Outline Method Statement

Project	**Erw Faethlon Hydro**	
Works	Civil Works Outline Method Statement	
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Revision	**Date**	**Comments**
A	11/2023	First issue

1. Description of Works

To complete all civil engineering structures for micro hydropower scheme at Erw Faethlon, Tywyn. This includes, construction of new intake, laying of pressure pipeline and construction of new power house and outfall.

2. Expected Timing and Duration of Works

12 Weeks (March 2024)

3. Potential Risks to Operatives

- Injury to operatives due to plant and vehicle movements
- Injury to operatives due to manual handling
- Injury to operatives due to possibly working close to a sheer embankment and falling
- Injury from adverse weather conditions
- Injury to operatives due to working with small plant and hand tools
- Injury to operatives due to rotating machinery
- Injury to operatives by vibrating machinery
- Injury to operatives by electric shock (low voltage)

4. Prevention Methods

- Safety method statements and risk assessments carried out on all works
- All operatives to hold CITB safety awareness card
- All plant operatives to hold CITB certificate for that item of plant
- All operatives to be suitably trained in good working practice
- Appointed H+S officer responsible for health and safety on-site
- All operatives made aware of plant movements
- All operatives to wear suitable PPE
- Use of scabblers to be minimised
- Operatives to be rotated when using scabblers
- Works in/close to watercourses not to be carried out during periods of high flow
- Suitable precautions to be taken when working on electrical installation

5. Potential Environmental Risks

- Fuel/Oil Spillage resulting in soil contamination
- Fuel/Oil Spillage resulting in contamination of water course
- Contamination of watercourse with cementous material
- Contamination of watercourse with chemicals
- Contamination of watercourse with sediments due to run off from excavations

6. Prevention/Mitigation Measures

- All operatives will be made aware of the need to protect the watercourse from contamination
- All works close to/in watercourses will be carried out during the dry summer months
- All works taking place within the watercourse will be carried out ‘dry’ by diversion of watercourse
- The works will be carried out in accordance with the principles within EA/NRW/SEPA’s Guidelines on Above Ground Oil Storage Tanks, Working in Watercourses and Construction and Demolition Sites (PPG2, PPG5 and PPG6)
- Fuel storage tanks will be stored at least 10m from watercourses and away from areas where collision with vehicles is likely. Areas where deliveries are proposed will be protected with impermeable surfaces and isolated from surface water drainage.

- Fuel will be stored in steel tanks including secondary containment complying with relevant standards.
- The checklist in PPG2 will be used to ensure protection measures are in place.
- Chemicals and oils will be kept in a locked steel container
- Pollution spill kits will be kept on site. In the event of an incident these will be used. In the event of a spill a temporary bund will be put in place.
- Any soils contaminated will be removed immediately to a suitable landfill site
- Bins will be provided for debris.
- Geo-textile materials silt fences will be installed below excavations to filter suspended solids from runoff.
- When/if pumping, care will be taken in pump sizing. Water will be discharged away from the watercourse and via a straw bale/geo-textile filter to prevent entry of silt into the watercourse.
- Bank restoration will be carried out operating from the bank rather than the watercourse
- Cementous material will not be placed in the water.
- Cleaning of tools and shuttering will be carried out in water not draining directly to the watercourse and at least 10m from watercourse
- In the event of expected heavy rain concrete will not be poured. Therefore we do not expect to have any surface run off from wet concrete sections.
- Any cement stored on site will be properly packaged, and any opened bags will be removed at the end of the working day.
- Do not work from within watercourse unless absolutely necessary

7. Civil Works Sequence of Operations

- Arrive on site and receive site induction
- Take receipt of relevant drawings
- Carry out a basic site survey

7.1 Intake

- Create temporary diversion around working area to prevent working within flow
- Remove surface vegetation etc to obtain competent bedrock
- Drill rock head and fix steel dowels

- Supply and install steel reinforcement for in-situ work
- Supply and install shuttering
- Supply and place concrete
- Compact concrete using a vibrating poker
- Strike formwork once the concrete has been cured
- Fix fixtures and fittings
- Remove water diversion

7.2 Penstock Pipeline

- Remove turf and topsoil and set aside for reinstatement
- Dig trench for penstock
- Set aside sub soil for reinstatement
- Lay penstock within trench
- Join additional sections
- Penstock should be capped to prevent entry of otters overnight
- Reinstate topsoil and turf where appropriate
- Tidy site on conclusion.

7.3 Powerhouse

- Set out site ensuring all works are above flood level
- Excavate excess soil to desired level
- Place crushed rock bedding material
- Install below ground drainage where required
- Construct formwork and reinforcement where applicable
- Supply and place concrete
- Compact using vibrating poker
- Strike formwork once concrete has cured
- Complete foundation to allow erection of above ground structure
- Tidy site on conclusion

8. Checklists and Monitoring Inspection Sheets for All Staff

Checklists and Monitoring Inspection Sheets will be provided to all staff

9. Incidents Reporting

In the event of an environmental incident NRW will be notified immediately by the site supervisor on the emergency hotline.