

APPEAL REFERENCES APP/EPR/636, 651 and 652

**APPEALS PURSUANT TO REGULATION 31 OF THE ENVIRONMENTAL PERMITTING
(ENGLAND AND WALES) REGULATIONS 2016 REGARDING SOIL TREATMENT
FACILITIES AT DANESHILL LANDFILL SITE AND MAW GREEN LANDFILL SITE**

**ENVIRONMENTAL PERMIT REFERENCE EPR/NP3538MF/V009 AND V010
(DANESHILL)**

ENVIRONMENTAL PERMIT REFERENCE EPR/BS7722ID/V010 (MAW GREEN)

APPENDICES TO THE PROOF OF EVIDENCE OF LESLIE HEASMAN

Report reference: FCC/DH/LH/6278/01/POE
February 2024



Baddesley Colliery Offices, Main Road, Baxterley, Atherstone, Warwickshire, CV9 2LE
Tel. (01827) 717891 Fax. (01827) 718507

FCC/DH/LH/6278/01/POE
February 2024



APPENDIX A
CURRICULUM VITAE FOR LESLIE HEASMAN

NAME: LESLIE ANNE HEASMAN

NATIONALITY: British

QUALIFICATIONS & PROFESSIONAL AFFILIATIONS:

B.Sc. Honours in Environmental Chemistry - University of Edinburgh
Fellow of the Royal Society of Chemistry
Chartered Chemist
Member of the Chartered Institution of Wastes Management
Chartered Resource and Waste Manager
Chartered Environmentalist
Registered CL:AIRE Qualified Person

CAREER SUMMARY:

1986 - Present: Managing Director and Principal Consultant, MJCA

Ms Heasman provides advice with a background in chemistry and the assessment of contaminants in the environment to the services offered by MJCA. She has particular interest and expertise in the assessment and control of chemical contaminants in the aquatic, atmospheric and soil environments. She has wide experience in general environmental management, mineral extraction and waste management together with particular skills in risk assessment. Ms Heasman uses her strong organisational skills to manage complex environmental projects such as planning, environmental assessment, environmental audit, environmental management systems and Environmental Permitting. Ms Heasman has given evidence as an expert witness on areas within her expertise on the subjects of land contamination, waste management, the definition of waste, minerals, planning policy and the environmental and health impacts of waste management and industrial operations.

Ms Heasman regularly advises on the environmental management of industrial operations and processes where her chemical background is essential for identifying the potential impact of effluents, emissions and solid wastes.

Ms Heasman is actively involved in the environmental permitting and planning services undertaken by MJCA. Her experience in waste management, mineral extraction and processing, industrial operations and project management ensure delivery of high quality applications for a wide range of activities often in short timescales. The preparation of applications necessitates the management and co-ordination of project teams together with the collation of large technical documents. A significant proportion of her time is involved in the preparation and negotiation of planning permissions and Environmental Permits with the regulators and other interested parties where her knowledge of environmental science, risk assessment and understanding of the technical and practical demands of waste and mineral management and industrial development are critical.

Ms Heasman provides advice based on her expertise in chemistry and waste management technology on all aspects of the design and management of waste management facilities but specifically on the control of aqueous, atmospheric and solid contaminants. Her background in waste research gives her a fundamental understanding of waste processes, the management and control of those processes and the many attenuating processes which control the movement and dispersion of contaminants hence determine the risks presented by such contaminants. Her extensive practical experience of waste management operations

enables Ms Heasman to provide advice on contaminant control measures which are cost effective and achievable in practice. Ms Heasman is experienced in the assessment of the treatment and disposal of hazardous wastes, including the control and disposal of asbestos wastes and high sulphate wastes.

Ms Heasman has been responsible for the assessment of the impact and potential impact on the environment and on human health and amenity of a large number of closed, operational and proposed landfill sites and proposed and operational waste storage and treatment facilities and for advising on the design measures to control contamination and to minimise the environmental effects. Ms Heasman was the UK Waste Industry representative on the World Health Organisation group which was convened to discuss the health effects of landfill and has contributed to their report on this subject.

Ms Heasman has substantial practical expertise in the assessment of potential problems due to landfill gas, the monitoring of landfill gas and the design of gas control and utilisation schemes. She has particular knowledge and understanding of the potentially toxic and odorous trace components of landfill gas and emissions from waste transfer and treatment facilities. Ms Heasman regularly assesses the environmental impact of sites which are generating landfill gas and/or odours. She investigates and assesses the suitability of old landfill sites or of land adjacent to landfill sites for development for a variety of end uses and provides advice on remedial measures as necessary. Ms Heasman assesses the quality of leachate generated by landfill sites and provides advice regarding leachate control, treatment and disposal.

Ms Heasman's familiarity with the operations of mineral extraction and processing facilities, including associated thermal treatment processes is an essential part of her role.

Ms Heasman has extensive experience in carrying out liability assessments and environmental audits and due diligence of industrial facilities, contaminated sites and sites which have been subject to potentially contaminative use for local authorities, landowners, potential purchasers, insurers and financial institutions. Her knowledge of chemistry and industrial wastes is used during the investigation and redevelopment of contaminated land. She has extensive experience in the assessment of risks associated with contaminated land and with remediation techniques.

Ms Heasman has a key role in the delivery of the Environmental Planning services of the Company which include Nationally Significant Infrastructure and Town and Country planning, minerals planning and waste management planning. An essential part of her role at MJCA is the assessment of local policy and strategy in matters of land use, waste management and mineral extraction and she has considerable experience of the structure, analysis and use of local plans. A significant proportion of her work involves the preparation and negotiation of environmental assessments and planning applications where her knowledge of environmental science and understanding of the technical and practical demands of industrial development are critical.

Ms Heasman is experienced in all aspects of waste management planning and strategies. She is involved in the assessment of waste management plans on a regular basis and provides advice on appropriate methods of waste reduction recycling, treatment and disposal.

Ms Heasman is an active member of the Environmental Services Association (ESA) Regulation Committee and the Landfill, Pre-Treatment and Logistics Committee. Ms Heasman chaired the ESA Waste Treatment Best Available Technique Reference Document (BREF) Working

Group and was appointed as a UK Technical Expert to the European IPPC Bureau Technical Working Group for the Best Available Technique (BAT) standards for waste treatment under the Industrial Emissions Directive leading to the production of the 2018 BREF. She is a member of the Environment Agency Landfill Regulation Group and the Problematic Waste Subgroup. She is the UK representative on the landfill group of the Fédération Européenne des Activités du Déchet et de l'Environnement. Ms Heasman led the UK delegation on the CEN/TC/292 Standards Committee on the characterisation of wastes. Ms Heasman was a member of the Natural Environment Research Council (NERC) Council up to October 2018.

Ms Heasman is a co-editor of the book entitled 'Harmonization of Leaching/Extraction Tests' published by Elsevier in 1997 and the author of a chapter entitled 'Leaching Tests' in the book entitled 'Chemical Analysis of Contaminated Land' published by Blackwell Publishing in 2003.

1982 - 1986: Waste Research Unit, Harwell Laboratory

Ms Heasman held the position as Head of the Waste Research Unit from 1985. She carried out research projects for the UK Department of the Environment, commercial companies and other agencies. The research areas included the co-disposal of hazardous wastes with household refuse, the evaluation of investigation into methods of destruction of asbestos wastes and the identification of and study into the implications of the trace components of landfill gas. Her work included the laboratory analysis of samples of soil and water from potentially contaminated sites. Several months were spent working in Hong Kong for the Environmental Protection Department on the co-disposal of Toxic, Hazardous and Difficult (THD) wastes. This work involved designing and setting up laboratory and field experiments to investigate THD waste loading rates when co-disposed with non-THD wastes. She also conducted a review of the industrial wastes arising in Hong Kong and assessed the most appropriate methods of treatment or disposal.

Ms Heasman was involved in providing editorial and technical assistance to the Landfill Practices Review Group during the preparation of the original version of Waste Management Paper Number 26.

APPENDIX B
PERMIT APPLICATION TIMELINE FOR DANESHILL

Daneshill Permit Variation Application Timeline

Date	Action/ Event	Document Ref
21/01/2021	Application Submitted to EA via email	January 2021 Folder
21/06/2021	Email from Katie Dunmore (KD) to confirm she had picked up application	June 2021 Folder
22/06/2021	Tel con and email from KD with not duly made queries	June 2021 folder
06/07/2021	Emailed response to NDM queries and acknowledgement	July 2021 folder
09/07/2021	Emailed revised BAT doc	July 2021 folder
13/07/2021	Email from KD awaiting additional fee	July 2021 folder
21/07/2021	Email to KD re fee payment	July 2021 folder
22/07/2021	Email from KD confirming receipt of fee	July 2021 folder
06/08/2021	Application duly made	August 2021 Folder
06/08/2021	First Schedule 5 Notice	August 2021 folder
w/c 06/09/2021	A Stocks tel conversation with K Dunmore re schedule 5 and discussions ongoing at ER and request to delay BAT response until ER agreed.	September 2021 Folder
13/09/2021	A Stocks Email to K Dunmore confirming tel con and offer of presentation on proposed treatment process	September 2021 Folder
13/09/2021	Email from K Dunmore turning down offer as she was "familiar with technologies proposed"	September 2021 Folder
01/10/2021	Schedule 5 Response submitted / Acknowledged by KD	October 2021 Folder
04/10/2021	Additional drawings submitted	October 2021 Folder
13/10/2021	Further clarification email sent by KD	October 2021 Folder
13/10/2021	Clarification email of schedule 5 response sent by KD	October 2021 Folder
21/10/2021	Asbestos query email sent by KD	October 2021 Folder
22/10/2021	Biofilter query email sent by KD	October 2021 Folder
05/11/2021	Emailed response to queries incl revised layout drawings	November 2021 Folder
08/11/2021	Additional queries from KD following email of 5/11	November 2021 Folder
17/11/2021	Emailed response to KD	November 2021 Folder
18/11/2021	Further query from KD re biofilter medium	November 2021 Folder
23/11/2021	Response to KD re biofilter	November 2021 Folder

25/11/2021	Email from KD – do not consider proposed Asb storage and picking activity meets BAT	November 2021 Folder
09/12/2021	Initial response email	December 2021 Folder
10/12/2021	Email to KD to confirm we are preparing a response offering additional containment and control measures	December 2021 Folder
07/01/2022	KD email querying wastes to be treated for disposal. Response to KD same day	January 2022 Folder
20/01/2022	Email to KD regarding removal of some EWC's	January 2022 Folder
31/01/2022	Further email exchanges on waste types	January 2022 Folder
02/02/2022	Email response to KD on various queries incl revised layout plan	February 2022 Folder
02/02/2022	Further remail response to KD on EWC's	February 2022 Folder
07/02/2022	Response from KD on EWC's	February 2022 Folder
22/02/2022	Response to KD queries incl BAT 14	February 2022 Folder
24/02/2022	Further EWC email exchanges	February 2022 Folder
	March No Communications from EA	
27/04/2022	Chasing email to KD re submissions	April/May 2022 folder
05/05/2022	KD response saying it has been referred to "technical leads"	April/May 2022 folder
21/06/2022	Issue of draft permit for review	June 2022 Folder
04/07/2022	AS called and left voicemail requesting to speak to technical specialist. Email response from KD to say that it wouldn't be appropriate	July 2022 folder
08/07/2022	Email to KD requesting whether EA would reconsider if 3 way screener removed from application	July 2022 Folder
24/08/22	Email from K Dunmore to say they don't consider it appropriate to reassess the application at this stage	August 2022 Folder
21/10/22	Email from KD to inform that draft decision on citizen space given level of interest	October 2022 Folder
09/12/2022	Permit Variation Issued	December 2022 Folder

APPENDIX C
PERMIT APPLICATION TIMELINE FOR MAW GREEN

Maw Green Permit Variation Timeline

Date	Action/Event
10/01/2023	Application submitted to EA via email
10/01/2023	Automatic response email received acknowledging receipt of email
31/01/2023	Email from Nicola Waller Permitting Support Advisor to say they couldn't find record of payment
31/01/2023	Remittance advice confirming details of payment sent to EA
02/02/2023	Email "receipt of application" email from EA quoting estimated 30-32 weeks queue before application picked up
11/04/2023	A Stocks received call from Permitting Officer Habiba Daniyan to confirm that she had picked up the application.
12/04/2023	Email from Permitting Officer to confirm our conversation and that she was currently "reviewing the application for duly making purposes" and would contact me if she required further info
16/04/2022	Receipt of email confirming application was duly made
21/06/2023	A Stocks received telephone call from Permitting Officer Claudia Cridge to confirm that we would be receiving a draft permit to review (I think Habiba was on leave)
21/06/2023	Email received requesting Operator review of draft permit - responses due by 5/07/23
23/06/2023	A Stocks sent email with comments to draft permit to C. Cridge
10/07/2023	Received email from Habiba Daniyan requesting a Teams meeting to discuss our comments
12/07/2023	Meeting held - attendees A Stocks, J Owens, K Burston, Habiba Daniyan and Daniel Kirk Principal Permitting Officer (Habiba's line manager), generally EA accepted our comments and subsequently issued a corrected draft permit by email
13/07/	A Stocks emailed Habiba Daniyan to confirm operator had no further comments on corrected draft permit
20/07/2023	Further email to Habiba Daniyan to find out if permit had been issued
25/07/2023	Call received from Habiba to say it was with Sheffield office for issue
25/07/2023	An "issue of environmental Permit" email received with Permit
25/07/2023	A Stocks emailed Habiba Daniyan requesting a copy of decision document
25/07/2023	25/07/2023 - Copy of Decision Doc received from Habiba Daniyan

APPENDIX D

CONDITION DISCHARGE APPLICATION TIMELINE FOR EDWIN RICHARDS QUARRY

Table D1 – Summary of the email correspondence regarding the enclosure of the mechanical screener at the soil treatment facility at Edwin Richards Quarry

Email	Date	From	Title	Summary of the text and attachments
1	9 July 2021	FCC to EA	STF	<p>Details attached for the response to the Pre-Operation Condition: Mechanical Screening of Soils with Asbestos Debris for the STF:</p> <p>Prior to the use of the mechanical screener for the pre-screening of asbestos contaminated soils under activity reference AR2 a report shall be submitted for written permission detailing the following aspects:</p> <ul style="list-style-type: none"> • Evidence to demonstrate that the mechanical screener is fully enclosed and all dust emissions from the screening operation are directed to an active abatement system with a HEPA filter or other suitable design. • Details of the proposed commissioning, operational and maintenance procedures associated with the mechanical screener and active abatement system to be implemented on site. • Details of monitoring checks, audits and emergency procedures to be implemented on site to ensure both the mechanical screener and active abatement system are fully operational and working as designed. <p>Reference to a proposal to the Environment Agency in early 2019 to undertake a brief soil screening trial to provide site specific asbestos monitoring data. This proposal for a trial was rejected by the EA who stated a permit variation would be needed.</p> <p>The submission includes a summary of the measures in place to minimise emissions from the screener (acceptance procedures, inside a building, dust suppression system installed but the monitoring data show this is not necessary to suppress asbestos fibres), and reference to monitoring to confirm that the levels of asbestos fibres inside the asbestos building is always <0.0005f/ml.</p> <p>Data collected from within the building, and outside, has verified that respirable asbestos fibre concentrations (without dust suppression) has remained below the (very low) 'ambient background concentration of 0.0005 fibres/ml. This has validated that the building offers no benefit for the reduction of airborne asbestos concentrations and that the waste acceptance procedures are the main mitigation measure for preventing elevated airborne respirable asbestos fibre concentrations.</p> <p>The Environment Agency have requested that the screener is enclosed and that an active HEPA filtration system is installed as there is a perception that soil screening with generate significantly elevated airborne respirable asbestos fibre emissions. As shown by quarterly data submitted to the EA, emissions will be below the 0.01 fibre/ml criteria stated in the permit at all times, and will be below the much more conservative 'ambient background' threshold of 0.0005 fibre/ml during quarterly monitoring, so it is unclear what further mitigation would be afforded by the use of a containment enclosure and an active HEPA filtration system.</p> <p>Comparison provided with the controls required by the HSE for licensed and non-licensed works.</p> <p>No evidence supplied by the Environment Agency during the permit determination as to why a HEPA filter was required to be compliant with the requirements of BAT, environmental permitting guidance, or what levels of emissions justified further mitigation than those already employed at the site.</p> <p>Full details of all proposed control measures set out in detail in Tables 4, 5 and 6 of the attachment.</p>
2	20 July 2021	EA to FCC	RE: STF	<p>I started to review your submission against the pre-operational measure requirements. However I quickly realised you appear to dispute the requirements, specifically the need to demonstrate that the mechanical screener is fully enclosed and all dust emissions from the screening operation are directed to an active abatement system with a HEPA filter or other suitable design.</p> <p>I am unable to approve this report.</p> <p>If you are unhappy with the pre-operational measure requirements you will need to appeal the permitting decision.</p>
3	22 July 2021	FCC to EA	RE: STF	<p>Further to your email below please could we arrange a meeting to discuss the pre-op condition requirements as we would like to better understand what the expectation was in regards to the full enclosure of the mechanical screener and the collection of all dust emissions via a HEPA filter or other suitable design.</p> <p>The reason for seeking clarification on this is that mechanical screens are not fully enclosed and dust suppression is achieved with water/mist sprays rather than an active air extraction system so what the pre-op condition is seeking is not something that, to our knowledge, is available in the market. Given the wording of the pre-op condition we wondered if the EA had any examples/experience of such equipment you could refer us to?</p>

Email	Date	From	Title	Summary of the text and attachments
				<p>There are also practical issues associated with an active air system on the entire shed due to the volumes of air involved and the nature of the building which has a large open door. The use of a HEPA filter would seem to be more appropriate for a smaller confined space such as an enclosed picking line and we wondered if that was the intention here rather than the entire space?</p> <p>We are trying to find a way of complying with the pre-op condition hence the proposals that have been put forward for a trial one month period of monitoring to demonstrate that the abatement measures control dust emissions. This has been done with a view that if through actual monitoring data, which can be done in real time, the dust abatement measures proposed prove effective then it would negate the need for an active air extraction system as emissions are effectively abated and controlled by another method.</p> <p>Your comments regarding appeal are noted and of course that option is available to us but I feel it would be better for all parties if we could have a positive discussion regarding the requirements and expectations of the pre-op condition as the current wording does present some practical issues in being able to comply with it.</p> <p>Meeting dates suggested.</p>
4	26 July 2021	EA to FCC	RE: STF	<p>I am happy to participate in a meeting as long as you make clear the specifics on what you want to know so that I can ensure the right people can attend.</p> <p>The requirements of the pre-operational condition are clear and the meeting should not be to negotiate/appeal about them.</p> <p>Please note that we would charge for our time in attending the meeting.</p>
5	3 August 2021	FCC to EA	RE: STF	<p>With regards your request for clarity on the specifics of what we wish to discuss I felt my previous email outlined this and I have highlighted specific sections for your reference. However; to further clarify it is the wording of the first bullet point [<i>“Evidence to demonstrate that the mechanical screener is fully enclosed and all dust emissions from the screening operation are directed to an active abatement system with a HEPA filter or other suitable design”</i>] that is the main point for discussion and we want to understand what the EA’s expectations are and given our previous submission with alternate suggested approach why this was not considered to fall within the wording ‘..or other suitable design’.</p> <p>As you have previously noted we have the opportunity for appeal and of course that option remains open to us; however, we are keen to discuss the pre-op condition with you to try to understand what it was seeking to achieve and how in practical terms it was expected to work before having to take that path. If we can find a practical solution then that would seem better for all parties.</p> <p>To be clear the request for a meeting is not intended to negotiate the requirements of the pre-op condition but as set out above and highlighted below it is to clarify what the EAs requirements are to comply with the pre-op condition as the way the pre-op is worded is unclear as to what/how the HEPA filter is to be used or what would be considered ‘..or other suitable design’ and as explained below there are technical and practical issues in attaching a HEPA filter and positive extraction system to a mechanical screen operated inside a large shed and we wish to discuss what the EAs expectations are to comply with the pre-op condition.</p>
6	5 August 2021	EA to FCC	RE: STF	<p><i>My emphasis added</i></p> <p>I have set out below what our expectations are with regard to the pre-operational condition. Essentially it is to comply with BAT.</p> <p>The first bullet point requires the screening activity to be fully enclosed and emissions from this abated. Chemical Waste : Appropriate Measures, section 5.1, point 10 requires that <i>where an emission is expected</i>, all treatment vessels must be enclosed and if vented to atmosphere only via an appropriate scrubbing and abatement system. <i>An asbestos fibre emission is expected</i> from the screening activity so the pre-op condition requires evidence to demonstrate that the screener is enclosed and abated. <i>We do not have any examples/experience of such equipment we can refer you too.</i></p> <p>The wording ‘other suitable design’ refers to the type of abatement/filter system to be used so as not to prescribe a HEPA filter. It does not allow for the screener to not be enclosed. <i>We expect an emission regardless of your dust abatement measures</i> so it is not possible to negate the need for enclosure/abatement.</p> <p>I’m not trying to avoid a meeting to discuss this if you still think there is a need for one.</p>
7	17 September 2021	FCC to EA	ERQ STF Meeting	<p>For our meet next Wednesday please see below outline of what we would like to discuss.</p>

Email	Date	From	Title	Summary of the text and attachments
				<p>The EA rejected our previous submission under pre-op condition 1 and you responded to clarify that the EA require an enclosure on the screen with an active extraction system...further to our initial submission we would like to discuss how to satisfy the first bullet which requires the screen is enclosed and connected to an active abatement system with HEPA filter.</p> <p>As previously mentioned, this is not standard practice within the soil treatment industry as shown by the pan European NICOLE document submitted in our initial response to the pre-op condition and there are practical difficulties in achieving this as it is not something that is available off the shelf so will need to be bespoke made. The wording of the pre-op condition says all dust emissions from the screening operation are directed to an active abatement system with HEPA filter or other suitable design. We also consider that the standard to be met for this process and any abatement is to demonstrate that asbestos fibres in air always meet the limit set in the permit i.e. <0.01f/ml asbestos fibres in air.</p> <p>To achieve this we believe it is possible to manufacture an enclosure to act as a cover for the screener deck as indicated on the attached marked up image.</p> <div data-bbox="902 600 1673 1037" data-label="Image"> </div> <p>This enclosure can then have active extraction applied and the emissions directed to a HEPA filter as per the pre-op condition.</p> <p>Your previous email referenced the EA guidance for <i>Chemical Waste: Appropriate Measures for Permitted Facilities</i> and Section 5.1 point 10 which is as follows:</p> <p><i>10. Where an emission is expected, all treatment or reactor vessels must be enclosed. Only vent them to the atmosphere via an appropriate scrubbing and abatement system (subject to explosion relief).</i></p> <p>The guidance referred to is for chemical waste and chemical waste treatment; and whilst it is acknowledged the asbestos screening is permitted as a Physico-chemical treatment activity, it is clearly a physical process and not a chemical treatment process with a 'treatment or reactor vessel' and it's difficult to see how asbestos contaminated soil could be regarded as chemical waste.</p> <p>However; notwithstanding the applicability, or otherwise, of the referenced guidance to the asbestos segregation operation we are keen to find an approach to satisfy the pre-op condition and we have reviewed the referenced guidance for where the principles may apply to the operations being carried out.</p> <p>From review Section 6 <i>emissions control appropriate measures</i>, in particular Section 6.2 <i>fugitive emissions to air</i> contains details which could broadly be applied. The parts of Section 6.2 we consider applicable are copied below for reference and highlighted yellow with further comments provided in red.</p> <p><i>3. To make sure fugitive emissions are collected and directed to appropriate abatement, your treatment plant must use high integrity components (for example, seals or gaskets). Your treatment plant must be fully enclosed, with air extraction systems located close to emission sources where possible. - The proposed enclosure of the screening deck would enable the extraction system to be located as close as possible to the potential emission source</i></p> <p><i>4. You must use your waste pre-acceptance, waste acceptance and site inspection checks and procedures to identify and manage wastes that could cause, or are causing, fugitive emissions to air. When you identify any of these wastes you must:</i></p>

Email	Date	From	Title	Summary of the text and attachments
				<ul style="list-style-type: none"> • take appropriate, risk assessed measures to prevent and control emissions Waste acceptance procedures are paramount to the process and are used to manage the waste stream that is to be passed through the screener to ensure that emissions are controlled • prioritise their treatment or transfer – this is the priority and purpose of the activities at the site <p>5. Where necessary, to prevent fugitive emissions to air from the storage and handling of wastes, you should use a combination of the following measures:</p> <ul style="list-style-type: none"> • store and handle such wastes within a building or enclosed equipment It is proposed to enclose the screener deck with an active extraction system and HEPA filter • keep buildings and equipment under adequate negative pressure with an appropriate abated air circulation or extraction system The proposed enclosure of the screener deck achieves this and will meet the emissions limit as specified within the permit • where possible, locate air extraction points close to potential emissions sources The proposed enclosure of the screener deck with filter achieves this • use misting systems and wind barriers to prevent dust All working areas are equipped with a full misting system to ensure complete coverage of areas where materials are treated <p>Before we progress further with this and resubmit details to discharge pre-op condition 1 we wanted to discuss the above to receive any feedback from the EA on the approach and its suitability to address the pre-op condition. If upon reading the above you consider this an acceptable approach and a meeting is no longer required to discuss then please let me know and we can move straight on to preparing a formal submission under the pre-op condition. [A meeting was subsequently held with the EA on 22 September 2021]</p>
8	29 November 2021	EA to FCC	RE: Soil Treatment Facility	<p>I've attached a CAR form for our assessment of this, unfortunately it is not approved.</p> <p>We have reviewed your submission for pre-operational measure reference 1 (fully enclosing the screener and extracting and abating all emissions), received by email on 19/10/2021. The submission is not approved for the reasons as explained below.</p> <p>You propose to only enclose the screener deck. This is not BAT because there is potential for asbestos fibre release either into the air or into the soil from the screening process. All parts of the screening process must be fully enclosed, abated and routed to a point source or sources.</p> <p>The mechanical treatment of waste is a 'waste treatment process' in the BAT conclusions. Your activity of screening waste soils containing asbestos falls under this heading.</p> <p>BAT 14 says: o "In order to prevent or, where that is not practicable, to reduce diffuse emissions to air, in particular of dust, organic compounds and odour, BAT is to use an appropriate combination of the techniques given below"; and o "Depending on the risk posed by the waste in terms of diffuse emissions to air, BAT 14d is especially relevant." Note - for the avoidance of doubt; we consider the risk of diffuse emissions to air from this process to be high.</p> <p>The concerns of the BAT conclusions are mostly about dust (total particulate matter). We are also obviously concerned about asbestos fibres which we need to control.</p> <p>The control mechanism for particulate matter includes "using enclosed equipment" and "maintaining the enclosed equipment... under an adequate pressure" and "collecting and directing the emissions to an appropriate abatement system via an air extraction system ..."</p> <p>With the emissions channelled to a point source, BAT 8 monitors the "channelled emissions to air with at least the frequency given below, and in accordance with EN standards. If EN standards are not available, BAT is to use ISO, national or other international standards that ensure the provision of data of an equivalent scientific quality." For mechanical treatment of waste the relevant substance or parameter is "Dust" in accordance with BAT 25.</p> <p>BAT 25 requires the use of abatement for dust which includes cyclone, fabric filter, wet scrubbing. Additionally given the concerns for asbestos we would expect the use of a high efficacy particulate air (HEPA) filter.</p>

Email	Date	From	Title	Summary of the text and attachments
				<p>The BAT-AEL is given in Table 6.3.</p> <p>We accept the upper limit as the BAT-AEL for dust, that is we will set it to be 5 mg/Nm³. We will set an emission limit for asbestos (not a BAT-AEL) at 0.1 fibre/ml.</p> <p>Given the requirement to set a BAT-AEL for dust we require the equipment to be enclosed, and the diffuse emissions (dust) to be channelled to an abated point source and monitored in accordance with the BAT conclusions, with the limits set as laid out above. As discussed we will also set limits for asbestos fibres in the air.</p> <p>All of the above is supported by the Appropriate Measures guidance for Chemical Waste sector.</p>
9a	29 November 2021	FCC to EA	RE: Soil Treatment Facility	<p>Thanks for the CAR form although obviously it is disappointing given the positive meeting held on 22nd Sept that the pre-op condition is not approved as we felt that our re-submission under the pre-op condition fairly reflected the discussions held at that meeting and the CAR response seems to only focus on specific BAT requirements without acknowledgment of the practicalities of achieving them.</p> <p>Couple of observations to make on the CAR as follows:</p> <ol style="list-style-type: none"> 1. The CAR states an emission limit to be applied is 0.1 fibre/ml but that is different to the permit limit in Table S3.3 which is 0.01 fibres/ml. Please confirm? 2. The CAR states that <i>'all parts of the screening process must be fully enclosed, abated and routed to a point source or sources'</i> and then goes on to provide BAT references and in particular BAT14d. As we have previously discussed with the EA the issue is the practicality in being able to fully enclose the screen and hence within the pre-op re-submission we put forward a combination of practical techniques including enclosure of the screening deck with active extraction, waste acceptance protocols, monitoring and dampening down to control dust and fibre emissions. And based on the meeting in September we felt that the EA understood these practical difficulties and the proposed approach to demonstrate no emissions through a trial period and monitoring. <p>It's acknowledged that the CAR quotes BAT14 and includes the wording <i>'all parts of the screening process must be must be fully enclosed, abated and routed to a point source or sources'</i> so would enclosure of the conveyors and screening deck and routing these through an active extraction system with HEPA filter be satisfactory to discharge the pre-op condition?</p> <p>As for the screening deck there are no 'off the shelf' solutions to enclose the conveyors but we have contacted the screen manufacturer to see if there is a bespoke solution that could be fabricated.</p> <p>It may be helpful if we could speak to someone directly about the above before we produce a further re-submission to discharge the pre-op condition as it may help to ensure that the re-submission is acceptable and hopefully save time in going back and forth with further submissions.</p>
9b	2 December 2021	EA to FCC	RE: Soil Treatment Facility	<p>I've added a couple of comments to your email below.</p> <p>... Couple of observations to make on the CAR as follows:</p> <ol style="list-style-type: none"> 1. The CAR states an emission limit to be applied is 0.1 fibre/ml but that is different to the permit limit in Table S3.3 which is 0.01 fibres/ml. Please confirm? The current permit has a limit of 0.01 fibres/ml for fugitive asbestos air sampling. If emissions from the screening process were to be channelled through a point source, we would also set a limit of 0.1 fibres/ml for that point source. <p>...It's acknowledged that the CAR quotes BAT14 and includes the wording <i>'all parts of the screening process must be must be fully enclosed, abated and routed to a point source or sources'</i> so would enclosure of the conveyors and screening deck and routing these through an active extraction system with HEPA filter be satisfactory to discharge the pre-op condition? Enclosure of the conveyors and screening deck may enclose the equipment but the Pre-Operational condition also requires 'all dust emissions from the screening operation are directed to an active abatement system...'. How would this be achieved for the screened soil as it exits the screener/conveyor?</p>
9c	3 December 2021	FCC to EA	RE: Soil Treatment Facility	<p>Thanks for your response I think it would be helpful if we could have a discussion with you and your colleagues from our previous call to discuss this as it seems there may be some misunderstanding about the process and what it is practicable to achieve.</p> <p>We have been very clear in our various submissions in stating we wish to comply with the pre-op condition and are not seeking to be awkward about complying but that there are practical issues in being able to achieve this and hence we want to understand from the EA what it is that is required. The response below is not assisting us in being able to present solutions as it is not clear what the expectation is for 'all dust emissions from the screening operation are directed to an</p>

Email	Date	From	Title	Summary of the text and attachments
				<p>active abatement system... or how it would practically be achieved given that it is a soil screen and materials must at some point exit from it whether that be off the end of a conveyor or taken from a stockpile.</p> <p>I appreciate that the EA are applying BAT and require an active extraction system but it would be worthwhile to have a conversation about how this is achieved so we can move this forward.</p>
10	11 November 2022	FCC to EA	ERQ STC Pre-op condition 1	<p>A revised submission was attached to discharge pre-operational condition 1 of permit HP3632RP for the soils treatment centre at Edwin Richards Quarry.</p> <p>The submission includes a review of BAT and the EA guidance. Assessment has been undertaken of the proposed mechanical waste treatment operation against the applicable BAT and provided in Table 1 (BAT 14), Table 2 (BAT 25, Section 6.1) and Table 4 (BAT 8). These include – material quality acceptance restrictions, moisture content specification, dampening of soils pre-screening, monitoring, limiting drop heights for the discharge conveyors, location of the screener in an enclosed building with all emissions abated via a HEPA filter, to achieve enclosure of the screening operation it is proposed to install doors to the existing entrances to the building, which would be closed during screening operations... To ensure containment of diffuse emissions generated during the soil processing, there is a requirement to ensure extraction directly around the soil screener and picking station and for the collected air to be directed to a HEPA filter. This will ensure the removal of particulates prior to discharge as a point source emission via a HEPA Filter. Drawing “Proposed Extraction and HEPA system” dated 06/10/22 provided. To reduce passive ventilation, and potential short circuiting of the extraction system during screening operations, the two entrances will be fitted with quick closing AD95 Rapid Roll doors.</p> <p>A permanently installed dust suppression system is present in the Soil Treatment Building and can be operated when required. Surfactant is added to the suppression system as a precautionary measure in the unlikely event of amphibole asbestos fibres being present (Amphibole fibres are hydrophobic (unlike chrysotile fibres) and this makes the fibres more difficult to remove from airborne suspension or likewise immobilise them on soil surfaces with water alone). In addition to the installed dust suppression system there are mobile atomisers and dust cannons. Dust suppression of stockpiles is proposed prior to screening. Maintenance and checking procedures are described.</p> <p>Monitoring controls proposed as Below daily compliance criteria of 0.01 fibres/ml and quarterly trigger level of <0.0005f/ml and to continue in accordance with the permit requirements. Additional air monitoring for asbestos fibres will be undertaken on a quarterly basis via scanning electron microscopy (SEM) to ensure baseline level of asbestos emissions to air is generally <0.0005 fibres/ml.</p>
11	16 December 2022	EA to FCC	RE: ERQ STC Pre-op condition 1	<p>CAR attached providing the EA response regarding pre-op condition 1 of the permit for the soils treatment centre at Edwin Richards Quarry.</p> <p>The requirement is clear that the mechanical screener must be fully enclosed. The operator recently brought unenclosed mobile plant onto site to show that mechanically screening soil impacted by asbestos cement does not emit asbestos fibres into the atmosphere. This mobile plant was stopped from operating in their building by the inspectors. It is not clear how you could viably have been able to monitor for the asbestos fibres from an unenclosed system. The operator now indicates that:</p> <ul style="list-style-type: none"> o since there are no fibrous asbestos emissions from an unenclosed treatment process which was shown by the mobile plant testing (the evidence of this testing is not included in the attached document) o the mechanical treatment is in a building which can be enclosed and is abated via extraction hoods to a HEPA filter o they will test the ambient air for asbestos fibres this fulfils the pre-operational measure. <p>There are several issues here:</p> <ul style="list-style-type: none"> o the requirement of the pre-operational measure is not to provide alternatives to fully enclosing the screener it is “to demonstrate that the mechanical screener is fully enclosed”. Without full enclosure the pre-operational condition cannot be fulfilled. o even if we accept the enclosure of the building as an alternative to full enclosure, the permit does not include the proposed emission point. o there are no criteria in Table S3.1 for dust or asbestos emissions point source emissions to air which must be included in any fit-for-purpose permit. The dust emission must be controlled at the point source using a BAT-AEL of (at most) 5 mg/m3 in accordance with BAT 25. The asbestos emission must also be controlled. <p>I am not minded to accept that the mechanical screening of soils impacted with asbestos cement will not emit asbestos fibres – their testing using mobile plant did not use an enclosed screener and the results of ambient air monitoring is not as rigorous as that from a point source. It is not clear how impacted the soils tested were with pieces of cement sheet, nor that this represents the worst case.</p> <p>The purpose of the soil screening is to remove over-sized material from the soil to make picking of asbestos cement easier. The mechanical treatment to separate out over-sized material presents a risk of asbestos fibre release from the asbestos cement pieces that are present in the matrix.</p>

Email	Date	From	Title	Summary of the text and attachments
				<p>In order for you to use the screener in the way that you have indicated, that is an unenclosed screener used in an enclosed building, you will have to apply to vary the existing permit. There is no alternative mechanism for you to proceed with screening using the existing permit.</p> <p>I am not persuaded that the risk of asbestos fibre release is entirely mitigated especially with the presence of over-size materials in the soil.</p> <p>In conclusion I am not satisfied that pre-operational condition 1 has been complied with and confirm that no mechanical screening of asbestos contaminated material should take place, including the use of mobile plant.</p>
12	21 December 2022	FCC to EA	RE: ERQ STC Pre-op condition 1	<p>Further to your attached response on our submission under Pre-op condition 1 and our conversation on Tuesday this week we provide further comments against the points you have raised (presented in italics) as follows:</p> <p><i>The requirement of the pre-operational measure is not to provide alternatives to fully enclosing the screener it is “to demonstrate that the mechanical screener is fully enclosed”. Without full enclosure the pre-operational condition cannot be fulfilled.</i></p> <p>As we discussed through the submissions made under this pre-op condition 1 we have advised that to our knowledge there is not a ‘fully enclosed’ mechanical screener available on the market and as such the wording of the condition, if interpreted as it has been above, is practically impossible to comply with. Our pre-op submission has been made on the basis of trying to comply with the aims of the condition whilst balancing this against what is practically achievable, available in the marketplace and possible to deliver and safely operate. If the EA are aware of a manufacture of ‘fully enclosed’ screens that would satisfy the condition wording we would appreciate being provided with this.</p> <p><i>Even if we accept the enclosure of the building as an alternative to full enclosure, the permit does not include the proposed emission point.</i></p> <p>Your point regarding the need to introduce a new point source emission to the permit is noted, although the observation underlines the difficulties in complying with the EAs pre-op condition wording as clearly the pre-op condition intended there to be a point source emission as the wording requires an active abatement system directed to a HEPA filter. This simply serves to illustrate that the pre-operational condition as worded could not be complied with without a further permit variation. This is not a situation of our making but rather due to the wording of the condition that the EA have put on the permit.</p> <p>Noting the above contrary position created by the condition wording we consider that the EA could agree the principles of what is proposed subject to the proposals, emissions points and limits being incorporated via a permit variation, and that whilst that variation was being determined to allow the activity to operate in accordance with the ‘agreed in principle’ measures under a local enforcement position. This would seem a pragmatic solution to dealing with the contradictions caused by EA’s permit condition wording.</p> <p><i>There are no criteria in Table S3.1 for dust or asbestos emissions point source emissions to air which must be included in any fit-for-purpose permit. The dust emission must be controlled at the point source using a BAT-AEL of (at most) 5 mg/m3 in accordance with BAT 25. The asbestos emission must also be controlled.</i></p> <p>To comply with the pre-op condition we included proposed limits within the pre-operational submission. As outlined above we consider it is the EA’s pre-operational condition wording that has caused this contrary position and that the solution is as suggested above.</p> <p>We have made submissions in an effort to discharge the pre-operational condition as we need to start operating the activity and the delays are having a negative impact on site operations. From the responses received so far it unfortunately appears that what the EA are requesting is practically unachievable. We have requested to discuss this further with your technical specialists and would still appreciate the opportunity to discuss the practicalities of complying with the condition wording.</p>
13	4 January 2023	EA to FCC	RE: ERQ STC Pre-op condition 1	<p>Thank you for your comments, received by e-mail on 21 December 2022, in response to our review of your submission in respect of Pre-Operational Condition 1.</p> <p>I have discussed the points you make with both our National and Area hazardous waste treatment sector leads and our position remains as follows:</p> <p>The permit clearly states the requirement for enclosure of the treatment plant.</p> <p>The Decision Document to the permit says:</p>

Email	Date	From	Title	Summary of the text and attachments
				<p><i>The purpose of this pre-operational condition is to set appropriate controls to ensure any potential asbestos fibre release will not cause pollution or harm to human health and appropriate monitoring, maintenance and management procedures will be set.</i></p> <p><i>The comments reference above state: 'The screener at WRG is not enclosed or abated (other than using a water spray) therefore it does not meet the appropriate measures (BAT). If they can enclose and abate the screener this may allow the treatment to meet this criteria'</i></p> <p>You agreed with the requirements laid out in the permit when you accepted it's issue. The period available to you to Appeal the permit has passed. You have the option to seek to vary the permit if you wish, but we are likely to continue to advocate for enclosure of the equipment because you are dealing with waste impacted by asbestos and we want any emissions to be controlled.</p> <p>If you were to seek variation you would have to tell us how you intend to meet appropriate measures for treatment of chemical wastes where the screener is not enclosed (for example, point 10. <i>Where an emission is expected, all treatment or reactor vessels must be enclosed. Only vent them to the atmosphere via an appropriate scrubbing and abatement system (subject to explosion relief).</i> We would also need to know how you intend to meet the BAT-AEL for dust and the ELV for asbestos from the treatment. You might seek to propose alternative measures for the treatment (that is not using enclosed equipment), including performing the treatment in an enclosed and abated building. We could consider this where the data is available to show that the dust and asbestos emissions would be adequately managed within the building.</p> <p><i>In the meantime if you cannot source the equipment necessary to be able to carry out the activity in accordance with the existing permit requirements, then unfortunately you cannot carry out the activity.</i></p> <p>[A meeting was held on 24 January 2023]</p>
14a	5 July 2023	FCC to EA	ERQ STC Pre-op condition 1 - Request for Local Enforcement Position	<p>Further to our meeting on 24th January 2023 at which we discussed the difficulties we have encountered in trying to discharge pre-operational condition 1 on the Edwin Richards Soils treatment Facility Permit (HP3632RP) and the possibility of undertaking a trial of the pre-screening activity under a Local Enforcement Position (LEP), please see attached our request for an LEP to allow the trial to take place so we can gather monitoring data to confirm what emissions may or may not be generated by the pre-screening activity.</p> <p>Given the issues in discharging pre-operational condition 1 on the current permit due to its wording which requires 'full enclosure' we consider that undertaking the trial provides an opportunity to gather data to confirm what the actual emissions are from the process and if they exceed permit limits. This would then create a better knowledge base from which to determine which controls or abatement are appropriate or necessary.</p> <p>This requested approach would help to progress the impasse we have reached on pre-operational condition 1 and would then be beneficial for the EA in determining the permit variation which was submitted in December 2022 requesting the pre-operational condition 1 is removed as its current wording is not possible to comply with.</p> <p>The attached LEP request seeks to allow the operation of a trial activity to pre-screen incoming hazardous soils, which may contain fragments of bonded asbestos/asbestos contaminated material (ACM), prior to the soils then passing through a hand picking station. Since the permit was issued on 2 June 2021, two submissions have been made to try to discharge pre-operational condition 1 and both have been rejected on the basis that they were not considered by the EA to achieve 'full enclosure' of the pre-screening activity, notwithstanding that the activity will take place inside a building. Following the last submission it was highlighted by the EPR installations officer that it is not possible to introduce an active abatement system, as required by the pre-operational condition, without also needing to vary the permit to introduce a new point source emission and emission limits i.e. the pre-op condition as worded could not be complied with without a further permit variation. This LEP request is seeking agreement from the EA to undertake a trial of the pre-screening activity to collect further emissions monitoring data. The purpose of the trial would be to investigate through monitoring data if the proposed pre-screening activity does or does not result in emissions of asbestos fibres which exceed the permit limit.</p> <p>The waste pre-screening activity would be carried out inside a building at ERQ, and the two proposals made to satisfy the pre-operational condition are as follows:</p> <ul style="list-style-type: none"> • Enclosure of the screening deck with emissions directed to an active abatement system with a HEPA filter; and • Enclosure of the entire mechanical screen within the building using fast closing doors and localised active extraction of emissions from the screening activity directed to a HEPA filter.

Email	Date	From	Title	Summary of the text and attachments
				<p>These proposals have been made on the basis that 'full enclosure' of a mechanical screen is technically impossible due to the need for access to the loading hopper with a loading shovel and also the fact that by its nature a mechanical screen will have material outputs from the screener arms which it is not possible to fully enclose unless operated inside a building because space is needed for output/feed stockpiles and heavy plant access.</p> <p>Given the technical and practical difficulties in achieving what is required by the pre-operational condition and the nature of the wording that requires an abatement system and a new point source emission we do not think it is possible to discharge the pre-operational condition as it is currently worded. Consequently, we have been left with no alternative but to submit a permit variation to request that the pre-operational condition is varied/removed.</p> <p>A permit variation to completely remove the pre-operational condition was submitted in December 2022 and is with the EA for determination. If this trial was allowed it would provide the opportunity to gather actual monitoring data to confirm if there are, or are not emissions which exceed the permit limit from the proposed activity and then determine what level of controls and abatement are necessary and proportionate to the observed risk based on the monitoring data that is collected. The permit can then be varied accordingly based on the data collected in the trial.</p> <p>Monitoring data for the emissions of asbestos fibres from the current operations are several orders of magnitude below the permit threshold and typically at the lower detection limit i.e. no emission of fibres being recorded. Therefore, if the pre-screening trial was allowed to proceed it would be evident if the pre-screening activity was resulting in emissions above this consistently low baseline and also if it was exceeding the permit limit.</p> <p>We understand the basis for the EA's requirement for 'full enclosure' is due to concerns that mechanical screening of soils, which may contain fragments of bound asbestos, may result in liberation of fibres due to the agitation the materials would experience in a mechanical screen. Pre-screening operations of this nature are permitted to be carried out on construction sites under mobile treatment permits (e.g. Standard rules SR2008 No27 mobile plant for the treatment of soils and contaminated material, substances or products) and monitoring data from these activities shows no emissions of asbestos above the permit limit of <0.01f/ml.</p> <p>Monitoring during the trial will utilise both Phase Contrast Optical Microscopy (PCOM) for immediate daily analysis results against the permit limit of <0.01f/ml and scanning electron microscopy (SEM) as a secondary 'sensitivity' check to a lower detection limit of <0.0005f/ml.</p> <p>This LEP request is being made in the context of two previous submissions to try to discharge pre-operational condition 1 on the permit which requires full enclosure and active abatement of the pre-screening activity. Both of the previous submissions have been refused by the EA due to the EA's view they did not satisfy the need for 'full enclosure' although the EA's expectations appear to be unachievable due to the technical and practical difficulties associated with 'full enclosure' of a mechanical screen. As stated above the activity will take place inside an enclosed building and active extraction was being proposed so it is unclear what would satisfy the EA's interpretation of 'full enclosure'.</p> <p>It is for this reason we wish to investigate, through monitoring, what level of emissions arise from the pre-screening activity. The monitoring data will confirm if there are emissions from the screening activity that need to be abated or not and therefore if the requirement for 'full enclosure' is actually justified or necessary or if alternative control and abatement methods, such as those already in use, could be utilised. To investigate this, we request a LEP is put in place by the EA to allow a trial of the pre-screening activity to take place at the STC at ERQ.</p> <p>Should the monitoring data confirm there are no emissions from the activity above the permit threshold, then this will confirm that no further mitigation is required, as is being requested by pre-operational condition 1, and the pre-operational condition can be removed via the pending permit variation. Alternatively, if monitoring shows emissions from the pre-screening activity above permit limits then an appropriately worded condition requiring mitigation/abatement measures could be applied to the permit.</p> <p>We request that the trial is allowed to continue for an indeterminate period as long as no emissions above permit thresholds are detected. This will enable a detailed monitoring data set to be collected for the activity which will provide further confidence to the EA that there are no emissions above the permit limits. Ultimately the trial will either end if there are emissions above permit limits or upon determination of the submitted permit variation requesting the pre-operational condition is removed.</p>
14b	5 July 2023	EA to FCC	RE: ERQ STC Pre-op condition 1 - Request for Local	<p>Thank you for your note.</p> <p>LEP requests are considered by a panel known as our Area Governance Group, which is convened routinely once per month. I will make the necessary arrangements to have your request tabled at a future AGG meeting but can offer no guarantees regarding approval.</p>

Email	Date	From	Title	Summary of the text and attachments
			Enforcement Position	I will update you once I know more – can you let me know which permitting officer is determining your Variation application?
15	17 August 2023	EA to FCC	LEP decision	By way of update I can confirm that your LEP proposal for Edwin Richards Quarry was rejected by the Enforcement Governance Group. You will receive a formal response letter soon explaining why that decision was reached.
16	17 August 2023	EA to FCC	RE: ERQ STC Pre-op condition 1 - Request for Local Enforcement Position	Providing the formal refusal for the LEP at ERQ. The reasons for refusal are stated as being: Our reasons for this decision are as follows: <ul style="list-style-type: none"> • There is no evidence that the activity will provide an environmental benefit, and you have been unable to quantify the risk to the environment and human health from the activity. • The proposal does not demonstrate Best Available Techniques will be achieved. • The proposal could affect the market for soil wastes to the disadvantage of other permitted operators. • The proposal would pre-empt the outcome of the determination process for a pending Variation application.

APPENDIX E

TECHNICAL NOTE PREPARED BY JON OWENS AT PROVECTUS

MJ Carter Associates
Baddesley Colliery Offices
Main Road, Baxterley
Atherstone, Warwickshire
CV9 2LE

22 January 2024

Dear Leslie

Confirmation of Operational Details

Further to your email requesting confirmation on some of the operational aspects of the soil treatment facilities I can provide the following information.

Mechanical Screening of Soils with Asbestos

The use of a three way soil screener prior to the hand picking station has demonstrated significant benefits to the soil treatment facility through both reducing the potential for harm to our operatives during the hand picking work as well as a significant improvement in operational efficiency and reduction in energy use.

The soil screener separates oversize materials (e.g. bricks concrete etc), soil fines and a fraction known as the mid-size.

The oversize fraction is easy to inspect and rarely contains visible asbestos. The waste producer would normally remove large pieces on site that would be too large to pass the mid-range grid prior to sending to our treatment facility.

The fines fraction is uniform in appearance and rarely contains asbestos debris as visible pieces are normally too large to pass into the fines fraction. The presence of any visible asbestos is easy to identify due to the contrast between visible asbestos debris with the fine soil fraction.

The mid-range fraction is where we observe the asbestos debris. After screening this comprises of 20% - 40% of the original soil volume. The removal of large oversize inclusions and fines means that the removal of visible bound asbestos is easy as it is not concealed by soil or underneath concrete blocks/bricks etc. The ease of identification of asbestos in the mid-range means that the picking station conveyor can be run at higher speeds without the risk of oversize falling off the conveyor belts or need for the operatives to use their hands to unearth asbestos debris within the soils fraction on the belt.



Figure 1. Oversize Fraction



Figure 2. Fines (soil) Fraction on right of photograph



Figure 3. Mid-Range – this is after picking due to the direct feed of mid-range into the picking station

We have also observed that there are more occasions with unscreened soils that picked fractions still contain asbestos debris. These stockpiles are then put through the picking station repeatedly until no visible asbestos debris remains.

We rarely see picked stockpiles being repeatedly picked if the soils screening is implemented first.

This means that the subsequent picking duration is only 20-40% of the time required compared to the picking only option for every day where soil screening is implemented.

The pre-screening of soils with a throughput of 200 – 500t/day will significantly reduce the amount of time required for treating soil. For your information the processing speed is largely dictated by the type of soil, rather than degree of asbestos content. The reason for this is that soils with a high clay content do not separate as easily as granular (sandy) soils, they can block the screener and so need to be processed slowly, there is downtime if the screens need clearing and the picking station needs to be run at slower speeds to ensure that all visible asbestos is removed. We only see occasional incidental visible asbestos in soils that are formally accepted for treatment as shown in Table 2.

Table 1. Timescales for treating different soil types with screening and hand picking

Duration of treatment of 1,000t of ACM soil	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Hand Picking (50t/day) - cohesive																					
Screening (200t/day and hand picking - cohesive)																					
Hand Picking (75t/day) - granular																					
Screening (500t/day and hand picking - granular)																					

Screening
Hand Picking



Energy Use for Screener and Impact on Soil Treatment

We monitor the use of fuel in the mobile plant on site for the 360 excavators, soil screener, dump trucks and the generator that provides electrical power for the picking station.

Table 2 provides a comparison of fuel use for the different treatment options.

Table 2. Fuel Use During Soil Treatment

Method of Treatment	Fuel Use (litres per tonne of soil)	% fuel requirement due to pre-screening
Hand picking only - cohesive soils	5.24	-
Hand picking only - granular soils	3.41	-
Soil screening and hand picking - cohesive soils	1.98	38%
Soil screening and hand picking - granular soils	0.85	25%

As shown, the decrease in fuel consumption is related to implementing the soil screening as this significantly reduces the number of days required for the mobile plant to be operated for treating soil.

Asbestos Removed from Soil

The volumes of asbestos removed from soils are measured by the net weight of the asbestos skips removed from site, this also contains all the personal protective equipment (PPE) and respiratory protective equipment (RPE) that is bagged and placed into the asbestos skips. The disposal of the asbestos skips is recorded with the net weight of the skip completed by the hazardous landfill that has accepted the waste.

Table 3. Asbestos weights removed from soil

1 Jan 2022 - 30 June 2023	Soil Accepted (t)	Asbestos Disposal (t)	% of asbestos in soil
Edwin Richards Quarry	76,583	34.83	0.05%
Maw Green	39,596	8.76	0.02%
Total	116,179	43.59	0.04%

Whilst from the above table it could be concluded that there is an increase in asbestos removal efficiency at Edwin Richards Quarry, this has to be read in the context that each site receives soils with variable levels of asbestos debris. For Edwin Richards Quarry, due to the absence of soil screening, there is a significant increase in the amount of time that hand picking was taking place on site resulting in significantly more used PPE/RPE contained within the asbestos skips. What can however be concluded from Table 3 is that the amount of asbestos debris in soil treated at the facilities is very low.

Availability of a Full Enclosure for Soil Screener

When the pre-commencement condition at Edwin Richards Quarry was first introduced by the Environment Agency, we contacted a number of soil screener suppliers to establish if this was available. The responses in July 2021 were that they did not know of the availability of a full enclosure and highlighted concerns over the practical application of such an enclosure and the detrimental impact on the soil screener itself.

We repeated these enquiries and identified 18 different soil screener suppliers and brokers. A number declined to respond due to a lack of knowledge of a practical enclosure. Those that did respond have highlighted that there is no full enclosure available for soil screeners available. Those that had implemented partial enclosure of the conveyors had done so albeit on aggregate sites rather than for soil screening.

I have included all responses in Appendix A.

Use of a Building for Soil Treatment

We have reviewed the potential for a building for the soil treatment activities at the Maw Green and Daneshill sites. The building we reviewed is included in Appendix B. This is 96m x 40m (3,840m²) and ranges in height between approximately 7m – 10m in height to allow for stockpiling of soil and soil treatment internally.

We have experience of working inside a building at a site known as Edwin Richards Quarry. The building at Edwin Richards Quarry is approximately 50m x 45m (2,250m²) and approximately 13m in height. This also has an external storage area of 2,250m² for the reception and storage of asbestos in soils prior to treatment.

Whilst a lot of focus has been on the use of a building at Edwin Richards, the reason for using the building was dictated by the lack of available space elsewhere when FCC submitted a permit variation for asbestos in soil treatment in 2017. The use of the building has however provided us with five years' experience on the benefits and disadvantages of treating asbestos contaminated soils inside a building.

Table 4. A comparison of what we have experienced as benefits from operating inside a building

Benefits	Disadvantages
Weather proofing	Risks to operators from mobile plant operating in restricted space
Visual perception of risk management improvement	Accumulation of particulates from combustion of fuel by mobile plant
Security of plant	Embedded carbon for construction for temporary use
Reduction in potential noise	Energy use for lighting to achieve visibility during the working periods on site
	Maintenance costs for the building structure
	Restricted access to road haulage lorries delivering soils to the treatment facility and increased likelihood of queuing
	Significant cost for construction for a temporary operation being incompatible with overall business case for generating restoration soils for landfill completion
	Limits on flexibility for additional space to accommodate larger projects at shorter notice – which would otherwise be sent to landfill or further distances to alternate treatment sites
	Potential visual impact (height of 7-10m) to accommodate plant and back actor arms on top of stockpile

To establish if a soil treatment facility is viable for the production of treated soil for the restoration of the landfill, then there are three main factors we consider:

- The sites need to be located close to the market for contaminated soil. Contaminated soils arisings need to have low levels of contamination to ensure that they would be suitable for restoration use once treated.
- Ability to amortise any capital expenditure during the temporary operation of the soil treatment facility
- Planning determines that a soil treatment facility is a temporary appropriate use of land for generating soil for the restoration of the adjacent landfill

There are currently a number of restrictions that we have for establishing temporary soil treatment facilities that are key to the business case and any decision to proceed:

- NPS limits inputs of hazardous soil into the facility of 30,000t/yr otherwise the facility would require a Development Consent Order. This places a cap on the revenue and margin that can be generated at a hazardous soil treatment facility
- Unlike other hazardous wastes, contaminated soil will generate a far lower selling price per tonne, and this significantly limits the scope of contaminants that can be treated for reuse in the restoration areas of the landfill
- Unlike other commercial waste operations, no long term commercial contracts can be entered into for treatment of contaminated soils. There is a high degree of uncertainty in soil inputs is due to the short term period between construction projects encountering contaminated soil and then needing to dispose of it off-site

This means that there is a high degree of uncertainty in the feasibility for using a soil treatment facility as a means to create suitable soil for landfill restoration

The proposal for a building creates other issues that increase the risk of the soil treatment facility becoming non-viable for creating restoration soil. These include:

- Potential detrimental visual impact of a building that would range between 7.5 – 10m in height versus a 3m high soil stockpile covered in a tarpaulin
- Refusal of the proposals via planning consent due to suspicion of the creation of a new long term waste activity that would operate for a significant period of time after the restoration of the landfill is completed. This is a valid concern for both the operator and local stakeholders due to the cost of the building which may in fact require a far longer operating period than required for landfill restoration to amortise the capital expenditure for the building
- Uncertainty over the geotechnical suitability of areas next to an active landfill with differential settlement. This would mean that a more robust, and costly foundation solution could be required for supporting the treatment building, creating further financial risk and uncertainty over the viability of the temporary soil treatment facility.
- More restricted working areas compared to open pads, thereby reducing the capacity of treatment throughput and a longer term period required to generate restoration soils
- Requirement of a 3 phase electrical supply for the lighting, security doors and ventilation that may not be available close to the proposed building location

Specific Issues relating to Daneshill and Maw Green are included in Table 5

Table 5. Review of The Implications of a Building at Daneshill and Maw Green

Parameter	Daneshill	Maw Green
Restoration Duration	10 years	4 years
Visual impact	Anticipated impact on nearby sites adjacent to the landfill	Anticipated to be significant on nearby residential areas on Maw Green Road
Ground conditions	Will require significant ground improvement due to historic building foundations which are still present in the area proposed for the soil treatment facility	At the edge of an active landfill so would require a geotechnical solution to prevent failure of ground slab from landfill settlement adjacent to the building. Potential impact on the landfill from a high load bearing building on the landfill edge with potential impacts on waste settlement and gas/leachate recovery systems
Energy Use	Would require a new 3 phase electrical supply with significant energy use and potential risk of unintended light pollution from building openings at dusk near to adjacent woodland areas	Would require a new 3 phase electrical supply with significant energy use and potential light pollution at low ambient light conditions on nearby residential areas
Flood risk	Run off from a building would require attenuation and this is likely to comprise an above ground tank due to the high groundwater levels. This is not required if open pads are use as attenuation is achieved in the upper working layer of granular materials over the impermeable geosynthetic clay liner	Run off from a building would require attenuation in an associated tank that may be located above or below ground. This is not required if open pads are use as attenuation is achieved in the upper working layer of granular materials over the impermeable geosynthetic clay liner

It is for the reasons above that merchant soil treatment facilities for hazardous soil generally focus on treating soils with low levels of contamination that would not result in emissions that would require significant mitigation such as a building or other costly/permanent infrastructure.

The business case at Daneshill and Maw Green supports the treatment of soils for subsequent restoration use on external impermeable pads. No buildings are currently present that could be used in a similar way as the redundant building at Edwin Richards Quarry. The costs for the building (excluding foundations) are anticipated to be in excess of £500,000. The earthworks and foundation costs are provisional at this stage as no geotechnical investigation has taken place to confirm the foundation solution. However with the history of both Maw Green and Daneshill we would anticipate that significant ground improvement would be required and that foundation costs would be significant.

Neither Daneshill nor Maw Green have a business case that would support the costs of constructing a new building for temporary use for producing restoration soil for the landfill. If a building was required for the treatment of asbestos in soils then it is highly unlikely that the soil treatment facility could proceed.

Restrictions on Inputs/throughout and treated soil storage

The business case for the treatment of asbestos in soils requires that soils are quarantined and sampled prior to formal acceptance. The storage areas need to be aligned with the construction markets needs in

order to be of use for treating surplus soils. The quarantine time for soils is generally one week to allow reception analysis to be conducted.

For example, this means that for a 30,000t/yr treatment facility operational over 50 weeks of the year that an average of 600t/week would be required. However, it is rare that soils follow this exact trend as there are no regular waste soil streams that exist. Construction soils are project specific meaning a significant amount of limited activity with occasional periods of elevated inputs.

The permits issued for Daneshill and Maw Green are limited to 150t per day of soil inputs, 100t/day of soil treatment and a maximum storage of 1,000t (or 6 months) for treated soil. The treatment pads designed for Daneshill and Maw Green are based upon the annual soil tonnages and allow sufficient storage for the peaks and troughs of the construction market. The daily limits for inputs, storage and treatment render the majority of these pads (and any potential building) unusable. This would render the soil treatment facility commercially non-viable and so there is no potential to treat the soils from the local construction market in a cost effective manner.

If there is any further confirmation required on the points above, please do not hesitate in contacting me.

Regards



Jon Owens
Director

Appendix A – Screener Companies Responses

Louise Fox

From: Chris Brailsford <chris@cdpplant.co.uk>
Sent: 30 October 2023 14:41
To: Andy Stockton; Andy Clee
Cc: alan@cdpplant.co.uk
Subject: RE: soil screener
Attachments: Re: Enclosing tracked screening plants



Andy Stockton | STC Manager - Maw Green | Provectus Soils Management Limited

Andy Stockton andy.stockton@provectusgroup.com.

Hi Andy

Re your e mail below
Please see attached e mail back on May 23

Exerts from the attached e mail back in May 23 copied below
If you require this to be reworked in any way I am happy to cooperate fully, just let me know

Regarding our discussions re enclosing tracked screening plants

As discussed, we have attempted to enclose our screening plants in the past, but without much real success We ended up making the necessary brackets and fittings and had tarpaulin covers specially made to cover the conveyors, but they didn't last very long
The more difficult challenge was trying to cover the vibrating screen box, various attempts in this regard unfortunately proved not to be practical
The challenge in covering the entire plant was re exhaust fumes, and access to the plant, not to mention health & safety hazards
In any event, the loading or feeding of primary material into the screening plant hopper, plus the discharge of screened product off the stockpiling conveyors, would remain the main cause of airborne contaminants In 31+ years of specialising in the hire of mobile and fixed screening plants, we have not seen any successful solution, other than a dust extraction system in an enclosed space
We have screened most materials over many years including in buildings and have never come across a screening plant being fully enclosed.

Regards

Chris Brailsford
Managing Director

CDP Plant Ltd. is now in its 32nd trading year ☎ Phone 01246 586200 ☎ Mobile 07801 695171 ☎ Fax 01246 866541
✉ e-mail chris@cdpplant.co.uk www.cdpplant.co.uk

Managing Director Chris Brailsford founded CDP Plant Ltd. In 1992 so now in its 32nd trading year Having as group MD previously helped build a family business with a civil engineering company a contract crushing company and a plant hire company operating 500 plant items with over 600 employees. This business operated over 100 mobile screens of the Powerscreen brand and was the start Chris's experience with mobile screening plants.

CDP has always been essentially a plant hire company specialising in mobile screening plants. New plant sales have complimented the hire business. CDP have previously been a distributor for Keestrack and McCloskey. Following the financial crash in 2008 when the new screen market was not immune from the consequent downturn the decision was to diversify and the company supplied and installed over fifteen fixed waste recycling plants over a period of 4 years. The opportunity was then taken to become a distributor for Anaconda who had been a manufacturer of components for these plants and companies like McCloskey and CDE, and were well known to CDP, which own and operate a hire fleet of 25 plus mobile screens of various brands including Anaconda, CDP remain a committed partner for Anaconda International Ltd.



From: Andy Stockton <andy.stockton@provectusgroup.com>

Sent: Monday, October 30, 2023 2:07 PM

To: chris@cdpplant.co.uk

Subject: soil screener

Hi Chris, further to our phone conversation.

We are a soils management company that operate a number of soil treatment facilities with FCC Environment. We treat contaminated soils to decontaminated them to allow backfilling of their strategic quarry sites prior to development. One of the treatment options that we utilise is physical treatment of granular soils with inclusions of debris such as bound asbestos sheeting/wood/oversize concrete etc. We undertake pre-treatment of these soils with a three way screener to separate out the oversize, mid-range and fines prior to further treatment. We treat approximately 200,000t of soils using physical treatment per year on two of our permitted sites, the remainder are permitted for biological treatment which does not require a screener.

The Environment Agency has recently proposed new permit conditions on these sites and requires that the three way screener is fully enclosed, with all emissions being directed to an active abatement system with HEPA filter. We are not aware of screeners being fully enclosed during use, but as you supply screeners we were enquiring if you are able to supply/or have knowledge of such an enclosure that would work with your three way screeners. We currently have a need for two soil screeners with full enclosures on either a long term hire or purchase agreement.

Would it be possible to obtain a quote for either long term hire, or purchase of a three way screener and if available a full enclosure. If this enclosure is not something that you are aware of being available in the UK then could you state this in your proposal and provide a price only for the three way screener.

Could you please supply a budget price for the 8th November so that we can shortlist suitable suppliers for further meetings to refine overall costs and programme.

Many thanks,

Andy Stockton.



www.soilsuk.com

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Andy Stockton | STC Manager - Maw Green | Provectus Soils Management Limited

Regent House | Bath Avenue | Wolverhampton | WV1 4EG

email: andy.stockton@soilsuk.com mob: 07375 897379

Soil Treatment Facility Addresses:

Edwin Richards Soil Treatment Facility, Portway Road, Rowley Regis, B65 9DN

Maw Green Soil Treatment Facility, Maw Green Road, Crewe, CW1 5NG

Welbeck Soil Treatment Facility, Boundary Lane, Normanton, Wakefield, WF6 2JA

Registered office: Regent House | Bath Avenue | Wolverhampton | WV1 4EG

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Louise Fox

From: Andy Clee <Andy.Clee@provectusgroup.com>
Sent: 23 May 2023 20:28
To: chris@cdpplant.co.uk
Subject: Re: Enclosing tracked screening plants

Thanks Chris

That should do I think. I'll pass it on and any questions I'll let you know. Thank you

Sent from my iPhone

On 23 May 2023, at 18:52, Chris Brailsford <chris@cdpplant.co.uk> wrote:



23rd May 2023

Hi Andy

Re our discussions re enclosing tracked screening plants

As discussed, we have attempted to enclose our screening plants in the past, but without much real success

We ended up making the necessary brackets and fittings and had tarpaulin covers specially made to cover the conveyors, but they didn't last very long

The more difficult challenge was trying to cover the vibrating screen box, various attempts in this regard unfortunately proved not to be practical

The challenge in covering the entire plant was re exhaust fumes, and access to the plant, not to mention health & safety hazards

In any event, the loading or feeding of primary material into the screening plant hopper, plus the discharge of screened product off the stockpiling conveyors, would remain the main cause of airborne contaminants

In 31+ years of specialising in the hire of mobile and fixed screening plants, we have not seen any successful solution, other than a dust extraction system in an enclosed space

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Having as group MD previously helped build a family business with a civil engineering company a contract crushing company and a plant hire company

operating 500 plant items with over 600 employees. This business operated over 100 mobile screens of the Powerscreen brand and was the start Chris's experience with mobile screening plants.

CDP has always been essentially a plant hire company specialising in mobile screening plants. New plant sales have complimented the hire business. CDP have previously been a distributor for Kee-track and McCloskey. Following the financial crash in 2008 when the new screen market was not immune from the consequent downturn the decision was to diversify and the company supplied and installed over fifteen fixed waste recycling plants over a period of 4 years. The opportunity was then taken to become a distributor for Anaconda who had been a manufacturer of components for these plants and companies like McCloskey and CDE, and were well known to CDP, which own and operate a hire fleet of 25 plus mobile screens of various brands including Anaconda, CDP remain a committed Official Dealer for Anaconda International Ltd.

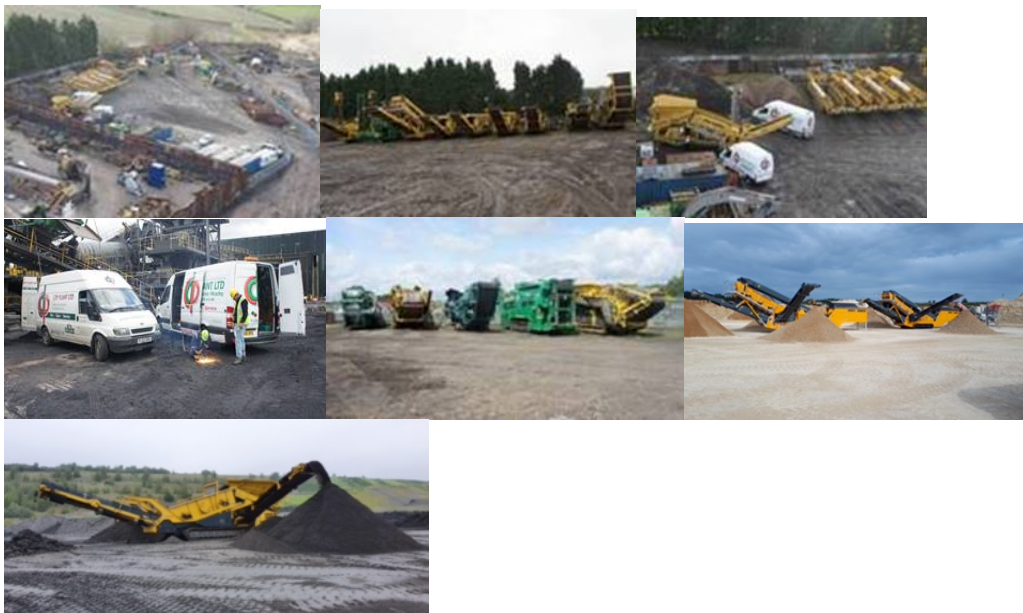
Regards

Chris Brailsford

CDP Plant Ltd. is now in its 31st trading year

☎ Phone 01246 586200 📱 Mobile 07801 695171 📠 Fax 01246 866541

✉ e-mail www.cdpplant.co.uk



Directors: C. Brailsford (Managing), F. C. Brailsford • Company Secretary: C. Brailsford
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Louise Fox

From: Jonathan Mills <jonathan.mills@casey.co.uk>
Sent: 01 November 2023 07:50
To: Andy Stockton
Cc: Dean Tinsley
Subject: Sceerners

Morning Andy

In response to our phone call yesterday, I don't know of any mobile screening plant that offers a solution for your needs.

The only option we could offer is a Powerscreen 1400 Warrior, we could retro fit covers to all the belts with heads drum cover with dust chutes, the screen deck we could also be fitted with a cover, additional to this we could also retro fit dust suppression spray bar to areas where material is dropping/creating dust.

Weekly hire rates based on long term hires £1500.00 per week

Thanks

Jon



Jonathan Mills
Director

T: 01706 641 010 | **DDI:** 01706 861 133 | **EXT:** 1213
M: 07717 895 065 | **E:** jonathan.mills@casey.co.uk



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Louise Fox

From: Hire Desk <hire@rockthorn.co.uk>
Sent: 01 November 2023 10:25
To: Andy Stockton
Subject: Re: Soil screener

Good Morning Andy,

Apologies for the late response. Unfortunately we've had no luck with regards to the enclosures that will suit the machine and works that are being carried out. However, we can assist with the Screeners for you. The prices below will be per unit per site.

Thank you for your valued enquiry, we have pleasure in offering the below quotation. If you have any further questions or wish to book, please feel free to contact a member of our team.

Services offered:

- Full range of contactors plant hire
- Powered access
- Waste management and skips
- Bulk Fuel Delivery
- Aggregate delivery and muck away
- Asset Finance
- Small Tools, fencing and ground care

Self-Drive Quotation:

To Supply:

Qty	Item	Duration	Price ex vat
1	3 Way Screeners	Per Week Hire	£1650
1	Delivery	Per visit	£1100
1	Collection	Per visit	£1100

This quotation is subject to CPA Model terms of hire October 2021 and HEA Conditions for hire and sale of goods to consumers and businesses, these are available on our website or can be supplied separately on request. Quotes are valid for 5 days following the date of this email.

Credit accounts are available on request and subject to acceptance. Please ask a member of the team for an application form

Non account customers are required to take out a loss and damage waiver at a cost of 19% of the hiring charges only, this does not apply to transport or fuel charges. Terms and conditions apply

ID Requirements for non-account holders. All items must be in the same name and address.

- Photographic identification in the form of a driving licence
- Recent utility bill in the name of the hirer, dated within the last 3 months
- Card payment in advance
- Landline and mobile telephone numbers

Please note that as of the 1st of April all machines will be run on white diesel in line with HMRC's change in law, details of which can be found on the HMRC website. As from the 1st of April all machines that are returned with red diesel (Marked fuel) in the tanks regardless of their previous use will be subject to a charge to remove this fuel and refill with white diesel. If you are working in an exempt sector, it is advised that you either send the machine back nearly empty or refill with white diesel prior to return.

Fuel currently charged at £2.25 plus vat per litre of usage, machines are supplied full of fuel on delivery and usage is chargeable. **Please note that due to the current market fluctuations this cost can change without notice.**

Payment in advance is required for a week's hire charges along with any consumable items, we also require a £500 per item refundable security deposit in advance of the hire start date. Hire charges are then debited automatically on a weekly basis in advance until the hire terminates, any over payments and deposits will be returned once the equipment is returned to the hiring depot, pending any fuel usage, damage or additional charges beyond fair wear and tear.

James Ford
Hire Desk Operations Manager
#havearockthornday

t. 0330 118 5030
e. james@rockthorn.co.uk
www.rockthorn.co.uk

Supporters of Historic England



On 30 Oct 2023, at 15:44, Andy Stockton <andy.stockton@provectusgroup.com> wrote:

Hi James,

It would be two screeners, one for each site. The measurements really are what is needed to fully enclose the machine. This isn't something we have had to comply with before and don't know of anyone else using this containment system, so it is new to us.

Thanks,

Andy.

<image001.jpg>

www.soilsuk.com

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Andy Stockton | STC Manager - Maw Green | Provectus Soils Management
Regent House | Bath Avenue | Wolverhampton | WV1 4EG
email: andy.stockton@soilsuk.com mob: 07375 897379
Soil Treatment Facility Addresses:
Edwin Richards Soil Treatment Facility, Portway Road, Rowley Regis, B65 9
Maw Green Soil Treatment Facility, Maw Green Road, Crewe, CW1 5NG
Welbeck Soil Treatment Facility, Boundary Lane, Normanton, Wakefield, W
Registered office: Regent House | Bath Avenue | Wolverhampton | WV1 4EG
Registered England & Wales: Company Number 12374795

From: Hire Desk <hire@rockthorn.co.uk>
Sent: Monday, October 30, 2023 3:36 PM
To: Andy Stockton <andy.stockton@provectusgroup.com>
Subject: Re: Soil screener

Hi Andy,

Thanks for the details. Would it be another unit on one of these 2 sites or one for each?

We're waiting to hear back from some of suppliers on the units and should hopefully have a quote for you in the morning. The enclosures you're needing may take a time longer as it's not something often that's been requested with these machines and we would need to be constructed to fit and suit each site. Do you have the measurements surrounding the unit (L x W x H) that you need to have spaced around the soil screener?

Thank You.

James Ford
Hire Desk Operations Manager
#havearockthornday
<image002.gif>

t. 0330 118 5030
e. james@rockthorn.co.uk
www.rockthorn.co.uk

Supporters of Historic England

<image003.png> <image004.png> <image005.png><image006.png> <image007.png>

On 30 Oct 2023, at 14:52, Andy Stockton <andy.stockton@provectusgroup.com> wrote:

Hi, thanks for getting back so promptly.

The two sites we currently use the screeners on, are at Edwin Richards Soil Treatment Facility, Portway road, Rowley Regis, B65 9DN and Maw Green Soil Treatment Facility, Maw Green Road, Crewe, CW1 5NG.

Many thanks,

Andy Stockton.

<image001.jpg>

www.soilsuk.com

 Please consider the environment before printing

Andy Stockton | STC Manager - Maw Green | Provectus Soils Management
Regent House | Bath Avenue | Wolverhampton | WV1 4EG
email: andy.stockton@soilsuk.com mob: 07375 897379
Soil Treatment Facility Addresses:
Edwin Richards Soil Treatment Facility, Portway Road, Rowley Regis
Maw Green Soil Treatment Facility, Maw Green Road, Crewe, CW1 5NG
Welbeck Soil Treatment Facility, Boundary Lane, Normanton, Wakefield
Registered office: Regent House | Bath Avenue | Wolverhampton | WV1 4EG
Registered England & Wales: Company Number 12374795

From: Hire Desk <hire@rockthorn.co.uk>
Sent: Monday, October 30, 2023 2:46 PM
To: Andy Stockton <andy.stockton@provectusgroup.com>
Subject: Re: Soil screener

Good Afternoon Andy,

Thank you for your email. We will look into this enquiry further for you, however can you confirm the full address as to where you will need the equipment please?

Thank You.

James Ford
Hire Desk Operations Manager
#havearockthornday
<image002.gif>

t. 0330 118 5030
e. james@rockthorn.co.uk
www.rockthorn.co.uk

Supporters of Historic England

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On 30 Oct 2023, at 14:41, Andy Stockton
<andy.stockton@provectusgroup.com> wrote:

Hi James, sales team, further to our phone conversation.

We are a soils management company that operate a number of soil treatment facilities with FCC Environment. We treat contaminated soils to decontaminated them to allow backfilling of their strategic quarry sites prior to development. One of the treatment options that we utilise is physical treatment of granular soils with inclusions of debris such as bound asbestos sheeting/wood/oversize concrete etc. We undertake pre-treatment of these soils with a three way screener to separate out the oversize, mid-range and fines prior to further treatment. We treat approximately 200,000t of soils using physical treatment per year on two of our permitted sites, the remainder are permitted for biological treatment which does not require a screener.

The Environment Agency has recently proposed new permit conditions on these sites and requires that the three way screener is fully enclosed, with all emissions being directed to an active abatement system with HEPA filter. We are not aware of screeners being fully enclosed during use, but as you supply screeners we were enquiring if you are able to supply/or have knowledge of such an enclosure that would work with your three way screeners. We currently have a need for two soil screeners with full enclosures on either a long term hire or purchase agreement.

Would it be possible to obtain a quote for either long term hire, or purchase of a three way screener and if available a full enclosure. If this enclosure is not something that you are aware of being

available in the UK then could you state this in your proposal and provide a price only for the three way screener.

Could you please supply a budget price for the 8th November so that we can shortlist suitable suppliers for further meetings to refine overall costs and programme.

Many thanks,

Andy Stockton.

<image001.jpg>

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Andy Stockton | STC Manager - Maw Green | Provectus So
Regent House | Bath Avenue | Wolverhampton | WV1 4EG
email: andy.stockton@soilsuk.com mob: 07375 897379
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Registered in England No 4418196. Registered office: Regent House, Bath Avenue, Wolverhampton WV1 4EG
Tel: 01902 810084

Louise Fox

From: Patrick Donnelly <patrick@earthequipment.co.uk>
Sent: 03 November 2023 07:56
To: Andy Stockton
Subject: Re: Soil screener

Morning Andy ,thank you for your enquiry .

We have never been asked to enclose completely a mobile screening unit .

To contain dust and hazardous particles ,we can cover conveyors

We do cover individual conveyors ,to prevent dust escaping ,and lights (ie lights plastics paper from blowing off conveyors)

To cover mobile screen completely ,would be very difficult ,as we need clean air source for air filters and engines ,electric motors on our screening units .

Completely enclosed would create a dust box .

Our advice would be cover conveyors .

Regards

Patrick Donnelly

Patrick Donnelly

Company Director

07973 197 984 01483 570603

patrick@earthequipment.co.uk

www.earthequipment.co.uk

Lowfield Heath, Lyne Crossing Rd,
Chertsey, Surrey, KT16 0AT



For Hire
01483 5

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On 31 Oct 2023, at 12:55, Andy Stockton <andy.stockton@provectusgroup.com> wrote:

Hi Team Earth Equipment.

We are a soils management company that operate a number of soil treatment facilities with FCC Environment. We treat contaminated soils to decontaminated them to allow backfilling of their strategic quarry sites prior to development. One of the treatment options that we utilise is physical treatment of granular soils with inclusions of debris such as bound asbestos sheeting/wood/oversize concrete etc. We undertake pre-treatment of these soils with a three way screener to separate out the oversize, mid-range and fines prior to further treatment. We treat approximately 200,000t of soils using physical treatment per year on two of our permitted sites, the remainder are permitted for biological treatment which does not require a screener.

The Environment Agency has recently proposed new permit conditions on these sites and requires that the three way screener is fully enclosed, with all emissions being directed to an active abatement system with HEPA filter. We are not aware of screeners being fully enclosed during use, but as you supply screeners we were enquiring if you are able to supply/or have knowledge of such an enclosure that would work with your three way screeners. We currently have a need for two soil screeners with full enclosures on either a long term hire or purchase agreement.

Would it be possible to obtain a quote for either long term hire, or purchase of a three way screener and if available a full enclosure. If this enclosure is not something that you are aware of being available in the UK then could you state this in your proposal and provide a price only for the three way screener.

Could you please supply a budget price for the 8th November so that we can shortlist suitable suppliers for further meetings to refine overall costs and programme.

Many thanks,

Andy Stockton.

<image001.jpg>

www.soilsuk.com

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Andy Stockton | STC Manager - Maw Green | Provectus Soils Management

Regent House | Bath Avenue | Wolverhampton | WV1 4EG

email: andy.stockton@soilsuk.com mob: 07375 897379

Soil Treatment Facility Addresses:

Edwin Richards Soil Treatment Facility, Portway Road, Rowley Regis, B65 9

Maw Green Soil Treatment Facility, Maw Green Road, Crewe, CW1 5NG

Welbeck Soil Treatment Facility, Boundary Lane, Normanton, Wakefield, W

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Louise Fox

From: Dave Hill <dhill@molsongroup.co.uk>
Sent: 08 November 2023 21:28
To: Andy Stockton
Subject: Enclosed Screener

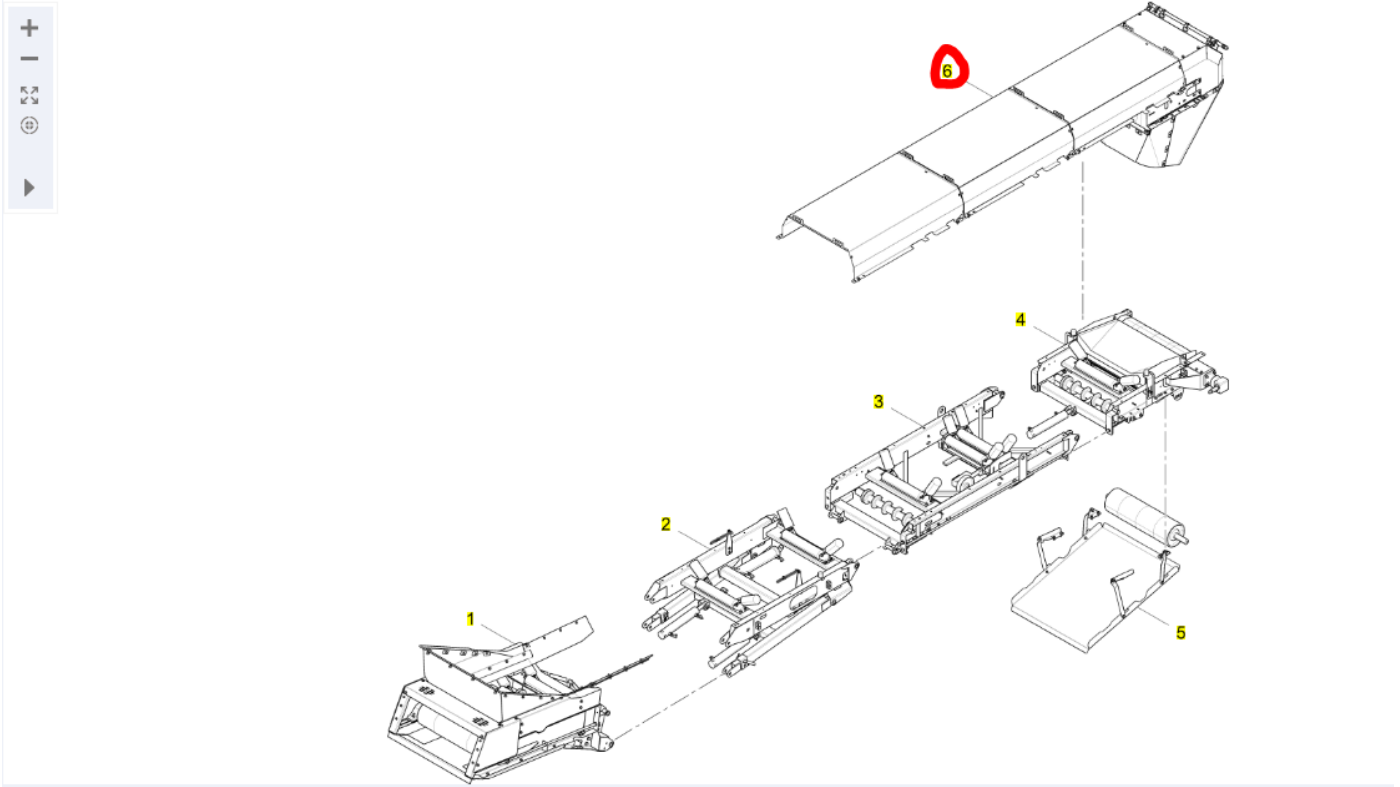
Good Afternoon Andy

Following our phone conversations regarding your enquiry. You are looking for a fully enclosed Mobile Screener to process your contaminated soil via an air filtration system.

Unfortunately this isn't a mobile machine that I feel actually exists from any manufacturer, I can offer tailored machines that have Dust suppression systems and tunneled conveyors to reduce airborne particles to a degree. These systems on mobile plant only reduce, they cannot contain all particles.

As an example I can supply a mobile plant with tunneled Mid and Fine product side conveyors as per the image below (item 6), along with dust suppression. We can add the chute at the end of the conveyor to control the falling material if required.

10-04-01 FINES CONVEYOR OVERVIEW



Molson's go that extra mile with bespoke additions for machinery in addition to what the manufacturer can offer. If you have specific designs we would be happy to explore your ideas and tailor our products to suit. Be aware that any mobile crusher or screen plant would have limitations to practically filter their working environment due to the nature of the process.

Molson's would very much like to be involved with your project and would be happy to quote you for a Screen machine from our large range available.

Please advise if you have any further questions or would require a quotation.



I look forward to hearing from you.

Kind Regards

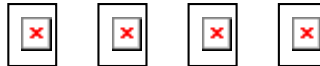
Dave Hill

DAVE HILL
SALES MANAGER



 07514 492 552
 dhill@molsongroup.co.uk

MOLSONGROUP.CO.UK



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Louise Fox

From: Paul Thorne <Paul@scgsupplies.co.uk>
Sent: 10 November 2023 11:41
To: Andy Clee
Subject: Fwd: Soil Screener

Hello Andy,
I've copied you into this as Andy Stockton is on leave FYI.
Again, apologies for the late reply.
I may have a solution for you (not an enclosed screen) if you can give me a call.

Thanks

Paul J Thorne
Director
SCG Supplies Ltd

Begin forwarded message:

From: Paul Thorne <Paul@scgsupplies.co.uk>
Date: 10 November 2023 at 11:34:57 GMT
To: Andy Stockton <andy.stockton@provectusgroup.com>
Subject: Re: Soil Screener

Hello Andy,
Please accept my apologies for the late response on this.
Having researched the market, I'm afraid I cannot find a screen that fits this "fully enclosed" description.
Could you let me know if you find such a machine, as a professional point of interest.
Thanks

Paul J Thorne
Director
SCG Supplies Ltd

On 30 Oct 2023, at 14:16, Andy Stockton <andy.stockton@provectusgroup.com> wrote:

Hi Paul, further to our phone conversation.

We are a soils management company that operate a number of soil treatment facilities with FCC Environment. We treat contaminated soils to decontaminated them to allow backfilling of their strategic quarry sites prior to development. One of the treatment options that we utilise is physical treatment of granular soils with inclusions of debris such as bound asbestos sheeting/wood/oversize concrete

etc. We undertake pre-treatment of these soils with a three way screener to separate out the oversize, mid-range and fines prior to further treatment. We treat approximately 200,000t of soils using physical treatment per year on two of our permitted sites, the remainder are permitted for biological treatment which does not require a screener.

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Could you please supply a budget price for the 8th November so that we can shortlist suitable suppliers for further meetings to refine overall costs and programme.

Many thanks,

Andy Stockton.



www.soilsuk.com

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Andy Stockton | STC Manager - Maw Green | Provectus Soils Management
Regent House | Bath Avenue | Wolverhampton | WV1 4EG
email: andy.stockton@soilsuk.com mob: 07375 897379

Soil Treatment Facility Addresses:

Edwin Richards Soil Treatment Facility, Portway Road, Rowley Regis, West Midlands, B67 7JG
Maw Green Soil Treatment Facility, Maw Green Road, Crewe, Cheshire, CW1 4JG
Welbeck Soil Treatment Facility, Boundary Lane, Normanton, West Yorkshire, WF1 4JG

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Louise Fox

From: Harry Ashworth <Harry.Ashworth@bluegroup.co.uk>
Sent: 21 November 2023 18:30
To: Andy Stockton; Andy Clee
Subject: RE: [External] Soil screener
Attachments: Powerscreen Condensed Range Brochure 2022 EN.pdf

Hi both, hope you are well, apologies for the delay in response, for some reason there was a delay in us getting the original enquiry through the website.

As per our phone conversation last week Andy there really isn't such thing as a self contained screening unit, really the only option would be building a shed around the machine which just isn't practical or I'm sure financially viable, I'd say it would be unreasonable to be expected on all sites!

I will follow up with pricing on new units for your budget next year, in the meantime see attached brochure, previously we priced up Warrior 1400x & Warrior 1400xe, would that still be the best machines to price for?

Thanks again for contacting and look forward to working together closely in the future.

Thanks, Harry.

Harry Ashworth
Area Sales Manager

Blue Machinery (Central) Ltd
New Cheshire Business Park,
Wincham Lane, Wincham,
Northwich, Cheshire
CW9 6GG

T [01606 261262](tel:01606261262)
F [01606 41068](tel:0160641068)
M [07885 367 439](tel:07885367439)

BlueCare consists of three new aftersales products titled: **Monitor, Maintain & Manage**. Get in touch and find out how we can add more value to your aftermarket packages.

T: [01606 261262](tel:01606261262)
E: bluecentralaftersales@bluegroup.co.uk



bluecare
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From: Andy Stockton <>
Sent: Tuesday, October 31, 2023 1:19 PM
To: Blue Group Sales <sales@bluegroup.co.uk>
Subject: [External] Soil screener

Hi Team Blue.

We are a soils management company that operate a number of soil treatment facilities with FCC Environment. We treat contaminated soils to decontaminated them to allow backfilling of their strategic quarry sites prior to

development. One of the treatment options that we utilise is physical treatment of granular soils with inclusions of debris such as bound asbestos sheeting/wood/oversize concrete etc. We undertake pre-treatment of these soils with a three way screener to separate out the oversize, mid-range and fines prior to further treatment. We treat approximately 200,000t of soils using physical treatment per year on two of our permitted sites, the remainder are permitted for biological treatment which does not require a screener.

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Could you please supply a budget price for the 8th November so that we can shortlist suitable suppliers for further meetings to refine overall costs and programme.

Many thanks,

Andy Stockton.



www.soilsuk.com

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Andy Stockton | STC Manager - Maw Green | Provectus Soils Management Limited

Regent House | Bath Avenue | Wolverhampton | WV1 4EG

email: andy.stockton@soilsuk.com mob: 07375 897379

Soil Treatment Facility Addresses:

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POWERSCREEN® CRUSHING & SCREENING RANGE



www.powerscreen.com



KNOWLEDGE IS POWER

Welcome to the world of Powerscreen.
Proud of our past, excited for our future.

Powerscreen® means different things to different people. For some, it means robust and reliable crushing and screening equipment, designed, built and supported by passionate experts. For others, Powerscreen signifies a vast legacy of experience and knowledge used to develop a safer, more efficient working environment for all.

One of Powerscreen's most important strengths is our Global Dealer Network. 120 companies working tirelessly worldwide to support our customers. From your first machine purchase through to technical support, servicing and provision of spare parts, Powerscreen and our Global Dealer Network are on hand to help.

We are committed to helping you and your business. With industry leading levels of productivity, efficiency, ease of maintenance and inbuilt operational and safety features, our proven range of equipment is designed to maximize our customers return on investment.

We provide and support you with fast access to parts and technical solutions for service issues, and clear, concise, effective customer centered operator and technician training.



Find your local Powerscreen dealer at
www.powerscreen.com

POWERSCREEN CRUSHING RANGE

Jaw Crusher Range

Powerscreen jaw crushers are designed to exceed the primary crushing needs of customers in the mining, quarrying and recycling industries. These machines are amongst the most advanced and reliable in the market and are highly productive in a variety of applications.

MACHINES IN THIS RANGE INCLUDE:

- Metrotrak
- Premiertrak 330
- Premiertrak 400X / R400X
- Premiertrak 420E
- Premiertrak 600 / 600E
- Premiertrak 760 (Tier 3 regions only)



Impactor Crusher Range

The Powerscreen Impact crusher range is ideal for shaping applications including making chips, sand, concrete manufacture, and glass recycling. The range includes both horizontal and vertical impact crushers.

MACHINES IN THIS RANGE INCLUDE:

- Trakpactor 230
- Trakpactor 230SR
- Trakpactor 260
- Trakpactor 260SR
- Trakpactor 290
- Trakpactor 290SR
- Trakpactor 320
- Trakpactor 320SR
- Trakpactor 550
- Trakpactor 550SR
- XV350 (Vertical Shaft Impactor)



Cone Crusher Range

Powerscreen cone crushers use attrition to crush materials for the production of a cubical end product. They are ideally suited to secondary, tertiary or quaternary applications.

MACHINES IN THIS RANGE INCLUDE:

- 1000 Maxtrak
- 1000SR
- 1000E Maxtrak
- 1150 Maxtrak
- 1150 Maxtrak Pre-Screen
- 1300 Maxtrak
- 1400 Maxtrak







JAW RANGE

		
<p>Metrotrak</p> <p>Ideal for: Primary crushing, virgin rock applications, contract crushing</p> <p>Output: 200tph (220 US tph)*</p> <p>Hopper Capacity: 3.6m³ (4.7 cu. yd)</p> <p>Crusher: 900mm x 600mm (35" x 24")</p> <p>Power Unit: Tier 3: John Deere 4045 126kW (169hp) Tier 4F/Stage IV: CAT C4.4 129kW (173hp) Stage V: CAT C4.4 129kW (173hp)</p> <p>Weight: 28,000kg (61,729lbs) - Tier 4F, VGF, Bypass Conveyor, Twin Pole Magnet</p>	<p>Premiertrak 330</p> <p>Ideal for: Primary crushing, virgin rock applications, contract crushing</p> <p>Output: 280tph (308 US tph)*</p> <p>Hopper Capacity: 5m³ (6.5 cu. yd)</p> <p>Crusher: 1000mm x 600mm (39" x 24")</p> <p>Power Unit: Tier 3: John Deere 6068 212kW (284hp) Tier 4F/Stage IV: CAT C7.1 205kW (275hp) Stage V: CAT C7.1 205kW (275hp)</p> <p>Weight: 34,860kg (76,853lbs) - Single Pole Magnet, Hopper Extensions & Bypass Conveyor</p>	<p>Premiertrak 400X / R400X</p> <p>Ideal for: Primary crushing, virgin rock applications, contract crushing</p> <p>Output: 400tph (440 US tph)</p> <p>Hopper Capacity: 10m³ (13 cu. yd)</p> <p>Crusher: 1100mm x 700mm (44" x 28")</p> <p>Power Unit: Tier 3: CAT C9.3 230kW (308hp) Tier 4F/Stage IV: Scania DC9 202kW (271hp)/Stage V: Scania DC9 202kW (271hp)</p> <p>Weight: 46,650kg (102,846lbs) - Tier 4F VGF, Bypass Conveyor & Single Pole Magnet</p>
		
<p>Premiertrak 420E</p> <p>Ideal for: Primary crushing, virgin rock applications, contract crushing</p> <p>Output: 420tph (463 US tph)*</p> <p>Hopper Capacity: 9m³ (11.7 cu. yd)</p> <p>Crusher: 1070mm x 760mm (42" x 30")</p> <p>Power Unit (On-Board Generator): Tier 2: Scania DC9 257kW (350hp) Tier 4F/Stage IV: Scania DC9 257kW (350hp) Stage V: Scania DC9 257kW (350hp)</p> <p>Power Unit (Direct Plug In C/W Transport Engine): Tier 3: CAT C4.4 97kW (130hp) Stage V: CAT C4.4 102kW (137hp)</p> <p>Weight: 56,500kg (124,561lbs) - Bypass Conveyor & Magnet</p>	<p>Premiertrak 600/600E</p> <p>Ideal for: Large scale operations in quarrying and mining applications</p> <p>Output: 600tph (661 US tph)*</p> <p>Hopper Capacity: 9.3m³ (12.2 cu. yd)</p> <p>Crusher: 1200mm x 820mm (47" x 32")</p> <p>Power Unit: (Premiertrak 600) Tier 3: CAT C13 328kW (440hp) Tier 4F/Stage IV: Scania DC13 331kW (444hp) Stage V: Scania DC13 331kW (444hp)</p> <p>Power Unit: (Premiertrak 600E C/W On-Board Generator) Tier 2: Scania DC13 331kW (444hp) Tier 4F / Stage V: Scania DC13 331kW (444hp)</p> <p>Weight: 68,875kg (151,843lbs) - Premiertrak 600</p>	<p>Premiertrak 760</p> <p>Ideal for: Large scale operations in quarrying and mining applications</p> <p>Output: 750tph (827 US tph)*</p> <p>Hopper Capacity: 10m³ (13 cu. yd)</p> <p>Crusher: 1415mm x 820mm (55" x 32")</p> <p>Power Unit: Tier 3: CAT C13 287kW (385hp)</p> <p>Weight: 83,450kg (183,976lbs) - Bypass Conveyor & Twin Pole Magnet</p>


*Depends on application




IMPACTOR RANGE

		
Traktractor 230	Traktractor 230SR	Traktractor 260
Ideal for: Recycling, demolition, quarrying and aggregate production	Ideal for: Recycling, demolition, quarrying and aggregate production	Ideal for: Recycling, demolition, quarrying and aggregate production
Output: 250tph (275 US tph)* Hopper Capacity: 2.6m ³ (3.4 cu. yd) Crusher: 860mm x 720mm (34" x 28") feed opening Power Unit: Tier 3: John Deere 6068 194kW (260hp) Tier 4F/Stage IV: Volvo D8 210kW (281p) Stage V: Volvo D8 210kW (281p) Weight: 24,000kg (52,911lbs) - Tier 4F Standard Unit	Output: 250tph (275 US tph)* Hopper Capacity: 2.6m ³ (3.4 cu. yd) Crusher: 860mm x 720mm (34" x 28") feed opening Power Unit: Tier 3: John Deere 6068 194kW (260hp) Tier 4F/Stage IV: Volvo D8 210kW (281p) Stage V: Volvo D8 210kW (281p) Weight: 29,300kg (64,595lbs) - Tier 4F Standard Unit	Output: 250tph (275 US tph)* Hopper Capacity: 2.3m ³ (3 cu. yd) Crusher: 860mm x 610mm (34" x 24") feed opening Power Unit: Tier 3: CAT C7.1 186kW (250hp) Tier 4F/Stage IV: CAT C7.1 205kW (275p) Stage V: CAT C7.1 205kW (275p) Weight: 25,750kg (56,769lbs) - Tier 4F Bypass Conveyor & Twin Pole Magnet

	
Traktractor 260SR	Traktractor 290
Ideal for: Recycling, demolition, quarrying and aggregate production	Ideal for: Recycling, demolition, quarrying and aggregate production
Output: 250tph (275 US tph)* Hopper Capacity: 2.3m ³ (3 cu. yd) Crusher: 860mm x 610mm (34" x 24") feed opening Power Unit: Tier 3: CAT C7.1 186kW (250hp) Tier 4F/Stage IV: CAT C7.1 205kW (275p) Stage V: CAT C7.1 205kW (275p) Weight: 33,950kg (74,847lbs) - Tier 4F Underpan & Twin Pole Magnet	Output: 290tph (320 US tph)* Hopper Capacity: 3.3m ³ (4.3 cu. yd) Crusher: 1030mm x 790mm (41" x 31") feed opening Power Unit: Tier 3: Volvo D8 235kW (315hp) Tier 4F/Stage IV: Volvo D8 235kW (315hp) Stage V: Volvo D8 235kW (315hp) Weight: 28,700kg (63,273lbs) - Tier 4F Standard Unit





IMPACTOR RANGE


		
Traktractor 290SR	Traktractor 320	Traktractor 320SR
Ideal for: Recycling, demolition, quarrying and aggregate production	Ideal for: Recycling, demolition, quarrying and aggregate production	Ideal for: Recycling, demolition, quarrying and aggregate production
Output: 290tph (320 US tph)* Hopper Capacity: 3.3m ³ (4.3 cu. yd) Crusher: 1030mm x 790mm (41" x 31") feed opening Power Unit: Tier 3: Volvo D8 235kW (315hp) Tier 4F/Stage IV: Volvo D8 235kW (315hp) Stage V: Volvo D8 235kW (315hp) Weight: 34,200kg (75,398lbs) - Tier 4F Standard Unit	Output: 320tph (353 US tph)* Hopper Capacity: 6.25m ³ (8.2 cu. yd) Crusher: 1130mm x 800mm (44.5" x 31.5") feed opening Power Unit: Tier 3: CAT C9.3 250kW (335hp) Tier 4F/Stage IV: Scania DC9 257kW (350hp) Stage V: Scania DC9 257kW (350hp) Weight: 38,160kg (84,128lbs) - Tier 4F, Pre-Screen, Bypass Conveyor, Single Pole Magnet, Hopper Extensions	Output: 320tph (353 US tph)* Hopper Capacity: 6.25m ³ (8.2 cu. yd) Crusher: 1130mm x 800mm (44.5" x 31.5") feed opening Power Unit: Tier 3: CAT C9.3 250kW (335hp) Tier 4F/Stage IV: Scania DC9 257kW (350hp) Stage V: Scania DC9 257kW (350hp) Weight: 51,000kg (112,436lbs) - Tier 4F, Pre-Screen, Extended Bypass Conveyor, Single Pole Magnet, Hydraulic Folding Mid Section, 4 High Blow Bars

		
Traktractor 550	Traktractor 550SR	XV350
Ideal for: Recycling, demolition, quarrying and aggregate production	Ideal for: Recycling, demolition, quarrying and aggregate production	Ideal for: Producing high specification products, road building, concrete manufacturing, manufacturing of sand and glass recycling
Output: 500tph (550 US tph)* Hopper Capacity: 7m ³ (9.2 cu. yd) Crusher: 1370mm x 911mm (54" x 36") feed opening Power Unit: Tier 3: CAT C13 328kW (440hp) Tier 4F/Stage IV: Scania DC13 368kW (494hp) Stage V: Scania DC13 368kW (494hp) Weight: 57,450kg (126,656lbs) - Tier 4F, Pre-Screen, Bypass Conveyor, Single Pole Magnet, Hopper Extensions	Output: 500tph (550 US tph)* Hopper Capacity: 7m ³ (9.2 cu. yd) Crusher: 1370mm x 911mm (54" x 36") feed opening Power Unit: Tier 3: CAT C13 328kW (440hp) Tier 4F/Stage IV: Scania DC13 368kW (494hp) Stage V: Scania DC13 368kW (494hp) Weight: 72,000kg (158,733lbs) - Tier 4F, Pre-Screen, Bypass Conveyor, Single Pole Magnet, Hopper Extensions, Underpan	Output: 350tph (386 US tph)* Hopper Capacity: 7m ³ (9.2 cu. yd) Crusher: Terex® 2050 GD Vertical Shaft Impactor (VSI) Power Unit: Tier 3: CAT C13 ACERT 328kW (440hp) Tier 4F/Stage IV: Scania DC13 331kW (450hp) Stage V: Scania DC13 331kW (450hp) Weight: 36,900kg (81,350lbs) - Standard Unit

*Depends on application

CONE RANGE

			
1000 Maxtrak	1000SR	1000E Maxtrak	1150 Maxtrak
Ideal for: Secondary and tertiary applications, aggregate production	Ideal for: Secondary and tertiary applications, aggregate production, with post screening capability	Ideal for: Secondary and tertiary applications, aggregate production	Ideal for: Secondary and tertiary applications, aggregate production
Output: 230tph (253 US tph)* Hopper Capacity: 4.4m ³ (5.8 cu. yd) Crusher: 1000 Automax [®] cone crusher with all roller bearing design. Power Unit: Tier 3: CAT C9.3 250kW (335hp) Tier 4F/Stage IV: Scania DC9 257kW (350hp) Stage V: Scania DC9 257kW (350hp) Weight: 31,820kg (70,151lbs) - Tier 4F Standard Unit	Output: 230tph (253 US tph)* Hopper Capacity: 4.4m ³ (5.8 cu. yd) Crusher: 1000 Automax [®] cone crusher with all roller bearing design. Power Unit: Tier 3: CAT C9.3 250kW (335hp) Tier 4F/Stage IV: Scania DC9 257kW (350hp) Stage V: Scania DC9 257kW (350hp) Weight: 40,800kg (89,949lbs) - Tier 4F Standard Unit	Output: 230tph (253 US tph)* Hopper Capacity: 5m ³ (6.5 cu. yd) Crusher: 1000 Automax [®] cone crusher with all roller bearing design. Power Unit (On-Board Generator): Tier 2: Scania DC9 257kW (350hp) Tier 4F/Stage IV: Scania DC9 257kW (350hp) Stage V: Scania DC9 257kW (350hp) Power Unit (Direct Plug In C/W Transport Engine): Tier 3: CAT C4.4 97kW (130hp) Tier 4F/Stage V: CAT C4.4 102kW (137hp) Weight: 45,320kg (99,914lbs) - With Pre-Screen	Output: 300tph (330 US tph)* Hopper Capacity: 6m ³ (7.8 cu. yd) Crusher: 1150 Automax [®] cone crusher with all roller bearing design. Power Unit: Tier 3: CAT C13.328kW (440hp) Tier 4F/Stage IV: Scania DC13 331kW (444hp) Stage V: Scania DC13 331kW (444hp) Weight: 43,000kg (94,799lbs) - Tier 4F Standard Unit

		
1150 Pre-Screen Maxtrak	1300 Maxtrak	1400 Maxtrak
Ideal for: Secondary and tertiary applications, aggregate production, with pre-screen product removal for increased productivity	Ideal for: Secondary application, Virgin Rock, aggregate production	Ideal for: Aggregate production, virgin rock, river gravel, secondary application
Output: 300tph (330 US tph)* Hopper Capacity: 6m ³ (7.8 cu. yd) Crusher: 1150 Automax [®] cone crusher with all roller bearing design. Power Unit: Tier 3: CAT C13 328kW (440hp) Tier 4F/Stage IV: Scania DC13 331kW (444hp) Stage V: Scania DC13 331kW (444hp) Weight: 52,020kg (114,684lbs) - Tier 4F, Pre-Screen Side Conveyor	Output: 350tph (386 US tph)* Hopper Capacity: 7m ³ (9.1 cu. yd) Crusher: 1300 Automax [®] cone crusher with all roller bearing design. Power Unit: Tier 3: CAT C13 328kW (440hp) Tier 4F/Stage IV: Scania DC13 331kW (444hp) Stage V: Scania DC13 331kW (444hp) Weight: 48,300kg (106,483lbs) - Tier 4F Standard Unit	Output: 590tph (650 US tph)* Hopper Capacity: 8m ³ (10.4 cu. yd) Crusher: Terex M/P 450X Cone Crusher Power Unit: Tier 2: CAT C18 571kW (765hp) Weight: 60,260kg (132,851lbs) - Standard Unit

POWERSCREEN SCREENING RANGE

Chieftain Screen Range

The Powerscreen[®] Chieftain range of mobile incline screens are designed for the processing of aggregates and sand. All Chieftain machines are designed to be easily transported, set-up, operated and maintained.

MACHINES IN THIS RANGE INCLUDE:

- Chieftain 1400
- Chieftain 1500
- Chieftain 1700X (2 & 3 deck)
- Chieftain 2100X/E (2 & 3 deck)
- Chieftain 2200 (2 & 3 deck)

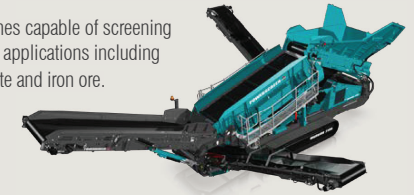


Warrior Screen Range

The Powerscreen[®] Warrior range are high capacity, heavy duty, versatile machines capable of screening and separating a wide variety of material in the most difficult and demanding of applications including recycling, aggregates, compost, topsoil, coal, construction and demolition waste and iron ore.

MACHINES IN THIS RANGE INCLUDE:

- Warrior 800
- Warrior 1200
- Warrior 1400X/1400XE
- Warrior 1800
- Warrior 2100
- Warrior 2100 Spaleck
- Warrior 2100 Single Shaft
- Warrior 2400



Titan Screen Range

The Powerscreen Titan range fulfills the need for a secondary scalper range and provides a cost effective solution in high volume applications where all of the features of the equivalent Warrior model may not be required. Effective in aggregates, biomass, C&D waste & recycling.

MACHINES IN THIS RANGE INCLUDE:

- Titan 600
- Titan 1300
- Titan 2300



Horizontal Screening Range

The Powerscreen additional screen range includes models H6203, H6203R and Powertrak 750. The H6203 and H6203R machines are ideal for handling high volumes of sticky materials and are ideally suited to applications such as natural and crushed aggregate whilst the Powertrak 750 is a self-contained high capacity mobile scalping unit.




MACHINES IN THIS RANGE INCLUDE:



- H6203
- H6203R
- Powertrak 750







*Depends on application





CHIEFTAIN SCREEN RANGE

		
Chieftain 1400 (2 deck)	Chieftain 1500 (3 deck)	Chieftain 1700X (2 & 3 deck)
Ideal for: Fine screening, crushed rock, sand and gravel, recycling applications	Ideal for: Fine screening, crushed rock, sand and gravel, recycling applications	Ideal for: Fine screening, crushed rock, sand and gravel, recycling applications
Output: 400tph (441 US tph)* Hopper Size: 5.35m ³ (7.1 cu. yd) Screenbox: 3.3m x 1.5m (11' x 5) Power Unit: Tier 3: CAT C4.4 83kw (111hp) Tier 4f/Stage IV: CAT C4.4 82kW (110hp) Stage V: CAT C4.4 102kW (137hp) Weight: 24,970kg (55,049lbs)	Output: 400tph (441 US tph)* Hopper Size: 6.64m ³ (8.68 cu. yd) Screenbox: 3.66m x 1.52m (12' x 5) Power Unit: Tier 3: CAT C4.4 77kw (103hp) Tier 4f/Stage IV: CAT C4.4 82kW (110hp) Stage V: CAT C4.4 98kW (131hp) Weight: 28,000kg (61,729lbs)	Output: 500tph (551 US tph)* Hopper Size: 5.35m ³ (7.1 cu. yd) Screenbox: 4.8m x 1.5m (16' x 5) Power Unit: Tier 3: CAT C4.4 77kw (103hp) Tier 4f/Stage IV: CAT C4.4 82kW (110hp) Stage V: CAT C4.4 102kW (137hp) Weight: 30.516kg (67,276lbs)
Available with Dual Power		(Data above is for a 3 Deck unit - 2 Deck unit may be different) Available with Dual Power

	
Chieftain 2100X/XE (2 & 3 deck)	Chieftain 2200 (2 & 3 deck)
Ideal for: Fine screening, crushed rock, sand and gravel, recycling applications	Ideal for: Fine screening, crushed rock, sand and gravel, recycling applications
Output: 600tph (661 US tph)* Hopper Size: 6.9m ³ (9 cu. yd) Screenbox: 6.1m x 1.55m (20' x 5) Power Unit: Tier 3: CAT C4.4 97kw (130hp) Tier 4f/Stage IV: CAT C4.4 98kW (131hp) Stage V: CAT C4.4 102kW (137hp) Power Unit XE (Requires an external power supply - engine for track & fold only): Tier 3: CAT C4.4 45kw (60hp) Tier 4f/Stage IV: CAT C2.2 55kW (74hp) Stage V: CAT C2.2 55kW (74hp) Weight: 37,400kg (82,453lbs)	Output: 700tph (772 US tph)* Hopper Size: 6.9m ³ (9 cu. yd) Screenbox: 6.7m x 1.55m (22' x 5) Power Unit: Tier 3: CAT C4.4 97kw (130hp) Tier 4f/Stage IV: CAT C4.4 98kW (131hp) Stage V: CAT C4.4 102kW (137hp) Weight: 39,500kg (87,093lbs)
(Data above is for a 3 Deck unit - 2 Deck unit may be different) Available with Dual Power	(Data above is for a 3 Deck unit - 2 Deck unit may be different) Available with Dual Power

WARRIOR SCREEN

			
Warrior 800	Warrior 1200	Warrior 1400X/XE	Warrior 1800
Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications	Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications	Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications	Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications
Output: 280tph (308 US tph)* Hopper Size: 4.7m ³ (6.15 cu. yd) Screenbox: 2.77m x 1.22m (9' 1" x 4) Power Unit: Tier 3: Deutz TD 2011 49.4kw (66.2hp) Tier 4f/Stage IV: CAT C3.4 55kW (74hp) Stage V: CAT C2.2 55kW (74hp) Weight: 16,700kg (36,817lbs)	Output: 300tph (330 US tph)* Hopper Size: 5m ³ (6.5 cu. yd) Screenbox: 3.68m x 1.17m (12' x 4) Power Unit: Tier 3: Deutz TD 2011 49.4kw (66.2hp) Tier 4f/Stage IV: Deutz TD 2.9 54kW (72.4hp) Stage V: Deutz TD 2.9 54kW (72.4hp) Weight: 17,150kg (37,809lbs)	Output: 500tph (551 US tph)* Hopper Size: 7m ³ (9.2 cu. yd) Screenbox: 3.6m x 1.37m (11' 10" x 4' 6") Power Unit (1400X): Tier 3: CAT C4.4 90kw (121hp) Tier 4f/Stage IV: CAT C4.4 82kW (110hp) Stage V: CAT C4.4 102kW (137hp) Power Unit (1400XE - C/W On-Board Generator): Tier 3: CAT C4.4 85kw (114hp) Tier 4f/Stage IV: CAT C4.4 82kW (110hp) Stage V: CAT C4.4 102kW (137hp) Power Unit (1400XE - Requires an external power supply - engine for track & fold only): Tier 4f/Stage V: CAT C2.2 55kw (74hp) Weight: 27,600kg (60,848lbs) - 1400X	Output: 600tph (661 US tph)* Hopper Size: 6.8m ³ (8.9 cu. yd) Screenbox: 4.87m x 1.53m (16' x 5) Power Unit: Tier 3: CAT C4.4 83kw (111hp) Tier 4f/Stage IV: CAT C4.4 82kW (110hp) Stage V: CAT C4.4 102kW (137hp) Weight: 29,500kg (65,036lbs) (Bell Feeder)
Available with Dual Power	Available with Dual Power	Available with Dual Power	Available with Dual Power






			
Warrior 2100 Single Shaft	Warrior 2100 Spaleck	Warrior 2100	Warrior 2400
Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications	Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications	Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications	Ideal for: Heavy duty screening, blasted or crushed rock, river gravel, C&D waste, recycling applications
Output: 625tph (689 US tph)* Hopper Size: 7m ³ (9.2 cu. yd) Screenbox: 4.88m x 1.56m (16' x 5' 1") Power Unit: Tier 3: CAT C4.4 97kw (130hp) Tier 4f/Stage IV: CAT C4.4 98kW (131hp) Stage V: CAT C4.4 102kW (137hp) Weight: 34,860kg (76,853lbs)	Output: 625tph (689 US tph)* Hopper Size: 7m ³ (9.2 cu. yd) Screenbox: 4.88m x 1.56m (16' x 5' 1") Power Unit: Tier 3: CAT C4.4 97kw (130hp) Tier 4f/Stage IV: CAT C4.4 98kW (131hp) Stage V: CAT C4.4 102kW (137hp) Weight: 34,300kg (75,619lbs)	Output: 700tph (772 US tph)* Hopper Size: 7m ³ (9.2 cu. yd) Screenbox: 4.88m x 1.56m (16' x 5' 1") Power Unit: Tier 3: CAT C4.4 97kw (130hp) Tier 4f/Stage IV: CAT C4.4 98kW (131hp) Stage V: CAT C4.4 102kW (137hp) Weight: 37,620kg (82,938lbs)	Output: 800tph (882 US tph)* Hopper Size: 10m ³ (13 cu. yd) Screenbox: 6.1m x 1.93m (20' x 6' 4") Power Unit: Tier 3: CAT C7.1 151kw (202hp) Tier 4f/Stage IV: CAT C7.1 151kW (202hp) Stage V: CAT C7.1 151kW (202hp) Weight: 44,600kg (98,326lbs)
Available with Dual Power	Available with Dual Power	Available with Dual Power	Available with Dual Power

*Depends on application

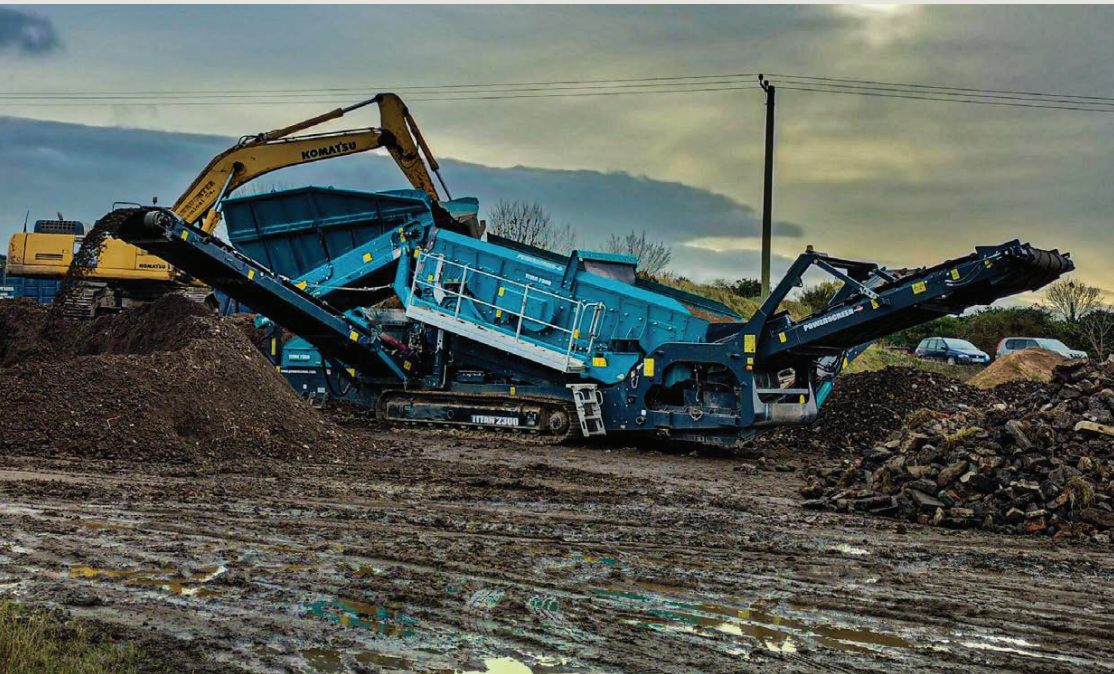
TITAN RANGE

		
Titan 600	Titan 1300	Titan 2300 
Ideal for: Secondary screening & recycling / biomass applications. Also efficient in screening aggregates.	Ideal for: Secondary screening & recycling / biomass applications	Ideal for: Secondary screening & recycling / biomass applications
Output: 280tph (308 US tph)* Hopper Size: 3m ² (3.9 cu. yd) Screenbox: 2.49m x 1.17m (8' 2" x 3' 10") Power Unit: Tier 3: Deutz TD 2011 36.4kw (48.8hp) Tier 4F/Stage IV: Deutz TD 2.9 42kW (56.3hp) Stage V: Deutz TD 2.9 45kW (60hp) Weight: 12,780kg (28,175lbs)	Output: 350tph (386 US tph)* Hopper Size: 5m ² (6.5 cu. yd) Screenbox: 4.1m x 1.22m (13' 6" x 4') Power Unit: Tier 3: CAT C4.4 62kw (83hp) Tier 4F/Stage IV: CAT 3.4 55kW (74hp) Stage V: CAT C2.2 55kW (74hp) Weight: 20,750kg (45,745lbs)	Output: 700tph (771 US tph)* Hopper Size: 6.2m ² (8.1 cu. yd) Screenbox: 6.1m x 1.83m (20' x 6') Power Unit: Tier 4F/Stage IV: CAT 4.4 129kW (173hp) Stage V: CAT 4.4 129kW (173hp) Weight: 37,000kg (81,571lbs) Available with Dual Power

HORIZONTAL SCREENING RANGE

		
Horizon 6203 	Horizon 6203R 	Powertrak 750
Ideal for: High volumes of sticky material, scalping applications, natural and crushed aggregates	Ideal for: High volumes of sticky material, scalping applications, natural and crushed aggregates	Ideal for: High volumes of sticky material, scalping applications, natural and crushed aggregates
Output: 800tph (881 US tph)* Hopper Size: 8.2m ² (10.72 cu. yd) Screenbox: 6.1m x 1.93m (20' x 6' 4") Power Unit: Tier 3: CAT C7.1 151kw (202hp) Tier 4F/Stage IV: CAT C7.1 151kW (202hp) Stage V: CAT C7.1 151kW (202hp) Weight: 46,700kg (102,955lbs) Available with Dual Power	Output: 800tph (881 US tph)* Hopper Size: 4.33m ² (5.67 cu. yd) Screenbox: 6.1m x 1.93m (20' x 6' 4") Power Unit: Tier 3: CAT C7.1 151kw (202hp) Tier 4F/Stage IV: CAT C7.1 151kW (202hp) Stage V: CAT C7.1 151kW (202hp) Weight: 45,000kg (99,208lbs) Available with Dual Power	Output: 600tph (660 US tph)* Hopper Size: 5m ² (6.5 cu. yd) Hopper & Vibrating Grid: Feed opening with wing plates: 4.41m (14' 6") Power Unit: Tier 3: Deutz D914 L04 53kW (71hp) Tier 4F/Stage IV: CAT C2.2 50kW (67hp) Stage V: CAT C2.2 50kW (67hp) Weight: 19,000kg (41,888lbs)

*Depends on application



POWERSCREEN TROMMEL RANGE

Phoenix Range

Powerscreen trommel screens are extremely efficient in separating soil, compost, waste, aggregates, C&D, woodchip and many other materials. The rotating drum creates a tumbling action which is optimal for the separation of difficult materials. Easy drum changes, radial stacking conveyors and durable components ensure these trommels are a versatile & reliable solution.

MACHINES IN THIS RANGE INCLUDE:

- Phoenix 1600 Wheeled
- Phoenix 1600 Tracked
- Phoenix 2100
- Phoenix 3300



PHOENIX RANGE



Phoenix 1600 Wheeled

Ideal for: Compost, top soil, C&D waste and woodchip

Hopper Size: 4.3m³ (5.6 cu. yd)
Drum Size: Length: 4.9m (16"), Diameter: 1.54m (5)
Screening Area: 19m² (205ft²)
Power Unit:
 Tier 3: CAT C4.4 97kw (130hp)
 Tier 4F/Stage IV: CAT 4.4 82kW (110p)
 Stage V: CAT C4.4 102kW (137hp)
Weight: 18,000kg (39,700lbs)

Phoenix 1600 Tracked

Ideal for: Compost, top soil, C&D waste and woodchip

Hopper Size: 4.3m³ (5.6 cu. yd)
Drum Size: Length: 4.9m (16"), Diameter: 1.54m (5)
Screening Area: 19m² (205ft²)
Power Unit:
 Tier 3: CAT C4.4 97kw (130hp)
 Tier 4F/Stage IV: CAT 4.4 82kW (110p)
 Stage V: CAT C4.4 102kW (137hp)
Weight: 21,100kg (46,500lbs)



Phoenix 2100

Ideal for: Compost, top soil, C&D waste and woodchip

Hopper Size: 5.6m³ (7.4 cu. yd)
Drum Size: Length: 6.45m (21' 2"), Diameter: 1.94m (6' 4")
Screening Area: 29.3m² (316ft²)
Power Unit:
 Tier 3: CAT C7.1 151kw (202hp)
 Tier 4F/Stage IV: CAT 4.4 129kW (173p)
 Stage V: CAT C4.4 129kW (173hp)
Weight: 27,500kg (60,627lbs)

Note - may not be road legal in all regions

Phoenix 3300

Ideal for: Compost, top soil, C&D waste and woodchip

Hopper Size: 7.8m³ (10.2 cu. yd)
Drum Size: Length: 9.31m (30' 6"), Diameter: 2.32m (7' 6")
Screening Area: 52m² (560ft²)
Power Unit:
 Tier 3: CAT C7.1 151kw (202hp)
 Tier 4F/Stage IV: CAT 4.4 129kW (173p)
 Stage V: CAT C4.4 129kW (173hp)
Weight: 37,500kg (82,673lbs)

Note - may not be road legal in all regions



RECORD, DISPLAY AND ANALYSE DATA: HIGH EFFICIENCY THROUGH PRECISE INFORMATION

- Available online anywhere and at any time: comprehensive information on the GPS location, start and stop times, fuel consumption, tonnages, cone settings, wear ratings, operating hours, maintenance status, and much more.
- User-friendly interface: displays information clearly for at a glance metrics and diagnostics. Take action before damage occurs: predetermined maintenance intervals are signaled and error messages are displayed in plain text messages.



AVAILABLE ANYWHERE AND AT ANY TIME

- PC
- Tablet
- Smartphone
- Customised notifications

DASHBOARD DISPLAY

- Color display of the engine speed, coolant temperature and hydraulic oil temperature as a circular instrument
- Immediate notification of critical statuses

MACHINE OVERVIEW

- The status of each machine at a glance (on / off / idle, error message etc.)
- Faults are immediately located and relayed
- Accurate and up-to-date output production tonnages

UTILISATION REPORT

- Display of load, idle, and total service life (daily, weekly, or monthly)
- Export available in common formats for data compiling
- Useful for application and fleet planning

GPS: MACHINE TRACKING

- Get precise location information and precise application planning
- Geofencing: limiting the range of movement
- Timefencing: limiting operational timings

MACHINE DATA

- Detailed display of the current operating data of the machines
- You can take action immediately for adverse operating statuses
- Support for service engineers

FUEL CONSUMPTION REPORT

- Generates accurate fuel cost per tonne information
- Under load, idle, and total service life of the machines (daily, weekly, or monthly)
- Support for economic efficiency analysis and for determining saving potential

CONE CRUSHER SPECIFIC REPORTING

- Displays Closed Side Settings (CSS)
- Displays wear rates
- Displays number of tramps



www.powerscreen.com

PREMIER

POWERSCREEN CONTACT DETAILS

Dungannon

200 Coalisland Road, Dungannon,
Co Tyrone, BT71 4DR, Northern Ireland
Tel: +44 (0) 28 87 718 500

Louisville

11001 Electron Drive,
Louisville, Kentucky, 40299 USA
Tel: +1 502 736 5200

www.powerscreen.com

Email: mail@powerscreen.com

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Appendix B – Building Drawing with Dimensions



AIE CONSTRUCTION LTD.

**POOL FARM, GOLDFORD LANE, BICKERTON, NR MALPAS, CHESHIRE, SY14 8LN.
TELEPHONE: 01829 833025**

**Mr. Jon Owens
Provectus
Site Near Retford**

15th August 2023

Our Ref: **AIE-6082-23**

Your Ref: **Waste Transfer Building**

Re: Agricultural Building to BS5502 Class 2

We have pleasure in providing an estimate for a **double apex, 4m level fill load bearing, steel portal framed building** to the following sizes:

Length: 96m.

Width: 40m, 2 No: 20m Wide apex buildings.

Eaves Height: 7m.

Apex Height: 9.86m.

Roof Pitch: 15 Degrees.

Steelwork

Building to consist of **16 No 6m bays** using:

457 x 191 x 67kg UB Perimeter stanchions (including web stiffeners).

610 x 229 x 101kg UB Centre stanchions (including web stiffeners).

406 x 178 x 54kg UB rafters (including rafter stays).

Each gable end is to have **4 No: 406 x 178 x 54kg UB intermediate sub stanchions.**

CHS roof and side bracing to both end bays, as well as CHS eaves ties to all bays.

All steelwork is to have a **painting** finish.

Holding down bolts, templates, cones and washers are included in the supply price.

Purlins / Eaves Beams

To supply **177/16 galvanised steel Z** purlins bolted to frame at 1.37m (4'6) centres.

Eaves beams to be **190mm / 2.0mm galvanised steel.**

Roof Cladding

To supply 6R natural grey **fibre cement** sheets, complete with **closed ridge capping's**, finished with fibre cement **barge boards**.

Roof Lights

To fit GRP roof lights within roof cladding to suit customers' requirements.



AIE CONSTRUCTION LTD.

**POOL FARM, GOLDFORD LANE, BICKERTON, NR MALPAS, CHESHIRE, SY14 8LN.
TELEPHONE: 01829 833025**

Rainwater Goods

Side No 1 & 2: To have 170 mm diameter half round **black PVC**, “**deep-flow**” guttering complete with **4No.** 100 diameter black PVC downpipes to each side.

Central Valley: To have **1.6mm thick galvanised steel valley guttering** complete with **4No.** 100 diameter black PVC downpipes.

End Cladding

End No1 & No2: To be clad down to **3.9m off the finished floor level** using **0.5mm thick, PVC coated steel box profile wall sheets**, complete with all necessary **corner flashings**. Supported on **177 / 16 galvanised steel** sheeting rails **including anti-sag systems** (excluding doorways).

Side Cladding

Side No1 & 2: To be clad down to **3.9m off the finished floor level** using **0.5mm thick, PVC coated steel box profile wall sheets**, complete with all necessary **corner flashings**. Supported on **177 / 16 galvanised steel** sheeting rails **including anti-sag systems** (excluding doorways).

Doorways Only

Gable end No1 and 2 are to each have:

2No: 1m wide by 2.1m high standard personnel doorways.

Side No 1 is to have:

2 No: 6m wide by 6m high doorways, doorways will be manufactured to accommodate roller shutter doors.

2 No: 1m wide by 2.1m high standard personnel doorways.

Side No 2 is to have:

3 No: 1m wide by 2.1m high standard personnel doorways.

Concrete Panels

To supply **200mm (8 inch)** thick pre-stressed concrete panels to **both gable ends** and **both sides (excluding doorways)** to a height of **4 metres**.



AIE CONSTRUCTION LTD.

**POOL FARM, GOLDFORD LANE, BICKERTON, NR MALPAS, CHESHIRE, SY14 8LN.
TELEPHONE: 01829 833025**

Prices

Supply: **£358,000.00**
Delivery: **£12,500.00 (25 articulated loads).**
Erection: **£85,000.00**
Foundations: **£19,950.00**

EXTRA OVER COSTS

To galvanise all structural steel work: £38,000.00

To have 1.6mm thick galvanised steel box guttering to side No 1 & 2: £750.00

To supply 1.6mm thick galvanised steel shedder flashings to all sides where concrete panels are to be situated: **£3,900.00.**

(Shedder flashing: a bespoke flashing that will close the gap between the top of the concrete panel and the cladding side rail).

To supply 1 No louvre vent, including **manufacturing a support frame** and supplying all required **flashings: £1,200.00** (does not include an external cowl).

All prices are excluding VAT @ 20%

All steel sizes are subject to a structural calculation.

Due to volatile prices, estimates are valid for 14 days only

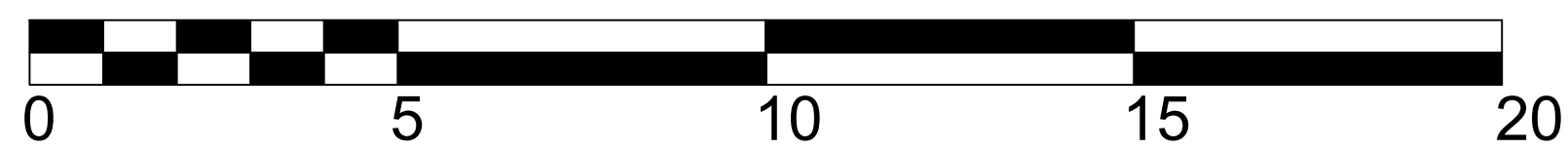
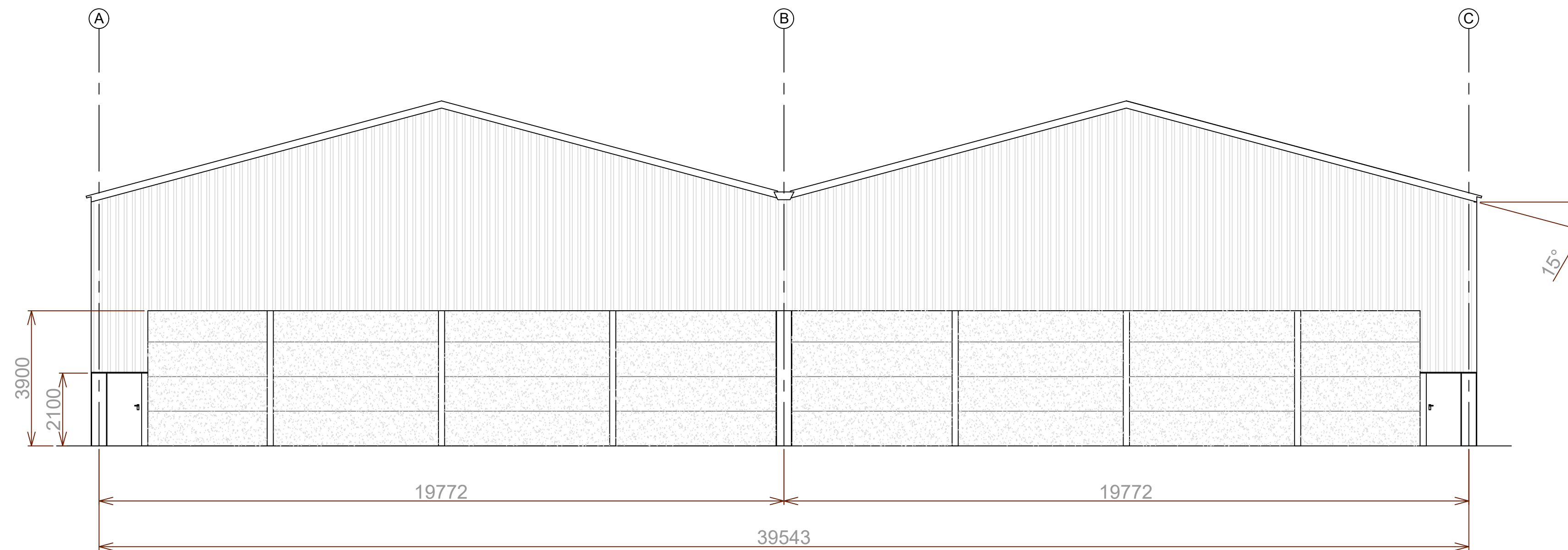
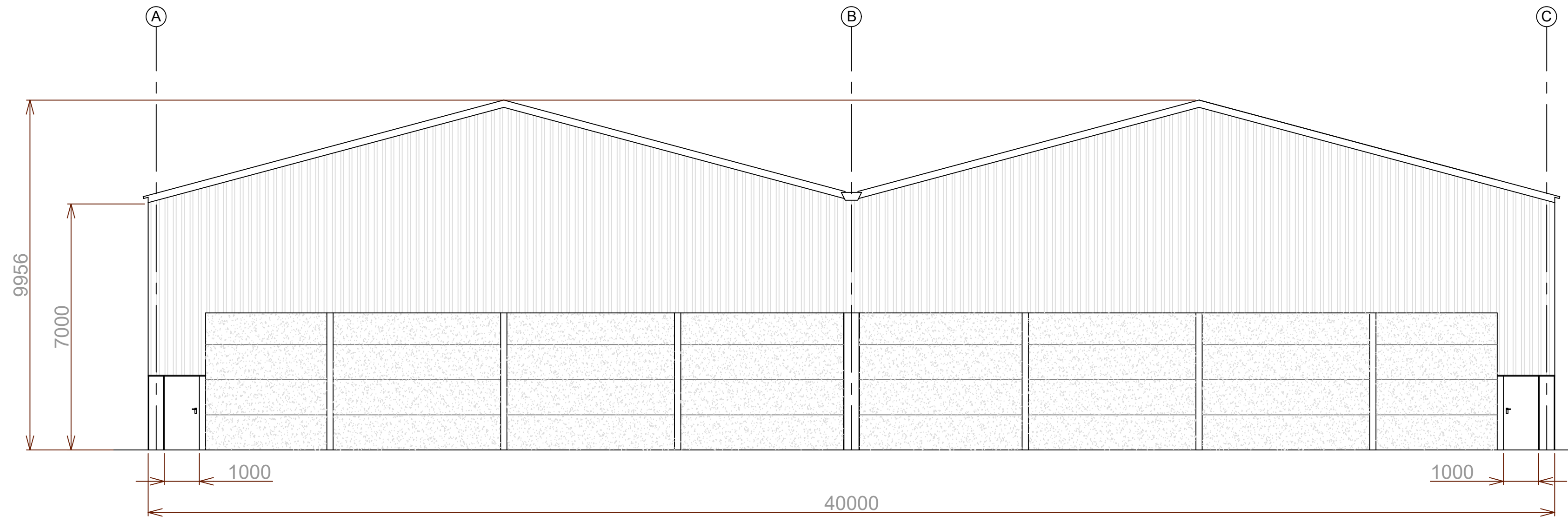
If you have any queries in the slightest, please do not hesitate to contact me any time on the following:

Mob: 07594 994412


Email: sales@aieconstruction.co.uk

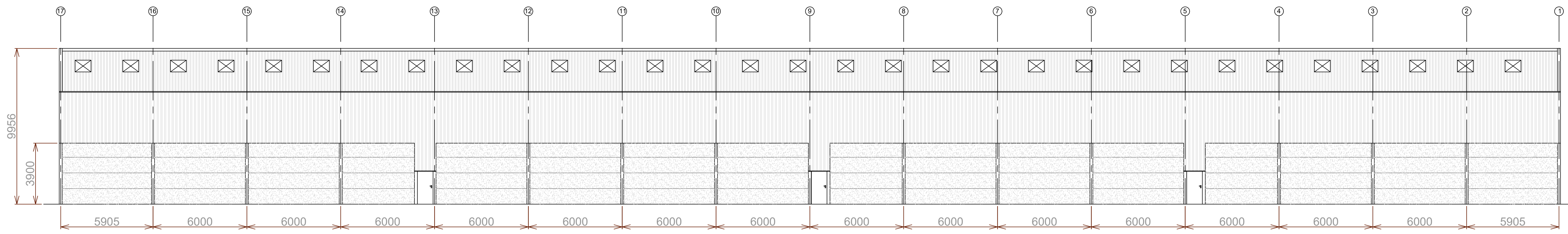
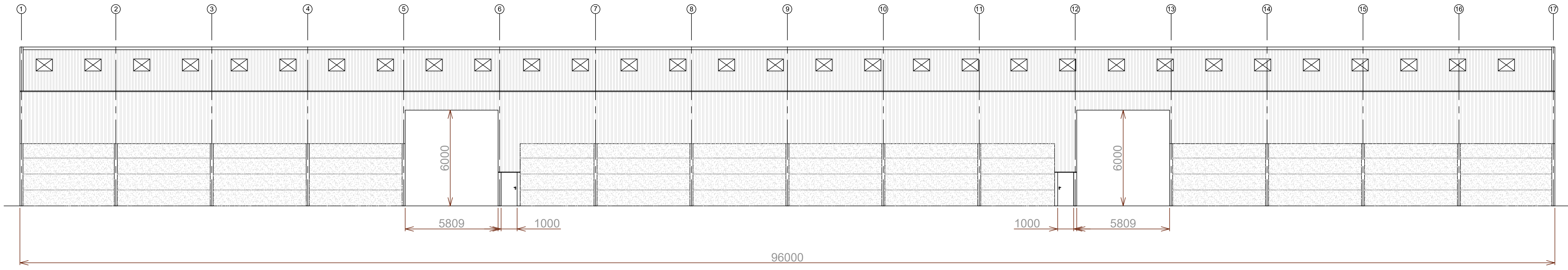
Yours sincerely

James Bourne



SCALE BAR 1:100

REV MARK	REVISION DESCRIPTION	REVISION DATE
	Mr. Jon Owens Provectus Site Near Retford	
		
DRAWING TITLE	Planning Elevation	
CONTRACT	Waste Transfer Building	
MODELLED BY	A.R	ISSUE DATE 16/08/2023
CONTRACT NO	AIE-6082-23	SCALE 1:100 (A1)
DRAWING No	G [1]	REVISION No. A



REV MARK	REVISION DESCRIPTION	REVISION DATE
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APPENDIX F
DANESHILL LANDFILL LIFE CYCLE ASSESSMENT REPORT



Daneshill Landfill

Daneshill Landfill LCA Assessment

For FCC Recycling (UK) Limited

Date *26 January 2024*

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Issued by Hydrock Consultants Limited Merchants House North Wapping Road Bristol BS1 4RW United Kingdom T +44 (0)117 9459225 E bristolcentral@hydrock.com hydrock.com	Client FCC Recycling (UK) Limited
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Prepared by		Fouad George Zabaneh - BEng, CPHD
Checked by		Jack Gorman
Approved by		Craig Anderson

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1. Introduction

Hydrock has been appointed to provide its expertise in Life Cycle Assessment (LCA) modelling to assess the embodied carbon emissions, at an outline stage, associated with constructing a large steel-fabricated shed, to house the asbestos soil processing activities that form part of the proposed Soil Treatment Facility at the Daneshill Landfill. The Daneshill Landfill site is situated circa 6 miles north of Retford, England.

The purpose of this report is to present an embodied carbon assessment for the potential building which captures the carbon emissions from raw material extraction, manufacture and transport of building materials through to dismantling, demolition and eventual material disposal. The assessment results will be used to compare the embodied carbon emissions of building the large steel fabricated shed versus not building it.

All modelling within this assessment has been based upon the early-stage design information that has been made available. Furthermore, the assessment has been undertaken in line with the RICS professional statement, through the utilisation of the Oneclick LCA software.



Figure 1: Aerial view of the site location

2. Embodied Carbon

2.1 What is Embodied Carbon

Embodied carbon refers to the emissions associated with a building's materials. This includes the carbon emitted in producing a building's materials, their transport, installation on site, and disposal at the end of life.

Historically, there has been little guidance and no regulation with regards to embodied carbon. In the past, operational emissions have far outweighed the embodied emissions. However, as the efficiency of buildings improve and carbon emissions from energy sources decrease, considerations of embodied carbon impacts related to the product and construction stages of a building becomes increasingly important and can account for more than half of a building's Whole Life Carbon (WLC).

Embodied carbon encompasses life-cycle stages A1-C4 of the Whole Life Carbon stages, known as the cradle-to-grave study, excluding stages B6 and B7 which indicate operational carbon emissions as shown in Figure 2.

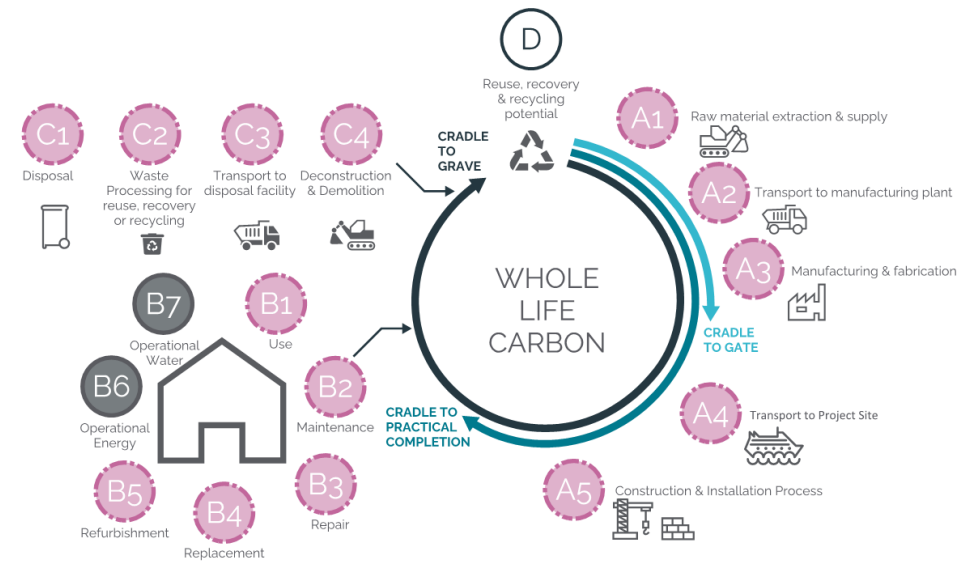


Figure 2: Whole Life Carbon Stages

2.2 Reducing Embodied Carbon

As illustrated in Figure 3 from HM Treasury on Green Construction, the most impactful strategy for reducing the embodied carbon of a building is challenging the root cause of the need to build, which has the potential to achieve a 100% reduction in embodied carbon emissions. Following this, sustainable practices should be implemented, including maximising the use of existing assets, the use of recycled materials, optimization of production processes to minimize waste, and investment in renewable energy sources. This holistic approach aims to significantly lower the environmental impact of construction and contribute to a more sustainable built environment.

It is therefore essential that the need to build the large steel-fabricated shed is challenged, as this has the largest impact on reducing the development's embodied carbon.

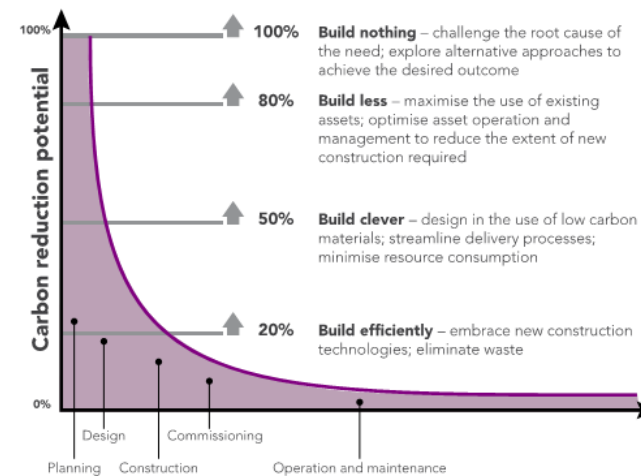


Figure 3: Embodied carbon reduction potential at different stages

3. Building Elements

Following RICS elemental methodology, embodied carbon analysis within the built environment is broken down in to the following elements:

1. **Substructure:** transfers the load of a building to the ground and isolates it horizontally from the ground. Substructures range from strip foundations through to large underground basements and are usually made from concrete, a highly emissive material. The substructure of a building is generally the element where structural performance is the largest design driver.
2. **Superstructure:** the frame of the building required to support the suspended slabs, roof and internal finishes, providing stability.
3. **Façade:** the external faces of a building.
4. **Building Services:** these comprise the lighting, heating, cooling, ventilation, power supply, air conditioning plant any other building system. Building services have a relatively short lifespan compared to the building itself. Embodied carbon needs to be considered in parallel with operational carbon, lifespan, maintenance, comfort, health and safety, etc.
5. **Internal Finishes:** the materials used on all exposed interior surfaces, such as floors, walls and ceilings. These are replaced more frequently and can require significant maintenance.
6. **External Works:** This covers hard and soft landscaping on ground floor level, terraces, roofs and also below ground items such as irrigation tanks.

These building elements are the materials which will be used during the construction of the large steel-fabricated shed.

4. Methodology

4.1 Provided Information

Hydrock was provided with elevational drawings for the proposed steel-fabricated shed along with a document describing the main structural elements, cladding systems and external finishes. As the building will only host waste material, and due to the limited information present within the provided construction documents, it was anticipated that no internal finishes, services or furniture, fixtures and equipment (FFE) are present within the proposed structure.

There was no mention of a concrete foundation and therefore it has been assumed that each steel column will require a 1.75m x 1.75m x 0.6m concrete footing. Furthermore, it has been assumed that a concrete slab of dimensions 96m x 40m x 0.2m will act as the ground floor level of the building.

Figure 4 showcases a 3D render, generated based on the information provided to provide which provides a visual interpretation of the structure.

4.2 Modelling Methodology

As previously described, the assessment has taken all construction stage emissions into account to calculate carbon emissions for stages A1-C4.

The carbon emission sources considered include the following, and will be split into these categories: Carbon embedded in the materials used in the construction of the proposed development (A1-A3) carbon emissions from transport movements during construction of the proposed development (A4) carbon emissions from construction site activities (A5), carbon emissions from in use stages such as maintenance and replacement (B1-B5) and lastly, carbon emissions from the demolition, waste transportation and waste disposal stages (C1-C4).

In line with the guidance given in the GLA guidance to Whole Life Carbon assessments, for materials manufactured in the UK, Part L emission factors are used in line with the GLA's Energy Assessment Guidance, while products sourced from outside the UK use data appropriate to the local energy grid at that location.

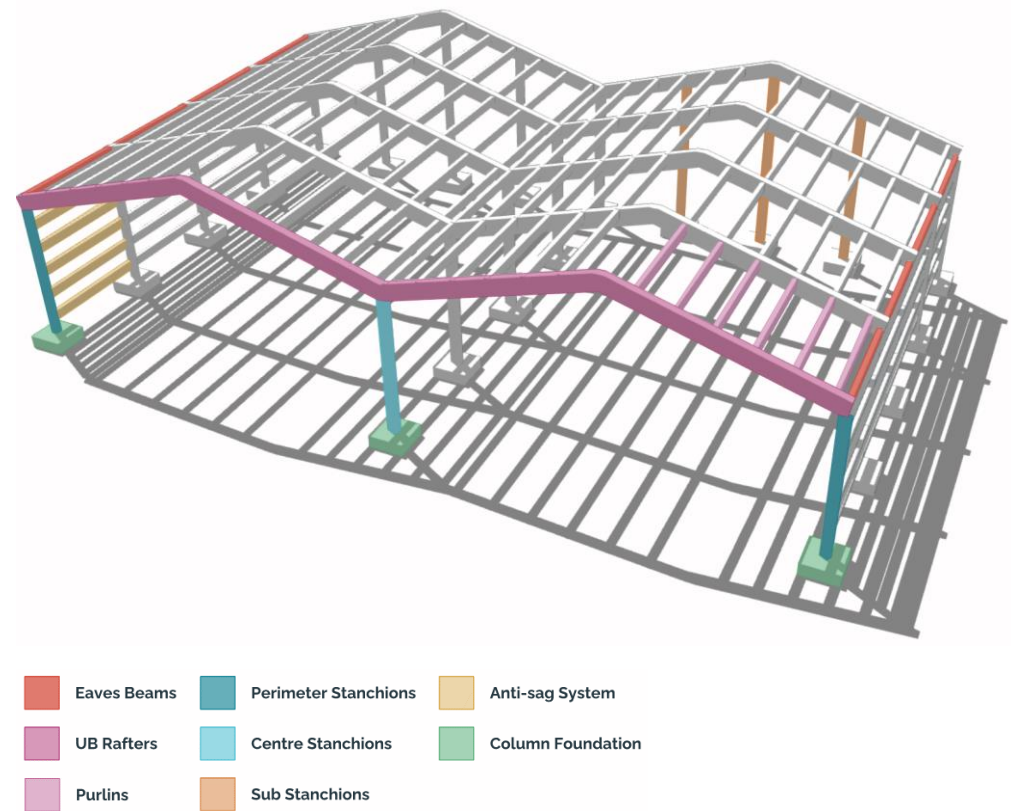


Figure 4: 3D structural interpretation

5. Benchmarking

At present, there are no benchmarks or guidance for embodied carbon covered by national legislation or policy.

The London Energy Transformation Initiative (LETI) and the Greater London Authority (GLA) have produced benchmarks and targets for different buildings uses. There are currently no relevant benchmarks for an industrial type building and therefore, the embodied office typology has been utilised to be compared against. LETI have therefore worked with RIBA, the GLA and the IStructE to produce the Embodied Carbon Target Alignment document which aims to provide a rating the proposed development's embodied carbon emission.

The GLA have provided percentages split of the embodied carbon emissions per RICS elemental stage, therefore categorising the emissions as substructure, superstructure, façade, building services, internal finishes and external works. These percentages have then been applied against the embodied carbon target alignment ratings. When comparing against the proposed development, the embodied carbon emissions associated with building services, internal finishes and external works have been excluded, therefore adjusting the embodied carbon emission benchmarks to match the relevant elements.

For an office, the adjusted embodied carbon emissions range between 1064 kgCO₂/m² with a rating of G to 84 kgCO₂/m² with a rating of A++.

6. Results

As expected, and as shown in Table 1, stages A1-A3 show the highest embodied carbon emissions as the building is a large steel fabricated shed that utilises concrete foundations, steel cladding and concrete roof tiles. The initial modelling results with the total embodied carbon emissions at approximately **302 kgCO₂/m²**, thereby assigning it a rating of B.

Table 1: Carbon Emissions per WLC stage

Stages	A1-A3	A4	A5	B1-B5	C1-C4
Carbon Emissions per stage (kgCO ₂ e/m ²)	219.01	26.35	21.50	29.60	5.50
Total (kgCO ₂ e/m ²)					301.94

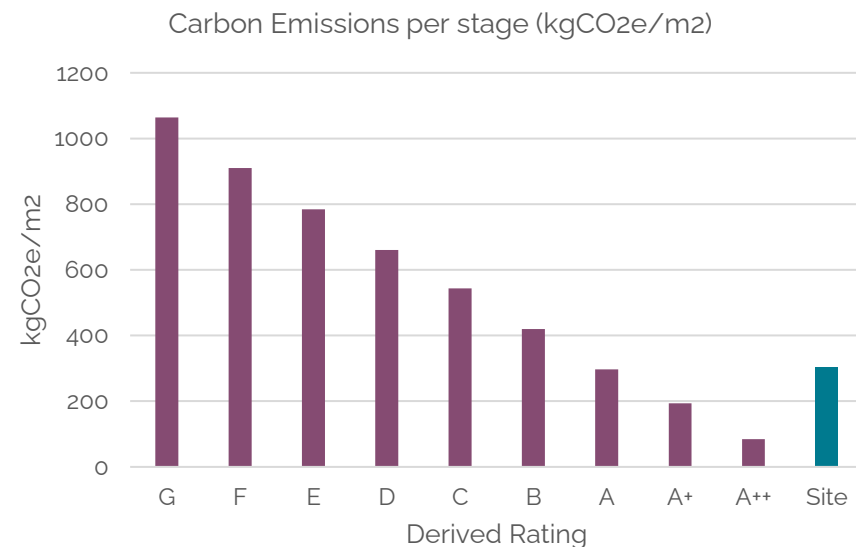


Figure 5: Carbon emissions vs derived ratings

A further breakdown of the embodied carbon per RICS elemental category shows that the proposed development's floor construction, structural frame, and external façade all contribute largely to the development's embodied carbon emissions. This is due to the large quantity of reinforced concrete, concrete cladding and steel frame structure all with large embodied carbon emissions. As shown in Figure 8 and Figure 9 the embodied carbon of an equivalent external concrete platform has been calculated using the same methodology and equates to **110 kgCO₂/m²**, a reduction of **60%** compared to the embodied carbon for the building.

It is imperative to acknowledge the model's limitations. At this high-level assessment, it is anticipated that many materials have not been accounted for due to proposed developments early-stage design. Considering the inclusion of these absent elements, it is foreseeable that the building's overall embodied carbon will experience a considerable increase.

Carbon Emissions per stage (kgCO₂e)

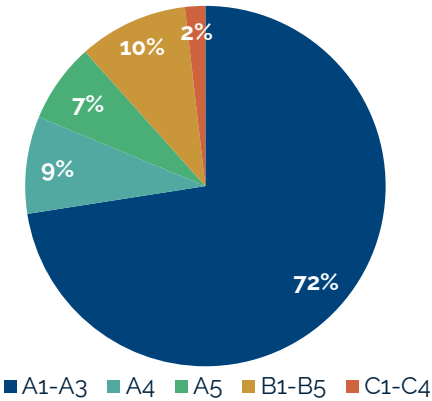


Figure 6: Carbon emissions per WLC stage for the proposed development

TOTAL (TOTAL kg CO₂e) grouped by RICS category breakdown

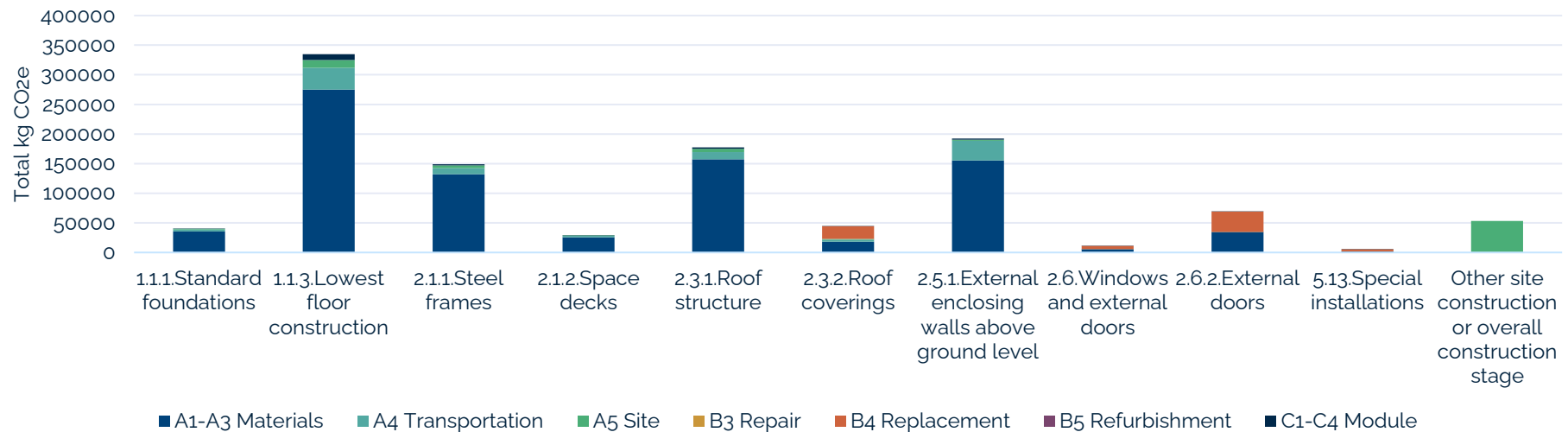


Figure 7: Embodied carbon emissions per RICS category

7. Conclusion

In conclusion, the embodied carbon of the proposed development is significant due to its concrete foundations and use of a steel frame construction. Furthermore, the development utilises concrete panels and steel sheet cladding, further contributing to its large embodied carbon.

The embodied carbon of the shed has been determined to equate to circa 302 kgCO₂/m² which is significantly larger than the anticipated embodied carbon of setting up an external concrete base. The choice to forgo constructing the shed would provide an embodied **carbon saving of 737,280 kgCO₂**, assuming a building footprint of 40m x 96m.

The foundation and slab thickness requirements have been assumed for the purposes of this assessment. Should greater volumes of concrete and/or reinforcement be required for the floor slab this will affect both the building and external slab scenarios, and is not expected to greatly change the percentage difference in embodied carbon identified in this assessment.

Carbon Emissions per stage (kgCO₂e)

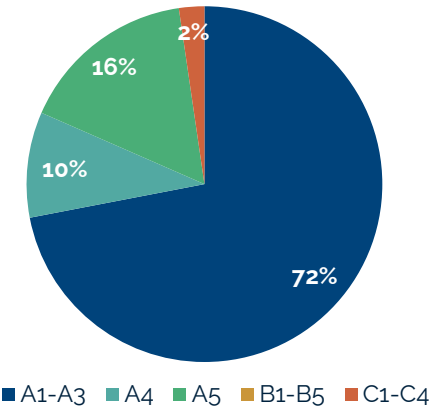


Figure 8: Carbon emissions per WLC stage for the slab only

TOTAL (TOTAL kg CO₂e) grouped by RICS category breakdown

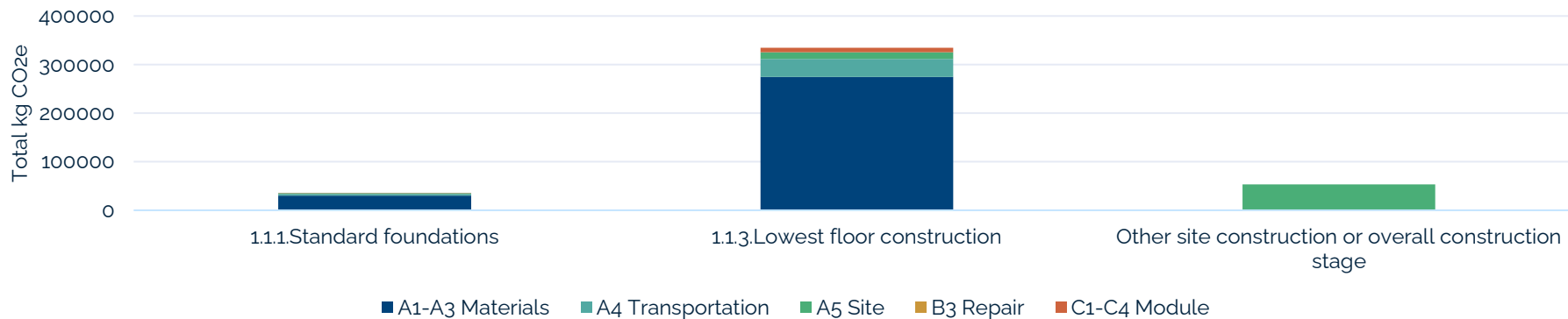
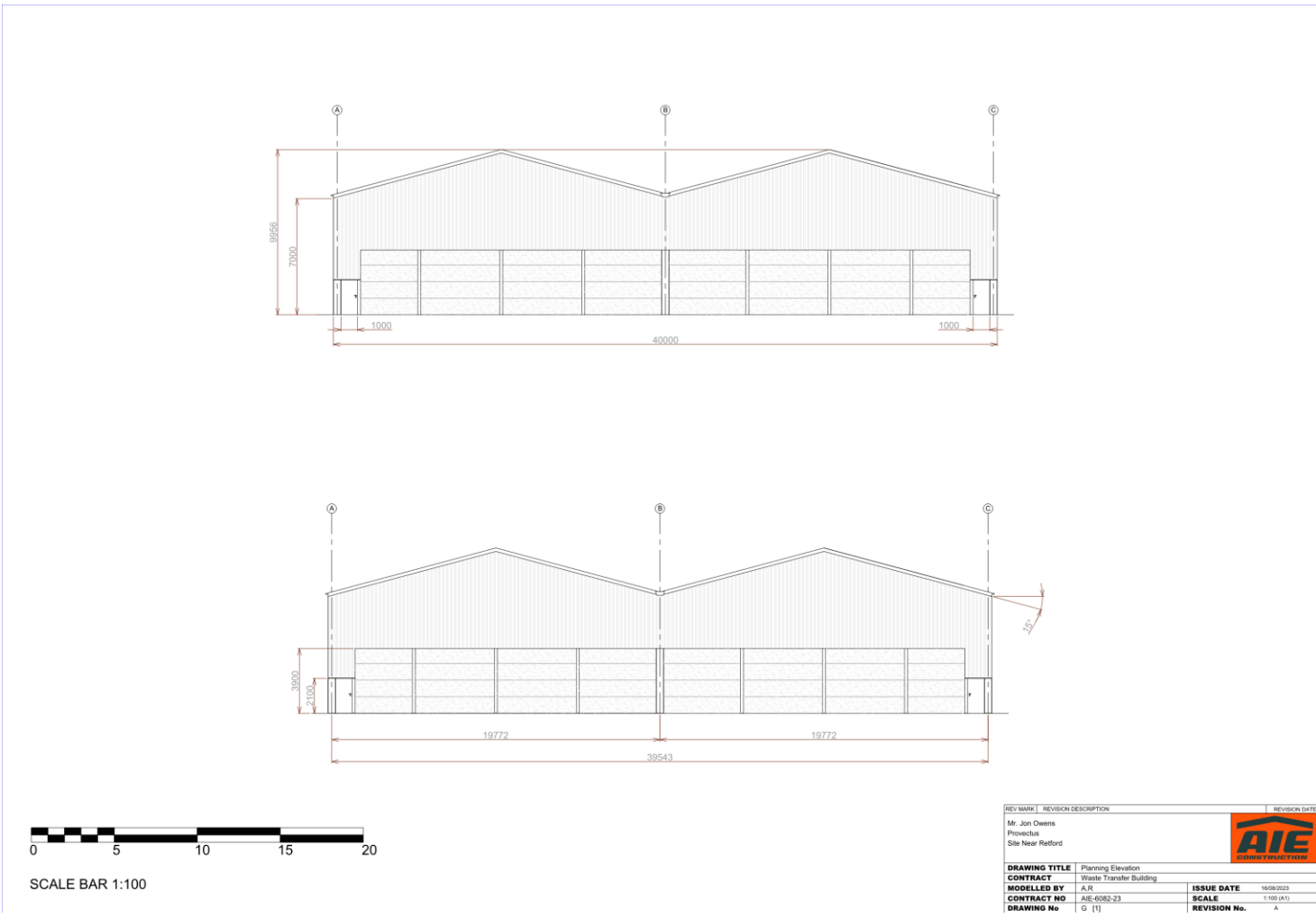


Figure 9: Embodied carbon emissions per RICS category

Appendix A Indicative building design

AIE Construction Design Drawings AIE-6082-23 G (1) dated 16/08/2023



AIE Construction Design Drawings AIE-6082-23 G (2) dated 16/08/2023

