

Manton Quarry

784-B075526

Wash Water Management Plan

Environmental Permit Application

Ashcourt (Lincolnshire) Limited

September 2025

Document prepared on behalf of Tetra Tech Limited. Registered in England number 01959704



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1.0 Introduction

1.1 General

- 1.1.1 This Wash Water Management Plan has been prepared by Tetra Tech on behalf of Operator, Ashcourt (Lincolnshire) Limited (Ashcourt) to support an Environmental Permit Variation Application for Ashcourt's permitted facility at Manton Quarry.
- 1.1.2 The existing Environmental Permit (EPR/GB3535RQ) for the site was issued in September 2012 and was subsequently varied in July 2023. The permitted activities comprise the treatment of wastes consisting of sorting, separation, screening, crushing, and blending of waste for recovery as soil, soil substitute or aggregate in addition to a Deposit for Recovery Activity.
- 1.1.3 Ashcourt are seeking to vary the existing Environmental Permit to incorporate the following changes:-
- Addition of a soil washing facility.
 - Increase in the permitted tonnage comprising:-
 - Increase in total storage on site to 75,000 tonnes.
 - 400,000 tonnes per year annual throughput in Soil Washing.
 - 535,000 tonnes per year annual throughput in total (75,000 existing soil and aggregate and 60,000 deposit for recovery).
 - Addition of a number of new EWC codes associated with the soil washing activity.
- 1.1.4 The soil washing plant is designed to clean contaminated soil by using water and mechanical processes to remove pollutants. The water from the soil washing process, together with the silt and clay sized particles will be forwarded from the hydrocyclone to the Wash Water Treatment Plant.
- 1.1.5 The Wash Water Treatment Plant (WWTP) uses a combination of physical, chemical, and biological processes to treat contaminated water efficiently. The WWTP is a continuous, closed loop system which recovers and treats water from the soil washing process which is subsequently recirculated within the soil washing process.
- 1.1.6 Outputs from the soil washing facility will be classified as products and are subsequently stored on hard standing once dry. Wastes awaiting treatment are stored on an impermeable surface.
- 1.1.7 The soil washing equipment and the storage of wastes whilst wet will take place on an impermeable surface.
- 1.1.8 Any waste from the site will be categorised as set out in WM3 in accordance with Section 5.1 of the Appropriate Measures. This will be stored on hardstanding prior to transport to an appropriate

facility. Washed materials will be initially stored on the impermeable surfaced area, whilst wet, as part of the process and the reclamation of water to be used in the wash plant process.

- 1.1.9 This wash water management plan for the soil washing plant ensures sustainable water use, efficient waste disposal, and minimal environmental impact. This plan outlines the procedures for sourcing, using, recycling, and treating water throughout the plant's operations.

2.0 Water Source and Supply

2.1 Water Source

- 2.1.1 The Soil Washing Process will initially be supplied with water via mains water. Following the initial set up, water is then recirculated via recovered and recycled water which is produced from the soil washing process and treated through the WWTP. As this is a closed loop system, water will continuously be recirculated in this process as demonstrated in Appendix A – Process Flow Diagram.
- 2.1.2 The site has a permanent supply of mains water although there may be options to explore a groundwater abstraction point in the future which will be subject to further regulatory approval.
- 2.1.3 Where there is loss to product outputs or through any leaks within the system, the mains water supply will be used to top up this process as and when necessary.

2.2 Water Intake and Storage

- 2.2.1 As detailed above, water is supplied to the site via the mains water supply to the site, water used in the soil washing process will be treated via the WWTP and recirculated to the Soil Washing Process.
- 2.2.2 Where testing of the water demonstrates that it is no longer suitable for purpose, it will be removed from site via tanker.
- 2.2.3 As such, there is no requirement to store water in a tank on-site.

3.0 Water Usage in the Soil Washing Process

3.1 Process Description

- 3.1.1 Upon arrival, all loads will be inspected by site management and any large or nonconforming materials will be removed prior to treatment. All stockpiles on site will be stored in a loose form. All soil washing activities will be undertaken on hard standing.
- 3.1.2 Materials will be fed into a hopper with the assistance of mobile plant and will then travel along a conveyor, at which point any small pieces of scrap metal which may be present within the waste loads will be removed using an overband magnet.
- 3.1.3 Any oversize materials (particles 100mm - 150mm) will be removed via a screener subject to materials feed.
- 3.1.4 The remaining waste material, varying in size depending on market demands, will then travel along a log washer where it will be sprayed with wash water. Water is mixed with soil to remove contaminants, such as heavy metals, hydrocarbons, and organic pollutants.
- 3.1.5 After passing along the log washer, the clean waste materials will be separated into smaller fractions via a gravel sizing screen.
- 3.1.6 The sand and silt fraction together with most of the water passes through screen and enters a sump from where it is pumped into a hydrocyclone or plate press, which will separate the sand from any contaminants. The water will then be treated via the WWTP and recirculated to the Soil Washing Process.

3.2 Water Consumption

- 3.2.1 It is anticipated that the soil washing equipment will use approximately 1 to 5 gallons of water per cubic yard of material treated. This is typical for many washing systems which handle inert materials.
- 3.2.2 The implementation of the WWTP minimises the consumption of mains water by promoting the recovery and recirculation of the water used in the soil washing process. This optimises the reuse, regeneration, and recycling of waste waters from the site.
- 3.2.3 This means that a significant portion of the water used in the washing process can be captured, treated, and reused, significantly reducing overall water consumption over time.

4.0 Water Recycling and Reuse

4.1 Closed Loop System

- 4.1.1 The soil washing process and WWTP operate together as a closed loop system. Towards the end of the soil washing process, the sand and silt fraction together with most of the water, passes through screen and enters a sump from where it is pumped into a hydrocyclone or plate press, which will separate the sand from any contaminants. The water will then be treated via the WWTP and recirculated to the Soil Washing Process.
- 4.1.2 As such this reduces the requirement to use mains water and consequentially reduces the demand for fresh water.
- 4.1.3 All soil washing processes (equipment and wet storage) will take place on impermeable surface with sealed drainage system. Wet, treated products from the soil washing process will be stored on this impermeable surface which benefits from a sealed drainage system. This system will capture water from the wet products which can be recirculated into the system via the WWTP for use in the washing process.

4.2 Monitoring

- 4.2.1 Daily visual assessment of the wash plant will be undertaken, by the Site Manager (or a nominated deputy), prior to use to ensure that the equipment functions correctly and identify any possible defects.
- 4.2.2 Routine and preventative maintenance will be undertaken in accordance with the manufacturer's guidance.
- 4.2.3 Further to daily visual assessment, monthly sampling will be undertaken to monitor the quality of the water, samples will be obtained via the abstraction point and sent to an appropriate laboratory for testing.
- 4.2.4 The following water quality parameters will be assessed: -
- pH: To assess the acidity or alkalinity of the wash water;
 - Total Suspended Solids (TSS): Measures the particulate matter in the wash water;
 - Chemical Oxygen Demand (COD): Determine the amount of organic matter present;
 - Biochemical Oxygen Demand (BOD): Assesses the potential impact on aquatic life;
 - Heavy Metals: Such as lead, arsenic, cadmium, and mercury;
 - Hydrocarbons: Assess oil and grease content; and,
 - Nutrients: Such as nitrogen and phosphorus, which can contribute to eutrophication

- 4.2.5 Records will be maintained for a minimum of two years, for future reference, in order to evaluate the effectiveness of the plant over time. These records will be made available to the EA upon request.

5.0 Water Discharge and Wastewater Management

5.1 Wastewater Disposal and Discharge

- 5.1.1 As stated in Section 1, water from the soil washing process is treated on-site using the Wash Water Treatment Plant. This is a continuous process.
- 5.1.2 Where contamination is identified through monthly testing, the process will be halted while the water is removed from the plant. This contaminated water will be removed from the wash plant via the abstraction point and tankered off site to a suitably permitted facility.
- 5.1.3 An agreement has been reached with a local tanker who can be contacted to remove the contaminated wastewater off-site at short notice.
- 5.1.4 Once the old water has been removed, maintenance carried out, and the plant deemed appropriate for use, the mains water supply will be used to top up the soil washing plant.
- 5.1.5 No waste waters will be discharged to foul sewer as a result of the wash plant and WWTP.

6.0 Water Conservation Measures

6.1 Minimisation of Water Use and Alternative Water Sources

- 6.1.1 As stated in Section 2, the water for use in the soil washing process will initially be supplied via mains water, this is then processed via the WWTP for recirculation. As such this reclaimed water will be recirculate throughout the process, thus minimising the requirement for mains water.
- 6.1.2 The soil washing process (equipment and wet storage) will take place on impermeable surface with sealed drainage system. Treated products from the soil washing process will be stored on this impermeable surface, whilst wet, which benefits from a sealed drainage system. This system will capture water from the wet products which can be recirculated into the system via the WWTP for use in the washing process.
- 6.1.3 In order to ensure the minimisation of resource use, regular audits and assessments of water use efficiency would be conducted to identify opportunities for reduction.
- 6.1.4 Site staff will undertake regular training to ensure best practice is maintained. Awareness programmes will also be implemented to encourage water-saving practices.

6.2 Waste Minimisation, Recovery and Disposal

- 6.2.1 As required under the Environmental Permit, Ashcout will have a programme of waste minimisation audits to ensure that an audit is carried out at least once every 4 years. Audits will include the following: -
- Methodology used;
 - Analysis of raw materials used;
 - Assessment of opportunities for reduction; and,
 - An action plan for improvements.
- 6.2.2 The audit will be submitted to the EA within 2 months of completion.

7.0 Environmental and Regulatory Compliance

7.1 Staff Competence

- 7.1.1 All site operatives will be trained in relevant health, safety, and environmental issues for their role. Staff will only be permitted to undertake activities that they have been trained for. They will be made aware of the procedures they must follow in the event of an accident or incident and will be able to access any relevant documentation that they may require. All training, experience and qualifications of staff will be noted, and these records will be maintained and kept up to date

7.2 Environmental Management System

- 7.2.1 As noted in the EA's 'Develop a Management System: Environmental Permits' guidance, all permitted facilities are required to have an Environmental Management System (EMS) to describe the procedures in place to minimise the risk of pollution from the activities covered in the environmental permit.
- 7.2.2 Ashcourt have an Environmental Management System in place which meets the requirements of the EA's 'Develop a management system: environmental permits' guidance. A summary of the EMS is provided in the Operating Techniques and EMS Document provided with this application.
- 7.2.3 All site operatives would be adequately trained in health, safety, and environmental issues. Staff would only be permitted to undertake activities that they have been trained for. They would be made aware of the procedures they must follow in the event of an accident or incident and would be able to access any relevant documentation that they may require. All training, experience and qualifications of staff would be noted, and these records would be maintained and kept up to date.

8.0 Emergency and Contingency Plans

8.1 Incidents and Non-conformances

- 8.1.1 All necessary measures will be taken to prevent the occurrence of accidents. The types of accidents and the potential environmental consequences associated with them have been identified in the Environmental Risk Assessment that accompanies this application.
- 8.1.2 Ashcourt have procedures for investigating and recording any incidents and non-conformances at the site, and for taking any corrective action. Ashcourt have an EMS which this includes procedures for handling incidents and non-conformances.
- 8.1.3 The following types of incidents will require investigation: -
- Malfunction, breakdown or failure of plant and equipment;
 - Deviation from site procedures and operating techniques;
 - Near misses; and,
 - Complaints from external parties.
- 8.1.4 All staff will be trained to detect and report any such occurrences. Procedures will be taken to allow operations to resume and preventative measures may be put in place to ensure that the incident does not reoccur
- 8.1.5 Auditable records will be kept of any incident and non-compliances as well as the investigations undertaken. This will provide an ongoing record of the causes incidents which will enable Ashcourt to identify any patterns which would prompt a review in the wash water management system management procedures and control measures.

8.2 Maintenance

- 8.2.1 All plant and equipment will be maintained in accordance with the manufacturer's requirements. This will minimise the risk of mechanical failure.
- 8.2.2 In addition, all plant and equipment will be subject to visual checks on a daily basis, by the Site Manager (or a nominated deputy), prior to use to ensure that the equipment functions correctly and identify any possible defects.
- 8.2.3 Monthly sampling will be undertaken to monitor the quality of the water, samples will be obtained via the abstraction point and sent to an appropriate laboratory for testing.
- 8.2.4 In the event that any damage is identified on any plant or equipment that may affect its performance, necessary remedial work will be completed as soon as practicable. If necessary, the wash plant process may be halted until the necessary remedial works have been undertaken.

8.3 Contingency for Leaks or Spills

8.3.1 Emergency spillage procedures are in place to ensure any oil, hydraulic fluids etc. are dealt with before they enter the drainage system. A supply of absorbent granules will be stored on site. The drainage system will be sealed off to prevent discharge in the event of an incident.

Wash Plant

8.3.2 All soil washing activities will be undertaken on an impermeable surface with sealed drainage to prevent the transmission of potentially contaminated liquids into groundwater beneath the site.

8.3.3 All plant to be maintained in accordance with the manufacturer's guidance. This will minimise the risk of mechanical failure which will minimise the risk of leaks and/or spillages.

8.3.4 Should the spill/leak be a result of the wash plant, this activity will be halted whilst the emergency procedure is followed, the direct cause of the spill/leak identified and routine maintenance is undertaken.

8.3.5 In the instance of a spill and/or leak on-site, the Operator will follow the standard operating procedures whereby the emergency action plan will be implemented. Spill kits are located around the site, however, should it be necessary, this process will be supported by on call specialists.

Fuel/Oil Spills

8.3.6 The most likely source for spillages will be from spillages of fuel/oil associated with site plant or vehicles. All fuels and oils will be stored in secondary containment with an integral bund which has capacity greater than 110% of the tank. Storage will occur on impermeable surface.

8.3.7 In the event of a spillage of fuel/oil from site plant or vehicles, the following procedures will be implemented:

- Clear the area straight away;
- Lay absorbent granules over the spill to soak up the spillage;
- Use personal protective equipment (ppe) provided on site if required;
- Once the liquid has all been absorbed use a shovel to clear up the waste, put it in a plastic sack and then place it in the container for non-compliant waste for disposal at a suitably permitted facility; and
- A record of the spill incident and remedial action taken will be recorded in the site diary.

8.3.8 Spillage kits will be maintained on site in order to respond to any spillage incident. The spillage kits will be stored strategically around the site to ensure their availability.

9.0 Conclusion

- 9.1.1 Use of the WWTP minimises the sites impact on water resources and reduces waste output from the site by recirculating water for re-use in the soil washing process through filtration and treatment.
- 9.1.2 Regular audits and assessments of water use efficiency will be conducted to identify opportunities for reducing operational impacts.
- 9.1.3 Regular monitoring, sampling and reporting will ensure compliance with environmental standards and ensure minimal risk to the environment whilst supporting long-term environmental sustainability and resource efficiency.
- 9.1.4 Site staff will undertake regular training to ensure best practice is maintained. Awareness programmes will also be implemented to encourage water-saving practices. All training, experience and qualifications of staff would be noted, and these records would be maintained and kept up to date.
- 9.1.5 Site operations and documentation will be undertaken in line with EA guidance and relevant legislation. Throughout the lifetime of operations, procedures will be maintained and updated in line with the relevant legislation and guidance.

Appendices

Appendix A – Waste Codes for Soil Washing

EWC Code	Description	Restriction
01	WASTE RESULTING FROM EXPLORATION, MINING, QUARRYING AND PHYSICAL AND CHEMICAL TREATMENT OF MINERALS	
01 04	Wastes from physical and chemical processing of non-metalliferous minerals	
01 04 08	Waste gravel and crushed rocks other than those mentioned in 04 04 06	
01 04 09	Waste sand and clay	
01 04 13	Wastes from stone cutting and sawing other than those mentioned in 01 04 07	
10	WASTES FROM THERMAL PROCESSES	
10 11	Wastes from manufacture of glass and glass products	
10 11 12	Waste that as waste glass other than those mentioned in 10 11 11	
10 12	Wastes from manufacture of ceramic goods, bricks, tiles and construction products	
10 12 08	Waste ceramics, brick, tiles and construction products (after thermal processing)	
10 13	Wastes from manufacture of cement, lime and plaster and articles and products made from them	
10 13 14	Waste that as waste concrete and concrete sludge	
15	WASTE PACKAGING, ABSORBANTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED	
15 01	Packaging (including separately collected municipal packaging waste)	
15 01 07	Glass packaging	
17	CONSTRUCTION AND DEMOLITION WASTES (INCLUDING EXCAVATED SOIL FROM CONTAMINATED SITES)	
17 01	Concrete, bricks, tiles and ceramics	
17 01 01	Concrete	Selected C&D waste only
17 01 02	Bricks	Selected C&D waste only
17 01 03	Tiles and ceramics	Selected C&D waste only

17 01 07	Mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	Selected C&D waste only. Metal from reinforced concrete must have been removed.
17 02	Woos, glass and plastic	
17 02 02	glass	
17 05	Soil (including excavated soil from contaminated sites), stones and dredging spoil	
17 05 04	Soil and stones other than those mentioned in 17 05 03	Excluding topsoil, peat; excluding soil and stones from contaminated sites
17 05 06	Dredging spoil other than those mentioned in 17 05 05*	
17 05 08	Track ballast other than those mentioned in 17 05 07*	
17 09	Other construction and demolition wastes	
17 09 04	Mixed construction and demolition wastes other than those mentioned in 17 09 01, 17 09 02 and 17 09 03	
19	WASTES FROM WASTE MANAGEMENT FACILITIES, OFF-SITE WASTE WATER TREATMENT PLANTS AND THE PREPARATION OF WATER INTENDED FOR HUMAN CONSUMPTION AND WATER FOR INDUSTRIAL USE	
19 02	Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)	
19 02 06	Waste that as sludges from physico/chemical treatment other than those mentioned in 19 02 05	
19 08	Wastes from waste water treatment plants not otherwise specified	
19 08 02	Waste from desanding	
19 08 99	Stone filter media if free from sewage contamination only	
19 12	Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified	
19 12 05	glass	
19 12 09	Minerals only	Wastes from the treatment of waste aggregates that are otherwise naturally occurring minerals. Does not include fines from treatment of any non-

		hazardous waste or gypsum from recovered plasterboard.
19 12 12	inert soil and stone fractions from mechanical treatment of construction and demolition waste	
20	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS	
20 01 02	Clean glass only	
20 02	Garden and park wastes (including cemetery waste)	
20 02 02	Soil and stones	Only from garden and parks waste; excluding topsoil, peat.
20 03	Other municipal waste	
20 03 03	Street-cleaning residues	

Appendix B – Process Flow Diagram