

CRESTWOOD ENVIRONMENTAL LTD

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Ferns Aggregates Ltd.

Environmental Management System

Bespoke Environmental Permit Application for the Deposit of Inert Waste for Recovery

Wrotham Quarry, Trottiscliffe Road, Addington, Kent, ME19 5DL

Report Reference: CE-WQ-1643-RP02-EMS-Final

Report Date: 18 November 2021

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Crestwood Report Reference: CE-WQ-1643-RP02-EMS-Final:

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This report has been prepared in good faith, with all reasonable skill, care and diligence, based on information provided or known available at the time of its preparation and within the scope of work agreement with the client.

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No responsibility is accepted to others.

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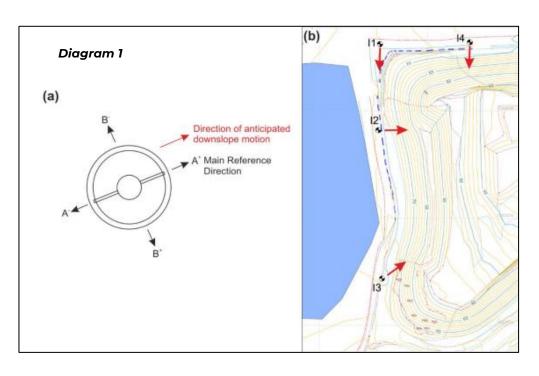


1 INTRODUCTION

1.1 Background

- 1.1.1 Crestwood Environmental Ltd has been commissioned by Ferns Aggregates Limited **(the Client)** to prepare an Environment Management System (**EMS**) for a waste recovery operation to use imported and indigenous inert wastes, to buttress the existing slopes in the western aspects of Wrotham Quarry, Trottiscliffe Road, Addington, Kent, ME19 5DL **(the Site)**.
- 1.1.2 Since 1948, there have been numerous planning submissions for the Site which is a long-established quarry extracting mineral comprising of high silica sandstones pertaining to the Gault Formation for the use in a variety of sectors as a moulding sand. The quarry benefits from planning permission, one of the most recent of which was consolidated and granted in September 2015 (ref: TM/14/4075 and TM/17/2091) to permit the extension to the existing quarry to extract silica sand, construction sand and to infill the void with inert waste; and, the variation of condition 2 of TM/07/2545 to allow for the completion of extraction and restoration work not later than 21 July 2022.
- 1.1.3 Once excavated by the previous owners, the western portion of the quarry, known as the Western Extraction Area, left a slope (the Western Slope) reaching approximately 27m high. Geotechnical engineers Quarrydesign have been monitoring the stability of the slope following a failure and subsequent repair and produced an annual report based on the results.
- 1.1.4 The annual monitoring report for the Western Slope prepared in 2019 states:
 - Location 11: slight movements at shallow depth to the south and east (downslope). In the last few months there has been movement towards the west in the magnitude of up to 20mm at the surface and 2mm at depth, this could be a precursor to further movement downslope;
 - Location 12: a very slight trend of movement east (downslope) at surface. In the last couple off months there has been movement at depth in the northerly direction (B-);
 - Location I3: slight movement at shallow depth to the north east and, at both shallow and at depth in the north west direction;
 - Location I4 there is significant and uncharacteristic, movement (~20mm) in the last year in the north and east direction at depth.

* Note the location numbers correspond with the excavation diagram showing the instrumentation in the Western Slope (refer to Diagram 1)





1.1.5 Additionally, the monitoring report notes:

- Due to this recent motion, QuarryDesign recommend that consideration should be given to the buttressing of the northern slopes below I4. An overall slope angle of shallower than Iv:3h is recommended, including adequate drainage or this slope should be closely monitored for large scale movement.
- 1.1.6 Since then, the 2020 and 2021 annual monitoring reports have described how movements continue to be experience at the slopes and as such, the buttressing is still recommended.
- 1.1.7 In light of the above observations and recommendations, the client seeks to gain the approval of a Waste Recovery Permit to enable the compliant buttressing of the northern face, the north-western corner and the slopes of the western aspect of the Site. Not only will this provide long-term stability to the slopes but the adjacent reservoir to the west will be safeguarded.
- 1.1.8 Full planning permission was granted for the buttressing of existing quarry slopes with indigenous inert material; the importation, storage and use of additional material to supplement the buttressing works; the continued use of a raised stocking area; and the provision of a revised restoration concept in November 2020 (ref: TM/20/841) subject to work being carried out in accordance with the approved restoration scheme.
- 1.1.9 proposal in November 2020 (ref: TM/20/841) subject to work being carried out in accordance with the approved restoration scheme.
- 1.1.10 This EMS supports the Bespoke Waste Recovery Permit Application for the Site and includes details of how the Site will be managed to minimise the risks of pollution from operations, maintenance, accidents, incidents and any non-conformances.
- 1.1.11 The proposed Environmental Permit boundary is shown on Drawing No. CE-WQ-1643-DW01, see Appendix 1.
- 1.1.12 A Waste Recovery Plan has also been prepared as part of the Bespoke Waste Recovery Permit application (copies of the Planning Permission and the approved scheme are included as part of the Waste Recovery Plan).

1.2 Proposed Scheme.

- 1.2.1 A restoration and landscaping scheme was prepared on behalf of the Client by QuarryDesign Geotechnical Engineers and DB Landscape Consultancy which define the restoration contours and the quantities of material required to achieve the restoration profile based on cross-sections through the Site.
- 1.2.2 Full planning permission was granted for the proposal in November 2020 subject to the condition that the works be carried out in accordance with the approved restoration and landscaping scheme and that completion is within five years of the date of commencement or by 21 July 2027, whichever is the sooner.
- 1.2.3 It is important to emphasise that due to the nature of the indigenous clay and sand, it is not geotechnically recognised as suitable material to achieve the stability or the drainage capabilities required. In addition, there are insufficient quantities of indigenous material on-Site to adhere to the approved restoration profile. As such, only suitable indigenous material will be augmented with imported geotechnically suitable inert waste materials.
- 1.2.4 Landscape modelling indicates that, in order to achieve the final contours using the least amount of material possible, 190,900m³ (229,050 tonnes) of infill material is required. This includes 38,200m³ (57,300 tonnes) of indigenous clays and sands which will supplement the imported material.
- 1.2.5 The restoration scheme aims to achieve the following objectives:
 - Provide long-term stability to the western and northern aspects of the Site`s slopes;



- Ensure the safeguarding of the adjacent reservoir to the west from landslides and contamination;
- Adhere to the requirements of the planning permission to provide a detailed restoration and aftercare scheme;
- · Enhance biodiversity and improve the landscape and visual aspects of the area, and
- Provide an alternative inert waste facility in Kent that would allow a significant reduction in the distance that waste is transported.
- 1.2.6 A revised restoration scheme for the site has been granted as part of the planning permission. It details the landscape and ecological objectives of the restoration project to ensure the restored landform will assimilate with the environmental setting in terms of enhancing habitats and visual aspects of the area.
- 1.2.7 An up-to-date topographic survey is available for the Site which was prepared in December 2020 and is set within Ordnance Survey topographical data and Historic Survey data of the local environs.

1.3 Raised Stocking Area

- 1.3.1 Condition 10 of the planning permission relating to the working programme of the restoration scheme, states that so as the proposals are carried out in accordance with the approved plans and details, the raised stocking area shown on the Restoration Plan (refer to Appendix 2) which is permitted for the storage of sand, soils and overburden under planning permission TM/14/4075, can be used for the storage of materials associated with the scheme.
- 1.3.2 This area is located within the quarry void and will be used solely for the stockpiling of imported material prior to use in the buttressing work. Upon completion of the scheme, the stocking area will be retained for the dry storage of material from the working area across Trottiscliffe Lane to enable environmental management and improved working conditions.

1.4 The Site

- 1.4.1 The permit site is located at Wrotham Quarry, Addington, West Malling, Kent ME19 5DL.
- 1.4.2 The quarry comprises 3-no. principal areas:
 - The Southern Quarry: An area of mineral extraction amounting to c.14.2 hectares (ha) situated to the south of the M20 Motorway, linked by a tunnel beneath the motorway to;
 - The Main Quarry: An area used for mineral extraction & processing, stockpiling and off-site sale, maintenance, office and welfare facilities; amounting to c.35ha situated between the M20 Motorway and Addington Lane, to be linked by tunnel to;
 - The North-Eastern Extension: Recently permitted for mineral extraction and restoration by infilling with imported inert waste materials and occupying a consented area of c.7.3ha.
- 1.4.3 The proposed permit site is located within the western part of the main quarry. The proposed permit area covers an area of c.1.8ha.
- 1.4.4 Located in a predominantly rural area, the Quarry, centred on NGR: TQ 64580 59590 (X (eastings) 564580; Y (northings) 2159590), is c.12km west of Maidstone and c12km east of Sevenoaks in Kent. The villages of Addington, Trottiscliffe and Ryarch are c.700m to the south, 1.40km to the north-west and c.1.70km to the east of the Sites boundary, respectively. The north-eastern part of the quarry benefits from an Environmental Permit for landfill activities (permit reference: EPR/FB3003MP).
- 1.4.5 Land use immediately adjacent to the Site comprises of arable agricultural land to the north beyond Addington Lane whilst juxtaposing the western perimeter is a reservoir. Wrotham Quarry landfill lies to the south and east of the Site with the M20 running transversely further to the south.
- 1.4.6 In the wider landscape, pastures and agricultural land occupy the majority of the land which are punctuated with farms and associated buildings and businesses. There are occasional individual isolated residencies in between the nearby villages.



- 1.4.7 Access for light vehicles to the Site is gained via Addington Lane to the north-east which extends from Addington to the outskirts of Trottiscliffe where it terminates. Heavy vehicles gain access from the A20 Ford Lane to the west of the Site which runs from Wrotham Heath in the south to Trottiscliffe in the north.
- 1.4.8 Within a 2km radius of the application, there are no European Designated Environmental sites. There are two Nationally Designated sites, these being Sites of Special Scientific Interest (SSSI). Additionally, there are forty-nine Designated Ancient Woodlands within 2km. There are no identified National Nature Reserves or Local Nature Reserves within 2km of the Site.
- 1.4.9 In terms of Visual and Cultural Designations, the Site is located within the Kent Downs, an Area of Outstanding Natural Beauty (AONB).
- 1.4.1 The Environment Agency designates the underlying aquifer for all but the eastern tip of the Site as Principal which comprises of strata with high intergranular and/or fracture permeability usually providing a high level or water storge and may support water supply and/or river base flow on a strategic scale. The aquifer underlying the western part of the Site is defined as Unproductive due to the low permeability properties of the rock that has a negliglible significance for water supply or river base flow.
- 1.4.2 Given that the groundwater is defined as having a high vulnerability, the Site is underlain by a Source Protection Zone (SPZ) which is defined as an area where pollution is easily transmitted to the groundwater due to either the absence of superficial deposits and/or the presence of high leaching soils.
- 1.4.3 No fuel storage tanks are located within the Site. Any refuelling of mobile plant at the Site, i.e. that used to level and compact the waste, will be used in accordance with the refuelling and emergency spillage procedures included in this EMS, refer to Appendix 3.

1.5 Water Management

- 1.5.1 Four boreholes were installed at the Site in April 2021 for the purposes of monitoring the baseline groundwater quality with a full suite of results expected early 2022. In view of the depth of the infill being greater than 2m, these boreholes can be utilised to monitor gas and, if required, water quality on completion of the works.
- 1.5.2 A Hydrology and Hydrogeological Impact Assessment has been prepared in order to identify any potential derogation of surface and ground waters from activities associated with the restoration of the Site. The findings of the assessment highlight that the buttressing work will impact no more than existing permitted quarry activities and that operations will take place entirely above the existing groundwater levels.
- 1.5.3 In order to safeguard the groundwater, the Code of Operating Practice specifies a set of procedures for the safeguarding of the unsaturated zone in the event of groundwater rebound due to cessation of abstraction at the Trosley sources. Therefore, the void volume open at any one time will be limited and basal 5m to be infilled with sand to maintain the integrity of the unsaturated zone, should groundwater levels rebound
- 1.5.4 Further mitigation measures to be adopted on the Site are:
 - The implementation of the Fluids Handling Protocol; and
 - All infilling will be carried out within the unsaturated zone, above the level of groundwater contained within the Folkestone Beds;
- 1.5.5 In view of the protection measures outlined above, the scheme will pose no direct impact on groundwater levels or regime and no additional mitigation measures are proposed.
- 1.5.6 In terms of surface water, given that there will be no discharges during the restoration phases of the scheme coupled with adhering to the Code of Operating Practice and the adoption of a Fluids Handling Protocol, robust protection against hydrocarbon spillages and leakages will be in place at the Site.
- 1.5.7 Furthermore, a basal and side liner comprising of, as a minimum, an attenuation rate of 1×10^{-7} m/sec at 1m thickness will also serve as a barrier to abate against any surface or groundwater contamination. It is



anticipated that due to the nature of the inert waste, it is unlikely that leachate will be produced, therefore leachate mitigation is not proposed.

2 SPECIFIED SITE AND WASTE MANAGEMENT OPERATING PROCEDURES

2.1 Waste Acceptance

- 2.1.1 The maximum tonnage to be deposited to restore the Site will be 229,050 tonnes in total. Of this, 57,300 tonnes will be suitable indigenous materials. All incoming wastes will comprise of surplus inert arisings from construction and groundwork projects in the Kent area.
- 2.1.2 All vehicles delivering wastes to the Site stop at the weighbridge and are weighed. Weighbridge staff are suitably trained and follow documented procedures. The weighbridge operator examines waste descriptions at the weighbridge and the information is checked against the pre-acceptance documentation, six figure European Waste Catalogue Code(s) and other details on the Waste Transfer Note or Season Ticket (for non-hazardous waste deliveries) or Hazardous Waste Consignment Note (for hazardous wastes) as well as against the waste types and quantities permitted by the Environmental Permit.
- 2.1.3 Every delivery of waste is recorded, detailing the date of the transaction, weight, waste type, registered carrier, Waste Transfer Note number, Hazardous Waste Consignment Note (as applicable) vehicle registration and other pertinent information against a unique reference number. It allows for tracking of wastes, the generation of reports and waste returns, as well as providing comprehensive, auditable information.
- 2.1.4 The Environmental Permit application takes full cognizance of 'Guidance on Waste Recovery Plans and Permits' which is available at https://www.gov.uk/guidance/waste-recovery-plans-and-permits#specific-obligations.
- 2.1.5 Permitted wastes and their use on site are shown in Table 1.

Table 1 Permitted Wastes and Their Use on Site

ECW Code	Description	
01 01	Wastes from mineral excavation	
01 01 02	Wastes from mineral excavation	
01 04	Wastes from physical and chemical processing of non-metalliferous minerals	
01 04 08	Waste gravel and crushed rock other than those containing dangerous substances	
01 04 09	Waste sand and clays	
10 13	Waste from the manufacture of cement, lime and plaster and articles and products made from them	
10 13 14	Waste concrete	
17 01	Concrete, bricks, tiles and ceramics	
17 01 01	Concrete	
17 01 02	Bricks	
17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	
17 05	Soil, stones and dredging spoil	
17 05 04	Soils and stones	
19 12	Wastes from waste water treatment plants not otherwise specified	
19 12 09	Minerals (for example sand and stones)	
19 12 12	Soil substitutes other than that containing dangerous substances	
20 02	Garden and parks wastes (including cemetery wastes)	

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ECW Code	Description
20 02 02	Soil and stones

2.1.6 Of the permitted waste types that are listed in Table 1 above, under European Council Decision 2003/33/EC, certain waste codes do not require Waste Acceptance Criteria (WAC) testing, provided that they are inert and from a single source only (mixed load from more than one site cannot be accepted without testing). Wastes may be accepted at the site without testing provided they comply with the restrictions in European Council Decision 2003/33/EC are shown in 2.1.6.

Table 2 Inert Wastes that can be Accepted Without Testing

ECW Code	Description	Restrictions
17 01 01	Concrete	C & D waste only (*)
17 01 02	Bricks	C & D waste only (*)
17 01 07	Mixtures of concrete, bricks, tiles and ceramics	Selected C&D waste only (*)
17 05 04	Soils and stones	Excluding topsoil, peat; excluding soil and stones from contaminated sites
20 02 02	Soil and stones	Only from garden and parks waste; excluding topsoil, peat

(*) Selected construction and demolition waste (C & D waste): with low contents of other types of materials (like metals, plastic, organics, wood, rubber, etc). The origin of the waste must be known.

No C & D waste from constructions, polluted with inorganic or organic dangerous substances, e.g. because of production processes in the construction, soil pollution, storage and usage of pesticides or other dangerous substances, etc., unless it is made clear that the demolished construction was not significantly polluted.

No C & D waste from constructions, treated, covered or painted with materials, containing dangerous substances in significant amounts.

- 2.1.7 Waste loads that fall under 2.1.6 above that are inert and received from a single source only may be accepted at the Site without inert WAC testing. However, the permitted wastes that are listed in Table 1 but not in 2.1.6 will be subject to WAC testing in accordance with European Council Decision (2003/33/EC), the requirements of which are incorporated into Schedule 10 of the Environmental Permitting (England and Wales) Regulations 2010.
- 2.1.8 The leaching limit values, calculated at a liquid to solid ratio of 10 l/kg, shown in Table 3 will be applied to those wastes received at the Site that are subject to the requirements of WAC testing.

Table 3 WAC Thresholds: inert wastes requiring testing

Component	Symbol	L/S = 10I/kg
		mg/kg dry substance
Arsenic	As	0.5
Barium	Ва	20
Cadmium	Cd	0.04
Total Chromium	Cr total	0.5
Copper	Cu	2
Mercury	Нд	0.01
Molybdenum	Мо	0.5
Nickel	Ni	0.4



Pb	0.5
Sb	0.06
Se	0.1
Zn	4
CI-	800
F-	10
SO42-	1,000
PI	1
DO	500
TDS	4,000
	Sb Se Zn Cl- F- SO42- Pl DO

⁽a) This limit value for sulphate may be increased to 6,000 mg/kg, provided that the value of C0 (the first eluate of a percolation test at L/S = 0.1 l/kg) does not exceed 1,500 mg/l. It will be necessary to use a percolation test to determine the limit value at L/S = 0.1 l/kg under initial equilibrium conditions.

2.1.9 In addition, the leaching limit values for organic parameters specified in Table 4 will be applied to wastes received at the Site that requires WAC testing.

Table 4 Additional WAC thresholds (organic parameters): inert wastes requiring testing

Parameter	Value (mg/kg)
Total Organic Carbon (TOC)(a)	30,000
BTEX compounds (benzene, toluene, ethyl benzene & xylenes)	6
Polychlorinated biphenyls (PCBs) (7 congeners)	1
Mineral oil (C10 to C40)	500
PAHs (polycyclic aromatic hydrocarbons)	100

(a) In the case of soils, a higher limit value may be permitted by SEPA, provided a Dissolved Organic Carbon value of 500 mg/kg is achieved at L/S 10 l/kg at the pH of the soil or at a pH value of between 7.5 and 8.0.

- 2.1.10 The waste producer will be required to undertake WAC testing, as part of the basic characterisation procedures, on wastes that cannot be accepted without analysis. Such wastes will only be accepted at the Site where a copy of the analysis is submitted to the Operator for checking and the results are within the relevant limit values detailed in Table 3 and Table 4.
- 2.1.11 Compliance testing of the key variables established during the Basic Characterisation will be carried out on each waste stream at regular intervals.
- 2.1.12 In addition to the requirement for WAC testing to demonstrate that permitted wastes are strictly inert, additional pre-acceptance procedures will be used to ensure that only suitable waste types are accepted.

⁽b) If the waste does not meet this value for Dissolved Organic Carbon (DOC) at its own pH value, it may alternatively be tested at L/S = 10 l/kg and a pH between 7.5 and 8.0. The waste may be considered as complying with the acceptance criteria for DOC, if the result of this determination does not exceed 500 mg/kg.

⁽c) The value for Total Dissolved Solids can be used alternatively to the values for Sulphate and Chloride.



Customers delivering waste will be required to provide the Operator, in advance, with all necessary information/documentation to satisfy the requirements of the Waste (England and Wales) Regulations 2011 and the Duty of Care. Information required will include specific details of the type of process producing the waste (source), the type of waste (according to the EWC), the quantity of waste, the form the waste takes (e.g. solid) and any special handling requirements needed. An assessment will be made to ensure that the waste is suitable for deposit at the Site and use in the waste recovery operations.

- 2.1.13 Only wastes subjected to the pre-acceptance procedures detailed above will be accepted at the Site.
- 2.1.14 A visual inspection of the contents of waste loads will be made by Site staff on deposit of the waste load.
- 2.1.15 Any discrepancies found, i.e. suspect, non-conforming and/or random loads, as a result of the checks detailed above will result in the vehicle being detained whilst some, or all, of the following supplementary management decisions are taken:
 - Referral to the Site Manager;
 - Referral to the waste producer to confirm the nature of the waste load;
 - Referral to the Environment Agency;
 - Redirection of delivery vehicle off site, to a suitably authorised facility; and
 - If the waste has been discharged, removal of the waste to a secure quarantine area, prior to offsite removal either to the waste producer or suitably authorised facility.
- 2.1.16 Any waste materials dispatched off site to an authorised facility, will be removed in accordance with the Duty of Care. A registered waste carrier will be used. A 'Record of Non-Conformance' will be made in accordance with 4.
- 2.1.17 Any instances of rejection of loads will be recorded in a Site log, which will be made available for inspection by authorised officers of the Environment Agency at any reasonable time.
- 2.1.18 Copies of Waste Transfer Notes, Season Tickets and all records required in accordance with the Environmental Permit will be kept either on Site or at a secure location off-Site. Where at all possible, records will be electronic.

2.2 Site Records

- 2.2.1 The Site records will be maintained and kept secure from loss, damage and deterioration either on Site or at a secure location off-Site.
- 2.2.2 Records including dates, waste types, quantities, sources/facility and Registered Waste Carrier details of all waste entering and leaving the Site will be recorded on the 'General Waste Management', 5 and Waste Returns will be produced in a timely manner.
- 2.2.3 A copy of the Environmental Permit will be easily accessible by staff members or contractors. Contractors will be briefed on the sensitivity of the Site.
- 2.2.4 Any complaints received at the Site will be recorded on the 'Complaints Record' form, 6.

2.3 Maintenance

- 2.3.1 All equipment and infrastructure on Site will be inspected, serviced and maintained as per manufacturer guidance and 'Preventative Maintenance Checklist', refer to 7.
- 2.3.2 The Environment Agency will be informed without delay if there is any malfunction, breakdown or failure of equipment or techniques, accident, or fugitive emission which has caused, is causing or may cause significant pollution and cause any significant adverse environmental and health effects.
- 2.3.3 Any required maintenance will be carried out as soon as is practicable to ensure continued running of the Site and be recorded on the 'Maintenance Record', refer to 8.



- 2.3.4 Daily visual inspections for litter and mud accumulating on Site or beyond the Site boundary will be undertaken. More thorough weekly inspections will be carried out and recorded, 'Inspection Record', 9. The weekly inspections include a review of:
 - Site haul road;
 - Working area;
 - Litter;
 - Mud / dirt;
 - Vermin and insects;
 - Fire (inspection of fire-fighting equipment etc.); and
 - · Security.
- 2.3.5 Any maintenance works required will be recorded on the 'Maintenance Record', 8.

2.4 Environmental Accident and Incidents

2.4.1 In the event of an environmental accident on Site the 'Environmental Accident and Incident Record', refer to 10, will be completed.

2.5 Training

- 2.5.1 Site staff will be trained and instructed in the procedures required to operate the Site and will be aware of the permitted waste types accepted at the Site as well as the requirements of the Environmental Permit and Management System.
- 2.5.2 A record of all training will be kept on the 'Training Record' in accordance with the 'Training Needs Checklist', see 11 and 2 respectively.

2.6 Site Diary

2.6.1 A Site diary consisting of accurate and complete reporting and record keeping will be maintained at all times and will be made available for inspection by the Environment Agency when requested.

2.7 Audits

- 2.7.1 It is noted that this Management System is required to be:
 - continually improving;
 - · assessing prevention of pollution incidents;
 - in accordance with the latest regulatory guidance;
 - assessing environmental objectives independent of the Environmental Permit.
- 2.7.2 To monitor the points in 2.7.1 the Operator will undertake internal annual audits of the Management System, environmental performance, objective and targets and future planned improvements.



APPENDICES:

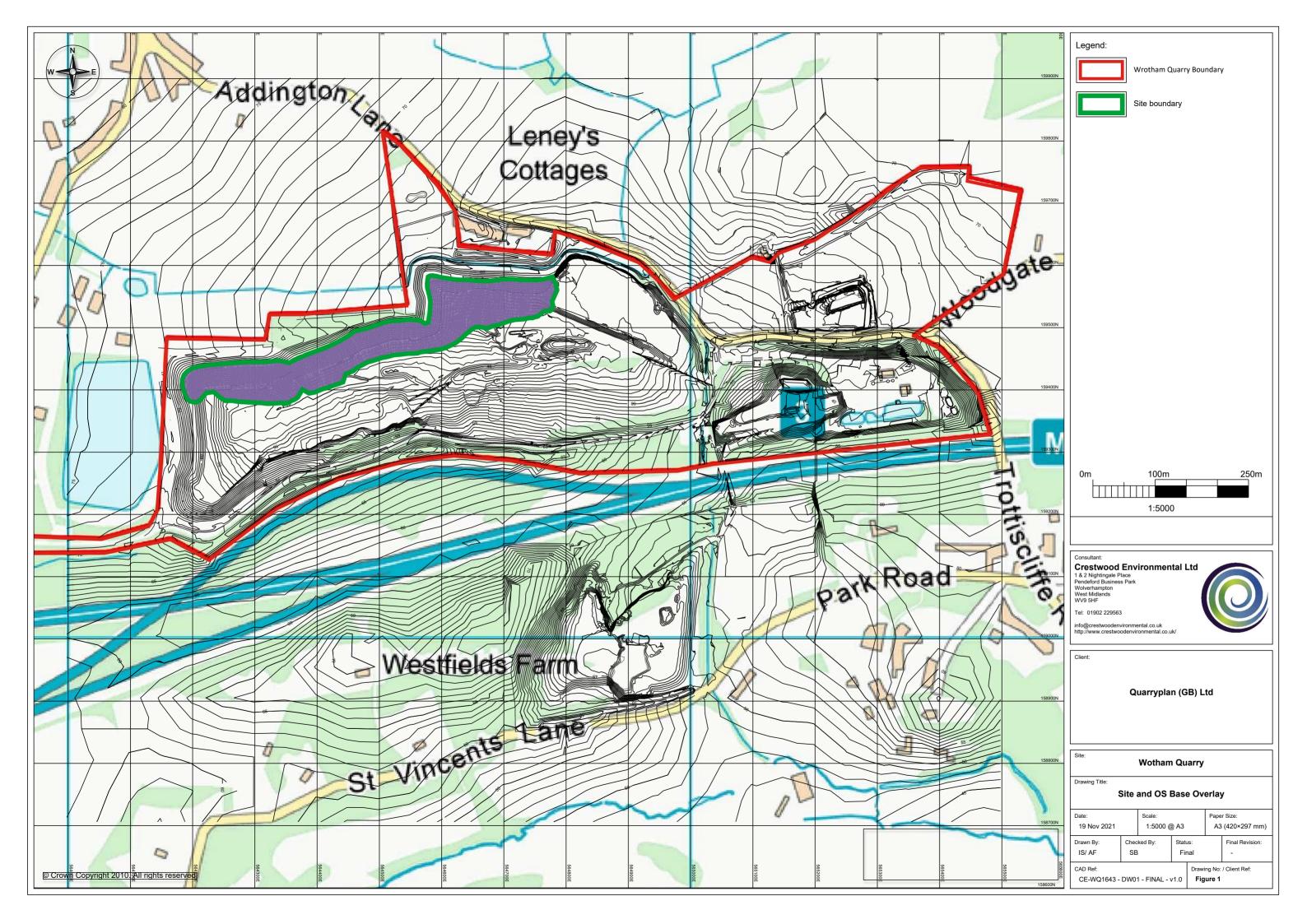
APPENDIX 12

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TRAINING NEEDS CHECKLIST

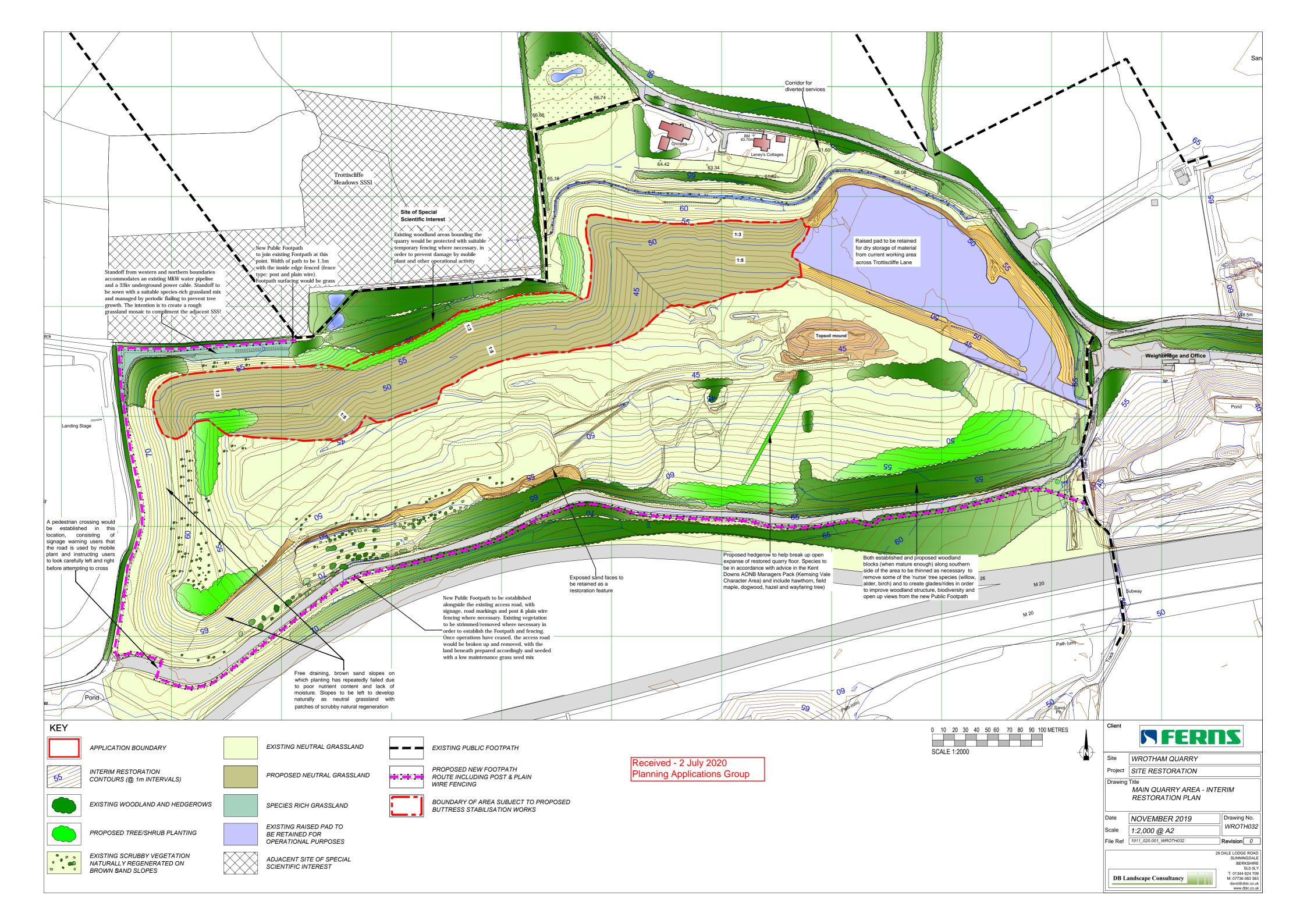


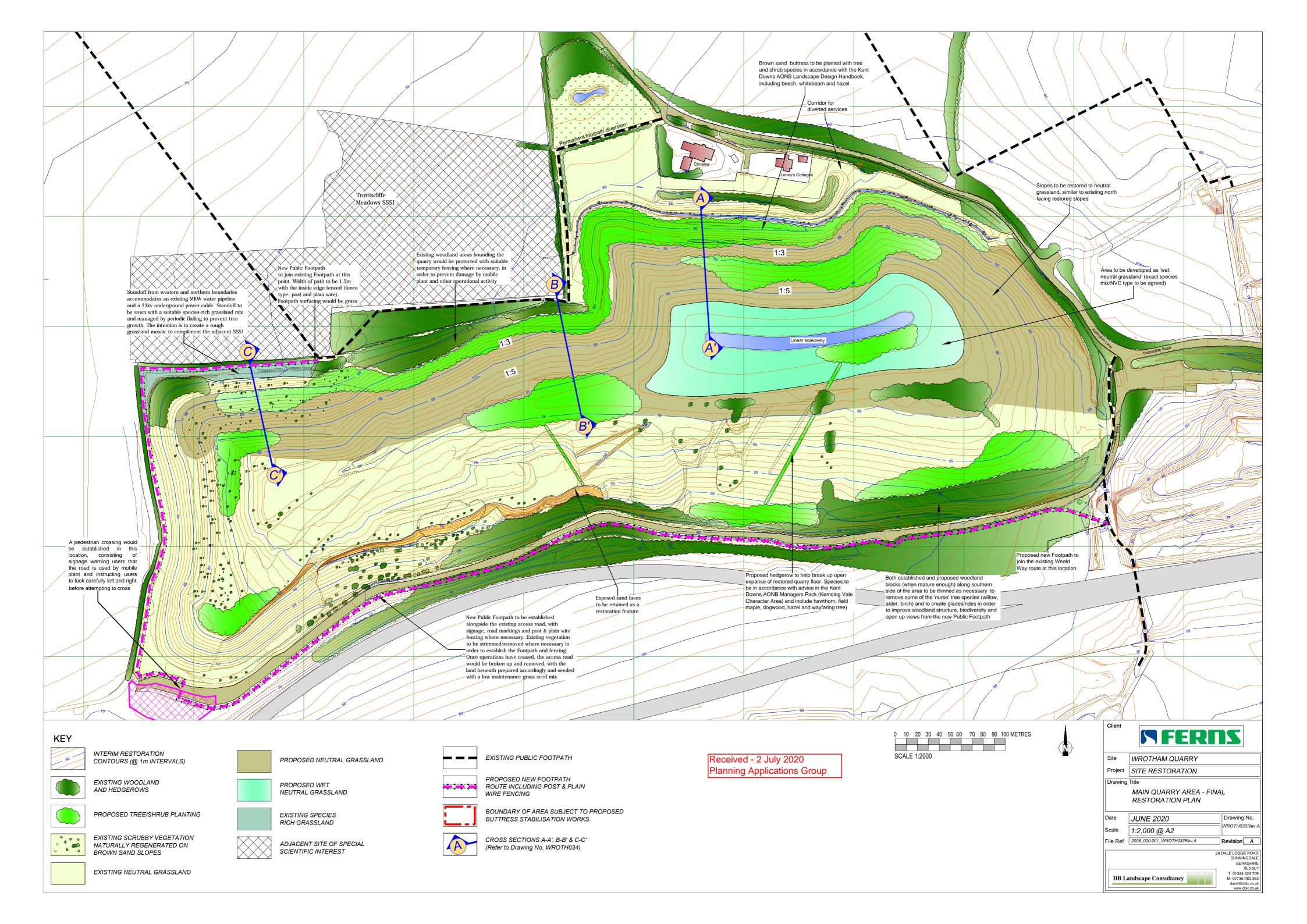
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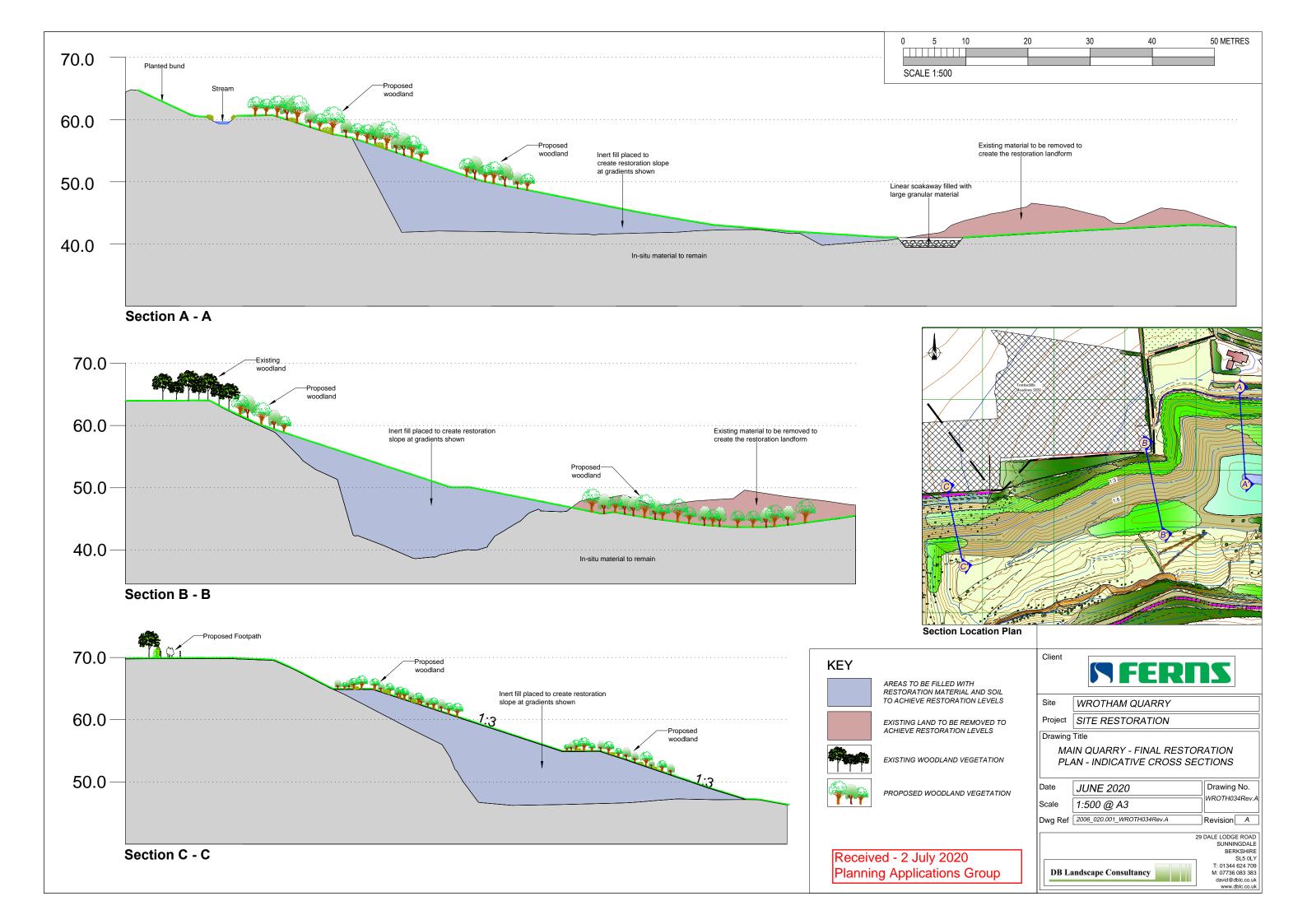


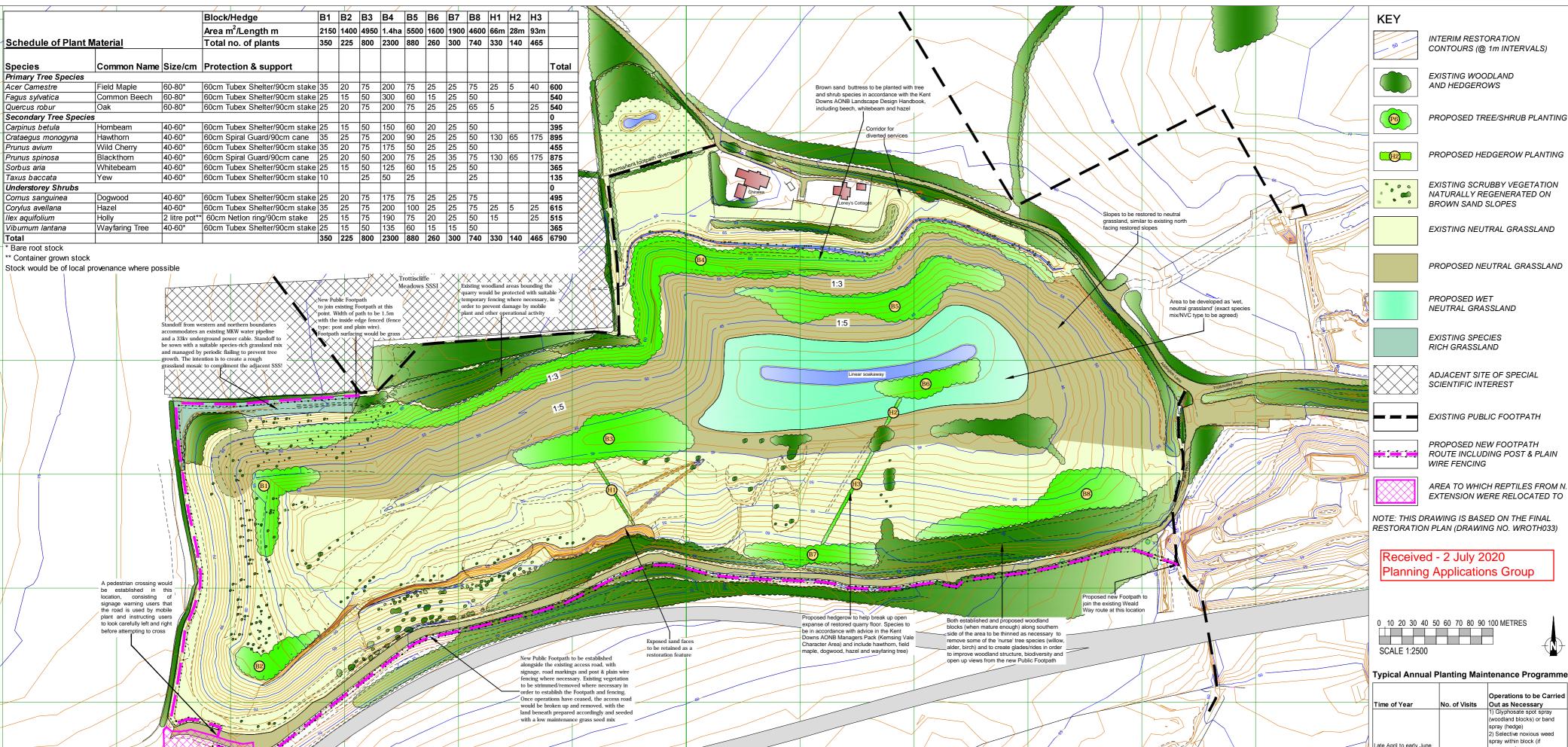


APPENDIX 2 RESTORATION PLAN









RESTORATION AIMS

The general aim of the restoration scheme is to create a restored site which, following an appropriate aftercare period and woodland maturation, will appear naturalistic in the landscape and will be in character with the wider Kent Downs AONB. To achieve this, proposals have been designed with reference to the Kent Downs AONB Design Manual and advice by Kent County Council in relation to grassland types, tree and hedgerow species, plant spacing/pattern and various other restoration details.

Cultivation and Grass Seeding

Following replacement of soil by excavator and dump truck to approved depths using the 'loose tipped' method in accordance with 'Sheet 4: Soil Replacement with Excavators and Dump Trucks' of MAFF's (now DEFRA) 'Good Practice Guide for Handling Soils', the land would be suitably cultivated to create a fine, firm seedbed. If necessary, replaced soil would be tested for pH and N.P.K and Mg levels to determine its physical properties and inform the final choice of grass seed (provisional mix as set out below). The advice of Kent Wildlife Trust would be sought at the time regarding possible local sources of suitable grass seed.

Proposed Neutral Grassland

It is envisaged that these areas would be seeded with the following Basic General Purpose Meadow Mixture (Mix EM1 from Emorsgate Seeds) which is suitable for a wide range of soil types. Sowing rate 5g/sq.m (20kg/acre):

Main Grasses (80%):

- 28% Crested Dogstail
- 24% Slender Creeping Red Fescue 16% Smooth Stalked Meadow Grass
- 8% Common Bent
- 4% Smaller Cat's Tail

Wild Flower Component (20%):

3% each of Wild Carrot, Lady's Bedstraw, 2.5% each of Musk Mallow, Salad Burnet, Common Knapweed, 2% each of Oxeye Daisy, Red Campion, 1.2% Common Sorrel, 1% Ribwort Plantain, 0.3% Selfheal.

Proposed Wet Neutral Grassland

It is envisaged that this lower lying area around the linear soakaway would be seasonally inundated and/or wet/damp although it may well dry out entirely during periods of low rainfall. The grassland would need to be resilient to these types of seasonal fluctuations. A suitable

mix would be the following meadow grass mixture for wet soils (Mix EG8 from Emorsgate Seeds). Sowing rate 5g/sq.m (20kg/acre):

- 40% Slender Creeping Red Fescue
- 30% Crested Dogstail 12.5% Common Bent
- 3.75% each of Meadow Foxtail, Sweet Vernal Grass, Quaking Grass and Meadow
- 2.5% Tufted Hair Grass

Hedgerow Planting (H1 - H3)

Hedgerow planting preparation will consist of herbicide application (eg. glyphosate) along the planting strip, if necessary, followed by rotovation to create a suitably cultivated route. Hedgerow's will be planted with native species of local provenance if possible in accordance with the Schedule of Plant Material. Plants will be notch planted at 5 plants per metre in double staggered rows, with 50cm between rows and 30cm between plants in each row, Species other than hawthorn or blackthorn will be randomly spaced in groups of 3 - 5 throughout the hedgerow.

Woodland Block Planting (B1 - B9)

Woodland blocks will be planted with species in accordance with the Schedule of Plant Material. The planting would comprise native species (of local origin where possible) containing primary/secondary tree species and shrubby understorey/woodland edge species in order to establish a range of vegetation types and sizes throughout the planting blocks. Plants would be planted at centres of between 2.0m and 3.0m (i.e. to give an average of 2.5m centres) and randomly located as opposed to adhering to a strict planting grid, which can look unnatural. Plants would be planted in random groups of 3 - 7 and the outer edge of each block would consist mainly of more shrubby species to encourage a gradual variation from a shrubby woodland edge through to the main woodland block.

Plant Protection

All planting stock will be protected in accordance with the Schedule of Plant Material. All 60cm spiral guards will be supported by 90cm x 12/14lbs bamboo canes. All 60cm Tubex shelters and Netlon rings will be supported by 90cm x 32mm x 32mm treated softwood or cleft chestnut stake. No deer are thought to be present on site currently, but if evidence suggests otherwise, the 60cm Tubex shelters will be replaced with 1.2m shelters as necessary. If grassland is to be managed by periodic grazing, the addition of stockproof g.

fencing around young woodland and hedgerows will be necessary, as well as other animal husbandry infrastructure such as drinking facilities. Broadleaf root dip (or equivalent) to be used on all planting stock prior to planting.

The restored grassland and planting areas will be subject to a 10 year aftercare scheme, the details of which will be agreed with KCC as necessary. However, the following broad aftercare operations are likely to be required.

It is very likely that weeds would appear during the first year following sowing and these need to be cut requiarly (min neight 50mm and not it ground nesting birds present) and remove to prevent them from competing with the developing wildflower species. Perennials are unlikely to flower during the first season but annuals may flower so should be left to set seed if possible, until approximately late July/early August, when another cut would be appropriate. Grazing is usually not appropriate during the first establishment year, while the sward is developing.

The following years would see faster growing perennials appear with slower growing species developing later, providing more species diversity. It is usual to have one main late summer/early autumn hay cut, but this can sometimes be staggered for different areas at different times, from late June to the end of August. In between the main hay cut (if taken) low density, selective grazing is the best way to manage the emerging sward as it benefits sward structure and development.

The mowing regime and timings (if used), stock type/numbers and grazing frequency would all be discussed on a regular basis between the operator, grazier and KCC as necessary, with the management regime tweaked when required in response to the success of the developing grassland areas.

Note: a useful guidance document of relevance to the intended type of grassland creation is the Forest Research BPG note 17: Lowland Neutral Grassland - Creation and Management in Land Regeneration. The document is available at the following webpage: https://www.forestresearch.gov.uk/tools-and-resources/urban-regeneration-and-greenspacepartnership/urban-regeneration-and-greenspace-partnership-resources/best-practice-guidance/

Grassland areas that do not contain wildflowers (i.e. the wet neutral grassland area) can be selectively sprayed in necessary to control of noxious or other undesirable broadleaved weeds. This should be carried out only as a last resort and by knapsack application using selective herbicides such as MCPA, Grazon 90 or 2, 4-D at the manufacturers recommended rate, ideally in early/mid spring. If weed growth persists, a further application would be carried out later in the growing season, if necessary. No fertilisers are to be applied to any areas at any time.

Woodlands and Hedgerows - Woodland blocks and hedgerows will be kept weed free by the application of glyphosate herbicide (e.g. Roundup) at least twice every year, in early Hedgerows will be strip sprayed along their length and within planting blocks all grass and weeds in min. 0.8m diameter around each tree will be spot sprayed. Tall and noxious weeds within planting areas will be controlled by selective spraying or strimming if necessary (although strimming can encourage more vigorous weed growth). All chemical applications will be in accordance with quidelines as set out in the Pesticide Control Act 1996. Woodland along southern side of the site to be thinned as necessary (selected nurse tree species removed) to create glades/rides in order to improve woodland structure, benefit biodiversity and open up views for users of the new Public Footpath.

Plants, guards and canes which become loose, over-tight or broken will be re-firmed and adjusted on an annual basis. All planting/seeding failures would be replaced on an annual basis, during the first five years of aftercare, to ensure at least 100% stocking. All replacements will use plants of the same species or other such species as may be agreed with KCC. For aftercare years five - ten, stocking density would be annually monitored and kept to minimum 85%. All natural regeneration of desirable species arising within planting areas will be accepted. In aftercare years five - ten thinning requirements would be assessed and operations undertaken as necessary to remove nurse species and create scalloped edges to planting compartments to let in light. Refer to the Typical Annual Planting Maintenance Programme table beneath the Key for timings of operations summarised

Annual Aftercare Meetings and Report Preparation

The Operator will submit reports for the previous 12 months and proposals for the subsequent 12 months to the KCC. This information would be submitted prior to each annual aftercare inspection/site meeting, to be arranged preferably in early to mid spring, at the request of KCC.

spray within block (if Late April to early Jun necessary) 3) Re-firm and re-adjust spirals/guards and supports Pull grass growing inside Glyphosate spot spray woodland blocks) or band August to spray (hedge) (Provisional, it spray within block (if Replacement of planting 2) Re-firm and re-adjust Pull grass growing inside 3) Stock fencing checked and



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APPENDIX 3 REFUELLING AND EMERGENCY SPILLAGE PROCEDURE

Ap 3.1 Introduction - Environmental Risk

- Ap 3.1.1 Risk of environmental pollution incidents from the restoration works to the quarry are considered to be suspended solids from the deposit and spreading of inert wastes, soils and subsoils, and fuel in the event of a spillage from either a mobile fuel bowser or diesel container. No fuels or oils are stored within the Site.
- Ap 3.1.2 Mobile plant will be operated in accordance with manufacturers' guidelines and will be routinely inspected and maintained.
- Ap 3.1.3 To reduce the risk of environmental pollution with regards to potential spillages of fuels the following Refuelling Procedure will be adhered to at all times. In the unlikely event that a fuel spillage does occur then the Emergency Spillage Procedure will be implemented.

Ap 3.2 Refuelling Procedure

- Ap 3.2.1 **Aim:** To effectively control the risk of pollution that has the potential to arise from the delivery of fuel to mobile plant on Site.
- Ap 3.2.2 Steps to be followed:
 - The person carrying out re-fuelling must remain with the item of plant at all times observing the operation.
 - The fuel tank on the item of plant must be checked in order to determine the amount of fuel required.
 - The fuel nozzle is secured by lock. Before use the fuel nozzle, the hose must be checked for leaks or damage. If any are located the Site Supervisor must be informed and they will arrange for remedial action.
 - The fuel nozzle must be kept upright between the fuel tank and mobile bowser to avoid any splashes / leaks.
 - Although an automatic cut-off is fitted to the fuel nozzle, do not rely on it totally to prevent any splashes.
 - Any spillages must be cleared up using absorbent material, following the Emergency Fuel Spillage Procedure below.

Ap 3.3 Emergency Spillage Procedure

Ap 3.3.1 **Aim:** To ensure that any fuel spillages are contained within an area and cause minimal environmental impact.

STEPS TO BE FOLLOWED (SMALL SCALE FUEL SPILL):

- A small fuel spill is one caused by things such as a splash or spill of fuel whilst filling an item of plant or machinery. The volumes involved are small and are confined to a small area.
- If a small spill does occur the spill needs to be covered with absorbent granules from a spill kit.
- The absorbent material should be allowed to cover the spill for a sufficient amount of time to allow it to soak up the fuel contamination.
- Once the absorbent material has soaked up the spill it should be removed to a quarantine area for non-conforming waste. From there the waste should be exported off Site to a facility



permitted to accept the waste types and all relevant documentation should be maintained by the Operator.

Report to the Site Manager any materials that have been used and need replacing.

STEPS TO BE FOLLOWED (LARGE SCALE FUEL SPILL):

- Ap 3.3.2 In the event of a major spillage of diesel, oil or lubricants, the essential action to be taken is to prevent the spillage migrating to a position / sensitive receptor where it could cause contamination. This can be done by:
 - Diverting the spillage away from such an area;
 - Bunding the spill using pollution socks / sand / soil; and
 - Placing absorbent materials on the spillage.
- Ap 3.3.3 If the spillage is major, it is essential that instant action is taken, using the emergency spill-kits.
- Ap 3.3.4 If possible you should try to prevent any further spillage from the source, e.g. by turning off the diesel pump, turning off a valve or blocking a hole in the fuel tank.
- Ap 3.3.5 Protect any nearby drains by placing pollution socks or booms around them, using enough to totally enclose the entrances.
- Ap 3.3.6 The spill should be reported as soon as reasonably possible to the Site Manager and Environment Agency.
- Ap 3.3.7 Use the absorbent mats to clear up the spillage and seek specialist advice from appropriate contractors.
- Ap 3.3.8 Once the absorbent material has soaked up the spill it should be removed to the area of non-conforming waste. From there the waste should be exported off Site to a facility permitted to accept the waste types and all relevant documentation should be held on site.
- Ap 3.3.9 Report to the Site Manager any materials that have been used and need replacing.
- Ap 3.3.10 **Consequences of not following procedures:** If a spill occurs and the following procedures are not followed then the Site runs the risk of causing pollution to the surrounding land and water courses. This may result in action being taken against the Site Operator/Permit Holder.



Table Ap 2 Record of Spillage IncidentXXX

Trade name	State	UN number	Location	Type of containment	Relevant health and environmental properties
Diesel	Liquid	1202	Transported via a mobile bowser, purpose designed container/drum	Mobile bowser / container / drum	H226 - Flammable liquid and vapour. H304 - May be fatal if swallowed and enters airways. H315 - Causes skin irritation. H332 - Harmful if inhaled. H351 - Suspected of causing cancer. H373 - May cause damage to organs through prolonged or repeated exposure. H411 - Toxic to aquatic life with long lasting effects. R20 - Harmful by inhalation. R38 - Irritating to skin. R40 - Limited evidence of a carcinogenic effect. R51 - Toxic to aquatic organisms. R53 - May cause long-term adverse effects in the aquatic
					environment. R65 - Harmful: may cause lung damage if swallowed. (EU, 1967)



APPENDIX 4 RECORD OF NON-CONFORMANCE FORM



Record of non-conformance			
Date and time non-conformance identified:			
What happened?			
What caused it?			
What have you done to make sure that it does	s not happen again?		
Was there any significant pollution – for exam	ple oil entering a surface water drain?		
If there was then you must notify the	Yes / No / not applicable		
Environment Agency on 03708 506 506 (open 24hours / day) Have you done so?	Time:		
	Date:		
	EA Incident number:		
Please print name and sign:			



APPENDIX 5 GENERAL WASTE MANAGEMENT - WASTE RECORD FORMS



			General Waste Mana	gement – Waste R	eceived on Site		
Date	Origin (e.g. Telford)	EWC Code	Disposal or Recovery Code	State (solid, liquid)	From another waste facility?	Amount (tonnes)	Comments



	General Waste Management – Waste Removed off Site											
Date	Destination (e.g. Telford)	EWC Code Municipal State (solid, liquid)		Disposal or Recovery Code	Amount of waste (tonnes)	Comments						



APPENDIX 6 COMPLAINTS RECORD FORM



Complaints Record							
Who made the complaint?							
Name:							
Address:							
Phone No:							
Date and time they made the complaint:							
What was the reason / nature of the complaint?							
Was anyone else aware of this? If so, who?							
What was the source of the problem, what went wrong? If source investigate.	is unknown contact a suitably qualified person to						
What have you done to make sure it won't happen again?							
What have you done to make sale it won't happen again.							
Was there any significant pollution (e.g. oil entering a surface water	or drain)?						
was there any significant polition (e.g. on entering a surface water	er drain):						
	I. (a.)						
If there was then you must notify the Environment Agency on 03708 506 506 (open 24hours/day)	Yes / No / not applicable						
Have you done so? You must also notify the Environment Agency via email or letter.	Time:						
Date:							
	EA Incident number:						
Please print name and sign:							
L							



APPENDIX 7 PREVENTATIVE MAINTENANCE CHECKLIST



Preventative Maintenance Checklist										
		Н								
Item requiring maintenance	Day	Week	Month	Year	2 years	5 years	Where are maintenance instructions	Who is responsible?		
	-									
	1									



APPENDIX 8 MAINTENANCE RECORDS FORM



Maintenance Record									
Item (e.g. inspect o	drains):	Due (e.g. weekly):							
Date Completed	Completed by	Comments							



APPENDIX 9 SITE INSPECTION RECORD



	Site Inspection Record										
Date	Item	Inspected (Yes / No)	Comments								
	Site haul road										
	Working areas										
	Drainage										
	Litter										
	Mud/dirt										
	Vermin and insects										
	Fire (fire-fighting equipment)										
	Security										



APPENDIX 10 ENVIRONMENTAL ACCIDENT AND INCIDENT RECORD FORM



Environmental Accident and Incident Record	
Date and time of the incident:	
What happened?	
Was anyone else aware of this – other witnesses? If so, where we have a support of the second of the	no?
What caused it?	
What action did you take to fix the problem? Were exter	nal agencies involved?
What delief and you take to lix the problem. We're extent	ndragenties involved.
What have you done to make sure that it does not happe	on again?
what have you done to make sure that it does not happe	en again:
	Γ
If there was then you must notify the Environment Agency on 03708 506 506 (open 24hours / day)	Yes / No / not applicable
Have you done so?	Time:
	Date:
	EA Incident number:
Please print name and sign:	



APPENDIX 11 TRAINING RECORD



Training Record									
Employee Name		Job Title							

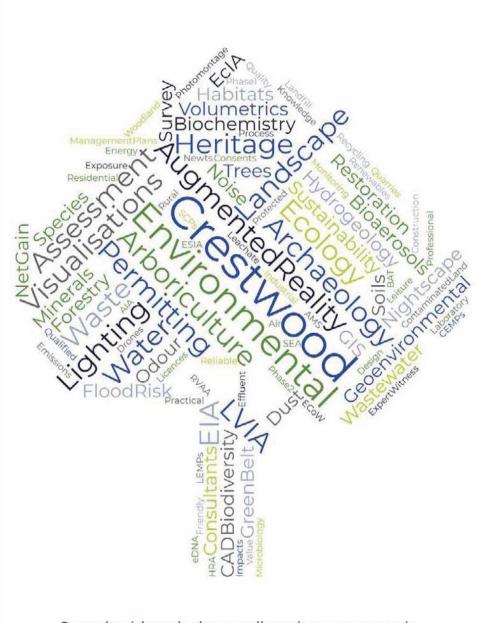
Training Required	Date Due	Date Complete	Passed as competent? (Yes / No)	Reviewer's signature	Date of refresher	Comments



APPENDIX 12 TRAINING NEEDS CHECKLIST



	Training Needs Checklist														
		Training Required (add as required)													
	Environmental Awareness					Ма	intena	nce / O	peration	ons	Accid Emer	ents / gency	Otl	her	
Employee	Permit role & responsibility	Waste Receipt incl. Duty of Care	Waste deposit, storage & spreading	Awareness of local sensitive receptors	Permit conditions and non-conformances	Maint. of mobile plant	Bunds, tanks, pipework	Fire	Spill response	Failure of Services	Dust emissions	Mud on public highway			Comments



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