CEL 4 – Environmental Risk Assessment Collins Earthworks Limited, Plot 7a, Park Lane Business Park, Park Lane, Kirkby In Ashfield, Nottinghamshire, NG17 9LE - EAWML – 102963

As part of an application for an environmental permit Operators must assess the risk to the environment and human health from the activities they seek to permit.

This Environmental Risk Assessment has been undertaken in accordance with the online Environment Agency Guidance for undertaking environmental risk assessments.

Environmental risks relevant to the proposed activities are:

- Emissions to Air;
- Emissions to Water;
- Emissions to Land;
- Odour;
- Noise;
- Litter;
- Pests;
- Vandalism;
- Fire; and
- Incompatible Feedstock.

For each of the above environmental criteria the approach to the assessment has followed the following four stage process:

- Identify the risks;
- Assess the risks (assuming those control measures proposed are in place);
- Choose appropriate further measures to control these (if required); and

• Present the assessment.

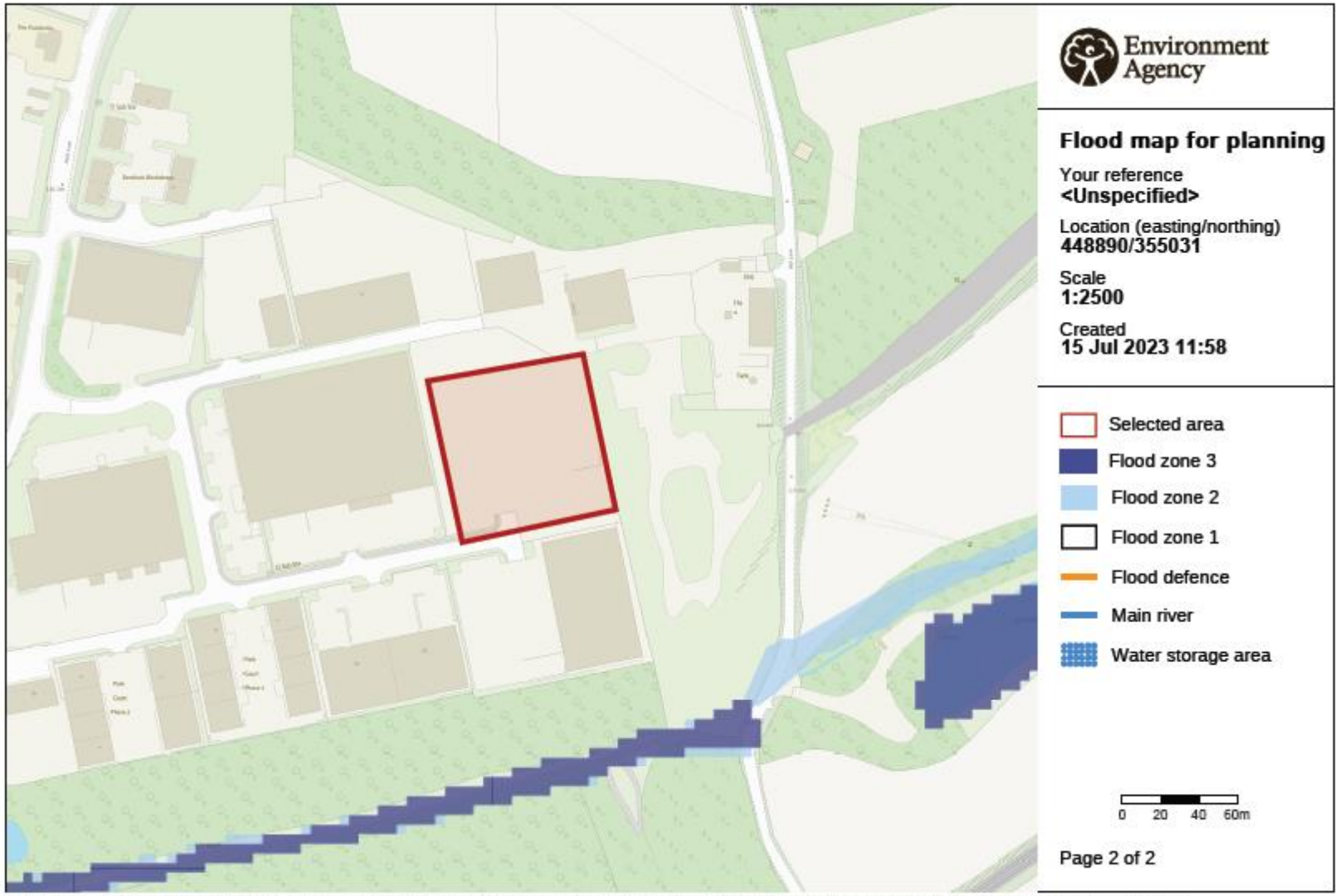
Hazard	Receptor	Pathway	Risk Management Techniques	Probability of Exposure	Consequences	Overall Risk (following mitigation)
Point Source\Releases to Air	Atmosphere	Airborne	• There will be no point source emissions to air from the facility.	Low: offsite receptor impact	Air Pollution	**VERY LOW** due to the proposed processes on site
Emissions to water Warping Drain Catchment	Groundwater /Geology / Surface Water	Water borne	• There are no point source emissions to ground waters. • All washing activities will take place on an impermeable surface forming part of a sealed drainage system. • The concrete pad drains to a sump and remains at a low level • The concrete pad will also feature a geo textile membrane to prevent migration of liquids to the groundwater. • There will be no hazardous wastes delivered to site. • The wash plant is located on an impermeable concrete pad which drains to sealed sump. The pad will be constructed on top of geo-membrane. This provides the sealed drainage system, the sump discharges to the foul sewer. • Road sweepings will be stored in a sealed sump. • Spill kits will be strategically located around site. These are subject to regular checks in the planned preventative maintenance system. • The wash plant employs a small water treatment facility that aims to remove suspended solids from the wash waters to use them again within the washing process. • Part of the water treatment process is removal of 'thickened sludge via , this is tankered from the site to a suitable permitted facility for treatment. • If in the event of additional liquid capacity being required a tanker would be employed to remove the liquids to a permitted waste facility. This would also happen when the water treatment system is cleansed for maintenance or contamination is observed or identified during testing. • Road sweepings will de-water via gravity and the resulting solids will be washed within the wash plant to recover the sand, grit and stones within them. The sweepers will tip there loads onto the sealed concrete pad and allow the water drain to the sump with the other liquids. • Immediate action to be taken in event of any major spills. Spillage to be cleared immediately and placed in containers for offsite disposal at an appropriate facility. EA to be informed. • The anionic flocculent is in a bulk 1,000 litre IBC which is located on a spill bund offering 110% of the capacity and again this is stored on the sealed drainage system. • The use of a road sweeper on the main road outside the site will remove any debris that may not have been removed by the	Low: all runoff is controlled on site, therefore the probability of exposure is low	Contamination	**VERY LOW** due to the proposed management techniques and drainage arrangement

			wheel wash, this will prevent any run-off to surface water drains and watercourses. • The wash plant and mobile plant for loading requires oils, grease and fuel to operate. None of these potentially polluting liquids are stored within the permitted area. • The quarantine area will be located on the sealed concreate pad and within the sealed drainage system. This area will stay clear from waste. In the event of any waste, that requires quarantining; it will be stored in the area and fenced off to prevent mixing with other wastes. • There are no plans for secondary containment as the sealed drainage system acts as containment for any run-off. This includes surface water and rainwater as the washing process is a water negative process due to evaporation and moisture within the washed materials.			
Emissions to land	Groundwater / Geology	Spills / Leaks	• There are no point source emissions to ground waters. • All washing activities will take place on an impermeable surface forming part of a sealed drainage system. • The concrete pad drains to a sump and remains at a low level • The concrete pad will also feature a geo textile membrane to prevent migration of liquids to the groundwater. • There will be no hazardous wastes delivered to site. • The wash plant is located on an impermeable concrete pad which drains to sealed sump. The pad will be constructed on top of geo-membrane. This provides the sealed drainage system, the sump discharges to the foul sewer. • Road sweepings will be stored in a sealed sump. • Spill kits will be strategically located around site. These are subject to regular checks in the planned preventative maintenance system. • The wash plant employs a small water treatment facility that aims to remove suspended solids from the wash waters to use them again within the washing process. • Part of the water treatment process is removal of ‘thickened sludge via , this is tankered from the site to a suitable permitted facility for treatment. • If in the event of additional liquid capacity being required a tanker would be employed to remove the liquids to a permitted waste facility. This would also happen when the water treatment system is cleansed for maintenance or contamination is observed or identified during testing. • Road sweepings will de-water via gravity and the resulting solids will be washed within the wash plant to recover the sand, grit and stones within them. The sweepers will tip there loads onto the sealed concrete pad and allow the water drain to the sump with the other liquids.	Low: spills / leaks could potentially contaminate the ground / groundwater- Underneath the site.	Contamination	**VERY LOW** due to the proposed risk management techniques

			• Immediate action to be taken in event of any major spills. Spillage to be cleared immediately and placed in containers for offsite disposal at an appropriate facility. EA to be informed. • The anionic flocculent is in a bulk 1,000 litre IBC which is located on a spill bund offering 110% of the capacity and again this is stored on the sealed drainage system. • The use of a road sweeper on the main road outside the site will remove any debris that may not have been removed by the wheel wash, this will prevent any run-off to surface water drains and watercourses. • The wash plant and mobile plant for loading requires oils, grease and fuel to operate. None of these potentially polluting liquids are stored within the permitted area. • The quarantine area will be located on the sealed concreate pad and within the sealed drainage system. This area will stay clear from waste. In the event of any waste, that requires quarantining; it will be stored in the area and fenced off to prevent mixing with other wastes. • There are no plans for secondary containment as the sealed drainage system acts as containment for any run-off. This includes surface water and rainwater as the washing process is a water negative process due to evaporation and moisture within the washed materials.			
Noise and vibration Existing permitted activities including new wash plant	Local Residents and wildlife Closest residents located at 420m to the NW of the site boundary	Airborne / ground	• The wash plant is currently operational and has received no noise complaints. • Vehicle deliveries will only take place during daytime hours. • On site, vehicles will be fitted with 'white noise' reversing alarms. • No activities will take place at night • Speed limits in place of 5mph to reduce noise generation on the access roads. • Access roads are made of asphalt and will be kept in good order to prevent potholes that may give rise to noise incidents. • A preventative maintenance system is implemented, which covers all plant and equipment, including the wash plant. This will ensure no deterioration of plant or equipment that would give rise to increases in noise generation. • All equipment has been designed to ensure that any noise does not present an issue to the employees at the site under the Control of Noise at Work Regulations. • All exhausts are fitted with silencers. • The plant will only be used on an 'as needed' basis. Plant and equipment will only be running when treatment is required. • All vehicles and equipment will be switched off when not in use and not allowed to idle. • The site operates a complaints investigation procedure which involves efficient mitigation if a complaint is found to be	Low – due to the mitigation methods taken, the operation setting and all other mitigation measures described.	Nuisance in the form of noise and vibration	**VERY LOW** due to the management techniques, modern equipment, maintenance.

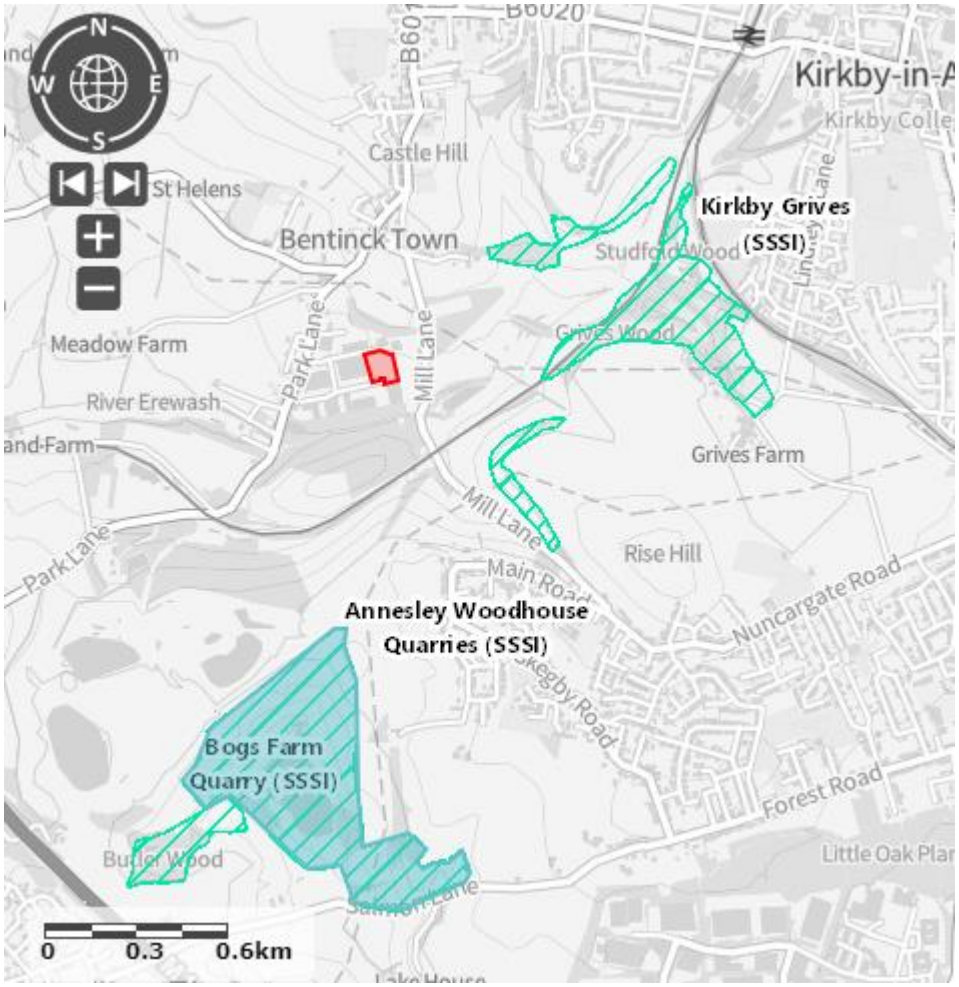
			substantiated. All complaints are recorded and reviewed regularly. • The distance between stockpiles of recycled materials and vehicles to be loaded is kept to minimum to reduce vehicle movement. • Sensitive receptors have been identified. • Prevailing South westerly wind and propagation of sound by refracting would mean receptors to the north east could potentially be worst affected by noise. The nearest residential receptor is a single dwelling in this direction is 204m away. • Wash plant conveyors are adjustable to reduce the drop height of washed aggregates. Reduced drop height will reduce noise. • Training will be provided for all staff operating the site. This training will include noise mitigation measures. • In the event of an increase in noise complaints a noise impact assessment would be carried out.			
Odour	Local Residents	Airborne	• The wash plant is currently operational and has received no odour complaints. • Road sweeping waste from construction and demolition sources is not commonly odorous. • To prevent excessively odorous waste from arriving on site, the site has stringent waste acceptance procedures waste will be rejected by site should it be deemed malodourous. • Inspections will happen daily to inspect the site for odours. Any odorous waste will be prepared for removal off site immediately. • Sumps will be regularly cleaned and the site will emptied good housekeeping measures. • Any complaints will be actioned in accordance with the site complaints procedure and recorded in the site diary.	Low: due to the activities being managed by odour management techniques	Nuisance	**VERY LOW** due to the proposed risk management technique
Dust	Local Residents	Airborne	• The wash plant is currently operational and has received no dust complaints. • All loaded incoming and exporting vehicles will be covered. • Road sweepers will be made available to clean roads within the site and outside. • Water Bowsers will be deployed in dry weather to dampen down. • Crushers and screens have dust suppression installed. • Washed aggregates contain significantly less dust resulting in less dust being blown from stockpiles. • Any complaints will be actioned in accordance with the site complaints procedure and recorded in the site diary. • Operations likely to generate dust will not be carried out in high winds. • All operations will be in line with the Dust Management Plan.	Low: due extensive dust suppression equipment and methods being employed	Nuisance	**VERY LOW** due to the proposed risk management techniques
Litter	Local Residents	Airborne & migration	• All incoming and exporting waste vehicles will be covered. • Feedstock containing litter would be deemed unsuitable and rejected. • The site access and the Park Lane shall be swept as necessary.	Low: due to feedstock being assessed for litter	Nuisance	**VERY LOW**

			• The site shall be inspected daily by the site manager and any litter or accumulated debris shall be dealt with immediately. • Any complaints will be actioned in accordance with the site complaints procedure and recorded in the site diary • Litter will be picked on a weekly basis.			
Pest	Local Residents	Airborne and migration	• The waste types do not attract pests. • Should pests be identified, reasonable measures will be taken to use commercially available products and services to control pests.	VERY Low risk of pets on site is possible	Nuisance	**VERY LOW** due to the proposed risk management techniques
Vandalism	Operator	The site could be subject to intentional vandalism and damage by intruders / trespassers who could cause damage or harm to the site or cause fires.	• The site has a CCTV system. • The site entrances are secured by lockable gates. • Site is secure and the entire site is bounded by secure fencing. • Unauthorised access is prohibited onsite. • The site perimeter is inspected daily by operations staff to identify deterioration and damage and the need for repair. • Fencing is maintained and repaired to ensure its continued integrity. If damage is sustained, repair will be made within the same working day. If this is not possible, suitable measures will be taken to prevent unauthorised access to the site and permanent repairs will be affected as soon as is practicable. • All visitors to the site are required to register in the visitor's book and sign out again on exit, thereby minimising the risk of unauthorised visitors on the site.	Low: the occurrence of vandalism taking place on site is highly unlikely	Nuisance, damage or fire	**VERY LOW** due to the proposed risk management techniques
Fire	Operator / Residential Properties	Windborne	• Wastes processed on the site are not combustible. • A planned preventative maintenance system is in operation for all plant and equipment. This will reduce the likelihood of fire starting at this source.	VERY Low: the occurrence of a fire taking place	Fire	**VERY LOW** Due to lack of combustible waste
Incompatible Feedstock	Operator / Residential Properties	If incorrect waste is accepted on site it could result in adverse emissions/ breaking of equipment	• All wastes accepted onto site have been subject to 'pre-acceptance' in accordance with the sites Environmental Management System. • Waste acceptance procedures are implemented, which control all incoming wastes. • Any non-conforming waste will be quarantined and rejected from site in accordance with the sites Environmental Management System and waste acceptance procedures.	Low: off-site receptor impacts	Nuisance /Adverse Emissions	**VERY LOW** due to the proposed risk management techniques
Flooding	Operator	Surface and coastal waters	• There are no plans for secondary containment as the sealed drainage system acts as containment for any run-off. This includes surface water and rainwater as the washing process is a water negative process due to evaporation and moisture within the washed materials and filter cakes. All collected water is pumped to the water treatment system for the washing process. • The site sites within Flood zone 1.	Low: off-site receptor impacts	Flooding	**VERY LOW** due to the proposed processes and management techniques as described within the summary EMS



Hazard	Receptor	Reason for designation	Pathway to site	Risk Management Techniques	Probability of Exposure to site	Possible Consequences	Overall Risk (following mitigation)
Site activity of screening and washing waste soils and aggregates	Biological SSSI **Kirkby Grives**	**Description**: The site has one of the finest remaining limestone plant communities in Nottinghamshire and is of Regional importance. **Biology**: The site contains very fine examples of calcareous grassland and rock surface plant communities developed on soils, rock and aggregates derived from the Permian Lower Magnesian Limestone. The variation in soil structure, aspect and slope on this site has resulted in the development of a range of calcareous grassland and rock surface plant communities of exceptional species richness. The calcareous grassland communities are characterised by such plant species as greater knapweed Centaurea scabiosa, burnet saxifrage Pimpinella saxifraga, cowslip Primula veris, autumn gentian Gentianella amarella, rockrose Helianthemum chamaecistus and a variety of orchid species, several of which are rare in Nottinghamshire. On more loamy soils the sward takes on the character of neutral grassland and contains such species as betony Betonica officinalis and lady's mantle Alchemilla vestita. Additional interest is provided by adjacent areas of floristically-rich woodland.	Dust arising from the site would be airborne. The SSSI is 385m from the proposed permitted activity.	-Dust management and mitigation methods referenced under the Dust section of the Environmental Risk Assessment above. - Due to the nature of the waste being handled on this Site the particle size of the dust emitted is of intermediate to large particles. Therefore, it can be concluded that these particles are highly likely to be deposited within 50m of the source and will not reach the SSSI.	Very Low: The site is located 385m from the site with any dust being produced evading mitigation methods dropping out within 50m.	Reduction in the status of the SSSI due to degrading of the site.	**VERY LOW** due to the proposed site mitigation associated with the dust management plan.
Site activity of screening and washing waste soils and aggregates	Biological SSSI **Annesley Woodhouse Quarries**	Annesley Woodhouse Quarries SSSI is a nationally important site for its unimproved dry calcareous grassland and marshy grassland vegetation communities, and an outstanding assemblage of native breeding amphibians.	Dust arising from the site would be airborne. The SSSI is 817m from the proposed permitted activity.	-Dust management and mitigation methods referenced under the Dust section of the Environmental Risk Assessment above. - Due to the nature of the waste being handled on the Site the particle size of the dust emitted is of intermediate to large particles. Therefore, it can be concluded that these particles are highly likely to be deposited within 50m of the source and will not reach the SSSI.	Very Low: The site is located 817m from the site with any dust being produced evading mitigation methods dropping out within 50m.	Reduction in the status of the SSSI due to degrading of the site.	**VERY LOW** due to the proposed site mitigation associated with the dust management plan..

Location of Annesley Woodhouse Quarries SSSI in proximity to the site



Location of Kirkby Grives SSSI in proximity to the site