

S.73 APPLICATION TO VARY CONDITIONS 3 AND 4

ENVIRONMENTAL STATEMENT ADDENDUM

CHAPTER 24: SUMMARY OF MITIGATION AND MONITORING

**Ffos-y-Fran Land Reclamation Scheme, East of Merthyr Tydfil
CF48 4AE**

Merthyr (South Wales) Limited

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24.1.0 Introduction

S.73 Application Context

- 24.1.1 Planning permission for the operational surface coal mine at Ffos-y-Fran was originally granted under planning permission ref. A-PP 152-07-014 ('the original application'). The description of development was as follows:

"Application by Miller Argent (south Wales) Limited for the Ffos-y-Fran Land Reclamation Scheme, incorporating the extraction of coal by open cast methods, and being the final phase of the east Merthyr Reclamation Scheme."

- 24.1.2 The above permission was subsequently varied under a S.73 planning application (application ref. P/08/0316) which sought consent for:

"[The] Variation of condition 37 of planning permission A-PP 152-07-014 to permit the limited dispatch by road of up to 5% of the annual output of coal from the Ffos-y-Fran land reclamation scheme or a maximum of 50,000 tonnes of coal per annum (whichever is the lesser) via Cwmbargoed Disposal Point."

- 24.1.3 The application was refused by Merthyr Tydfil County Borough Council but the proposals were subsequently allowed at Appeal (Appeal ref. APP/U6925/A/10/2129921). The Appeal Decision was issued by an appointed Inspector on the 11th of March 2011 and contained a comprehensive list of updated conditions, thereby superseding the original planning permission for the site as detailed above (permission ref. A-PP 152-07-014).

- 24.1.4 The purpose of this S.73 application is to allow for an extension to the lifespan of the mine. As such, the application seeks to vary the following conditions as contained within Appeal ref. APP/U6925/A/10/2129921:

- **Condition 3** – "All coal extraction from the development hereby permitted shall cease no later than 06 September 2022"; and
- **Condition 4** – "Final restoration of the land shall be completed no later than 06 December 2024 and aftercare shall be undertaken for a period of not less than 5 years upon certification of completion of each phase of the progressive restoration scheme."

- 24.1.5 The S.73 application, as submitted, seeks to extend the lifespan of the minerals extraction by a further 9 months. As such, the timescales stipulated within the above conditions will be varied to match this extended life span for the mine. No alterations are proposed to the extraction area or working practices at the mine as previously consented.

Summary of Mitigation and Monitoring

- 24.1.6 This Chapter of the ESA draws together a summary of the mitigation and monitoring measures proposed with regard to the proposed development. This includes consideration of mitigation and monitoring recommended within the original ES, those contained within the extant permission (Appeal ref. APP/U6925/A/10/2129921), and any additional or alternative mitigation and monitoring identified as a result of this ESA when considering the proposed S.73 application to vary Conditions 3 and 4.

- 24.1.7 Further detailed information pertaining to any additional and alternative mitigation and monitoring measures is provided within the relevant chapters of the UES, whilst the residual effects and conclusions are provided within Chapter 24: Conclusion.

24.2.0 Mitigation and Monitoring

Utilities

Original ES and Appeal Decision

- 24.2.1 The original ES identified that a water mains would be diverted, whilst suitable easements to electricity apparatus would be imposed for the duration of the works.
- 24.2.2 No subsequent mitigation or monitoring has been imposed / implemented beyond that contained within the original ES.

Additional Mitigation and Monitoring

- 24.2.3 No alternate or additional mitigation or monitoring is proposed beyond that contained within the original ES.

Footpaths, Bridleways and Urban Common

Original ES and Appeal Decision

- 24.2.4 With the exception of holding Community Liaison meetings, no mitigation or monitoring for public access matters were identified within the original ES.
- 24.2.5 No additional mitigation or monitoring has been established for public access matters subsequent to the original ES.

Additional Mitigation and Monitoring

- 24.2.6 The assessment of the proposed material change does not require any mitigation or monitoring.

Traffic and Transport

Original ES and Appeal Decision

- 24.2.7 No transport mitigation was proposed as part of the original ES. Indeed, it was concluded that the proposals would not impose any additional impacts on the local highway network and that the highway network would not be compromised by the traffic generated by the development.
- 24.2.8 A part of the S73 application a series of measures to minimise the impact of the removal of coal from the site via the highway were proposed. These can be summarised as follows:
- Vehicle routeing plan requiring vehicles to access / egress via Bogey Road and Fochriw Road;
 - All drivers to be registered as an employee of the haulage company;
 - All drivers to receive the routeing plan and to sign a form confirming receipt of the plan; and
 - All vehicles to be adequately sheeted to prevent any spill of material onto the highway.

Additional Mitigation and Monitoring

- 24.2.9 No further mitigation beyond that outlined above is proposed to facilitate the extension to the lifespan of the extraction operation.

Soils

Original ES and Appeal Decision

- 24.2.10 Given its factual nature, there is no requirement for additional mitigation or monitoring to be considered for soil resources beyond that contained within the original ES.

Additional Mitigation and Monitoring

- 24.2.11 Given its factual nature, there is no requirement for additional mitigation or monitoring to be considered for soil resources beyond that contained within the original ES.

Hydrology

Original ES and Appeal Decision

- 24.2.12 There is no requirement for any additional mitigation required during the operational phase beyond that outlined within the original ES.
- 24.2.13 Subsequent to the submission of the original ES, in 2015 Amec Foster Wheeler (AFW) were commissioned to prepare a report to support the development of a Surface Water Management Plan (SWMP) to manage runoff from the restored landform to ensure the capacity of the receiving watercourses would not be exceeded.
- 24.2.14 Details of mitigation proposed in the original ES are provided at Section 10.4 of the original ES

Operational (Cooling) Phase

- 24.2.15 These measures contemplated by the original ES were secured with the discharge of Planning Condition 48.
- 24.2.16 A number of water treatment areas have been constructed to manage runoff from the development to the downstream watercourses. These are summarised in Table 10-1 within ESA chapter 10.
- 24.2.17 All of the water treatment areas apart from J have a consent to discharge flows in excess of the design return period via a storm overflow. Excess flows from water treatment area J are pumped to the void or WA or WB. The storm overflows were consented by the Environment Agency (predecessors to Natural resources Wales). The application to discharge Condition 48 confirmed that the storm overflow frequency and duration would be monitored and recorded.

Restoration Phase

- 24.2.18 The AFW report recommends that runoff from the restored landform is attenuated to ensure the capacity of the receiving watercourses are not exceeded. The first phase of restoration is nearing completion and will require the construction of the two lagoons detailed at Appendix C of their report to attenuate runoff from the Morlais B sub-catchment.

Additional Mitigation and Monitoring

- 24.2.19 No alternative or additional mitigation measures are considered necessary.
- 24.2.20 Whilst the impact of climate change may have increased the frequency and severity of significant rainfall events, the mitigation measures will continue to attenuate runoff to the agreed rates set out in the application to discharge Planning Condition 48 and summarised in Table 10-1 within ESA chapter 10.
- 24.2.21 Over the very limited extension period being sought to extend the coaling operation, 9 months, the frequency with which the agreed attenuation rates would be exceeded due to the impact of climate change would be negligible. However, the storm overflow events that would result from exceeding the agreed attenuation rates were consented by the Environment Agency (predecessors to Natural Resources Wales).

Geology

Original ES and Appeal Decision

- 24.2.22 No mitigation or monitoring was proposed within the original ES or the subsequent S73 application.

Additional Mitigation and Monitoring

- 24.2.23 Give its factual nature, there is no requirement for additional mitigation or monitoring to be considered for geology.

Hydrogeology

Original ES and Appeal Decision

- 24.2.24 A summary of the original ES mitigation is given below for the excavation and restoration phases of the project as well as the water quality and ARD impacts.

Excavation Impacts

- 24.2.25 It was considered that the overall dry weather quality of outfalls to Nant Gyrawd, Nant Cwm Blacs and Nant Morlais valleys would be improved along with that of the Taff downstream of its confluence, because the ratio of good quality mine water, to other inflows, would be increased.
- 24.2.26 The effectiveness of the sub-pavement drainage system would be maintained by the installation of granular backfill placed against old workings that lie along the toe of the south- eastern end wall and along the south side low wall up to a maximum elevation of 232m AOD. Any open shafts encountered in the Lower Four Feet pavement would also be filled with granular backfill up to pavement level so that water percolating through the backfill would continue to drain south-eastwards into the old workings drainage systems. This historic drainage system will therefore remain intact, and its drainage function will remain unimpaired.
- 24.2.27 The removal of the potentially low permeability Dowlais Fault would be mitigated, if necessary, by the installation of a 'barrier' of selected impermeable material with a nominal hydraulic conductivity of 10⁻⁹ m/s or less placed on the pavement of the basal seam and over the backfill low wall to an agreed level. This barrier would replace the Dowlais Fault, which was thought to act as an aquiclude

or 'leaky' aquitard preventing or reducing flow across the fault.

- 24.2.28 Although base flow in the Nant Morlais will decrease for a short period after dewatering stops, whilst water levels recover to the east of the 'barrier' within the excavation, when water levels have recovered to c.260 m AOD east of the Dowlais Fault, water will again discharge to the drainage system and re-establish base flows in the Nant Morlais Culvert at a similar level to the pre-development situation.

Restoration Impacts

- 24.2.29 No restoration phase impacts were predicted.

Water Quality and Acid Rock Drainage Impacts

- 24.2.30 No water quality or ARD impacts were predicted.

Subsequent Mitigation or Monitoring

- 24.2.31 There has been subsequent monitoring undertaken as proposed in the Miller Argent (10th August 2005) Ffos-y-Fran Land Reclamation Scheme Groundwater Monitoring Scheme for Discharge of Condition 44, subject to operational constraints.

Additional Mitigation and Monitoring

- 24.2.32 No additional mitigation or monitoring is required beyond that already proposed, to mitigate impacts from the proposal to extend the mine's lifespan by 9 months.

Geotechnical

Original ES and Appeal Decision

- 24.2.33 The original ES stated that the slope design had to be at certain maximum angles and that particular mining practices were to be followed during excavations, for all the cut slopes, including the End Wall adjacent to A4060 Trunk Road. Full details of the slope design angles and practices are in Section 13.3 of the original ES.
- 24.2.34 The mine has implemented slope displacement and water level monitoring of the cut slopes during periods of mining, specifically when mining through the Dowlais Fault. This has provided for beneficial additional understanding of geotechnical slope performance.

Additional Mitigation and Monitoring

- 24.2.35 The mitigation measures implemented are considered to remain appropriate.

Archaeology and Heritage

Original ES and Appeal Decision

- 24.2.36 The original ES Chapter provided a range of mitigation measures, as follows:
- Where "No effects" to heritage receptors were identified, condition surveys were

recommended. These were to include the taking of photographs and field notes. Where a feature was associated with another feature that would be affected by groundworks, the recording was to be more detailed.

- Where “Slight or moderate adverse effects” to heritage receptors were identified, condition surveys, survey and recording of exposed features, field evaluation, and archaeological monitoring were recommended.
- Where “Major effects” to identified heritage receptors were identified, survey and recording, field evaluation, local investigation, and artefact recovery documentation and emergency conservation works were recommended.

24.2.37 The original ES Chapter also included mitigation provisions for the monitoring and enhancement of the retained archaeological features and landscapes during the aftercare and restoration phases of the scheme.

24.2.38 Additionally, the original ES Chapter provided provisions for future site drainage, to be “*designed in order to retain the character of the Free Drainage System*”. It was further noted that this stage would involve Cadw and other interested parties

Additional Mitigation and Monitoring

24.2.39 No alternate or additional mitigation is required beyond that set out in the original ES Chapter.

Ecology

Original ES and Appeal Decision

24.2.40 Mitigation measures were set out in the original ES Chapter (Section 15.6). These mitigation measures were relevant to the works and are as detailed within Table 15-1 in Chapter 15 of this ESA.

24.2.41 No further mitigation or monitoring has been brought forward at the site beyond that detailed within the original ES.

Additional Mitigation and Monitoring

24.2.42 No alternate or additional mitigation is required beyond that set out in the original ES Chapter.

Landscape and Visual Impact

Original ES and Appeal Decision

24.2.43 The majority of landscape and visual mitigation has been built into the final permitted development scheme as primary measures. The original ES concludes in section 23.2 that;

“The environmental statement is the result of several years of site investigation and consultation. During that period, the site design has been revised several times to reflect certain findings of the procedure. The revised proposal has then been re-assessed and the findings of that final assessment are set out above.”

And at 23.4 it is stated that;

“The Ffos-y-fran Land Reclamation Scheme will see the restoration of almost 400ha of derelict land; the land being restored to a simple landform and landscape, characteristic of this area. The majority of the land is to be returned to common and agricultural land, although there would be the possibility of some further economic development at a later date.”

- 24.2.44 The original ES includes the dedication of private land to urban common land increasing the common land adjacent to Dowlais.
- 24.2.45 The overburden mounds have been utilised to screen excavation works and/or ancillary site operations as indicated by Appraisal Panoramas 7 and 8. However, it is duly recognised that these will be progressively reduced in size as minerals excavation slows and restoration activities begin to take precedence.
- 24.2.46 No additional mitigation or monitoring was undertaken subsequent to the extant consent being implemented. Notwithstanding, further restoration and aftercare details were submitted in discharge of Conditions 50 and 53 respectively (as contained within the original permission ref. A-PP 152-07-014). Information was submitted in both 2009 and 2015.

Additional Mitigation and Monitoring

- 24.2.47 The proposed restoration aftercare is limited to 5 years. It is considered that a longer period of aftercare and monitoring would be appropriate for elements of the permitted restoration such as hedgerows, woodland and wet heathland.

Noise

Original ES and Appeal Decision

- 24.2.48 The following mitigation measures were recommended within the original ES:
- The south-eastern overburden dump would be constructed so that the outer edge is built first, and therefore all plant will be working behind a 4m screen at all times while on the main area of the dump. The outer edge of the dump closest to Nant-y-ffin Farm would be constructed during the daytime (0900 to 1700 hrs), in order to reduce the potential for noise disturbance at other times of the day.
 - Any plant which needs to remain running overnight (pumps etc), will be suitably selected and attenuated such that the overall noise level transmitted to the residential properties does not exceed 42 dB(A).
 - Best Practicable Means would be used at all times in order to reduce noise impact upon the community. This includes the selection of quietest available equipment, local screening to any noisy static equipment, and working behind a tipped earth mound during reinstatement works. Attention will be paid to the guidance given in BS 5228 Noise and Vibration Control on Construction and Open Sites *Part 3: Code of Practice Applicable to Surface Coal Extraction by Opencast Methods*.
- 24.2.49 In addition, although noise from blasting was not included within the original ES it was recommended that the level of air overpressure be kept below 120dB in order to reduce disturbance from blasting. It was stated that this could be controlled by use of the following methods:

- Control of the quantity of explosive used.
- Timing of the delay period.
- Direction of the initiation.
- Charge depth and confinement.

24.2.50 Assuming that the above mitigation is/has been implemented at the Site, it is considered that no further measures are required.

24.2.51 Part 2 of Planning Condition 17 for the Site contained in the Appeal Decision (Ref: APP/U6925/A/10/2129921, dated 6th May 2011), states:

"The development hereby permitted shall be monitored by the site operator in accordance with the scheme approved by the Local Planning Authority in accordance with condition 17(b) of permission APP 152-07-014."

24.2.52 Condition 18 States:

"During baffle mound construction and removal, soil stripping and removal of soil heaps, noise level shall not exceed a daytime noise level of 70 dB $L_{Aeq, 1hr}$ over periods not exceeding eight weeks in any one year."

24.2.53 Condition 19 States:

"Efficient silencing equipment shall be fitted to and used by all vehicles and other plant and machinery on site and shall be efficiently maintained in accordance with the manufacturer's recommendations."

24.2.54 Condition 20 States:

"All haul roads in direct line of sight and within 500 metres of any dwelling shall be adequately screened, where practicable, to attenuate noise levels"

24.2.55 Condition 21 States:

"Equipment operating on a 24-hour basis, such as pumps, shall be placed in acoustic enclosures and positioned away from noise sensitive locations where practicable."

24.2.56 Condition 22 States:

"The rating level of noise emitted from such pump enclosures shall not exceed the existing background noise level by more than an amount to be agreed in writing by the Local Planning authority before the development hereby permitted starts."

24.2.57 With regard to Condition 17(2), noise monitoring, has been undertaken, at the Site on a continuous basis in conjunction with the *Air Quality, Noise and Vibration Strategy* (and will continue to occur), the noise data is then analysed and assessed by 'Curload Consultants' and collated into annual Noise Assessment Reports.

24.2.58 With regard to the other conditions relating to mitigation, it has been confirmed that these

were/have been appropriately implemented at the Site.

Additional Mitigation and Monitoring

- 24.2.59 SLR have reviewed the results of the noise monitoring undertaken at the Site in 2015, based on these results, and the fact that very few noise complaints have been received from the residents living on close proximity of the Site (the last noise complaint was received in February 2019 and the situation was immediately resolved), it is considered that no additional noise mitigation or monitoring is required.

Waste

Original ES and Appeal Decision

- 24.2.60 Not applicable.

Additional Mitigation and Monitoring

- 24.2.61 Given that the remediation works were carried out by Vertase F.L.I., with no waste material remaining on site, there is no requirement for any additional mitigation or monitoring.

Air Quality

Original ES and Appeal Decision

- 24.2.62 The original ES identifies a number of suitable mitigation measures to ensure that potential air quality effects are managed and controlled to acceptable levels where practicable. Mitigation is implemented on Site in accordance with the measures identified in the Air Quality, Noise and Vibration Strategy (Appendix 19-1). The Strategy includes details of the dust control measures, site management, complaints procedure and monitoring scheme in accordance with the conditions of the Planning Conditions stipulated within Planning Permission 152-07-014.
- 24.2.63 Full details of the mitigation and management on site is detailed within the Air Quality, Noise and Vibration Strategy in Appendix 19-1 of ESA chapter 19.
- 24.2.64 Following the granting of permission APP-U6925/A/10/2129921, conditions relating to dust control and mitigation were subsequently updated from the original permission 152-07-014. It is considered that all aspects of the dust control measures were already complied with given the implementation of the Air Quality, Noise and Vibration Strategy.

Additional Mitigation and Monitoring

- 24.2.65 The mitigation measures implemented in accordance with the Air Quality, Noise and Vibration Strategy are considered to remain appropriate and are considered to remain in accordance with the best practise measures within the Minerals Technical Advice Note 2: Coal (MTAN2). Given the low level of complaints and the monitoring data to date, no alternate or additional mitigation measures beyond those identified are required.

Blasting

Original ES and Appeal Decision

- 24.2.66 As previously stated, a formal assessment of blast vibration was not included within the original ES, and therefore Site-specific mitigation measures were not included.
- 24.2.67 A number of generic mitigation and best practice measures to ensure the potential for adverse impacts from blasting are kept to a minimum, were included within the original ES which have been replicated below.

Groundborne Vibration

- Using all the relevant information gathered, a test blast will be designed by an independent specialist to accurately gauge the vibration characteristics of the in-situ strata. Having monitored the test blast, the independent specialist would then design a blasting schedule, suited to local circumstances, that details the most effective pattern of blast holes and correct explosive weights necessary to ensure that ground vibration is maintained within the specified limits.
- The terms of the blasting schedule would be rigorously applied by site supervisory staff. Blasting would be regularly monitored to record the actual vibration levels and these records would be retained for inspection by officers of the local authority.

Overpressure

- Air overpressure has been successfully minimised over the years, mainly through the evolution of techniques designed to confine its effects at depth within blast holes. Stemming materials and techniques used to backfill blast holes - now consists of imported angular materials designed to interlock and form a seal that largely prevents the sudden escape of high-pressure gases into the atmosphere.
 - High velocity detonating cord used in near surface blast initiation would be prohibited to prevent the sudden release of high-pressure blast gases and the development of air overpressure.
- 24.2.68 Assuming that the above mitigation and best practice measures are/has been implemented at the Site, it is considered that further measures are not required.
- 24.2.69 Planning Condition 23 for the Site contained in the Appeal Decision (Ref: APP/U6925/A/10/2129921, dated 6th May 2011), states:
- "All blasting required for the development hereby permitted shall be designed so that the ground vibration measured as peak particle velocity (PPV) shall not exceed 8mm per second at any residential or similarly sensitive property; and the design limit shall ensure that the ground vibration for at least 95% of all blasts in any 20 week period shall not exceed a PPV of 6mm per second."*
- 24.2.70 Condition 24 States:
- "Blasting shall be limited to four blasts a day between the hours of 1000 to 1300 and 1400 to 1600 hours (two blasts per time window) and no blasting shall be carried out on Sundays or Bank/Public*

Holidays, nor in the hours of darkness.”

24.2.71 Condition 25 States:

“The development hereby permitted shall not be carried out other than wholly in accordance with the type of vibration monitoring station required by condition 25 of permission APP 152-07-014; all vibration monitoring stations shall be retained in the locations approved in writing by the Local Planning Authority; and all monitoring data shall be made available for inspection by the Local Planning Authority on request.”

24.2.72 Condition 26 States:

“No blasting shall be carried out within the 300m blast exclusion zone indicated on Dwg No MMAG/BLAST/01 as required by condition 26 of permission APP 152-07-014.”

24.2.73 With regards to Condition 25 blast vibration monitoring, this has been and is currently being undertaken, at the Site on a continuous basis with approximately 90% of all blasts being monitored, the vibration data is then analysed and assessed by the Client and any complaints investigated and resolved as quickly as reasonably practicable.

24.2.74 The results of the data have been analysed, it has been confirmed that **all** blasts monitored to date have been significantly below the limit of 8mm/s, with 95% of all blasts <6mm/s. Furthermore, it indicates that the vast majority of all blasts recorded are below 1mm/s.

24.2.75 However there has been a number of blast vibration complaints from local residents regarding damage to their property, which have been investigated by the Client. However, the investigations determined that the blasting operations were not the cause of the damage.

24.2.76 With regards to the other conditions relating to mitigation/site processes, it has been confirmed that these have been appropriately implemented at the Site across the life of the minerals workings.

Additional Mitigation and Monitoring

24.2.77 Based on the results of the blast vibration monitoring being undertaken at the Site and the fact that any complaints are immediately investigated and resolved, it is considered that no additional vibration mitigation or monitoring is required.

Socio-Economic

Original ES and Appeal Decision

24.2.78 With the exception of holding Community Liaison meetings, no mitigation or monitoring for Socio-Economic factors were identified within the original ES.

24.2.79 No additional mitigation or monitoring has been established for Socio-Economic factors subsequent to the original ES.

Additional Mitigation and Monitoring

24.2.80 The assessment of the proposed material change does not require any mitigation or monitoring.

24.3.0 Summary of Additional Mitigation or Monitoring

24.3.1 Table 24-1 below provides a summary of the additional mitigation or monitoring proposed as a result of the proposed S.73 application.

Table 24-1: Summary of Additional Mitigation or Monitoring

ESA Chapter	Environmental Topic	Additional Mitigation or Monitoring
6	Utilities	No further mitigation required
7	Footpaths, Bridleways and Urban Common	No further mitigation required
8	Traffic and Transport	No further mitigation required
9	Soils	No further mitigation required
10	Hydrology	No further mitigation required
11	Geology	No further mitigation required
12	Hydrogeology	No further mitigation required
13	Geotechnical	No further mitigation required
14	Archaeology and Heritage	No further mitigation required
15	Ecology	No further mitigation required
16	Landscape and Visual Impact	A longer aftercare period is recommended subject to consideration by the Council
17	Noise	No further mitigation required
18	Waste	No further mitigation required
19	Air Quality	No further mitigation required
20	Blasting	No further mitigation required
21	Socio-Economic	No further mitigation required

EUROPEAN OFFICES

United Kingdom

AYLESBURY

T: +44 (0)1844 337380

BELFAST

T: +44 (0)28 90732493

BRADFORD-ON-AVON

T: +44 (0)1225 309400

BRISTOL

T: +44 (0)117 9064280

CAMBRIDGE

T: + 44 (0)1223 813805

CARDIFF

T: +44 (0)2920 491010

CHELMSFORD

T: +44 (0)1245 392170

EDINBURGH

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T: +44 (0)113 2580650

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T: +44 (0)203 6915810

MAIDSTONE

T: +44 (0)1622 609242

MANCHESTER

T: +44 (0)161 8727564

NEWCASTLE UPON TYNE

T: +44 (0)191 2611966

NOTTINGHAM

T: +44 (0)115 9647280

SHEFFIELD

T: +44 (0)114 2455153

SHREWSBURY

T: +44 (0)1743 239250

STAFFORD

T: +44 (0)1785 241755

STIRLING

T: +44 (0)1786 239900

WORCESTER

T: +44 (0)1905 751310

Ireland

DUBLIN

T: + 353 (0)1 296 4667

France

GRENOBLE

T: +33 (0)4 76 70 93 41