FLOOD RISK & DRAINAGE MANAGEMENT SERVICES

ARE YOU LOOKING TO PROTECT YOUR SITE AGAINST FLOODING? NATURAL POWER WORKS WITH CLIENTS TO ENSURE MITIGATION AGAINST AND ADAPTION TO FLOOD RISK BY OFFERING EXPERT ASSESSMENT, PROTECTION AND PREVENTION SOLUTIONS

We have completed flood risk assessments for individual housing developments, critical infrastructure, upland and lowland renewable energy projects as well as completing a catchment scale natural flood management project.

We have provided support to individual developers, large scale utilities and local authorities.

A selection of services:

FLOOD RISK MANAGEMENT

- Site surveys and inspections
- Completion of flood risk assessments (Scotland, England and Northern Ireland) and flood consequence assessments (Wales)
- Hydraulic and hydrological modelling using industry standard software (Flood Modeller, LowFlows, FEH, HEC-RAS, HEC-HMS and HEC-GeoHMS and Micro Drainage)
- Topographical surveys, ground based and aerial
- Design, implementing and assessing the effectiveness of natural processes in implementing flood management
- Embankment and retaining wall design
- Bridge and culvert design

DRAINAGE MANAGEMENT SERVICES

- Site walkovers and site appraisals/audits
- Design and implementation of hydrometric monitoring solutions
- Infiltration testing to inform surface and foul water design
- Provision of outline and full drainage design, including the development of SuDS schemes
- Desk and site based drainage advice to third parties to ensure compliance with design standards and SuDS requirements (CIRIA C753)
- Completion of drainage impact assessments

50+ FRA AND DRAINAGE PROJECTS

14+ ENVIRONMENTAL EXPERTS

50+ YEARS FLOODING EXPERIENCE

// we take an innovative approach to flood risk and drainage management solutions to help protect at risk sites on behalf of our clients.

CHRIS PENDLEBURY DIRECTOR OF PLANNING AND ENVIRONMENT //

FLOOD RISK & DRAINAGE MANAGEMENT SERVICES CASE STUDIES

LOCH LOMOND & TROSSACHS NATIONAL PARK

01

Natural Power was appointed by a private landowner to undertake a flood risk assessment (FRA) in the Loch Lomond and Trossachs National Park. The purposes of the FRA was to support the submission of a planning application for a new dwelling in close proximity to a watercourse.

In line with guidance and legislation a 1D hydraulic model was developed to assess the potential risk of the proposed dwelling from a range of flooding sources under a range of scenarios. Inputs to the model included the collection of site-specific topographic details as well as any obstructions to flow (bridge) and hydrological flow analysis in accordance with Flood Estimation Handbook.

The results were delivered in a succinct report alongside the necessary SEPA checklists demonstrating the requirements for a FRA which was accepted by the authorities and allowed the dwelling application to be achieved.

GALLOWAY GLENS LANDSCAPE PARTNERSHIP

02

Natural Power was appointed to assess the potential for using natural flood management (NFM) techniques across the entire Dee catchment in Dumfries and Galloway.

Works involved the undertaking of a desk and field-based assessment to determine the catchment scale characteristics to assist in the development of the baseline hydrological model of the entire catchment.

Natural Power developed the hydrological modelling under a suite of scenarios, as well as consideration of prescribed management measures, each of the identified catchments were assigned primary NFM measures for consideration. The merits of the shortlisted options was assessed from hydrological, environmental and social perspectives to determine a prioritised list of NFM measures.

Works are ongoing to assist with the direction of the partnership programme to refine the initial conclusions of the scoping study and the identified initial options.

MORAY EAST & NEW DEER SUBSTATION

03

Natural Power was appointed to undertake a drainage impact assessment (DIA) for the Moray East & New Deer onshore substation. The scope of the DIA included assessment of the impacts of the surface water, foul water and flooding risks from the proposed development.

Detailed assessments were undertaken to determine suitable drainage provisions for the site while reducing the potential impact on adjacent water bodies.

The DIA considered current planning and legislative requirements, ground conditions at the site, the existing and adjacent land use, the impact of the proposed drainage measures, SuDS treatment, and construction stage management of the drainage.

BLACK LAW WIND FARM EXTENSION PHASE 1

04

Natural Power was commissioned by Scottish Power Renewables to undertake a quantitative FRA to assess the risk of forestry felling and the proximity of a watercourse on the development of the substation associated with Black Law Wind Farm Extension Phase 1. The requirement for a FRA was a consequence of a pre-commencement condition associated with the consent.

The works included the completion of cross-sectional surveys at key reaches of the burn to develop a steady-state hydraulic model which was then tested under a range of scenarios in order to assess the potential risk of flooding to the development area. The technical report enabled the discharge of the appropriate planning condition.

FOR MORE INFORMATION CONTACT:

FIONA STRYJEWSKI
ACCOUNT MANAGER
fionas@naturalpower.com

FOR FULL DETAILS ON OUR **ISO** AND OTHER CERTIFICATIONS, PLEASE VISIT:
naturalpower.com/company

naturalpower.com | **sayhello@naturalpower.com**

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