5.1.1 The following consents will be obtained from the relevant authority/regulator in line with the timeframes detailed on the consents register below (Fig.10). A register of required consents will be populated as the requirements are developed which will include conditions of each consent and methods to demonstrate compliance.

CONSENTS CHECKLIST - SCOTLAND					
Activity	**Yes / No**	**Consent / Registration Requirements**	**From / with**	**Timescale**	**Legislation / Reference**
WATER					
Will any water or effluent be discharged to controlled waters?		Registration or licence (depending on the volume)	SEPA	30 days (Registration) 4 months (Licence)	Water Environment (Controlled Activities) (Scotland) Regulations 2011
Will any wastewater be discharged to sewer?		Trade Effluent Discharge Consent	Scottish Water	1 month	Sewerage (Scotland) Act 1968
Will more than $10m^3$ per day be abstracted from controlled waters?		Registration or Licence	SEPA	30 days (Registration) 4 months (Licence)	Water Environment (Controlled Activities) (Scotland) Regulations 2011
Will any ditch clearance, river bed work, river structures, bank protection or bridge work be carried out?		Registration or licence (depending on the extent of the works) Note: Small scale works may fall under 'General Binding Rules'	SEPA	30 days (Registration) 4 months (Licence)	Water Environment (Controlled Activities) (Scotland) Regulations 2011
Are the works likely to have (directly or indirectly) a significant adverse impact on the water environment?		Registration or licence (depending on the extent of the works) Note: Small scale works may fall under 'General Binding Rules	SEPA	30 days (Registration) 4 months (Licence)	Water Environment (Controlled Activities) (Scotland) Regulations 2011
Will any water containing hazardous substances including oil be discharged to land?		Simple or Complex licence (depending on the volume)	SEPA	4 month	Water Environment (Controlled Activities) (Scotland) Regulations 2011
Will any pipe or cable crossings be carried out by open cut?		Registration or Licence (depending on level of engineering involved)	SEPA	30 days (Registration) 4 months (Licence)	Water Environment (Controlled Activities) (Scotland) Regulations 2011
Are the works within the marine environment – includes any works seaward of the normal tidal limit. Will the works involve deposit or removal of a substance or object in the UK marine area. eg. works invlolving cables, renewable, pipelines, dredging, depositing of dredged material etc. Also works on the seashore, sea defence walls and works influencing navigation? Note: for some of these works you may need a Flood Defense consent as well.		Marine Licensing Consent	Marine Scotland	10 weeks	Marine and Coastal Access Act 2009
Are the works near a foul sewer or underground chemical or oil-filled pipeline?		Notification	SEPA	At least 7 days beforehand	GPP 5
Are the works on or near or involving a canal or towpath?		Permission/ Discharge Consent.	Scotland British Waterways (Scottish Canals)	None specified	The British Waterways Board (Transfer of Functions) Order 2012

Figure 10: Example Consents Register – Water section.

6 Drainage Planning

6.1 Surface Runoff

6.1.1 Surface run off which may occur across the stripped easement will be managed by using the process of 'gripping'.

6.1.2 'Gripping' involves constructing small channels across the easement which runoff will flow into, these smaller channels then flow into a larger channel which will run alongside the easement. This will then channel the water through a system of mitigation before then discharged into a lagoon or grassed area for natural recharge.

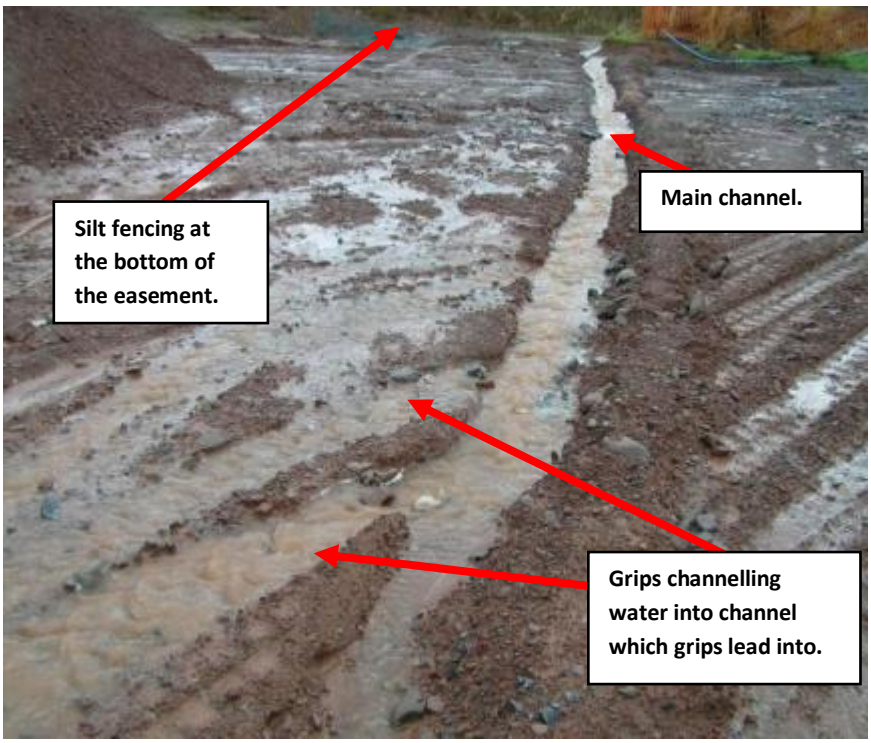


Figure 11: Grips channelling water through silt fences at bottom of picture

Figure 12: Grips channelling water into temporary lagoons.

6.2 Drainage Planning

6.2.1 The following drainage aspects will be considered during the design and construction phase:

6.2.2 An open ditch is to be dug just inside the uphill fence line to intercept any water and to divert this water to controlled crossing points under the haul road. Ideally these crossing point will be at the main watercourses, but it will be necessary to install additional points due to the undulating terrain and to reduce the depth of dig. The spoil from the open ditch should be placed on the lower side of the excavation to act as an additional water barrier.

6.2.3 This open ditch should be installed as soon as possible once access is available to give the ground the longest period possible to dry prior to installation of the haul road – even if this is before the right of way and fencing operations.

6.2.4 It may be necessary to install a ditch on both sides of the working area in some locations.

6.2.5 Where there is a substantial side slope across the working width, topsoil should be stored on the high side to act as a secondary water barrier.

6.2.6 Topsoil to only be stripped from the trench line where possible.

6.2.7 This topsoil should only be stripped immediately prior to construction and returned as soon as possible following the works.

6.2.8 Ideally trafficking of the haul road by heavy plant/vehicles should be kept to minimum by careful planning, suitably sized machinery and programming.

6.2.9 Stockpiling of materials along the route during the driest periods to be used at a later date, even if this requires additional storage areas, as this will reduce the movement of plant and vehicles during periods of extreme weather.

6.3 Groundwater

6.3.1 If groundwater is encountered during the construction, this will be channelled or pumped into the easement grips and channels. As mentioned in the previous section this will then pass through mitigation prior to discharge.

6.3.2 If wetlands with more discrete groundwater flows are intercepted (e.g. spring and flush habitats) a clay plug should be placed immediately either side of the spring or flush feature to maintain the original hydrological conditions within the wetland either side of the trench.

6.3.3 At this stage no groundwater abstraction is required or anticipated as part of the works but if this is required SEPA will be contacted to obtain the relevant abstraction permissions.

6.3.4 A review will be undertaken of existing groundwater abstraction points by third parties along the route with an assessment of any potential impacts with mitigation measures put in pace as required to limit these impacts.

6.3.5 Water supplies for the site will be brought in by tanker, this may be supplemented through rainwater harvesting from attenuation ponds.

7 Management of Silt & Discharge

7.1.1 Works will be planned in line with guidance set out by SEPA, including but not limited to:

- WAT_SG_29 – Temporary Construction Methods Engineering in the Water Environment Good Practice Guide: Version 1 March 2009
- WAT_SG_31 - Prevention of Pollution from Civil Engineering Contracts: Special Requirements: Version 2 June 2006
- WAT_SG_32 - Prevention of Pollution from Civil Engineering Contracts: Special Requirements: Version 2 June 2006
- WAT_SG_75 – Sector Specific Guidance: Construction Sites: Version v1 February 2018
- WAT_RM_08 – Sustainable Urban Drainage Systems: Version 6 2016

7.1.2 And CIRIA:

- Ciria C648. Control of Pollution from Linear Construction Projects
- Ciria C532. Control of Water Pollution from Construction Sites: Guidance for Consultants and Contractors
- Ciria SP156. Control of Water Pollution from Construction Sites: Guide to Good Practise
- Ciria C698. Site Handbook for the Construction of SuDS
- Ciria C753. The SuDS manual: November 2015
- Ciria C768. Guidance on the Construction of SuDS 2017

7.1.3 All people entering site will be informed of the sensitive environmental nature of the work location during the induction process and the precautions / restrictions to be put in place to ensure environmental impact is kept to a minimum.

7.1.4 Various methods of managing silty discharge are available. Consideration will be given to each working location prior to works commencing in order to ensure suitable equipment is available. A stock of silt fencing / hay bales / silt socks will be held on site.

7.2 Controlling Silty Water

7.2.1 The following silt control measures will be implemented to reduce silt runoff:

- Reduce the amount of exposed soil; only clear the areas where we are going to work in
- Mould shape and seed stockpiles
- Store materials 10m away from watercourses or drains.
- Control dust on site – road sweepers and dust suppression.
- Control the movement of mud offsite – wheel wash systems.
- Ensure that roads are clean.
- Small scale discharges from trenches will be done through silt socks or onto bales of hay to limit silt runoff.
- Subscribe to SEPA flood alert scheme and ensure site personnel can react to flooding situations.

Figure 13: Example of dust suppression system

Figure 14: Example of wheel wash system for access points

7.3 External Runoff

7.3.1 A Perimetral ditch may be required to avoid silt and runoff water (greenfield runoff) from outside of the worksite *red line boundary* flooding and silting our worksites.

7.3.2 Site boundaries may also create barriers to natural drainage and flood 3rd party land causing stakeholder issues.

7.3.3 Perimetral ditch should be lined to prevent further silt mobilisation.

7.3.4 Perimetral ditch will bypass the attenuation pond and discharge directly to watercourse – **no construction site runoff can enter this ditch.**

7.3.5 Discharge consent is not required from the SEPA but approval to cut into bank of main river/ordinary watercourse will require approval from the relevant authority.

7.3.6 External **land drains** encountered can be connected to perimetral ditch.

7.3.7 Land drains encountered within our construction site must be connected to internal drainage and into attenuation pond for treatment.

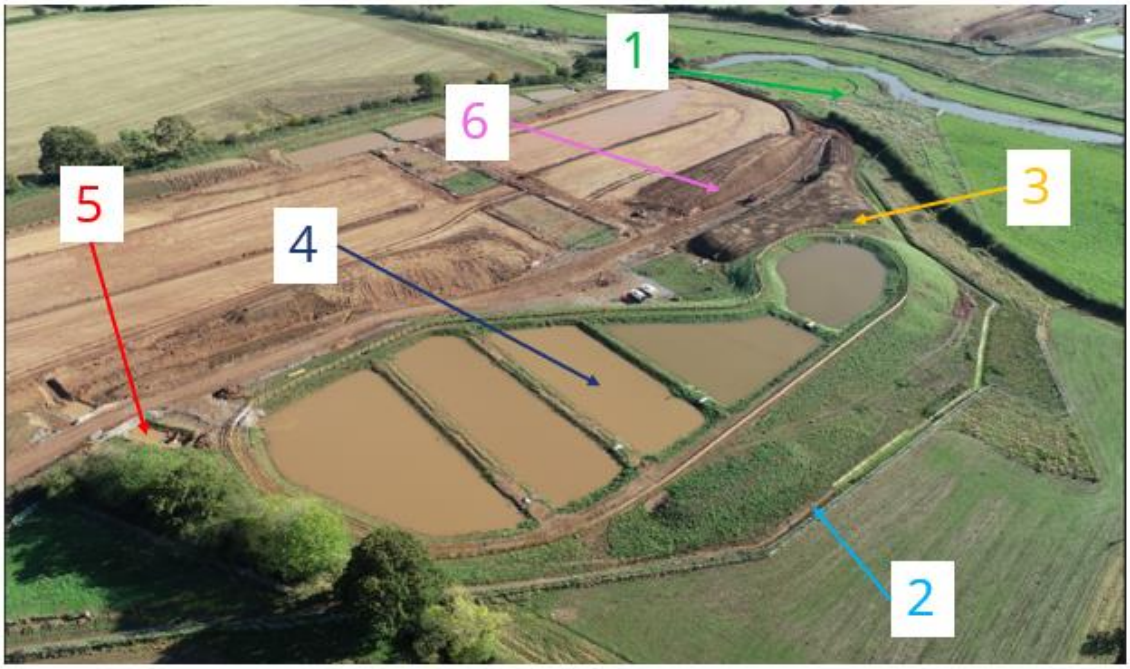


Figure 15: Example of a site drainage system with attenuation pond and separation cells

1) Silt Fencing
2) Perimetral ditch
3) Discharge outfall
4) Balancing Pond – size and number of cells depends on particle suspension time and space available on site
5) Inlet ditches
6) Stockpiling protection
7) Flocculants – if discharge quality cannot be met by passive controls alone

Figure 16: Example of existing land drains feeding into site drainage cutoff ditch

7.4 Containment

7.4.1 Settlement lagoons may be constructed in order to channel run off into these areas to allow any silt to settle out prior to allowing the clear water on top to be discharged under consent from SEPA. The following measures (or similar) will be implemented to ensure the discharge quality is acceptable and will not cause and increase in turbidity of the receiving environment. Where possible, the location of permanent drainage will be utilised for the temporary construction drainage initially.

Figure 17: Example of silt control within site cutoff ditches

Figure 18: Example connection between pond cells

Figure 19: Example of additional silt control before final discharge

Figure 20: Example of final discharge penstock shutoff

7.5 Silt Fencing

7.5.1 Silt fencing will be installed as follows:

- Excavate 200mm deep trench.
- Install silt fence in the bottom of trench and backfill – ensure that fencing material is anchored as per Fig.22.
- Install timber stakes at front of trench – required at 1.0m intervals (maximum 1.5m).
- Fix silt fence to timber stake – ensure silt fence extends minimum 500mm above ground.
- Proper compaction, when backfilling the trench, is required.
- Integrity of fencing will be monitored during the works with repairs made as required to ensure their continued effectiveness.

Figure 21: Example of silt fencing installation

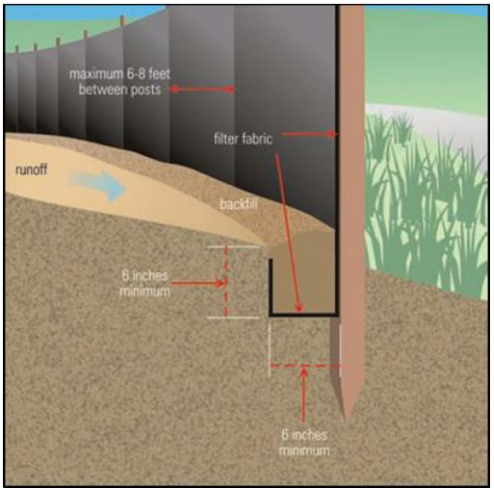


Figure 22: Method to correctly install silt fencing

7.6 Flocculants

7.6.1 If the passive control measures are still not enough to meet any discharge quality required by discharge permits, then flocculants may be used in consultation with SEPA. Examples are shown in Figures 23-26.

7.6.2 Flocculation - a chemical is added allowing fine particles are made to clump together into a larger and heavier particle called a 'floc' which can settle.

7.6.3 Flocculants are used to remove fine clays where passive measures alone will not suffice.

7.6.4 SEPA regulate the use of flocculants on construction sites. There are generally supportive of the use of flocculants, provided means for naturally controlling silt pollution from site have been fully explored.

7.6.5 Mitigation measures will be checked regularly especially before and after a heavy rain or red/ amber weather warning.

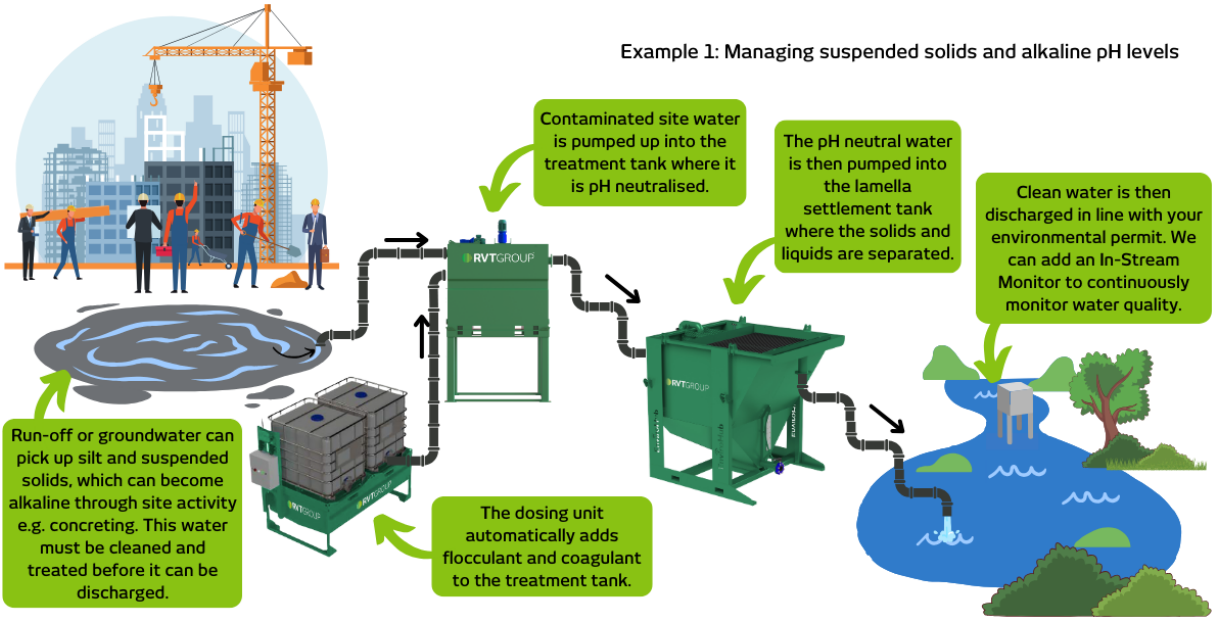


Figure 23: Example of RVT flocculant/coagulant dosing system

Figure 24: Example of flocculant dosing system from Siltbuster

Figure 25: Example of frog-blocks from Frog Environmental

Figure 26: Taytech mobile treatment system

7.7 Concrete washout

7.7.1 A strategy for dealing with concrete wash water will be developed and put this in place before concrete mixing or deliveries start on site.

7.7.2 As far as possible concrete mixing or delivery wagons should return for washout to the batching plant with only chutes being washed out on site.

7.7.3 Washing out of concrete wagons, hoppers and mixers will take place away from drains and watercourses.

7.7.4 A concrete washout system which can recycle washout water or segregate it for removal from site will be implemented where possible. If this is not practical, use an impermeable lined pit as a concrete washout area (See Figure 27 below) or a lined skip allowing as much wash water to evaporate as practicable.

7.7.5 In this case a pit will be lined with either polythene, clay or waste wet concrete (to form an impermeable layer) or use a lined skip (lining the skip makes it easier to knock out the concrete).

7.7.6 Wagon drivers will be made aware of the appropriate concrete washout location.

7.7.7 It may be possible to reuse the washout water once it has settled.

7.7.8 Once the concrete pits are over 75% full remove the water either by:

- Storing and reusing on site if possible; Or
- Adding cement and letting it go off. This material can then be reused on site i.e. hard-core for lay down area or for next job/contract.
- Discharging to foul sewer, provided permission has been obtained from the sewerage provider.
- Note: We will never discharge into the water environment (either directly into waters or via a surface water drain) without prior permission.
- Removal from site as a liquid waste, arranged via the Murphy Waste Department.

7.7.9 We will ensure that all concrete wash out water is contained and removed from the site as liquid waste. Wash-out water cannot be allowed to escape to the environment.

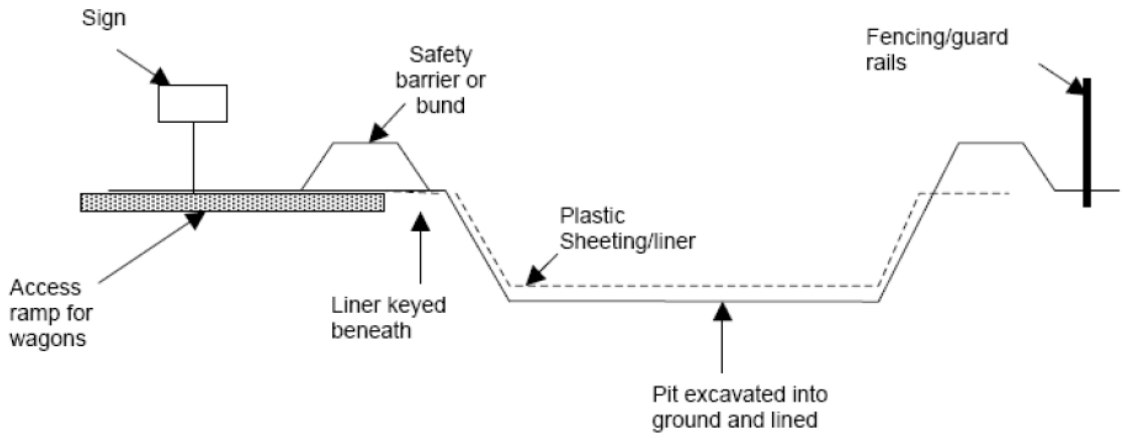


Figure 27: Example of a concrete washout area

8 Emergency Preparedness & Response

8.1.1 With regards to Water Management the emergency situation that may occur are incidents such as flash floods, rises in water level, silt entering a sensitive watercourse and spillages.

8.1.2 An environmental mitigation team will be in place to maintain all mitigation and to react to any issues. Weather forecasts and alerts will be regularly checked to determine the potential for heavy rain falls, high flows and potential rises in water volumes.

8.1.3 In order to prevent any such incidences occurring the following measures will be put into place:

8.2 Fuel/Oil

8.2.1 All fuel and oil on site will be managed in accordance with the 'The Water Environment (Oil Storage) (Scotland) Regulations 2006'.

8.2.2 In line with these regulations all fuel containers will be double bunded and stored on drip trays with a 110% capacity of the fuel container.

- No refuelling will take place within 30m of any watercourse.
- Water storage checklists will be completed on all bulk fuel stores at the start of the works to ensure suitability for the job.
- All idle plant will have drip trays placed underneath.
- All plant and machinery will have an appropriate spill kit stored with it.
- All bulk fuel stored with secondary containment and bowsers will be kept locked.

8.3 Storage

- All dry fine materials will be stored on pallets at least 30m away from all watercourses.
- Harmful materials will be kept locked in a COSHH store.

8.4 Silty Water/Water level rises

- Any silty water will be immediately directed or pumped through the appropriate mitigation or into a settlement tank or lagoon if available on site.
- All flumed crossings will have an available pump should the water level rise.
- If water levels rise unexpectedly to level above which the flume can serve, the over pumping procedure outlined in this document should be put in place.

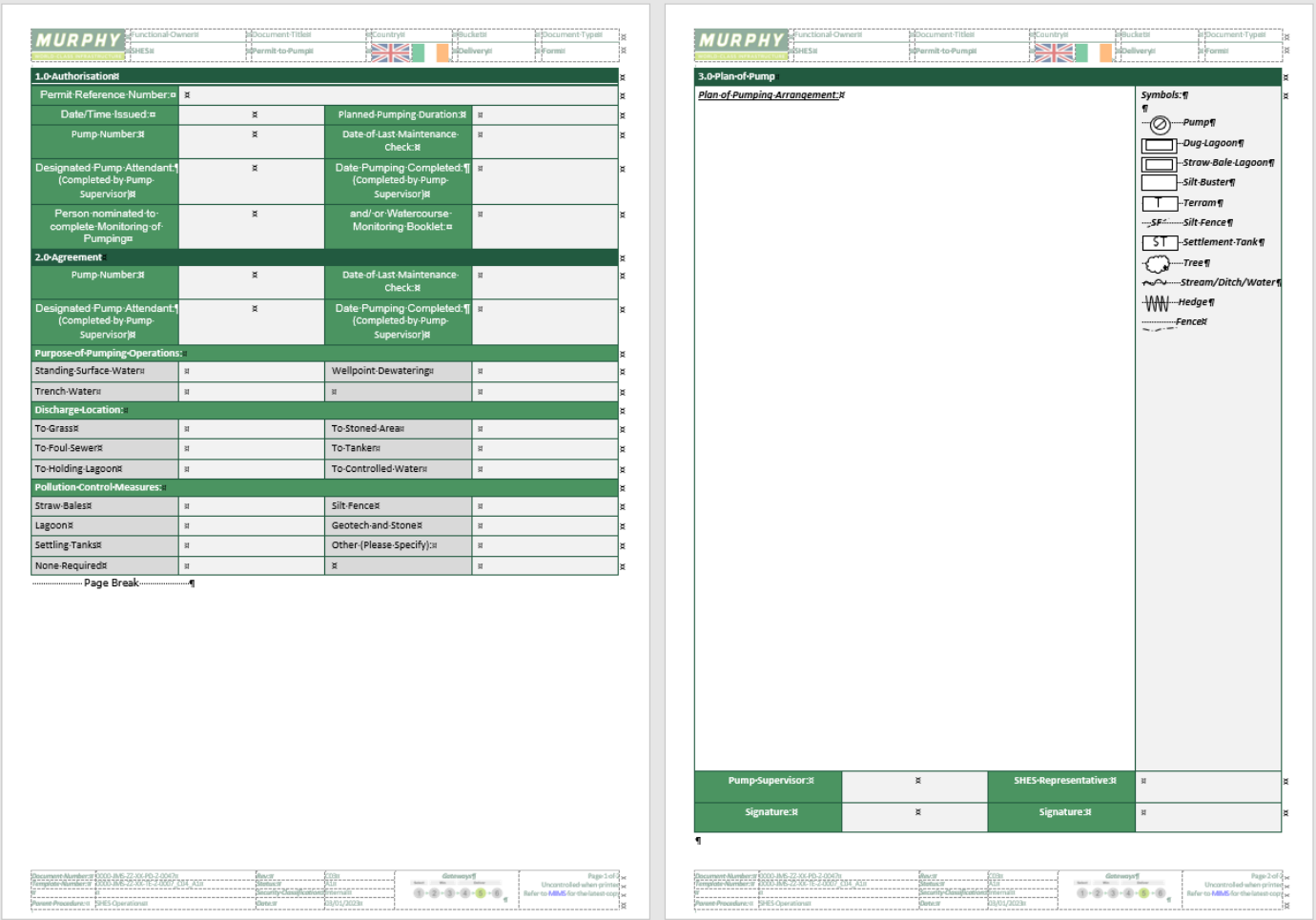
8.5 In an emergency

- Stop work.
- Try to contain and clear using spill kits and absorbent pads if there are any spills.
- If silty water occurs, try to contain or pump to mitigation.
- Report to supervisor.
- If the spill is too significant to manage onsite an external Spill Response Contractor (Adler & Allan 0800 592 827) will be contacted to assist with the spill response and clean-up.
- Contact the SHES team, who will log on the 2-1-2 system. The Murphy Environment Manager will escalate to SEPA if required.

8.6 Monitoring

Monitoring will be conducted in 3 ways:

1. **Monitoring of pumping –** All pumping activities will be controlled through a permit to pump process, whereby the SHES team will review and approve the activity prior to commencement. The permit to pump template can be seen in Fig.28. All pumping operations will also be monitored hourly throughout the pumping operations and will be recorded in the pumping monitoring booklet. Monitoring in this way ensures water levels are monitored effectively and that any mechanical or equipment issues can be highlighted immediately. Monitoring will be completed using the 'Murphy Monitoring of Pumping Booklet' (0000-JMS-ZZ-XX-FM-Z-0050_C01_A1) shown in Fig.29.
2. **Watercourse monitoring –** As detailed in section 4.2 'Murphy Watercourse Monitoring Booklet' (0000-JMS-ZZ-XX-FM-Z-0049_C01_A1), and shown in Fig.3 monitoring will be completed in relation to works within watercourse and also where we are discharging from an outfall into watercourses.
3. **Water Quality Sampling –** Where there is a consented discharge with permit conditions, such as Total Suspended Solids (TSS) and pH, a 'turbimeter' (or similar) and pH meter will be used to take readings which will be recorded to keep an ongoing record of compliance and returns sent to SEPA as required. Equipment will be calibrated as recommended by the equipment provider. Also, a pre-construction baseline monitoring of existing water resources will be implemented and recorded no less than 4 weeks prior to commencement of works in each location.



1.0-Authorisation			
Permit-Reference-Number:			
Date/Time-Issued:		Planned-Pumping-Duration:	
Pump-Number:		Date-of-Last-Maintenance-Check:	
Designated-Pump-Attendant: (Completed-by-Pump-Supervisor)		Date-Pumping-Completed: (Completed-by-Pump-Supervisor)	
Person-nominated-to-complete-Monitoring-of-Pumping		and/-or-Watercourse-Monitoring-Booklet:	
2.0-Agreement			
Pump-Number:		Date-of-Last-Maintenance-Check:	
Designated-Pump-Attendant: (Completed-by-Pump-Supervisor)		Date-Pumping-Completed: (Completed-by-Pump-Supervisor)	
Purpose-of-Pumping-Operations:			
Standing-Surface-Water		Wellpoint-Dewatering	
Trench-Water			
Discharge-Location:			
To-Grass		To-Stoned-Area	
To-Foul-Sewer		To-Tanker	
To-Holding-Lagoon		To-Controlled-Water	
Pollution-Control-Measures:			
Straw-Bales		Silt-Fence	
Lagoon		Geotech-and-Stone	
Settling-Tanks		Other-(Please-Specify):	
None-Required			

Page Break

3.0-Plan-of-Pump

Plan-of-Pumping-Arrangement:

Symbols:

- *Pump*
- *Dug-Lagoon*
- *Straw-Bale-Lagoon*
- *Silt-Buster*
- *Terram*
- *SF* *Silt-Fence*
- *ST* *Settlement-Tank*
- *Tree*
- *Stream/Ditch/Water*
- *Hedge*
- *Fence*

Pump-Supervisor:		SHES-Representative:	
Signature:		Signature:	

Figure 28: Murphy Permit to Pump template

Contract	
Date	
Time:	

Where is the water being discharged to:					
Bare Ground		Grass		Road Drain	
Dry Ditch		Wet Ditch		Stream	

Is this through a settlement tank?	☐ YES ☐ NO
Is flow rate slow enough to filter silt?	☐ YES ☐ NO
If no, what else is being done to stop silt?	

Hay Bales		Terram		Silt Fence	
Other (please specify):					

Is the water being discharged clear?	☐ YES ☐ NO
If to a watercourse - is watercourse running clear	☐ YES ☐ NO
If no, is it clear upstream?	☐ YES ☐ NO
Is silt being stirred up from the bottom of the watercourse by the discharge?	☐ YES ☐ NO
	☐ YES ☐ NO
Any erosion of bank due to discharge?	☐ YES ☐ NO

Checked by:

Name (print):	
Signature:	

0000-JMS-ZZ-XX-FM-Z-0050_C01_A1

Figure 29: Murphy monitoring of pumping booklet form

8.7 Training

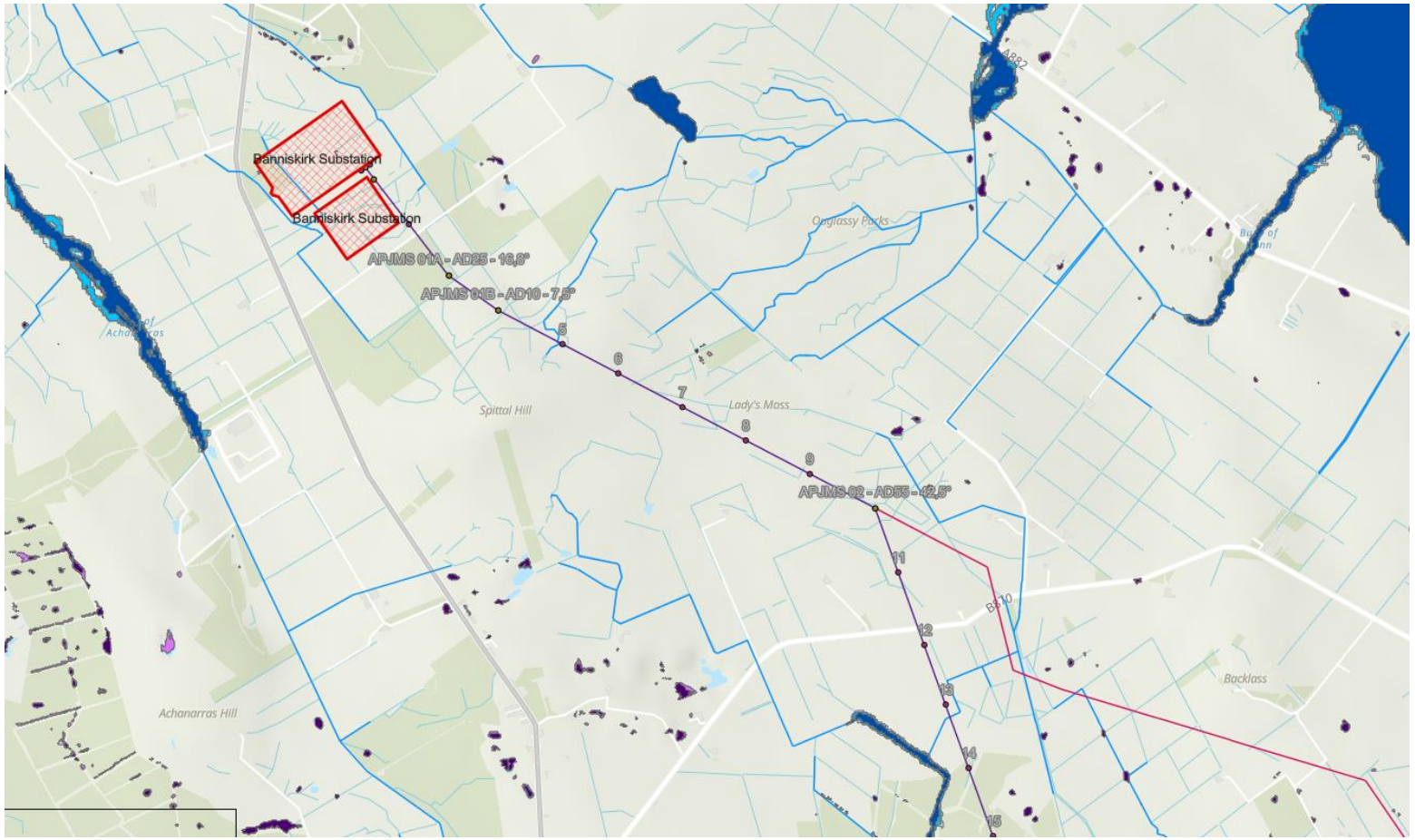
8.7.1 All site personnel who manage, maintain and monitor water operations as well as site supervisors will complete the Site Environmental Awareness Training Scheme (SEATS) course. Project Managers, Environment & SHES team will undertake the IEMA approved Environmental Management in Construction certificate. Those staff who are responsible for monitoring water quality, such as TSS and pH will receive appropriate training in the monitoring equipment being used from a competent person.

APPENDIX A

APPENDIX A – OHL route watercourse maps

Minor watercourses (light blue lines); major watercourses (blue lines). Flood zones (light blue low risk, blue medium risk and dark blue high risk shaded areas).

Purple line proposed route & numbered points proposed OHL structures.

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APJMS 03 - AD25 - 24,9°
APJMS 04 - AD25 - 18,7°
APJMS 05 - AD55 - 42,2°
APJMS 05A - AD25 - 22,7°
APJMS 05B - AD25 - 24,7°
APJMS 05C - AD55 - 51,9°
APJMS 06 - AD10 - 7,9°
Cnoc Morail
Backlass Moss
Wester Watten Moss
Achkeepster Moss
Cnoc Cinn
Hill of Acharole
A9


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APJMS 07 - AD33 - 43,1°
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Allt Aikergill
Allt Coul
Allt nam Fuatha
Dubh Lochs of Shielton
Dubh Lochs


APJMS 07C - AD10 - 6,3°
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APJMS 07D - AD10 - 3,3°
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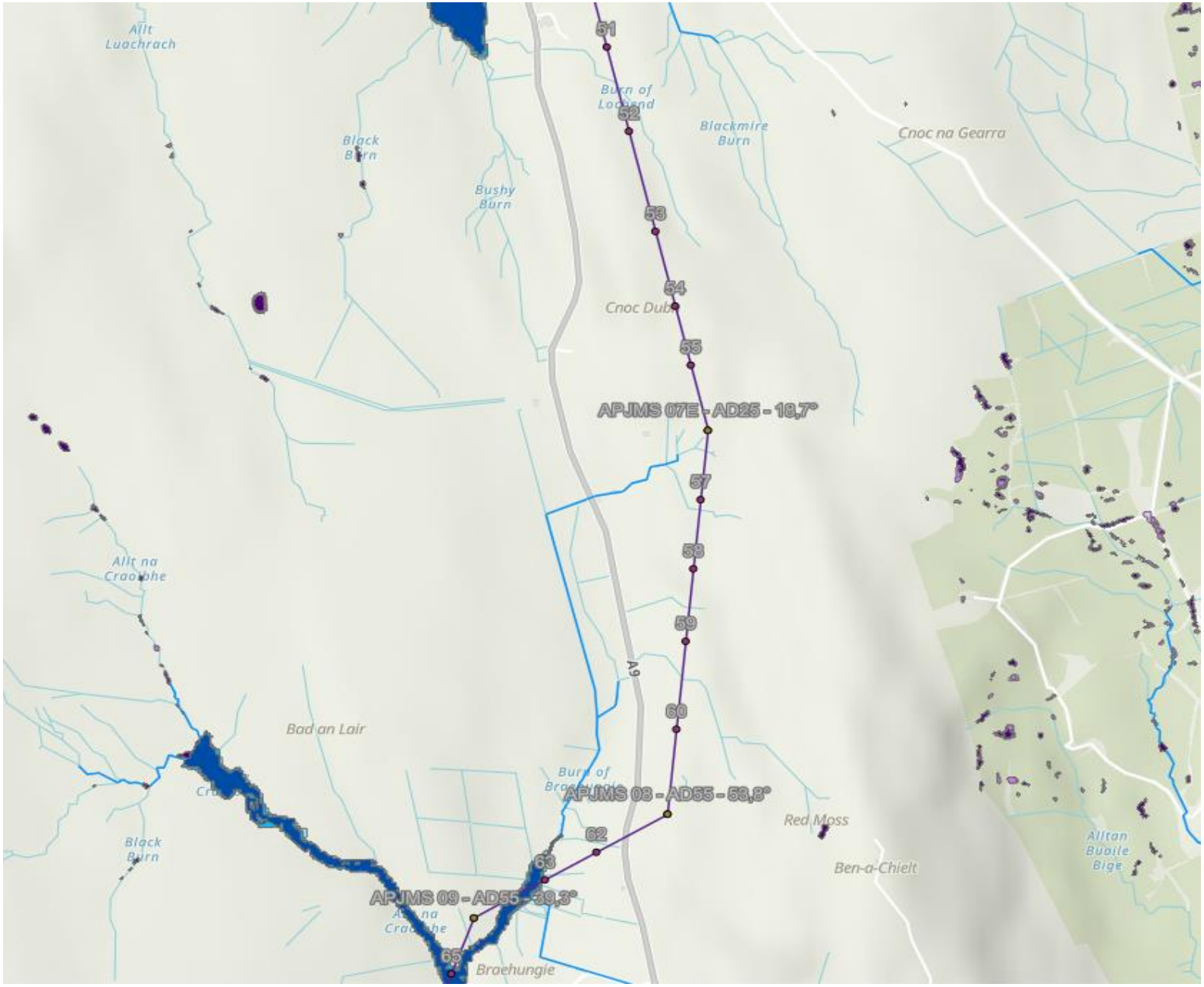
Sìthean Mòr
Stemster Hill
Cnoc a' Chail
Allt Luachrach
A9


Allt Luachrach
Burn of Lochend
Black Burn
Bushy Burn
Blackmire Burn
Cnoc na Gearra
Cnoc Dubh
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APJMS 07E - AD25 - 18,7°
57
58
59
60
Allt na Craoibhe
Bad an Lair
A9
APJMS 08 - AD55 - 58,8°
Red Moss
Ben-a-Chielt
Alltan Buaile Bige
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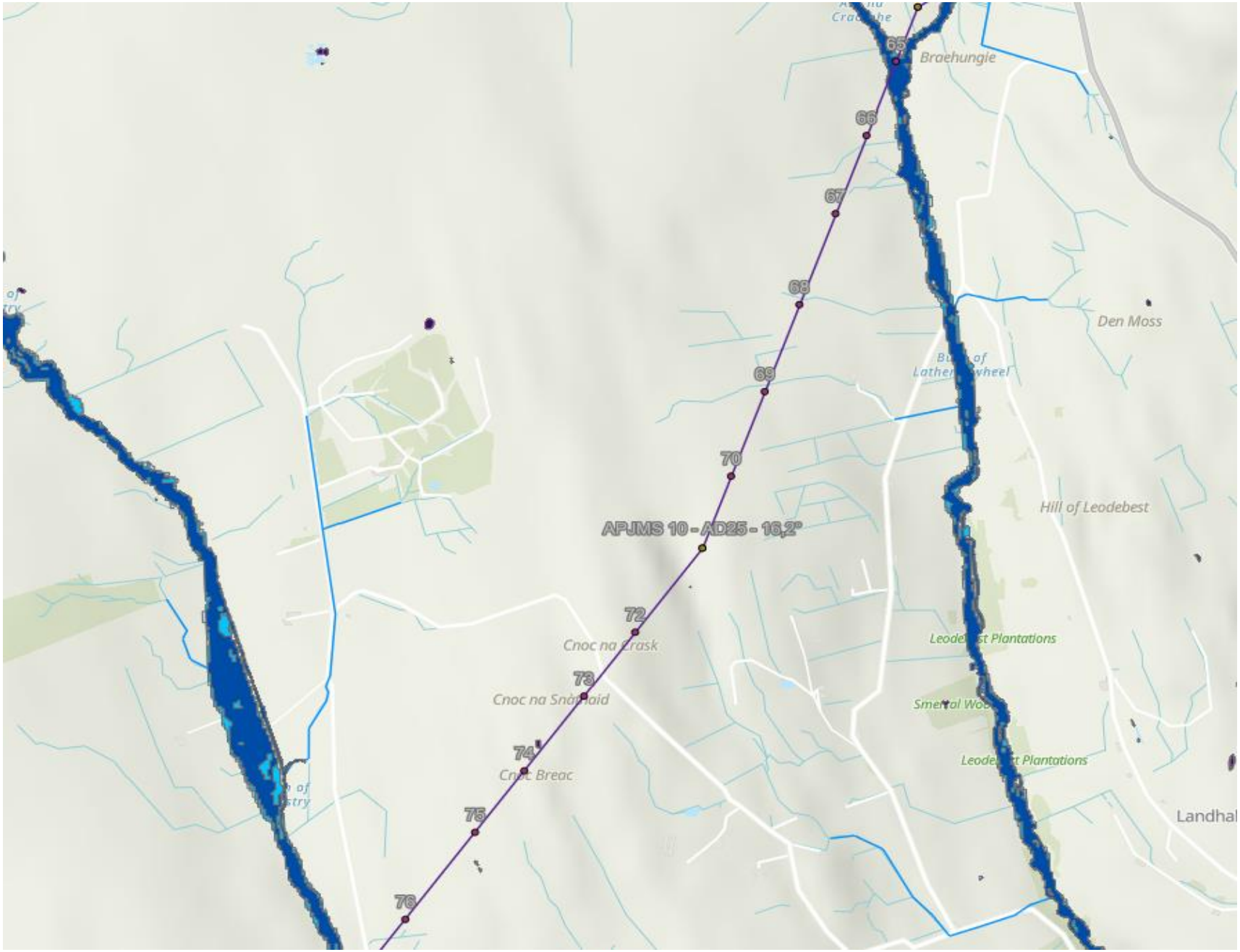
APJMS 09 - AD55 - 39,3°
65
Braehungie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APJMS 10 - AD25 - 16,2°
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Braehungie
Den Moss
Hill of Leodebest
Cnoc na Crask
Cnoc na Snàthaid
Cnoc Breac
Landhal


Cnoc na Maranaich
Cnoc Sheanga
Culvid Wood
Allt Ruadh
Allt Clais Raain
Badnagie
Allt Bad nan Glac
Coille Bail an t-Sratha
APJMS 10A - AD10 - 7,8°
APJMS 10B - AD25 - 14,5°
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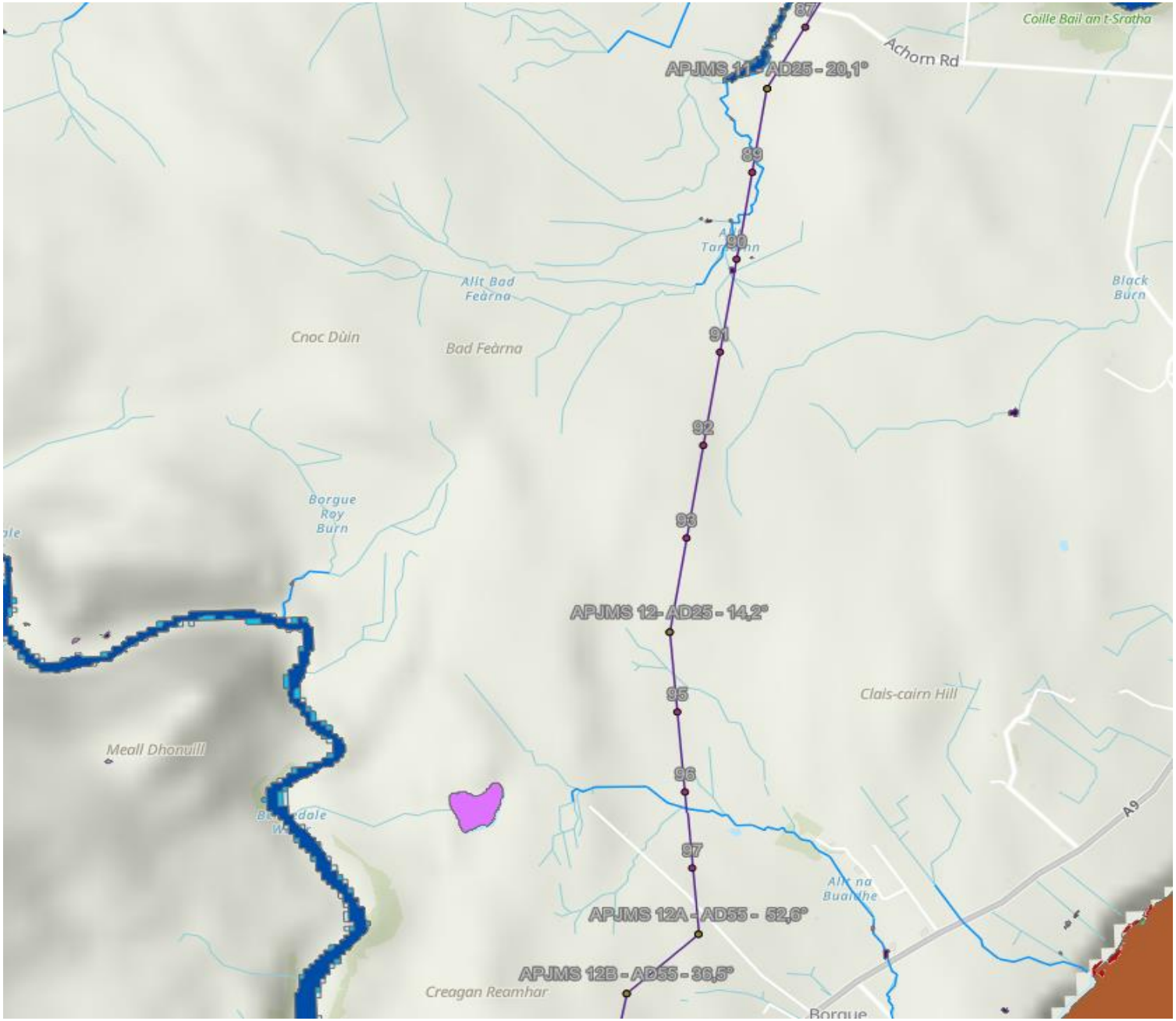
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Coille Bail an t-Sratha
Achorn Rd
APJMS 11 - AD25 - 20,1°
89
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Alit Bad Fearna
Black Burn
Cnoc Dùin
Bad Feàrna
91
92
Borgue Roy Burn
93
APJMS 12 - AD25 - 14,2°
95
Clais-cairn Hill
Meall Dhonuill
96
97
A9
Alit na Buaidhe
APJMS 12A - AD55 - 52,6°
APJMS 12B - AD55 - 36,5°
Creagan Reamhar
Borgue


Creagan Reamhar
Coill Ard-achaidh
Allt Ard-achaidh
Burn Burn
APJMS 12C
Beinn nan Coireag
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Millery Burn
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An Dùn
Allt a' Chrìosduidhe
APJMS 13 - AD25 - 20,1°
106
107
108
109
Allt Bad a' Cholilich
Bad an Achaidh
Allt Mòr
Rinsary Brae
110
111
Turnal Burn
112
113
Shin Wood
APJMS 14 - AD10 - 9,7°
Langwell Plantation


Brae-na-h-Eaglaise
Coill Allt na Beithe
Coille Braigh na h-Eaglaise
Shin Wood
APJMS
Cnoc Bad Asgaraidh
Coire Bad Asgaraidh
Braigh na h-Eaglaise
Creagan Cosach
APJMS 15 - AD55 - 47.6°
APJMS 15A - AD25 - 18.5°
Cnoc Coir' a' Phuill
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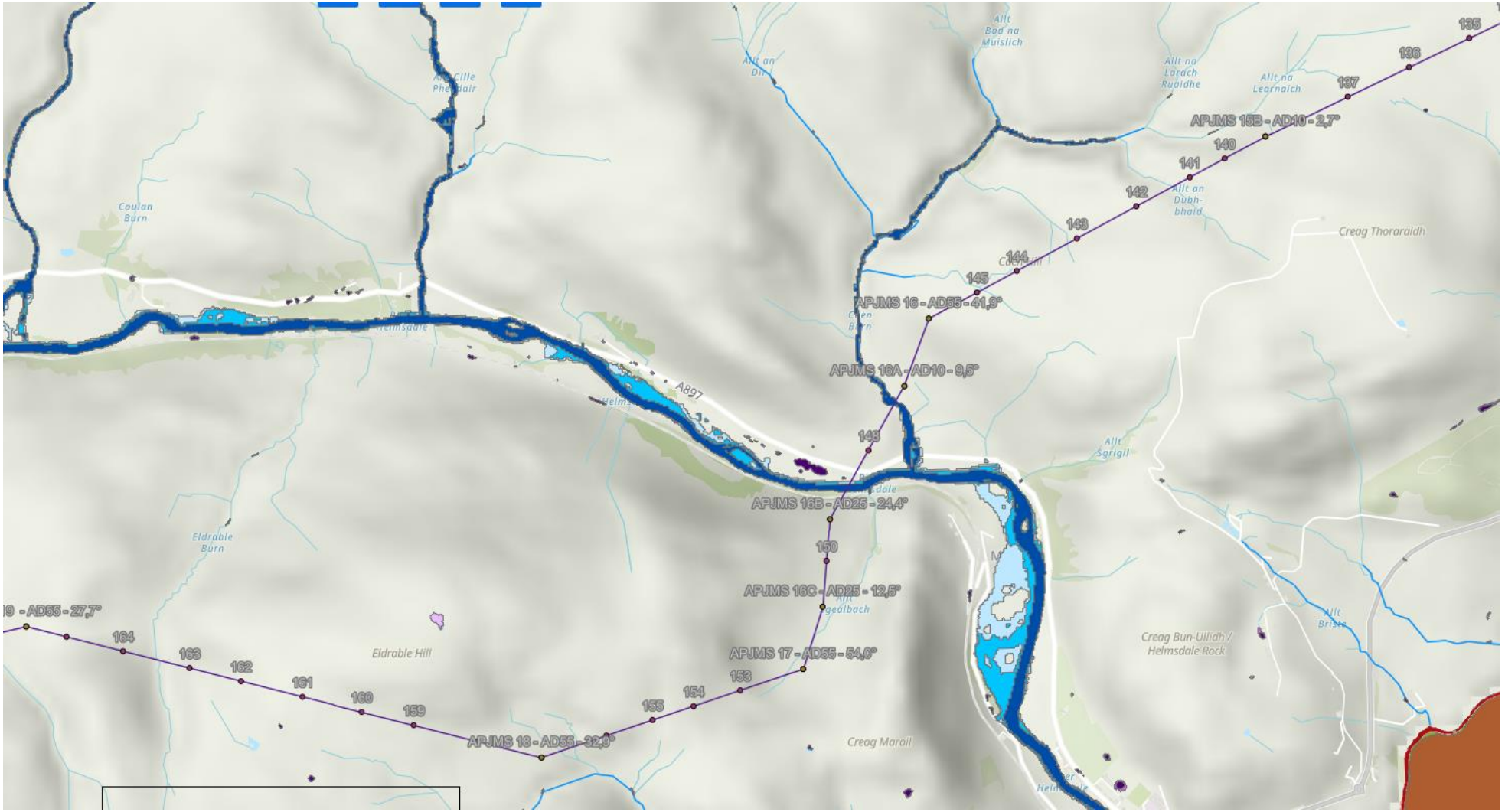
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APJMS 16A - AD10 - 9,8°
APJMS 16B - AD25 - 24,4°
APJMS 16C - AD25 - 12,5°
APJMS 17 - AD55 - 54,0°
APJMS 18 - AD55 - 32,8°
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A897
Coulan Burn
Eldrable Burn
Eldrable Hill
Creag Thoraraidh
Creag Bun-Ullidh / Helmsdale Rock
Creag Maroil
Allt na Learnaich
Allt an Dubh-bhaid
Allt Sgrigil


APJMS 20 - AD55 - 49,2°
APJMS 20A - AD10 - 8,1°
APJMS 21 - AD55 - 30,1°
APJMS 21A - AD25 - 24,7°
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A' Chràsg
Ben Uarie
Beinn Dhorain
Allt nan Tulachan / Gable Burn
Beinn Mhealaich
Glen Loth
Allt a' Chuluig
Druim Dearg
Creag a' Bhodaich
Greenspot Burn
Coille Bad Mheasain
Creag Riasgain


APJMS 21A - AD25 -
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APJMS 22 - AD55 - 48.6°
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APJMS 24 - AD25 - 18.9°
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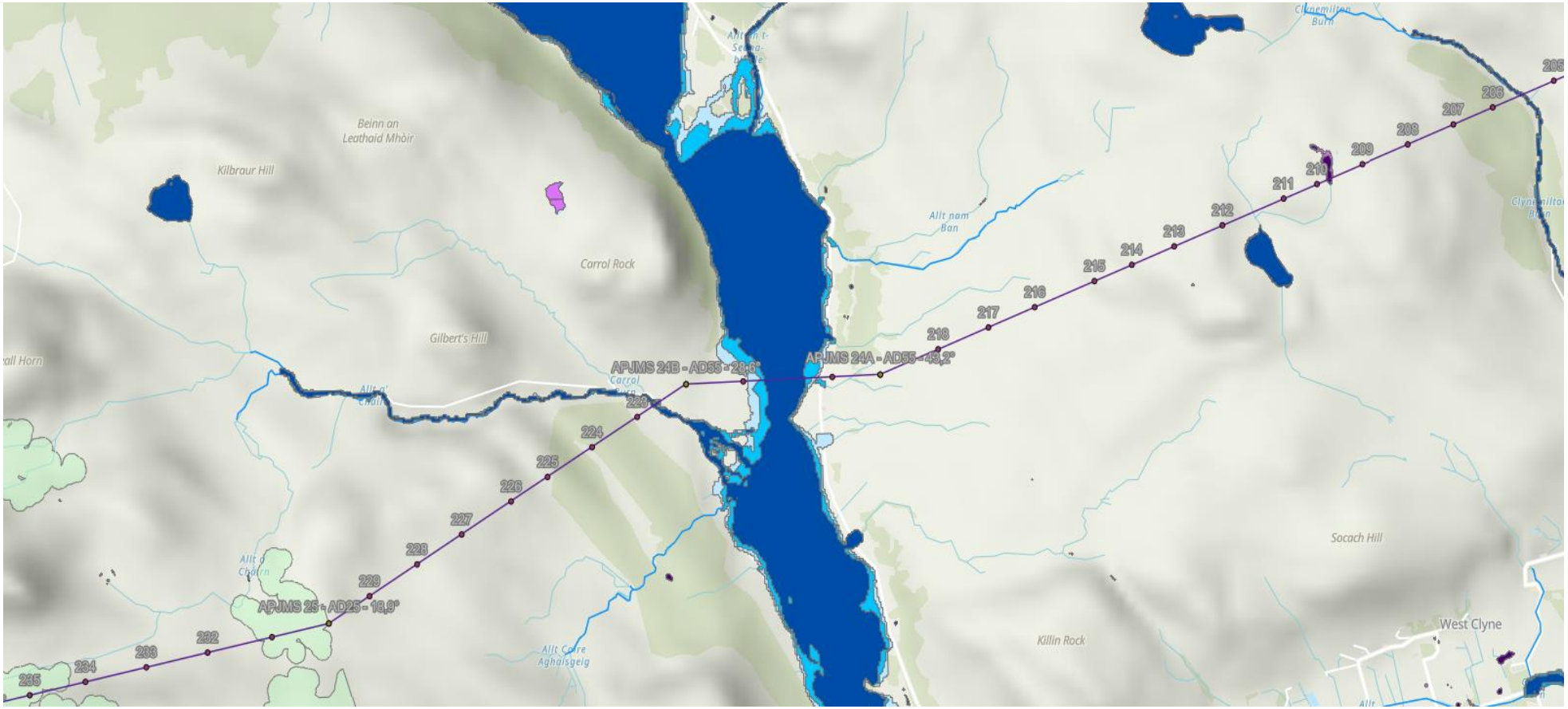
205
Allt a' Choire Riabhaich
Creag a' Chrionaich
Allt a' Chrionaich
Col-Bheinn
Kintradwell Burn
Badenahauglish Burn
Allt Choll
Creagan Mòr


Beinn an Leathaid Mhòir
Kilbraur Hill
Carrol Rock
Gilbert's Hill
Allt nam Ban
Socach Hill
Killin Rock
West Clyne
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APJMS 24A - AD55 - 43.2°
APJMS 25 - AD25 - 16.9°
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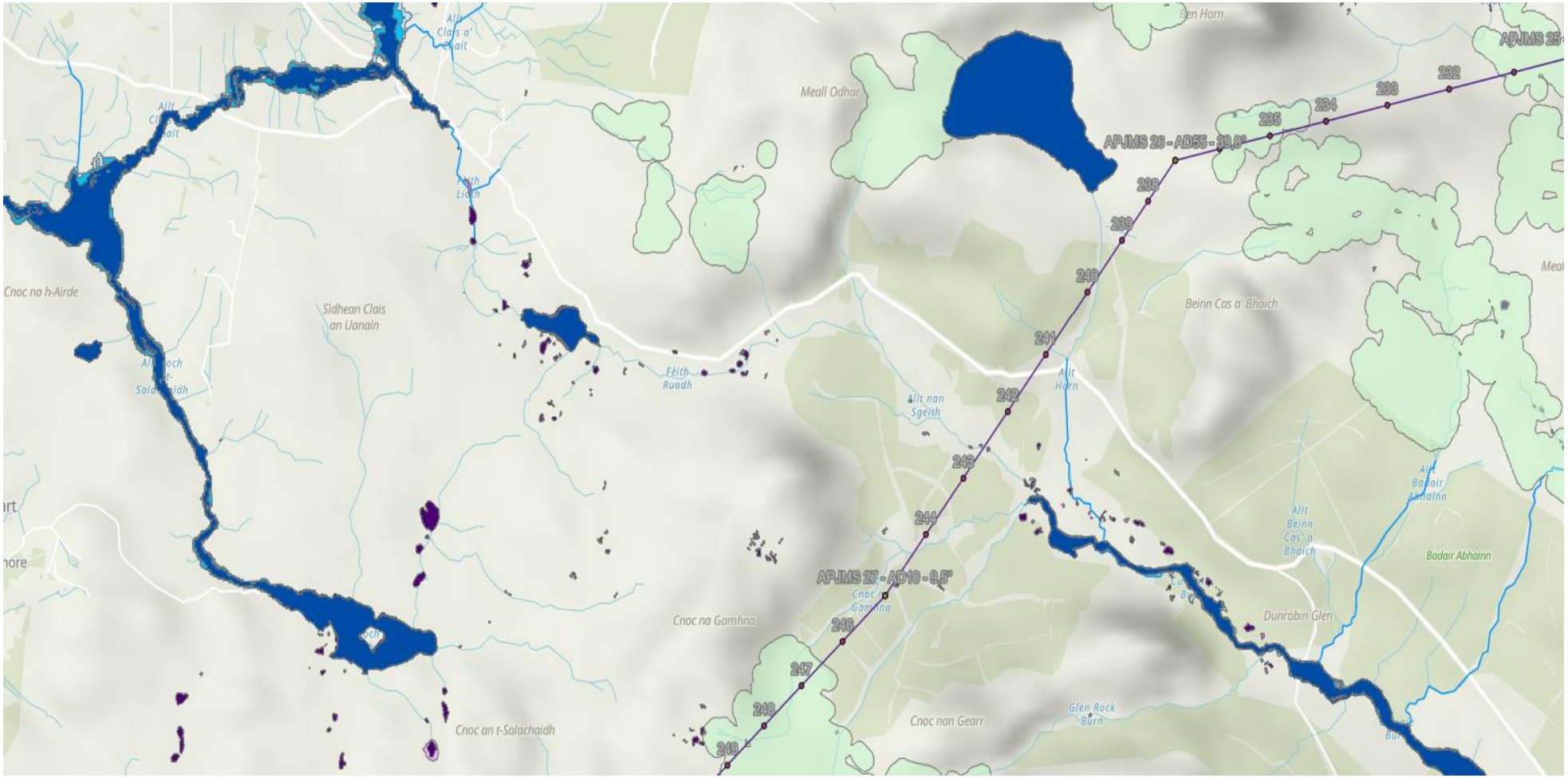
Meall Odhar
Cnoc na h-Airde
Sidhean Clais an Uanain
Feith Ruadh
Allt nan Sgeith
Allt Horn
Beinn Cas a' Bhaich
Allt Beinn Cas a' Bhaich
Badair Abhainn
Dunrobin Glen
Cnoc na Gamhna
Cnoc nan Gearr
Glen Rock Burn
Cnoc an t-Salachaidh
APJMS 26 - AD55 - 39.0°
APJMS 27 - AD10 - 9.5°
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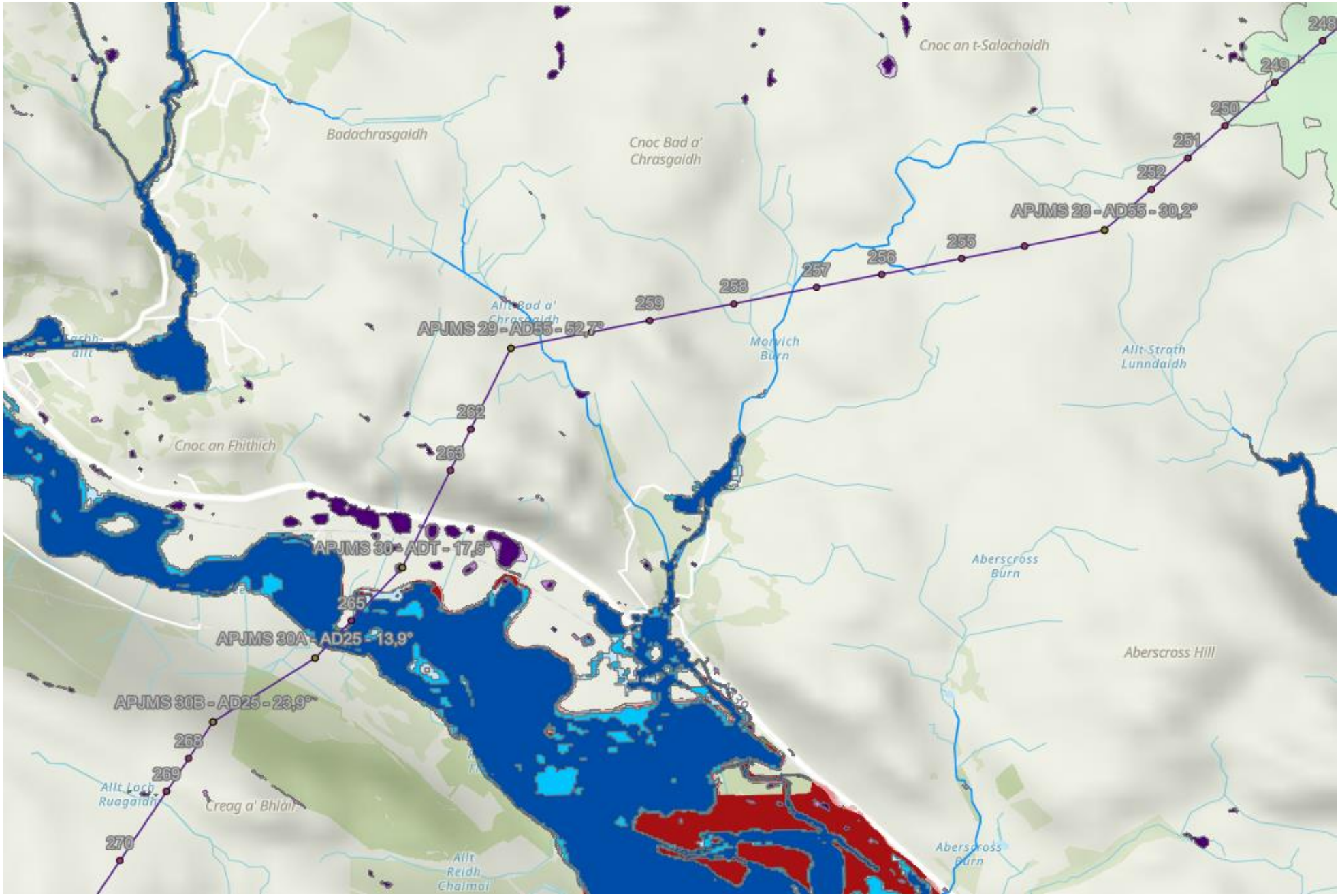
Cnoc an t-Salachaidh
Badachrasgaidh
Cnoc Bad a' Chrasgaidh
Allt Bad a' Chrasgaidh
Monich Burn
Allt Strath Lunndaidh
Cnoc an Fhithich
Aberscross Burn
Aberscross Hill
Allt Loch Ruagaidh
Creag a' Bhlàir
Allt Reidh Chaimai
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APJMS 28 - AD55 - 30,2°
APJMS 29 - AD55 - 52,7°
APJMS 30 - ADT - 17,5°
APJMS 30A - AD25 - 13,9°
APJMS 30B - AD25 - 23,9°


Carnaig Substation
APJMS 31C - AD55 - 29,1°
APJMS 31B - AD25 - 12,0°
APJMS 31A - AD25 - 28,6°
APJMS 30C - AD10 - 9,8°
APJMS 31 - AD55 - 50,3°
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Dailleag an Lòin
Creag Dail na Mèine
Meall a' Chaorainn
Meall Mòr
Garskelly Burn
Maolanaidh Mòr
Allt Loch na Feannaig
Allt Lochan Maolanaidh

APPENDIX B

PPENDIX B – Private Water Supply (PWS) Risk Assessment

A Private Water Supply (PWS) Risk Assessment will be undertaken prior to any works to identify any PWS sources within 250 metres of the boundary of the worksite. This risk assessment will detail the water source and location relative to the works, the number and frequency of samples required, sampling parameters to be tested, analysis details and reporting details. The risk assessment will be submitted for the written acceptance of SSE no less than 8 weeks prior to the commencement of works which may adversely affect any PWS.

Scheme Title

LT132 Beauly to Loch Buidhe

Document Title

Outline Pollution Prevention Plan

Client

SSEN Transmission

Wood Document Number

####/####/####/####/##

Rev

-

Client Scheme Reference

########

Document Status Rev

Document Status

Revision Changes Notice

Rev.	Date	Description	By	Chk	App
DRAFT	-	DRAFT	KH		

Changes within the document from previous issue are indicated thus

List of Holds

Hold No.	Location	Reason for Hold

Design Team

Role	Name	Email	Phone
Lead Design Engineer			
OHL Engineer			
Cable Engineer			
Structural Engineer			
Civil Engineer			

Important Notice

This document was prepared exclusively for SSE by Wood. The quality of information, conclusions and estimates contained herein is consistent with the level of effort involved in Wood services and based on:

- information available at the time of preparation,
- data supplied by outside sources,
- the assumptions, conditions and qualifications set forth in this report.

This report is intended to be used by SSE only, subject to the terms and conditions of its contract with Wood. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

Reference Documents, Drawings and Specifications

Document No.	Rev.	Title

Table 1 – References

Glossary of Terms

Abbreviation	Description
ACDS	Anti Climbing Devices
ACSR	Aluminium Conductor Steel Reinforced
BS EN	British Standard Euronorm
DID	Design Intent Document
Dart Sag	Wood (in-house software)
ECCS	European Convention for Constructional Steelwork
EDT	Every Day Tension
MET	Maximum Erection Tension
MWT	Maximum Working Tension
NBL	Nominal Breaking Load
OHL	Overhead Line
PDQP	Project Design Quality Control Plan
PLS	Powerline Systems
RTS	Rated Tensile Strength
TGN	Technical Guidance Note
TQ	Technical Query
TS	Technical Specification

Table 2 - Glossary

Contents

Tables

Figures

No table of figures entries found.

1. Introduction / Background

1.1. Overview

This Pollution Prevention Plan (PPP) has been produced by Wood Transmission and Distribution Ltd (Wood T&D) and forms part of Appendix D of the Construction Environmental Management Plan (CEMP).

1.1.1. Scope

This Pollution Prevention Plan (PPP) describes the measures that should be implemented during GI to ensure runoff is controlled from impermeable surfaces and disturbed ground, and that restoration activities do not cause pollution to the environment.

1.1.2.

This document covers the planning application boundary for the entire proposed development. This traverses a number of catchments, as shown on Annex A, Figure 1. The proposed tower pad locations, Earthing Protection Zones (EPZs), access track arrangements, construction site compound and other infrastructure is shown along with an indicative mitigation plan in Annex A, Figure 2. An inventory of identified watercourse crossing locations and associated Controlled Activities Regulations (CAR) requirements is provided for reference in Annex B.

1.2. Objectives

1.2.1.

The PPP is a supporting document for the CEMP for the construction phase of the 'the Development. It describes the measures to be implemented during construction to ensure that runoff is controlled from impermeable surfaces and disturbed ground and that restoration actives do not cause pollution to the environment.

1.2.2.

This document covers the GI works boundary which relates to the 400kV connection works.

1.2.3.

The aim of this PPP is to provide a framework of management controls and environmental mitigation measures for the construction works in order to meet the Scottish Environmental Protection Agency (SEPA)'s requirements for the Construction Site Licences, covering catchment traversed by the development.

1.2.4.

This PPP should be reviewed regularly by the Environmental advisor) to ensure that it remains fit for purpose. Review should also be carried out on site if there is any significant change on site that has potential to negatively impact the environment, to reflect updates to other site documentation or in the event of changes to relevant legislation, policy and guidance as presented in this document. In accordance with CSL condition 4c, any desired revision to a pollution prevention plan must be agreed in writing with SEPA before being made.

2. Document Structure

This PPP document has been structured specifically to answer the following questions as set out in Section 10 Appendix – Pollution Prevention Plan Template of WAT-SG-75 .

- What land does this plan apply to?
- What is being constructed on the land to which this plan applies?
- Who is the point of contact with SEPA in relation to this plan?
- What pollution risks will be managed under this plan?
- What will be done to prevent pollution?
- How will we manage run-off?
- What will we do if something goes wrong?
- How will we ensure that the plan is effective? and
- Who is in charge of making sure this plan is implemented?

3. Pollution Prevention Plan

3.1. What Land Does This Plan Apply To?

Boundary of the land to which this pollution prevention plan applies	This PPP is related to the L132 Project, located between Beauly and Loch Buidhe, Ground investigation works which will consist of a borehole and trial pits at each tower location. **Error! Reference source not found.**
Area of this land (hectares)	This PPP covers GI at 239 towers locations. The GI will consist of 1 borehole and 4 trial pits at each location.
Location of watercourses (inc. culverted watercourses, land drains etc.), ponds, wetlands, estuaries and coast on the construction site	TBC confirmed following alignment confirmation and surveys.

3.2. What is Being Constructed on the Land to which this Plan Applies?

Type of construction work that will be carried on the land to which this plan applies	The Development comprises of an approximately 82km double circuit 400kV OHL, supported by steel lattice towers between a proposed substation at Beauly and Loch Buidhe Individual tower foundations and associated construction activities will take place on a working area around each individual tower location. Where encountered top soil and peat would be stripped from tower working area to allow installation of tower erection pads to accommodate construction plant. Ready mixed concrete will be cast and set, and the excavation will be backfilled using the original excavated material and the towers will be assembled and erected using stone crane pads positioned within the extents of the working areas. Permanent access would be in the form of stone access tracks for all angle towers. Where possible, existing tracks would be used or upgraded for use. Temporary access tracks would be sought for access in other locations, i.e. section towers. Temporary access comprising of trackway panels or floating stone roads may be in situ for the duration of the works in sensitive areas.
Scale of the construction work (e.g. no. of houses; road length; etc.)	The principal components of the Development comprise: ▪ Approximately 72km of double circuit 400kV OHL supported by steel lattice towers; ▪ ?km of new permanent track with a running width of ?m (total land take for permanent new tracks is approximately ?ha) ▪ Use and upgrade of ?km of forestry track and use / maintenance of another ?km of forestry track (total land take for permanent existing tracks is approximately ?ha) ▪ ?km of new temporary track with a running width of ?m (total land take for temporary tracks is approximately ?ha) ▪ Section tower working area of ?m^2 (?mx?m) ▪ Angle tower working area of ?m^2 (?mx?m) ▪ [total tower working area temporary land take of ?ha] NOTE. Distances are to be updated when distances are known.
Date on which the phase of construction covered by the plan is expected to start and to be completed (Notify SEPA the start and	January 2025- Dec 2025 (12 months from commencement on site to the completion of GI works). Works to be spilt into 4 phases: • Phase 1 – Enabling Works • Phase 2 – OHL construction • Phase 3 – OHL commissioning • Phase 4 – Reinstatement

finish of each phase)	
Dates of start and completion of construction site as a whole (where this differs)	2024-2026 (? months from commencement on site to demobilisation of the towers and reinstatement).

3.3. Who is the Point of Contact with SEPA in Relation to This Plan?

Person(s) who will be the normal contact with SEPA about this plan	Environment Manager
Person(s) who can have 24 hour contact with SEPA in an emergency (i.e. if there is an imminent risk of pollution or where pollution is occurring)	EnvCoW (tbd) Construction Manager
Reference to use when contacting SEPA	LT132 Beauly to Loch Buidhe 400kV OHL

3.4. What Pollution Risks will be Managed under This Plan?

Potential pollutant sources during the phase of construction covered by this plan, including exposed soil, fuel storage areas,	• Sources of suspended solids and turbidity from the release of sediment entrained runoff from exposed ground, poor silt management and ground investigation works. This could arise from: • Soil and peat excavation to be stripped from tower working area and stockpiled to allow the installation of tower erection pad and tower assembly; • Discharge of silty groundwater from tower excavations;

concrete washouts, wheel washes etc.	• Site vehicle and construction plant washings • Sources of pollutants from accidental spillages and leakages arising from: • The installation of tower foundations and the setting of ready mixed alkaline and corrosive concrete within excavations • Concrete washout within the site compound • Refuelling of site vehicles and plant on- site • The delivery and storage of oils, chemicals, lubricants and solvents within site compound trade material stockpiles • Sources of pollution with vary geographically across the scheme depending on the construction activities planned in different areas. Section x.x identifies the higher risk potential sources of pollution and sets out the ways in which this will be managed.
Routes by which pollutants (including soil) could reach the water environment from these sources	Specific pathways are likely to be highly localised, depending on topography, type of drainage and connectivity, ground conditions and the local and temporal conditions in terms of works and weather. The pathway for silty runoff is from impermeable surfaces and/ or along existing drainage pathways and would flow overground following topographic contours downgradient from the construction areas. An understanding of all of the constraints and pollutant source / pathway / receptor linkages at each specific site allows the appropriate pollution control strategy in the form of mitigation and appropriate monitoring to be employed.
Parts of the water environment that the pollutants could reach and any particularly sensitive features	Receptors comprise of watercourses, PWSs and GWDTEs as shown in Figure X. Part of the works falls within the catchment of the Kyle of Sutherland River. Watercourse receptors are shown in Figure X. Watercourses are sensitive to sediment entrained runoff, particularly at watercourse crossing points and where tower working areas are situated within 30m of watercourses. Where these pathways are identified mitigation has been put forward in Section x.x. for appropriately managing runoff. Figure references to be updated once EiA is published.

3.5. What will be Done to Prevent Pollution?

How We will Manage Risk at Source	
Runoff from Access Track / tower pads	The approach to managing runoff pollution risks at their source comprise: • Dewatering activities should be preferentially carried out during dry weather. Wet weather should be considered and discussed between the engineering, safety and environmental teams, as part of regular meetings*; • Divert 'clean' runoff from upslope (via the use of cut off ditches, channels etc.) around working areas to reduce the volume of silt laden water requiring treatment; • Ensure any run-off or silt laden water from work activities is contained and collected for treatment prior to discharge to watercourses; and • Directing runoff from working areas towards adjacent areas of natural vegetation, where the vegetation would filter sediment and the runoff can infiltrate into the ground. This may be sufficient to protect the water quality of downstream watercourses in many areas and would be the preferred approach. Where required cut off ditches will be installed to manage the 'run-on' of clean water from upslope areas on to the stone roads and working areas. The Site Supervisor/ ECoW shall agree the line of the ditch and its discharge point. It will be dug to the depth required to ensure that all of the water run-off is caught in the ditch and discharged directly to a road crossing pipe or watercourse, so that the water cannot mix with any silt arising from working areas. There will be a drain situated downgradient of each tower foundation to capture silty surface water run-off from the exposed working area. The drain will need to pass through silt netting and matting prior to discharge into surrounding vegetation. Silt fencing may also be used as a perimeter control on the site at the downslope end of earthworks or disturbed soils. Any silt fencing will be monitored by the ECoW and should be cleared regularly of sediment and silt build up or replaced where necessary. Temporary access comprising of trackway panels and bogmat hardwood panels or permeable Grade 2 aggregates are to be in situ for the duration of the works to limit the impacts on the water environment. A bogmat panel or permeable Grade 2 aggregate track will be less intrusive in their nature as it does not require excavation or drainage installation.

How We will Manage Risk at Source	
	Mitigation measures will remain in place until it is deemed that restored areas have recovered fully. This will be gauged by implementing the post-construction monitoring processes. **If dewatering volume is greater than 10m^3/day a CAR licence is required, and SEPA WAT-RM-11 is to be referred to.*
Watercourse Crossings	There are a number of watercourses (rivers, burns, drainage ditches, ephemeral streams) present across the development. Watercourse crossing points present potential risks to watercourses and the aquatic environment. The locations of the watercourse crossings are shown on Figure X and further details on each crossing are provided in the Watercourse Crossing Inventory (Appendix X). This inventory provides details of all watercourse crossings required to service the works. The Watercourse Crossing Inventory will be maintained as a live document throughout the duration of the construction works. The schedule details the following: - Location of crossing point; - Means of crossing, i.e. bridge / culvert; - Width of watercourse; - Type of consent required. Watercourse crossings will be removed (where not permanent) in accordance with the appropriate level of CAR Authorisation. As a minimum the Contractor will implement those measures outlined in General Binding Rule No. 6 (GBR6) in SEPA's CAR Practical Guide. The level of CAR Authorisation required is defined according to the type and duration of work and the size of the watercourse, as set out in the CAR Practical Guide. Removal of temporary structures is subject to authorisation at the same level as for their installation. Any works to culverts shall not be attempted during times of heavy rain or during periods of high flows. All culvert removal / replacement works will be undertaken with an environmental watching brief. To avoid unnecessary silt entering the watercourse during the removal of a culvert, works will be undertaken in the absence of water. As such the channel will be temporarily blocked and over pumped. When the flow is reestablished during the removal of the temporary blockage, there is the potential for an export of sediment. To mitigate this, silt mats will be deployed downstream of the works and the flow will be

How We will Manage Risk at Source	
	re-established gradually to minimise sediment mobilisaiton and transport.
Hydrocarbons	It may be necessary for fuels and oils to be stored within the catchment of the Kyle of Sutherland River. Sources of hydrocarbons (chemicals, oils and hazardous materials) will be stored securely away from watercourses, removing any possible pathway to the hydrological receptor. Storage of fuel within 200 litre drums is not permitted on site. Secondary containment or bunds are required where storage of oil or fuel is within containers over 200 litres. Undertake refuelling at appropriately sited and set up designated refuelling bays Where this is not possible for operational reasons, refuelling should not be undertaken within 30m of surface waters and should follow the above guidance regarding location of any fuel related activities Plant nappies should be placed under stationary plant and equipment such as oil powered pumps, generators, winches, hydraulic presses, compressors, lighting rigs (where these items are not “integrally bunded”). Plant nappies will not be in use for more than 30 minutes. Static plant should be located at least 30m from any watercourse (or other identified sensitive receptor). Where it is not possible, mitigation should be put in place to reduce the risk or impacts of a pollution incident occurring (including additional capture methods for losses, increased inspection visits of the plant or placement of oil booms).

How We will Manage Risk at Source	
Stored Materials / Waste	All inert, non-hazardous and hazardous waste is to be stored in an area to be located at least 50m away from watercourses and screened from external receptors where possible, hence breaking the pathway linkage between pollutant source and receptor. For the storage of top-soil and sub-soil it should be ensured stockpiles do not exceed 3m in height with a maximum side slope of 1:2. Stockpiled soils can be tracked in a compacting methos when dry. This reduces the likelihood of increased run-off from stores and increased pathway linkages. Peat and other superficial deposits storage areas sited should be in areas with lower ecological value, low stability risk areas and at a suitable distance from watercourses, at a minimum, no less than 10 metres away. Appropriate drainage (if required) should be installed around peat storage areas. Cut off ditches will be installed upgradient of soil and peat stockpiles to reduce run on, and these will be sited by the Contractor, ideally more than 10 metres from watercourses to allow space for treatment of stockpiles. Treatment systems will be proportionate to the size of the stockpile and will likely include measures such as check dams and silt netting. Concrete shall not be used within 10m of any watercourse or loch. Store bulk and bagged cement and concrete additives at least 30 metres away from watercourses, gullies and drains in properly secured, covered and bunded areas. All concrete wash water should be contained for treatment on site or disposal off site. None shall be allowed to enter any drains, ditches or watercourses or land. Discharge of small volumes to land should only take place where there is no connectivity to surface and ground waters and can be demonstrated to be fully compliant with legislative requirements. Discharge of any amount of concrete wash water to land should be consulted with the Environmental advisor.

3.6. How will we Manage Run-off?

How We will Manage Risk at Source	
Runoff from Access Track / tower pads	The towers and temporary access roads lie approximately 50-100m away from the unnamed watercourse to the east of the Development. The approach to managing runoff pollution risks at their source comprise: • Dewatering activities should be preferentially carried out during dry weather. Wet weather should be considered and discussed between the engineering, safety and environmental teams, as part of regular meetings; • Divert 'clean' runoff from upslope (via the use of cut off ditches, channels etc.) around working areas to reduce the volume of silt laden water requiring treatment; • Ensure any run-off or silt laden water from work activities is contained and collected for treatment prior to discharge to watercourses; and • Directing runoff from working areas towards adjacent areas of natural vegetation, where the vegetation would filter sediment and the runoff can infiltrate into the ground. This may be sufficient to protect the water quality of downstream watercourses in many areas and would be the preferred approach. Where required cut off ditches will be installed to manage the 'run-on' of clean water from upslope areas on to the stone roads and working areas. The Site Supervisor/ ECoW shall agree the line of the ditch and its discharge point. It will be dug to the depth required to ensure that all of the water run-off is caught in the ditch and discharged directly to a road crossing pipe or watercourse, so that the water cannot mix with any silt arising from working areas. Mitigation measures will remain in place until it is deemed that restored areas have recovered fully. This will be gauged by implementing the post-construction monitoring processes.

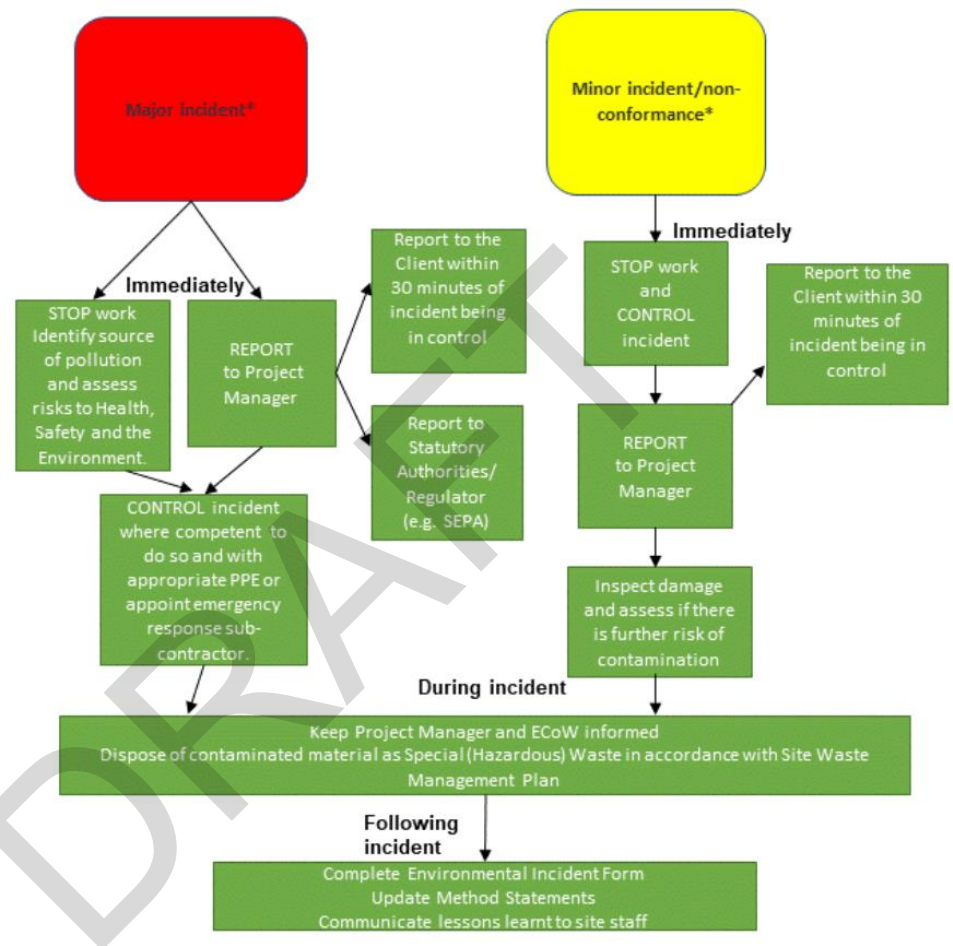
3.7. What will We do if Something Goes Wrong?

Rapid response actions that will be taken to try to prevent pollutants reaching the water environment	The following will be undertaken to prevent pollutants reaching the water environment: • Stop work upon the discovery of an environmental incident and take whatever steps to contain/ remediate the incident without putting the health and safety of themselves or others at risk. • Assess the type of environmental incident, if it is a spillage then assess the type and quantity of the spillage, and identify

	any environmentally sensitive receptors, such as the water environment, close to the incident. • Act to prevent pollutants from reaching the water environment by containing the hazard and break pollutant linkage pathways by isolating the area affected and by blocking routes and preventing migration into watercourses. • In the case of a spill incident, stop the source of the spill / leak, isolate the area and cordon off the spill and the affected area. Deploy spill kits and create cut-off ditches or sumps where required. All guidance from SEPA's Pollution Prevention and Control Technical Guidance1 should be adhered to. GPP 222 relates to incident response and dealing with spills and provides direction with regard to good practice principles
Rapid response actions that will be taken in the case of pollution occurring	Incidents should be reported in accordance with Section 7.5 of the CEMP and in the case of pollution occurring the following will be immediately notified: Project Manager (Construction Manager); and EnvCoW. The Project Manager / EnvCoW will report incident to the Client within 30 minutes of the incident being brought under control. SEPA must be notified via its pollution hotline number 0800 80 70 60 without delay. Once the extent of the incident has been established, the clean-up and remediation will be undertaken by trained personnel and/ or contractors will be informed and mobilised to site if required (i.e. the appointed spill response contractor in the case of a spill): • All solid surfaces will be cleaned with appropriate absorbent materials; • Any presence on water will be removed as far as reasonably practicable by using absorbent booms, pads and other absorbent materials; and • Contaminated material will be removed from site and placed temporarily in a designated storage facility (within the project site yard) for subsequent removal by approved waste management contractor in compliance with regulatory consignment and Duty of Care requirements. Closure of the incident is viewed an important part of the response process, by identifying no go areas and assessing environmental impacts, reviewing the effectiveness of emergency response

[1] SEPA (2017). *Pollution prevention and control | Scottish Environment Protection Agency (SEPA)* [Online] Available from: https://www.sepa.org.uk/regulations/pollution-prevention-and-control/#What_guidance_is_available

[2] SEPA (2018) Guidance for Pollution Prevention 'Dealing with Spills' [Online] Available from https://www.netregs.org.uk/media/1643/gpp-22-dealing-with-spills.pdf

	within an investigation to develop lessons learned and ongoing monitoring requirements. Incident sites will be monitored regularly until site has stabilised.
Rapid response actions that will be taken in the case of site characteristics changing (e.g., soil types)	All incidents on the site are treated with the same degree of urgency. That said, responses to incidents will vary depending on whether they are considered to be a minor or major incident, as shown within the flow chart below.  Following incidents and/ or failure in management procedure, lessons learned will be disseminated across all site staff and the relevant method statements, CEMP, toolbox talks etc. will be updated. A ‘Lessons Learned’ database will be maintained throughout the duration of the project. In addition, an annual meeting regarding ‘Lessons Learned’ will be scheduled and organised by the WSP EnvCoW/ Project Manager

3.8. How will We Ensure that the Plan is Effective?

Maintenance programme that will be	All vehicles and plant (mobile and static) are to be in good working order and will be inspected daily for full integrity, including checks for

undertaken in relation to vehicles, plant and any infrastructure used to avoid, intercept or trap/treat pollutants	leaks, before use. A vehicle or plant check sheet will be completed prior to use to document this check and stored in the site office. Plant and machinery will be checked for spills and leaks during the Health, Safety Security and Environment (HSSE) Advisors formal inspections/informal HSSE tours. During the interim post construction period, a programme of mitigation maintenance activities has been undertaken in accordance with the mitigation measures outlined in the 'managing runoff at source section'. A mitigation tracker is maintained logging specific maintenance activities in addition to routine maintenance. As part of the Pre-Commencement Check List Procedure, pre-commencement ecology checks and a review of mitigation measures required for the planned works is undertaken. Works must not progress until the required mitigation has been installed and signed off by the EnvCoW. A prompt to review pollution prevention/ mitigation controls, including monitoring effectiveness and maintenance requirements, will be incorporated within the Method Statements. Any specific hydrological concerns and preventative actions would be included in the Daily Activity Safe Start check sheet and briefed out to the work party prior to works commencing.
Inspection programme that will be carried out to check the correct operation and effectiveness of the actions in this plan	Inspections and audits will be carried out weekly to determine whether activities comply with the planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve the objectives set by Wood T&D and the client. The project team is responsible for management and monitoring of the site activities, including sub-contractors, to ensure that environmental and quality requirements are met and maintained. As a minimum, the monitoring regime will examine the following: • Compliance with legislation and WSP / Wood Procedures; • Compliance with the Construction Environmental Management Plan; • Compliance with client requirements; • Management of environmental risks; • Communications with team members and contractors on current issues and opportunities; • Supplier and Sub-Contractor performance on environmental requirements; and • Emergency preparedness. The effectiveness of environmental management will be reviewed on a quarterly basis for the duration of the works and updated as necessary. The review process will be based on inspections carried out by the EnvCoW, the Client's environmental representative and external bodies. As part of the monitoring and review process a full written record will be kept of the following: Toolbox talks delivered (signed by all recipients);

	Environmental inspections; Environmental audits/site visits; Environmental events including any 'hazards, near misses' or 'incidents'; and Ecology/archaeology sightings etc. The project EnvCoW will conduct regular site inspections and audits (with the client if requested) to ensure compliance with the approved plans. All inspections are documented, and any resultant actions should be agreed with a timescale and upon completion signed off. Issues that will be covered include: • Watercourses below working areas; • Surface water and sediment run-off mitigation controls; • Hazardous materials; • Waste management; • Waste water (foul drainage); • Environmental training including inductions and toolbox talks; • Compliance with the PPP and with Risk Assessments and Method Statements; and • Emergency responses. Throughout the entire period of works (including reinstatement), a programme of visual monitoring will be implemented that will include regular visual inspection of: • surface water management features, such as culverts and receiving watercourses, in order to establish whether there is increased erosion or deposition of sediment; and • watercourses during works, particularly during periods of high rainfall, in order to establish that levels of suspended solids have not increased by site activities; • peat stock piles regularly (at least weekly) and following heavy rainfall or thaw conditions to check for any evidence of movement, tension cracks or instability in the stored peat. Should any issues be noted, these will be recorded in a photographic record log. The exact locations of the visual monitoring will be identified by on-site personnel during and throughout construction, taking into account the implementation of site-specific mitigation measures and areas of greatest risk to the hydrological environment. The programme is important to provide reassurance that established in-place mitigation measures are effective and that works are not having a detrimental impact upon the water environment and to indicate whether further investigation is required and, where pollution is identified, the need for additional measures to prevent, reduce or remove any impacts on the water environment.

Management programme that will be used to ensure all workers on the site and anyone visiting the site are aware of, and doing, what is required of them in relation to this plan	All site personnel and visitors to the site will attend an induction before starting work. Site induction records shall be maintained and available for inspection. The site inductions shall include information pertaining to a variety of environmental issues that site personnel are likely to encounter during their work. These include the following: • The site-specific environmental issues and level of associated sensitivity, and where this information could be sought (e.g., Tower Hazard Matrix (THM), Watercourse Crossing Schedule, Method Statements, Private Water Supply (PWS) Risk Assessments, etc.); • Work control arrangements, i.e., duty to comply with Method Statements and Permit to Work systems; • Key relevant environmental documentation, for example this PPP and CEMP; • Types of pollution and mitigation approaches used on site including where to find this information (e.g., Method Statements and Site-Specific Mitigation Maps, from EnvCoW and site engineer/ supervisor); • Environmental incident response actions, spill control and key contact information as set out in the Environmental Response Plan (ERP). Duty to report all incidents and near misses; • Most frequently encountered environmental incidents, for example fuel/ oil spills (cover key aspects of fuel handling and storage) and sediment laden water control (note key drainage issues, controls and implication of pollution occurring); • Storage and management of fuel supplies and refuelling procedures; and • General housekeeping and waste management. It may be necessary for some personnel involved in site activities which present a degree of risk to the environment (e.g., re-fuelling, Control of Substances Hazardous to Health (COSHH) compliant storage, spill response works, access near sensitive receptors, etc.) to undergo more specialist environmental training. This will be provided by Wood and records shall be maintained to demonstrate when refresher training may be required. A copy of this PPP must be kept in the site management office and Wood must ensure, through the agreed environmental training and communications channels that all personnel are made aware of their commitments to environmental management and protection, and to environmental incident reporting and response. Toolbox Talks will be required, depending on the type of work being undertaken and the environmental impacts that may result from these activities, e.g., training on water pollution prevention before works near watercourses. Regular Toolbox Talks are likely to be provided

	once per week by appropriately qualified/informed personnel. Toolbox Talks will include (but are not limited to) the following: • Environmental incidents; • Spill control & spill kits; • Storage and use of petrol, diesel and oils; • Water pollution prevention; • Materials storage and management; • Ecological sensitivity; and • Identification of protected species, relevant to areas of works. Toolbox talks should be used as refreshers, proactively re-iterating specific site sensitivities, to inform of new environmental circumstances on site and to share learning and best practice
Pollution control equipment that will be held as minimum stock	Plant nappies and absorbent mats, for all vehicles and plant including mobile generators and pumps. 40l spill kit bag on each large piece of machinery, 15l spill kit bag on each small piece of machinery. One spill kit on each piece of plant and equipment and one 40l spill kit in each emergency station. Minimum of five spares in stores (both sizes) 240l spill kit wheelie bin: one next to each refuelling area and three spares. Biodegradable degreaser and knapsack sprayer: One 25l container and sprayer.
Contingency planning that will be used, in the event of deterioration in water quality form the private water supply	If a Private Water Supply (PWS) is found to be impacted by activities from the construction of the Proposed Development, contingency supply arrangements will be ready for implementation. This would involve ?Wood? providing alternative sources of drinking water and general use where required, in order to avoid disruption to the PWS user.

3.9. Who is in Charge of Making Sure this Plan is Implemented?

Person(s) with overall responsibility for ensuring this plan is implemented on a day-to-day basis	Project Manager
Person(s) responsible for the maintenance programme (if different)	Construction Manager
Person(s) responsible for the inspection programme (if different)	EnvCoW

Person(s) responsible for ensuring appropriate rapid response to prevent or minimise pollution if something goes wrong	EnvCoW/Site Manager when EnvCow is not present