Reid Jones partnership

Consulting Civil & Structural Engineers

CONSTRUCTION PHASE SURFACE WATER AND POLLUTION MANAGEMENT PLAN

PROPOSED DEVELOPMENT AT SHACKLETONS GARDEN CENTRE, CHATBURN,CLITHEROE

SHACKLETONS GARDEN CENTRE LIMITED

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1.0 INTRODUCTION

1.0.1 Reid Jones Partnership has been commissioned by Shackletons Garden Centre Limited to prepare a Construction Phase Surface Water and Pollution Management Plan (CSWMP) for a proposed expansion of the retail development at Clitheroe Road, Chatburn, Clitheroe, BB7 4JY.

1.0.2 The site lies within the civil parish of Chatburn, within the district of Ribble Valley Borough Council, in Lancashire County Council.

1.0.3 The Construction Phase Surface Water and Pollution Management Plan is to fulfill condition 18 of the planning application decision notice for the development (Application no. 3/2020/0911).

Condition 18. No development shall commence until details of how surface water and pollution prevention will be managed during each demolition and construction phase have been submitted to and approved in writing by the local planning authority.
Those details shall include for each phase, as a minimum:
a) Measures taken to ensure surface water flows are retained on-site during demolition and construction phase(s) and, if surface water flows are to be discharged they are done so at a restricted rate to be agreed with the Lancashire County Council LLFA.
b) Measures taken to prevent siltation and pollutants from the site into any receiving groundwater and/or surface waters, including watercourses, with reference to published guidance.
The development shall be constructed in accordance with the approved details.
Reasons
1. To ensure the development is served by satisfactory arrangements for the disposal of surface water during each demolition and construction phase(s) so it does not pose an undue flood risk on site or elsewhere;
2. To ensure that any pollution arising from the development as a result of the demolition and construction works does not adversely impact on existing or proposed ecological or geomorphic condition of water bodies.

1.0.4 The aim of this document is to ensure that pollution risks and control measures are identified, communicated to and accepted by the Principal Contractor and managed accordingly on site to minimise pollution risks, surface water and protect the environment during the construction works. The Construction Manager shall oversee, in conjunction with the construction management team, all the construction activities to ensure that mitigation measures described in this document are put in place via the Principal Contractor's EIRP (Emergency Incident Response Plan)and all activities are carried out in such a manner so as to minimise or prevent effects on the surface water, groundwater and soils, and to prevent the accidental discharge of fuels, oils, lubricants, paint or solvents and other pollutants including sediment in surface water runoff.

1.1 Site Context

1.1.1 The site comprises approximately 2.4 hectares of land, housing the existing Shackletons Home and Garden store, with associated car parks, storage areas and an area of agricultural land to the south-east.

1.2 Legislative Context

1.2.1 This report will focus on the drainage strategy and pollution control on site during construction and outline the appropriate mitigation measures to ensure there will be no significant increase in flood risk and pollution to the site or surrounding area as a result of the construction.

1.2.2 The general provisions placed on contractors are to minimise potential impacts from the onshore construction works on land, surface water or groundwater receptors. The Principal Contractor will follow relevant Environment Agency's Pollution Prevention Guidance (PPG) notes, as well as general good construction practices set out below.

Environment Agency Guidance Notes

• PPG01 – General guide to the prevention of water pollution
• PPG05 – Works near or liable to affect watercourses
• PPG06 – Construction and demolition sites
• PPG08 – Safe Storage and disposal of used oils
• PPG11 – Preventing pollution at industrial sites
• PPG20 – Dewatering of underground ducts and chambers
• PPG21 – Pollution incident response planning
• The Environment Agency's approach to groundwater protection (version 1.2 February 2018)
• Pollution Prevention for Business, (Defra and Environment Agency) May 2019

CIRIA Guidance

• CIRIA C532 Control of Water Pollution from Construction Sites (2001)
• CIRIA C502 Environmental Good Practice on Site (2015)
• CIRIA C753 SuDS Manual (Dec 2015)
• CIRIA C762 Environmental Good Practice on Site (4th Edition 2016)
• CIRIA 648 Control of Water Pollution from Linear Construction Projects – Technical Guidance (2006)
• CIRIA 649 Control of Water Pollution from Linear Construction Projects – Site Guide (2006)
• CIRIA SP156 - Control of water pollution from construction sites - guide to good practice, (2002)

1.2.4 Management and Compliance

A series of method statements shall be prepared prior the construction phase to supplement the information provided in this document. Separate method statements will be prepared for each substantial construction task with potential to give rise to significant pollution.
Each method statement shall:
• Outline how the specific task will be carried out, including details of pollution mitigation measures.
• Provide a description of its location.
• Contain a detailed risk assessment of each task.
• Contain a list of pollution prevention and control equipment to be provided.
• Indicate the location at which this equipment will be stored.
• Identify communications procedures.

1.3 Site Description and Location

1.3.1 The development location is shown on Figure 1 below.

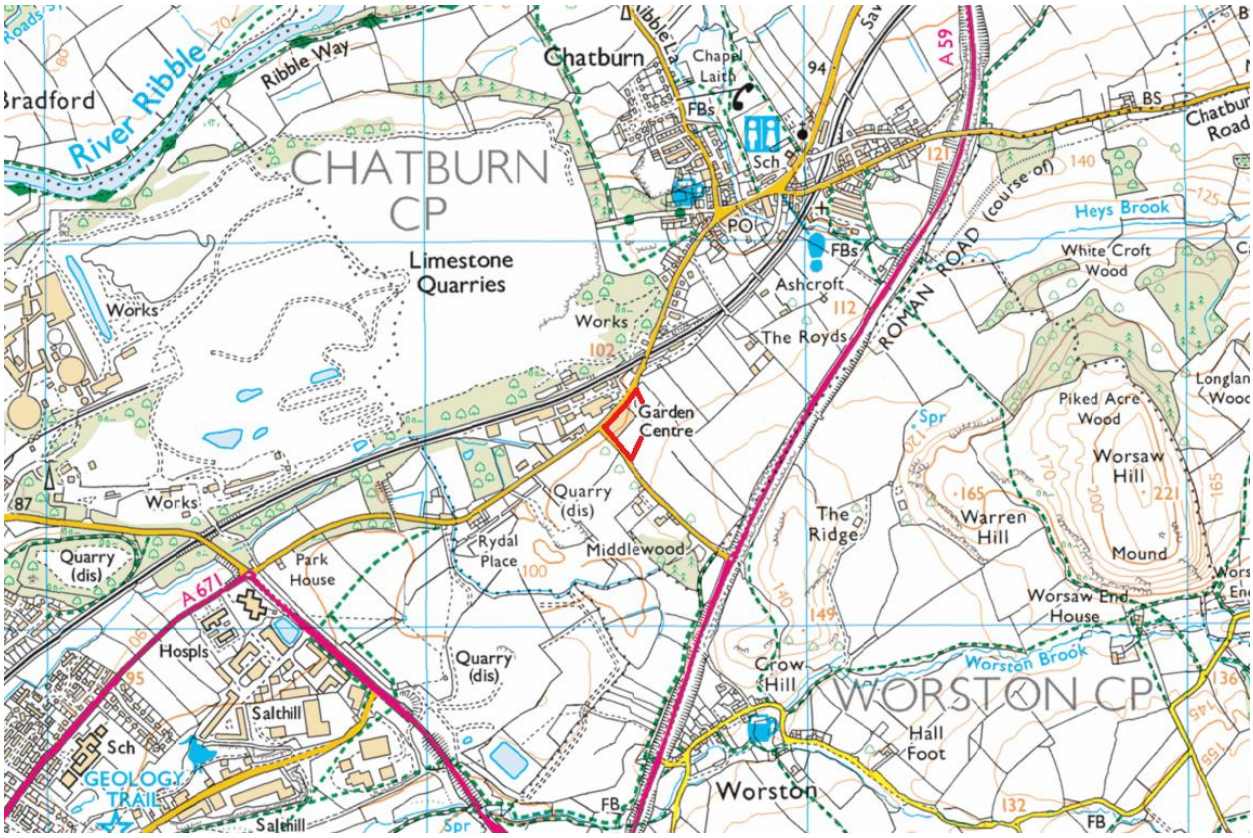


Figure 1 – Site Location Plan

1.3.2 The site covers an area of 2.4 hectares and houses the existing Shackletons Garden Centre building, storage areas, car parks and access roads and an area of agricultural land to the south-east.

1.3.3 The site lies between Clitheroe Road to the north-west, Worston Road to the south-west and agricultural land to the north-east and south-east. The main site entrance is off Clitheroe Road, while service access is provided off Worston Road.

1.3.4 The site is centred at Ordnance Survey reference 376567 E, 443518 N.

1.3.5 The nearest main rivers are Heys Brook, approximately 650m to the north-east of the site and Worston Brook, approximately 1km to the south.

1.3.6 British Geological Survey (BGS) maps indicate superficial deposits of till (Devensian – Diamicton) overlying bedrock of Limestone and Mudstone (Clitheroe Limestone Formation And Hodder Mudstone Formation (undifferentiated) - Mudstone).

1.3.7 The site is steeply sloping, falling towards the north-west. The existing site topography illustrating the direction in which surface water flows on site is shown on Reid Jones Partnership drawing No. 10301-200 (Appendix A).

1.4 Development Proposals

1.4.1 Planning permission has been granted for an extension to the retail building, and associated car parking and landscaping to suit. Customer access will remain off Clitheroe Road, but the entrance will be

moved to the east approximately 11 metres. Service access is also proposed further up Worston Road, to allow for the building expansion. The proposed layout of the site is shown on Stanton Andrews Architects drawing No. 1859/PL01 A (Appendix B).

2.0 POLLUTION PREVENTION RISKS AND CONTROLS

2.1 Storage of Materials

2.1.1 Materials and waste will be stored in a manner that minimises risk to the water environment and reduces the potential for substances to enter any roadside drains, natural drainage routes or water courses. The types of potentially polluting materials associated with these works and how and where they will be stored is given in the Table 2-1

Table 2.1 Storage of Material Controls

TYPE OF MATERIAL & RELATED WORK ACTIVITY	CONTROLS	PREVENTION
TOPSOIL Soil stripping and excavations	To be stored beside the works to a height no greater than 2m.	Preventing migration of silty water to the local water environment.
	Topsoil will not be compacted but profiled to maintain the soil's natural properties and structure.	Preventing damage to surrounding vegetation.
	To be stored separately from subsoil.	Managing material to aid successful reinstatement
	Where likely to be stored for longer than 6 months or over the winter periods, topsoil will be seeded to minimise erosion.	Preventing generation of wind blown dust
	Topsoil must be stored at least 3m away from any trees and hedgerows to avoid root protection areas. Care must be taken not to disturb soil within 1.5m of any growing tree, or 4 x the tree's circumference, whichever is greatest in line with the National Joint Utilities Group Guidelines.	
	Nothing should be stored or left on the topsoil bund	
	No topsoil shall be stored within 10m of a watercourse. Storage on slopes that drain directly to a watercourse will also be avoided.	
	Storage should be avoided in any flood risk zones. If stored inside a flood risk zone, storage bunds should be perpendicular to the watercourse and may require a permit from the authority responsible.	
	Water to be used for dust suppression, as required.	
SUBSOIL Soil stripping and excavations	To be stored beside the works to a height of no more than 3m.	Preventing migration of silty water to the local water environment.
	Do not over compact but profiled to maintain the soil's natural properties and structure	Preventing damage to surrounding vegetation.
	To be stored separately from topsoil.	Managing material to aid successful reinstatement.

	Subsoil must be stored at least 3m away from any trees and hedgerows.	
	Care must be taken not to disturb soil within 1.5m of any growing tree, or 4 x the tree's circumference, whichever is greatest in line with the National Joint Utilities Group guidelines.	
	No subsoil shall be stored within 10m of a watercourse.	
	Storage should be avoided in any flood risk zones. If stored inside a flood risk zone, storage bunds should be perpendicular to the watercourse and may require a permit from the authority responsible.	
	Water to be used for dust suppression, as required.	
SAND/STONE	To be stockpiled in the allocated lay down area in the site compound in a way to minimise dust and wastage.	Preventing dust generation
	Stone (coarse clean stone, with low fines) will meet the standard requirements for use within the works will arrive on site with a minimum percentage of fines.	Preventing migration of fines and silty water into the local water environment
	Water to be used for dust suppression, as required.	
CEMENT	To be stored in the original packaging on pallets inside the Control of Substances Hazardous of Health (COSHH) stores.	If cement is to be stored outside temporarily, it should be stored off the ground on pallets, away from waterbodies (at least 30m) or heavily trafficked areas and covered with tarpaulin.
		Preventing the ingress of high alkaline discharge into local water bodies, changing the local pH and thereby altering the natural balance
CONCRETE	An area of ground below the dispersing chute of the concrete wagon will be covered in visqueen to protect the underlying ground. Any amount that falls to unprotected ground will be removed immediately.	Preventing the ingress of high alkaline discharge into local water bodies, changing the local pH and thereby altering the natural balance.
	If concrete wagons dispense directly into concrete bins, these bins will be placed on a layer of visqueen.	
	A washout facility placed on visqueen will be provided for the wagon to wash into. The inside of this facility shall be fully water tight.	

	Cement laden water that accumulates in the washout facility must under no circumstances be pumped into the surrounding environment. Instead the water must be collected in a container, clearly marked and left in the container for disposal or treatment. Concrete laden water from excavations/work areas to be treated in line with Surface and Foul Water Drainage Management Plan or disposed offsite to a licensed facility	
CHEMICALS, BITUMEN, PAINTS, SOLVENTS, GREASE	Substances dangerous to the environment to be stored in the original packaging inside a 110% capacity bund for the largest container or 25% of the total volume.	Preventing migration of hazardous toxic material into the natural environment, including groundwater and water bodies.
	All chemicals should be stored in COSHH store.	
	COSHH data sheets will always be consulted and followed. A COSHH Register will be maintained by the Principal Contractor.	
INERT WASTE (sand/ spoil/ stone)	To be kept separate from nonhazardous and hazardous waste in a clearly designated area/ covered skip (labelled) located on a hard standing where possible.	To reduce the volume of hazardous and non-hazardous waste by segregation.
	Storage area to be located away from sensitive receptors/pathways and watercourses.	Preventing migration of fines into the local water environment.
NON-HAZARDOUS WASTE	To be kept separately from inert and hazardous waste.	To reduce the volume of hazardous and non-hazardous waste by segregation.
	To be segregated into its component streams and kept in clearly labelled containers/ covered skips.	Preventing migration of fines and waste materials into the local water environment.
	Containers/ skips to be in good condition, enclosed if necessary (plastic/paper/cardboard/general) and located on hard standing.	
	Containers/ skips to be located away from sensitive receptors/pathways and watercourses.	
	Containers/ skips to be screened from external receptors if possible.	
HAZARDOUS WASTE	To be kept separately from inert and non-hazardous waste.	
	To be segregated into its component streams and kept in clearly labelled containers. Liquid hazardous waste containers to be bunded to contain 110% of the volume	

	of the largest container or 25% of the total volume capacity.
	Containers/ skip to be in good condition, enclosed and located on impermeable hard standing.
	Containers/ skips to be located away from sensitive receptors/pathways and watercourses.
	Containers/ skips to be screened from external receptors if possible.

2.1.2 Sediment release or siltation can cause long term damage to river ecology and can accumulate to cause flooding events. Waters containing silt should never be pumped or allowed to flow directly into surface water features. Discharge of water into surface water features must have Environment Agency permit or exemption in advance of construction. Suitable treatment will be required in the form of a lagoon, tank or chemical treatment.

2.1.3 Where possible water should be prevented from entering excavations. Use cut off ditches to prevent entry of surface water and well point dewatering or cut-off walls for groundwater. Suitable management of field drainage systems will be required where these may be present within works locations to further prevent water ingress. Create a sump in the corner of an excavation and avoid disturbing that corner. Do not allow personnel or plant to disturb water in the excavation. Pumping from excavations will be undertaken in accordance with the Water Abstraction and Impounding (Exemptions) Regulations 2017.

2.1.4 Fresh concrete and cement are very alkaline and corrosive and can cause serious pollution in watercourses. It is essential to ensure the use of wet concrete and cement in or close to any watercourse is carefully controlled so as to minimise the risk of any material entering the water, particularly from shuttered structures or the washing of equipment. Any water requiring removal from works involving concrete/cement is not to be discharged either to ground or surface waters without sufficient treatment to neutralise the pH level, and without appropriate permits as outlined above.

2.1.5 Each area of works will be assessed individually to determine whether there is sufficient buffering capacity to settle solids and suspended silt via a soakaway prior to entry of run-off into the watercourse. Buffering capacity will generally depend on the topography and vegetation type, surface area and sensitivity. If sufficient buffering is not available, silt management measures will be enhanced to ensure that the sediment levels in the runoff does not exceed typical sediment concentration ranges in the receiving water body.

2.1.6 The nature of the sediment control proposed would be determined by the contractor on a case-by-case basis. Typically, runoff will be directed to a settlement area and, in the event that this does not provide sufficient sediment removal, discharge from that area would be directed via a silt buster (or similar mechanical silt removal system) prior to discharge. In the event that this system is proving to be insufficient (likely in the event of storm events in excess of design capacity) the response will be to seek to increase the size (i.e. plan area) of the settlement area to enhance the settlement of solids prior to discharge. This will also provide additional storage capacity to hold back flows in excess of the permitted discharge rate on the site.

2.1.7 Site staff will use both visual observations and hand-held turbidity probes to assess for the presence of problematic sediment concentrations in real time while on site. This will supplement laboratory testing for suspended sediment concentrations.

2.1.8 Prior to construction commencing, works will be undertaken, on a case by case and risk basis, to derive a relationship between turbidity and suspended sediment concentration for local subsoils and sediments along the route. From this the contractor will determine whether gravity or chemical treatment is required to drop out the sediment before discharge.

2.1.9 Prior to and during works, basic monitoring in the watercourses / ditches that that will receive a permitted discharge of surface runoff from the works areas, and any other channel in close proximity to the works, will be undertaken. This monitoring will include basic in-situ testing (pH, Dissolved Oxygen, Conductivity and Turbidity) and also sampling and laboratory analysis for suspended solids concentration. These results will be used to both define typical baseline ranges in the receiving watercourses and confirm that adverse water quality impacts are not occurring.

2.2 Fuel and Oil Storage

2.2.1 Fuel and oils will be stored in accordance with legislation to minimise the risk of pollution. Secondary containment will be provided for all oil and diesel tanks:

• For a single tank, the secondary containment will be at least 110% of the maximum storage capacity.
• For two or more tanks in one secondary containment system, the secondary containment will be at least 110% of the biggest tank's maximum storage capacity or 25% of the total maximum storage capacity of all the tanks, whichever is the greatest.

2.2.2 It is a requirement that storage of static generator(s) and associated fuel tank(s) are fully enclosed containerised systems (e.g. generator and fuel tank within the same bunded container unit) with a high level alarm fitted to the bund to indicate any issues with the containment system. Alternatively, static generator(s) and associated fuel tank(s)which are separate with inter-connecting hoses, may be located within a covered impermeable bund, where these will be located on-site for the "duration of the works". Bunds shall be constructed from concrete block work or similar (e. g. a walled containment facility). Rainwater shall be prevented from accumulating in bunds as this will compromise the containment.

Further controls with respect to fuel and oil storage are detailed in Table 2-2.

Table 2.2 Fuel and oil storage controls

TYPE OF MATERIAL & RELATED WORK ACTIVITY	CONTROLS	PREVENTION
DIESEL	To be stored in bunded tanks or double walled bowsers.	Preventing a release of diesel from entering the natural environment
	Fuel tanks and mobile bowsers must be kept locked when not in use and overnight.	
	Use of portable bowsers with built-in bunds for any refuelling activities required in the active working area, with the return of bowsers to the temporary compound overnight.	
	Where portable storage is required at active working areas these shall be sited at least 30m from watercourses, possible routes to watercourses and drains. Storage areas shall be located in areas free from vehicle movements to minimise the risk of collision damage.	
	Spill kit and granules will be stored near the bunded area. Jerry cans are to be used for hand carrying of fuel around the site. These must be clearly marked.	

	Where practicable, only restricted hand carrying of fuel should be allowed on the site. Any fuel containers must be stored in a bund or drip tray when not in use within a ventilated lockable COSHH store.	
	Ensure any fuel container is appropriately labelled.	
	Place plant drip trays under equipment containing fuel/oil in areas without permanent bunding and ensure their use when handling fuels or oils. This includes mobile generators when used out on site.	
OIL	To be stored in original container or in an appropriate container designed for the storage of oils.	Preventing a release of oil fromentering the natural environment.
	Use of portable bowsers with built-in bunds for any refuelling activities required in the active working area, with the return of bowsers to the temporary compound overnight.	
	Where portable storage is required at active working areas these shall be sited at appropriate distances from watercourses, possible routes to watercourses and drains. Storage areas shall be located in areas free from vehicle movements to minimise the risk of collision damage.	
	Metal jerry cans are to be used for hand carrying of oil around the site.	
	Where practicable, only restricted hand carrying of oil should be allowed on the site. Place plant drip trays under equipment when using oil.	
	Containers must be stored in a bund or drip tray when not in use within a ventilated lockable COSHH store.	
	Ensure the container is appropriately labelled.	
PETROL	To be stored in an appropriate container designed for the storage of petrol i.e. plastic jerry can.	Preventing a release of petrol from entering the natural environment.
	Where practicable, only restricted hand carrying of fuel should be allowed on the site.	
	Place plant drip trays under equipment containing fuel/oil in areas without permanent bunding and ensure their use when handling fuels or oils. This includes mobile generators and metal jerry cans which are used out on site.	

	Containers must be stored in a bund or drip tray when not in use within a ventilated lockable COSHH store

2.3 Vehicle Movements

The construction works will require a significant volume of vehicle movements which have the potential to cause pollution. The procedures for control pollution risks associated with this activity are provided in the Table 2.3.

Table 2.3 Vehicle Movement Control Procedures

ACTIVITY	CONTROL PROCEDURE	FREQUENCY/TIMESCALE
Maintenance	All vehicles and plant to be inspected for signs of fuel/oil leaks or drips.Vehicles leaking fluids shall be denied entry to the site.	Prior to entry on site.
	All on-site vehicles and plant to be subject to visual inspection for signs of fuel/oil leaks or drips before being delivered to working area.	Daily
	Any vehicles leaking fluids shall be contained or removed from site for repair.	As required
	Maintenance of all mobile plant and vehicles to be carried out at a suitable location.	On-going during construction
	Wastes arising during vehicle maintenance to be collected in marked containers for disposal off site.	On-going during construction. Waste to be removed from site as required
	A vehicle management system will be put in place wherever necessary to reduce the potential conflicts between vehicles and thereby reduce the risk of collision.	As required
	Speed limit on un-surfaced roads to minimise potential for dust generation and monitoring of haul road surface condition	On-going during construction
	Vehicles leaving site will be washed if necessary.	On-going during construction
	Water will be used as a dust suppressant as required.	On-going during construction
Parking	All mobile plant and vehicles to be parked in dedicated locations.	Every working day
Plant	All static operational plant to be fitted with drip trays to prevent oil and fuel leaks causing pollution.	On-going during construction
	All operational plant and vehicles to carry a suitable spill kit.	On-going during construction
Refuelling	Refuelling procedures and locations to be outlined within a method statement	Prior to construction

	A designated refuelling area will be used with an impermeable surface, at least 30m from watercourses and drainage ditches. Principal Contractor also needs to be aware of any prevailing weather conditions to ensure that any bunded area is not left in a condition that could result in an overflow. Any contaminated water within the bund must be treated or disposed of using a licensed waste contractor.	On-going during construction
	Suitable spill kits to be located at every refuelling point.	On-going during construction
	Standing machinery will have drip trays placed underneath to prevent oil and fuel leaks causing pollution. Drip trays will be checked regularly and any accumulated oil removed for appropriate disposal.	On-going during construction

2.4 Hazardous Substances

2.4.1 It is the responsibility of the Principal Contractor to have in place controls for the delivery, storage and use of the hazardous materials to be used during the construction works. COSHH assessments, environmental risk assessments and method statements will be used to determine the necessary controls required to protect human health and the environment.

2.4.2 It shall be a requirement for the Principal Contractor to hold and maintain an up to date inventory of any chemicals and wastes that are held on site including Material Safety Data Sheets (MSDS) and to maintain, manage and inspect the COSHH store.

2.4.3 Table 2.4 details the control measures which shall be employed for the management of hazardous substances.

Table 2.4 Hazardous Substances

MANAGEMENT OF HAZARDOUS SUBSTANCES
Selection of chemicals that have the lowest impact to the environment where practicable and volumes of hazardous substances stored to be limited to be fit for purpose and minimise risk;
The Principal Contractor and all sub-contractors shall detail within their CEMP specific controls necessary for the delivery, storage and handling of hazardous materials relevant to their works, and in particular oils and fuels, taking into account the requirements of the Control of Pollution (Oil Storage) (England) Regulations and best practice guidelines (such as Pollution Prevention for Business).
Ensure that fuels, oils and chemicals dangerous to the environment are only ordered in manageable quantities and stored responsibly i.e. in a bunded area able to contain 110% of the volume or in a suitable container/storage area within designated areas and in accordance with relevant legislation
Store fuel, oil and chemical in areas that are secure with suitable built in containment such as bund walls or drip tray. Containment must be structurally sound and strong enough to prevent leakage. They must be locked and secured when not in use.

Ensure that containers are labelled with details of contents and spillage kits or portable bund kits are available at or near the delivery point for emergencies.
Chemicals, oils and hazardous materials will be stored securely at least 30m from watercourses.
Place plant drip trays to be used when handling all chemicals, fuels or oils.
Activities involving the handling of large quantities of hazardous materials, such as deliveries and refuelling will be undertaken by designated and trained personnel.
Where external storage is required, these should be located in designated areas taking into account security, the location of sensitive receptors and pathways such as drains and watercourses, and safe access and egress for plant and manual handling. Spill response materials shall be provided nearby and be readily accessible, with local project personnel trained in spill response. Storage areas should be located in areas free from vehicle movements to minimise the risk of collision damage.
The storage of incompatible hazardous materials shall be appropriately segregated and stored a minimum of 30m from any watercourse or drain. If hazardous materials are stored in a confined space, the space must be properly ventilated.
Oil, fuel and chemical storage areas shall be inspected, at least weekly for signs of spillage, leaks and damage. Rainwater, materials and general debris that collects in bunds and drip trays that compromise contingency storage shall be removed as part of the maintenance programme and in accordance with regulatory protocols. Spill kits of sufficient capacity to deal with volumes stored to be fully stocked and readily available.

2.5 Construction of Access Tracks and Haul Roads

2.5.1 The Principal Contractor will be responsible for ensuring the mitigation measures in Table 2-5 are implemented as part of the access track and haul road construction process to limit the amount of silt migrating from the construction areas into surrounding watercourses. The following are best practise mitigation methods that are best used in combination with one another to create a series of points to attenuate and manage runoff.

Table 2.5 Construction of Access Tracks and Haul Roads

MITIGATION TYPE	MITIGATION DESCRIPTION
Silt traps	Silt traps are a simple and effective method of controlling sediment laden run-off, but are limited by capacity of what the expected flows are likely to be. These can be installed either on the inlet or outlet side of culverts, but require to be robust enough to allow for frequent clearing out of collected sediments. Silt traps are also useful in reducing the amount of silt transported along longer drainage channels with a lower gradient

Silt fencing	This system involves the installation of semi-permeable geotextile fabric, vertically held on simple timber posts, and is used primarily as an additional means of reducing sediment concentrations in run-off water. Silt fencing would not be used in watercourses. The fences can be installed alongside any sensitive areas e.g. large areas of stripped materials, or downstream from outlets. Silt fences are generally more suitable in a situation where sheet flow could result in the migration of silt from areas further up the slope or where the water in areas prone to sheet flow need to be interrupted to stop the formation of erosion gulleys. They should be used with caution in narrow channels prone to strong flow during wet periods where they can easily block the water and either cause flooding of the surrounding area or be destroyed in the process. Straw bales will not be used for filtering water as these are not an effective method and cause manual handling hazards when wet.
Settlement Lagoons	Any proposed site for large capacity settlement lagoons requires careful planning and a good awareness of the expected volumes of flows that they will be required to cope with. Lagoons are particularly effective where a large run-off volume is expected and suitable small scale dispersal to existing vegetation would not be successful. Care is required to ensure that the sidewalls are strong enough to withstand any potential loadings as an uncontrolled discharge could have serious environmental consequences.
Surface Crossdrains	On sections of tracks that have particularly long gradients, surface erosion can be prevalent following periods of persistent rainfall. Surface water tends to run down the roadline, accumulating as it nears the lower sections and eventually flowing into watercourses carrying with it all the silt scoured from the road surface along the way. To alleviate this issue, it is recommended to install a series of surface cross-drains to intercept these flows, and divert them into the main carrier drain leading to the settlement lagoon, preventing the build-up of flow. These cross drains can be constructed with channels of various materials but should be strong enough to withstand the expected traffic loadings. It is noted that cross drains can quickly become filled with sediment, and, therefore, regular inspection and cleaning will be undertaken in order that they work as intended.

2.6 Spill Response Plans

2.6.1 Numerous materials will be present on site and various activities that could cause an incident if not managed appropriately, the Principal Contractor is therefore required to produce an Emergency Response Plan so that in the event of any spill on site the appropriate actions can be quickly undertaken.

2.6.2 Incidents will be categorised as follows:

Near miss:
•Any event or situation that, whilst not immediately causing harm, has the potential to adversely impact on the environment;

Minor:
•Pollution to controlled waters as a result of oil/chemical spills or silt that is not considered to be significant and is contained locally;

• Pollution or contamination of land as a result of oil/chemical spills that is not considered to be significant due to the nature and extent of contamination and sensitivity of receptors;
• Management of waste with insufficient regard to 'duty of care' but is unlikely to give rise to notices from stakeholders;
• Any other matter deemed to be a minor incident by the Construction Manager.

Major:
• An incident which gives rise to a prosecution, regulatory notice, caution or warning letter, or other form of enforcement action/notification from a stakeholder such as a regulatory body or authority (including a utility where appropriate).
• Activity undertaken in breach of legal requirements, without appropriate permission, licence or consent, or in breach of consent conditions, including 'duty of care'.
• Significant pollution to controlled waters as a result of oil/chemical spills or significant quantities of silt;
• Significant pollution or contamination of land as a result of oil/chemical spills which is considered to be significant due to the nature and extent of contamination and sensitivity of receptors;
• Injury or death to any animal which has legal protection; and
• Any other matter deemed to be a major incident by the Local Authority or Environmental Agency.

The following aspects will form part of the Principal Contractor's Emergency Response Plans:

• Use of an assigned Emergency Spill Response Contractor;
• Assessment of safety of site operatives/ employees.
• Location, access to and content of spill kits / response materials, including Emergency Lockers with a unique reference to make it simple to identify the location of an incident.
• The Environmental Agency has the following minimum requirements in regards to spill response. Spill kits to be provided in/with the following:
o In all heavy plant, 4x4 and commercial vehicles.
o With all refuelling bowsers.
o During all refuelling operations, associated transportation and storage.
o With all static fuel tanks.
• Notification procedures (including reporting to the relevant external stakeholders, environmental regulatory bodies where the severity of the incident deems such notifications appropriate).
• Clean up and waste management including method for handling the waste, bagging and handing over to the relevant waste contractors whose contact details will be listed.
• Spill response materials replenishment, the Emergency Locker will be replenished each time the kits are used.
• Spill response competency, Toolbox talks will be issued to demonstrate the deployed of spill kits in the event of an incident. A spill drill will be conducted, documented and signed by all in attendance on six monthly basis.

2.7 Staff Training

• Every person working within the scope of the project must have a minimum level of training required for their role. This will ensure a competent pollution prevention and an effective response to any emergency situations such that the extent of damage following an incident is mitigated.
•The Principal Contractor must ensure they are aware of the requirements of this document and that the requirements are communicated to all their staff on site. As part of the site induction, any sub-contractor working on site will be briefed on the applicable emergency response procedures so that they are prepared and able to respond to an incident promptly and effectively. Each member of the Emergency Response Team shall be appropriately trained in the areas to which they are appointed. Confirmation of contractor staff training shall be supplied by the Principal Contractor and maintained as part of training records.
• Weekly environmental toolbox talks will be briefed to site personnel by the Principal Contractor on various topics that are appropriate to the work activities. In relation to pollution prevention the following toolbox talks are advised however this list is not exhaustive:
    • Storage of materials
    • Chemicals
    • Hazardous substances
    • Pollution Prevention
    • Pollution Incident Response

• Pollution Incident Reporting
• Spill kit Use – physical display of how to use the kit
• Fuels and Oils (Pollution Prevention)
• Cement/ Concrete – Water Pollution Prevention

3.0 SURFACE WATER DRAINAGE MANAGEMENT PLAN DURING CONSTRUCTION

3.1 Introduction

3.1.1 The requirement for a SWDMP is based on the duty to ensure that surface water quality and quantity is managed throughout the construction process to mitigate impacts off site. It will also play a role in protecting the quality of soils on site by preventing loss of composition and nutrients. Surface water runoff is a risk to the quality of all controlled water bodies and a nuisance to adjacent landowners. Surface water flooding can also delay works activities and become a risk to human health.

3.1.2 Detailed evaluation of each section of the works will be undertaken prior to construction works commencing and selection of the most appropriate mitigation measures for each area will be applied. Such evaluation will consider, but not be limited to, extent of work areas, topography of the site, geology and soil conditions, hydrology and surrounding receptors.

3.1.3 The workforce will receive “toolbox” talks outlining the aims of the water management strategy and its importance in maintaining a safe working environment and protecting water features along the route.

3.2 Existing Drainage

3.2.1 Existing land drainage systems will be maintained during construction, where possible, and reinstated on completion. Consultation with landowners and occupiers will be undertaken to establish existing drainage arrangements, the location of drains and any other relevant information. Further mitigation will include the use of a specialist, local drainage contractor to undertake surveys to locate drains and create drawings both pre- and post-construction and ensure appropriate reinstatement. Where drains are shallower than 1.5m, temporary culverting or diverting may be employed. Where possible, these will be cut off and capped inside the works area, to prevent silt leaving site and new field drains will be installed on the site boundary. Following construction, field drainage systems and ditches will be fully reinstated where possible in consultation with landowners / occupiers.

3.2.2 Where construction operations may impact the wider drainage regime, the work will be undertaken in consultation and agreement with Ribble Valley Borough Council as relevant. During the construction phase, local drainage will only be interrupted for the shortest possible period and will be reinstated as soon as practicable to minimise any effect on local drainage or soil moisture content.

3.3 Construction Stage Drainage Design

3.3.1 The design of the Construction Stage Drainage will be completed in conjunction with the Principal Contractor when appointed. The design shall take account of the Contractor’s proposed sequencing and method of working, but as a minimum should include the following measures:

• The main access roads into the construction site will have a portable wheel wash facility to prevent construction vehicles and plant carrying mud off site onto public roads and will include self-contained water and silt collection systems. Waste silts and sludges will be regularly removed in accordance with Duty of Care requirements.
• Oil, water and silt separators will be used where applicable in the CS surface water management systems to remove oils and fuels accidentally spilled/accumulated during construction. These will be maintained in accordance with the manufacturer’s instructions to ensure they remain efficient.
• The length of time excavations are kept open will be minimised to reduce the potential for dewatering.
• The filtration of all run-off using mitigation measures such as check dams, filter strips, silt fences or settling tanks/ponds prior to release, or the discharge of clean surface water run-off to land to allow

natural percolation wherever possible (no discharge of water will take place directly into a watercourse without applicable consent being in place).
• The separate storage of topsoil and excavated materials, to prevent mixing of sub-soil and topsoil, thus improving reinstatement.
• The minimisation of excavation volumes and disturbance to the surrounding areas, together with the replacement and reseeding, as required, of any soils inadvertently disturbed during excavations in general accordance with their original structure and location.
• The setting of vehicular speeds along the construction access tracks to minimise soil trafficking.
• The use of pollution control measures to reduce sediment run-off entering any watercourses or surface water drainage systems during construction activities, with reference to the relevant guidance and good practice (See Section 2.2).
• Regular cleaning and maintenance of plant to ensure potential pollutants are not released e.g. from fuel spills and leaks.
• The maintenance of a register of fuel volumes stored on site, and the location of fuel storage and refuelling points in designated areas, a minimum of 30m from watercourses.

3.3.2 Regular inspection of facilities storing hazardous materials, which will be locked and made secure when not in use (see Section 2 above).

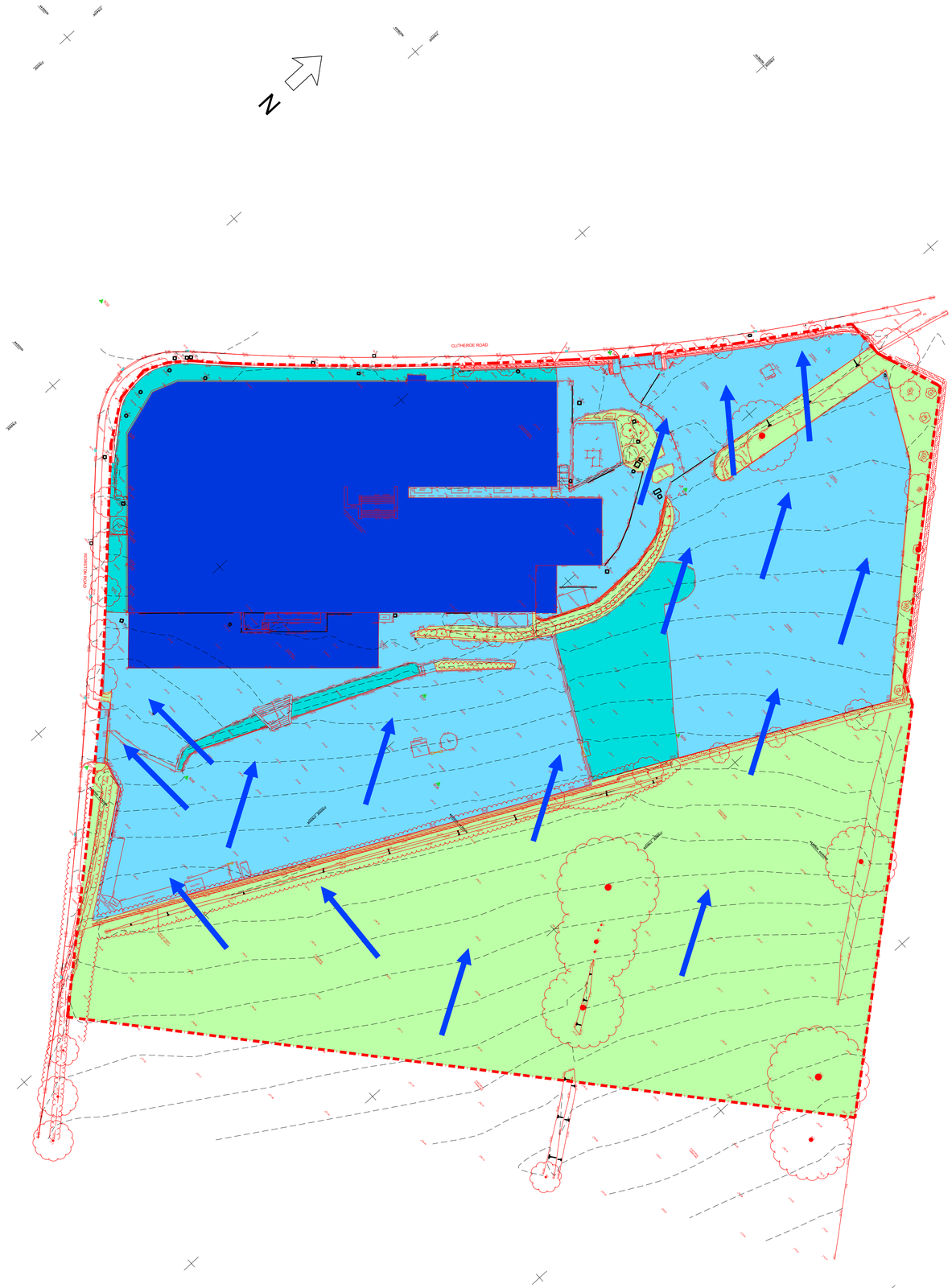
• Best environmental practices will be followed, reducing the potential for release of contaminants to ground to a minimal level. Appropriate spill and leak containment systems will be incorporated into the construction procedures to ensure no uncontrolled releases of contaminants occur.
• Any materials to be removed from site will be subject to the appropriate waste management licensing regulations. Care will be taken to manage any stockpiles of materials in order to reduce runoff from exposed surfaces.

3.3.3 A proposed Construction Stage Drainage Arrangement is shown on Reid Jones Partnership drawing no.10301-103. It shows the following features:

• The main permanent surface water carrier drain to be constructed first and used as part of the temporary drainage system.
• A series of surface cross drains installed to intercept water flowing towards Clitheroe Road.
• A settlement lagoon formed downstream of the temporary drainage route, with an outlet connected to the off-site drainage network.
• A means of diverting the water from the roofs of the existing building to the temporary drainage system.
• Wheel washing facilities at both site entrances.
• The proposed location of the Contractor’s compound, with bunded fuel storage area and secure storage for hazardous materials.

APPENDIX A

Reid Jones Partnership drawing No. 10301 -200
Site Topography Showing Existing Surface Water Flow Direction



0 10 20 30 40 50 METRES

SCALE BAR 1:500

PRELIMINARY DRAWING.
NOT FOR CONSTRUCTION.

NOTES

1. THIS DRAWING IS BASED ON SURVEY OPERATIONS DRAWING NO. 19B058/001A.

KEY		TOTAL AREA (ha)
	EXISTING PERMEABLE/ PLANTED/UNDEVELOPED AREA	0.95
	EXISTING GRAVEL/SLATE CHIPPINGS	0.13
	EXISTING HARD PAVED SURFACING	0.80
	EXISTING ROOVES (EXISTING DEVELOPMENT TO REMAIN)	0.47
	TOTAL SITE AREA	2.35
←	SURFACE WATER FLOW DIRECTION FOLLOWING EXISTING TOPOGRAPHY	

Rev	Details	Drawn By	Ckd/App By	Date
P1	ISSUED FOR INFORMATION	SHR	SJR	01.02.24

Client:
SHACKLETONS GARDEN CENTRE LIMITED

Project:
PROPOSED DEVELOPMENT AT SHACKLETONS GARDEN CENTRE, CHATBURN

Title:
SITE TOPOGRAPHY SHOWING EXISTING SURFACE WATER FLOW DIRECTION

Issued For:
INFORMATION

Reid Jones partnership
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Scale: 1:500 @ (A1)

Project No:	Drawing No:	Issue:
10301	200	P1

APPENDIX B

Reid Jones Partnership drawing No. 10301-103
Proposed Construction Stage Drainage General Arrangement

CLITHEROE ROAD

WORSTON ROAD

EXISTING BUILDING RAINWATER DOWNPIPES DIVERTED ABOVE GROUND LEVEL TO CONSTRUCTION STAGE DRAINAGE SYSTEM UNTIL PERMANENT SYSTEM HAS BEEN CONSTRUCTED

WHEEL WASHING FACILITIES

WHEEL WASHING FACILITIES

OUTFALL TO OFF-SITE DRAINAGE SYSTEM. DISCHARGE RATE TO BE AGREED WITH LANCASHIRE COUNTY COUNCIL LLFA

TEMPORARY CONNECTION

TEMPORARY CONNECTION

SETTLEMENT LAGOON

PROPOSED SILT FENCE NETTING

SURFACE CROSS DRAINS

NEW PERMANENT DRAIN CONSTRUCTED FIRST AND USED AS PART OF THE TEMPORARY DRAINAGE SYSTEM

CONTRACTORS COMPOUND WITH BUNDED FUEL STORAGE AREA

LEGEND

- EXISTING SURFACE WATER DRAIN
- PROPOSED SURFACE WATER DRAIN
- PPIC — PROPOSED POLYPROPYLENE INSPECTION CHAMBER
- PCC — PROPOSED PRE-CAST CONCRETE MANHOLE
- PROPOSED SETTLEMENT LAGOON
- PROPOSED SURFACE CROSS DRAINS
- PROPOSED SILT FENCE NETTING
- PROPOSED CARRIER DRAIN

Rev	Details	Drawn By	Ck&App By	Date
P1	ISSUED FOR INFORMATION	SHR	SJR	22.02.24

Client:
SHACKLETONS GARDEN CENTRE LIMITED

Project:
PROPOSED DEVELOPMENT AT SHACKLETONS GARDEN CENTRE, CHATBURN

Title:
PROPOSED CONSTRUCTION STAGE DRAINAGE GENERAL ARRANGEMENT

Issued For:
INFORMATION

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Scale: 1:300 @ (A1)

Project No:	Drawing No:	Issue:
10301	103	P1

PRELIMINARY DRAWING.
NOT FOR CONSTRUCTION.