

SITE SAFETY PLUS

Construction site supervision (SSSTS Workbook)



SSSTS-R
WORKBOOK
OFFICIAL CITB
EXERCISE
ANSWERS

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Answers



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General rules, regulations and responsibilities

1 Roles and responsibilities of the site supervisor

1.3 Exercise 1: Leadership qualities

Answer: This is a reflective activity. The order in which you rank the qualities, the three qualities you choose, and your reasons for selecting and ranking them will be unique to you. You should have explained why you consider each quality important, and how you will apply it in practice. Two examples have been provided below.

Quality	Why it is important	How will you do this?
Communication	Clear communication helps make sure that workers understand tasks, site rules and health and safety requirements, reducing the risk of mistakes, accidents and incidents.	I will give clear instructions during briefings, check that workers understand what is required, listen to any concerns raised, and encourage workers to ask questions if they are unsure.
Problem solving	Site supervisors often need to deal with issues quickly to keep work safe and on schedule.	I will assess problems calmly, speak with the team to find solutions, and take appropriate action to reduce disruption and maintain safety.

1.5 Exercise 2: Site supervisor behaviours

Answer:

Behaviour	Why it is important
Any answer that explains why the chosen behaviour is important for the role of a site supervisor is correct. Three example answers are given below.	
Always wearing the correct PPE, and following site rules.	● It sets a positive example, and encourages the team to work safely and healthily. ● It re-inforces that health and safety is a priority. ● It encourages workers to take responsibility for protecting themselves and others.
Giving clear work instructions.	● It ensures that workers understand risks, correct procedures and appropriate health and safety controls. ● Reduces any confusion, as workers know what to do, how and when. ● Ensures that consistent health and safety standards are maintained, and errors/accidents are minimised.
Leading by example and being a role model.	● There are more open conversations around health and safety. ● Workers are more likely to copy what they observe, and adopt the same mindset rather than just doing as they are told. ● Improved compliance with all health and safety controls and standards. ● Workers will respect supervisors who lead by example. ● Visible positive health and safety behaviours re-inforce good habits. Health and safety on site become a habit, not a request.

2 Health and safety law

Section 2 – Knowledge check

2.1 – Who carries out enforcement of the Health and Safety at Work etc. Act 1974?

Answer: The Health and Safety Executive (HSE).

2.2 – Write the correct term next to the definition.

Daily checks that ensure systems, controls and procedures are being followed. If any issues are found, then they can be resolved quickly, and any feedback used to make improvements to the system.	Active monitoring
A combination of a person's skill, knowledge, training and experience, and their ability to apply these to carry out a task safely.	Competence
This happens after something has gone wrong, for example a near miss or an accident. The cause is investigated, and changes are made to make sure that it does not happen again.	Reactive monitoring

3 Risk assessments, method statements and permits to work

3.8 Exercise 3: Risk control

Elimination

Elimination of dust by having materials delivered already cut to size, rather than cutting them on site.

Substitution

To create less dust, use a block splitter rather than a disc cutter.

Engineering controls

- Isolate people from the hazard through physical means. For example, enclose the process so that dust does not escape, and install ventilation systems.
- Dust can be prevented from getting into the air by using methods such as dampening down, wet cutting or on-tool dust extraction systems to capture the dust at source.

Administrative controls

- Safe systems of work.
- Provide training to workers.
- Face-fit testing for workers wearing RPE.
- Change the way people work. For example, minimise the number of workers that are at risk, or rotate job tasks to reduce exposure time.

PPE

Provide PPE such as gloves, overalls and a respirator.

Section 3 – Knowledge check

3.1 – What is residual risk?

Suggested answer: Residual risk is the risk that remains after all reasonably practicable control measures have been put in place.

4 Statutory inspections and checks

Section 4 – Knowledge check

4.1 – Give two reasons why it is important to maintain accurate inspection records.

Suggested answer(s):

- To provide evidence that legal requirements have been met.
- It helps to support a safer working environment.
- It shows compliance with legislation.

5 Accident prevention and reporting

Section 5 – Knowledge check

5.1 – Name two injuries that would need to be reported to the HSE.

Suggested answer(s):

- Specified injuries – fractures (other than to fingers, thumbs and toes); amputation; any crush injury, etc.
- Any injury that results in a worker being unable to carry out their normal work for more than seven days.
- An injury to a member of the public that results in the injured person being taken to hospital directly from the scene of the accident.
- Fatal injury/death.

Health and welfare

6 Health and welfare

Section 6 - Knowledge check

6.1 - When should personal protective equipment (PPE) be used?

When it is the cheapest option	✗
When it is the last resort	✓
When it is the easiest option	✗

10 Respiratory hazards

Section 10 - Knowledge check

10.1 - One of the responsibilities of a site supervisor should be to control respiratory hazards.

True	✓
False	✗

10.2 - Name three respiratory illnesses connected to construction work.

Suggested answer(s):

- Chronic obstructive pulmonary disease (COPD).
- Silicosis.
- Lung and nasal cancer.
- Occupational asthma.
- Legionellosis.
- Psittacosis.
- Aspergillosis.

10.3 - Silica is the highest risk substance to construction workers after asbestos.

True	✓
False	✗

12 Manual handling

12.3 Exercise 4: Manual handling

 Task	 Controls	 Monitoring
Moving a bag of cement from the storage container to the work area	Use a team lift	Workers receive training on safe lifting techniques and team lifting

General safety

15 Electrical safety

15.3 Exercise 5: What to do in an emergency

1.	<i>Do not touch the casualty</i>
2.	<i>Isolate the power supply</i>
3.	<i>Move the casualty away from the electrical source with a non-conductor</i>
4.	<i>Seek prompt help from a first aider and telephone the emergency services</i>

High-risk activities

18 Working at height

Section 18 – Knowledge check

19.1 – When should PPE be used to minimise the distance or consequence of a fall from height?

Suggested answer: When it is the last possible option.

19.3 – Name two control measures that should be in place before work at height takes place.

Suggested answer(s):

- Ensure that workers understand the RAMS for the activity.
- All inspections and reports are completed by a competent person.
- For fragile surfaces, ensure that specific controls are in place e.g. a fall-arrest system.
- Work equipment selected for the task should be suitable for its intended purpose and be used correctly.
- Make sure that suitable barriers and signs are in place.
- Ensure that work equipment tags are in place and up to date in line with inspection frequency (e.g. scaffold or ladder tags).

21 Confined spaces

21.3 Exercise 6: Confined spaces

The controls should be relevant to the type of confined space chosen – some suggestions are as follows:

- Avoid entering the confined space where the work can be done by other means.
- Ensure that suitable and sufficient risk assessments and method statements are in place.
- Use a permit-to-work system.
- Implement a safe system of work and permit-to-work system.
- Ensure that workers are trained, competent, authorised to enter the space and adequately supervised.
- Designate a 'top man' or standby individual.
- Test and monitor the atmosphere for hazardous gases and oxygen levels (pre-entry gas testing).
- Make sure that no hot-work activities take place unless atmospheric testing has confirmed there are no flammable or explosive gases present.
- Provide suitable mechanical ventilation where required.
- Services are isolated, e.g. electrical, mechanical, fluids or gases.
- Provide suitable equipment, personal protective equipment/respiratory protective equipment, and safe access and egress.
- Ensure that there is an effective fail-safe communication system between those inside and outside the confined space.
- Make sure that emergency rescue arrangements are in place, including trained rescuers and rescue equipment.

Environmental awareness

23 Safe environmental practices

Section 23 – Knowledge check

23.1 – Imagine the following situation on a construction site: a stockpile of contaminated soil has been dumped next to a drain. Identify one environmental impact and suggest one control measure.

Suggested answer(s):

- Contaminants could enter the drain and pollute local watercourses. Ensure that stockpiles are away from drains, and install bunding or covers to prevent runoff.
- Harm to wildlife due to polluted water or soil. Store contaminated soil in a designated, contained area and arrange for safe disposal by a licensed contractors.
- Soil contamination spreading to surrounding ground. Use impermeable sheeting and containment measures to prevent spread.

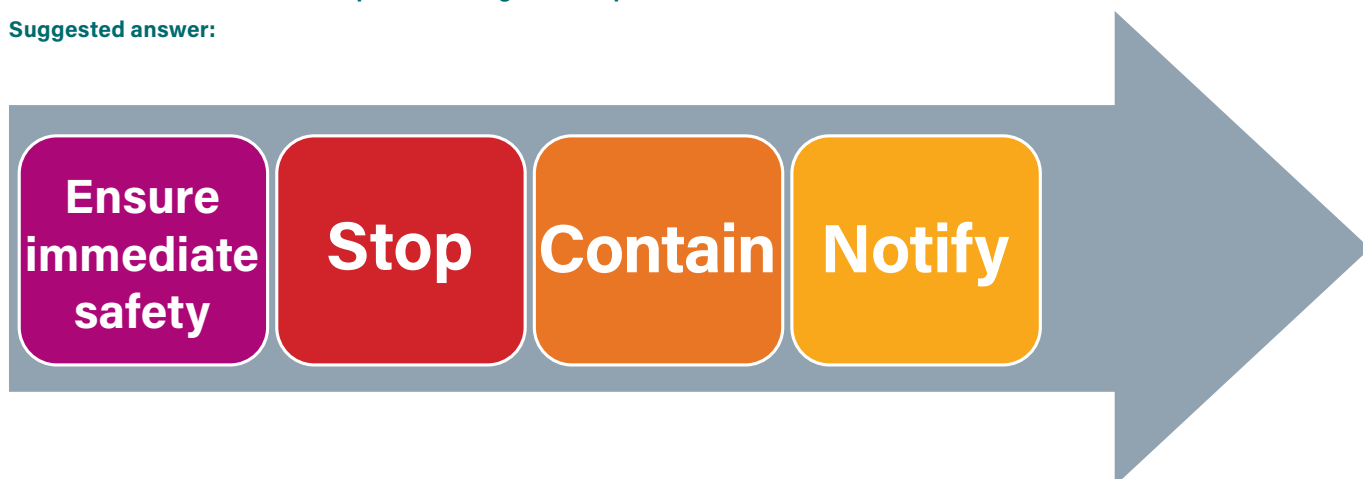
23.2 – Imagine you are an inspector for the Environment Agency. You are carrying out some routine inspections of higher-risk sites in your geographical area. List three things that you would check immediately to assess whether the site is doing everything possible to protect the environment.

Suggested answer(s):

- Check that an environmental management plan (EMP) is in place, and is followed and monitored.
- Check that the correct environmental controls are in place, understood by all workers, inspected and reviewed regularly (e.g. waste segregation).
- Make sure that the correct spill kits are available, and that workers know how and when to use them.
- Check that workers know how to respond to an environmental incident.

2.3 – When an environmental incident happens, it must be dealt with immediately. The diagram shows the four broad steps that must be followed. Which two steps are missing from the process?

Suggested answer:



Interactive scenarios

Construction (Design and Management) Regulations 2015

Co-operation and co-ordination

Suggested solutions

- Daily briefings/toolbox talks/co-ordination meetings.
- Traffic management plan, enforced with segregated routes.
- Designated logistics manager or traffic marshal strategy.
- Defined pedestrian routes.
- Controlled delivery scheduling to avoid peak school times.
- Sequencing of work activities.
- Permit-to-work systems for high-risk work activity interfaces.
- Communication between contractors and sub-contractors.
- Liaison/face-to-face meetings with:
 - school (timings)
 - Local Authority
 - local community.

Principal contractor responsibilities

Suggested solutions

- Secure fencing/hoarding around full site perimeter.
- Controlled access/egress with gate management control/systems.
- Banks person in place for all vehicle movements.
- Updated construction phase plan and traffic management plan, implemented and continually monitored/updated.
- The construction phase plan and traffic management plan should be communicated to workers, to make sure that all site users are aware of the potential hazards.
- Monitoring systems (inspections, audits).
- Engagement with stakeholders (school communication plan).
- Public protection measures (covered walkways/diversions if needed).
- Controlled delivery scheduling to avoid peak school times.
- Contact the council or Local Authority to confirm if there is a need for the bus stop to be suspended or relocated.

CDM project documentation

Suggested solutions

- Ensure availability, recording and monitoring of:
 - construction phase plan (site-specific)
 - risk assessments and method statements (RAMS) for all activities
 - emergency procedures (safe evacuation, fire, spillages, service strikes, etc.)
 - F10 document (make sure that it is complete and displayed).
- Documents must be:
 - communicated to, and understood and agreed by, relevant duty holders/workers
 - monitored, reviewed and updated.
- Dynamic risk assessments must be in place.
- All health and safety control documents must be regularly reviewed and updated.
- Supervisors must make sure that RAMS are followed on site (they are not just paperwork!).

Welfare facilities

Suggested solutions

- Separate toilets for men/women (showers if work is dirty/hazardous).
- Hand-washing facilities (hot/cold water, soap).
- Accessible drinking water.
- Rest area (heated, backed seating).

- Facilities for heating up/keeping food cool, etc.
- Drying rooms (especially in poor weather).
- Changing rooms with lockers (separate for men and women).
- Welfare scaling planning with workforce size (peak numbers) and build phases).
- Regular cleaning and maintenance of supplies.
- Safe access routes to welfare facilities, so that workers do not have to walk across sites to get to them.
- Facilities positioned away from work areas, traffic routes and high-risk construction areas.

Minimum standards (CDM Part 4 – Site safety)

Suggested solutions

- Edge protection and secure barriers (pond, excavations).
- Life ring positioned close to pond.
- Segregation of public and site traffic.
- Good housekeeping and material storage.
- Clear signage and hazard awareness.
- Public protection:
 - Segregation barriers/fencing.
 - Footpath diversion or protection.
 - Clear signage and supervision.
 - Traffic marshalling near entrance.
 - Contact the council or Local Authority to confirm if there is a need for the bus stop to be suspended or relocated.
- Work at height/fall prevention:
 - Edge protection around excavations and pond.
 - Covers for openings/voids.
- Plant and vehicle safety:
 - Defined routes for vehicles and pedestrians.
 - Bankspeople and reversing controls.
 - Speed limits enforced.
- General site standards:
 - Good housekeeping.
 - Safe storage of materials/equipment/hazardous substances.
 - Waste management – segregation in place.
 - Adequate safety lighting systems.
 - Temporary works controls.
 - Emergency rescue planning (water, excavation collapse).
 - Behavioural safety and leadership supervision standards.
 - Continually monitoring site standards (audits/inspections).

Extension task

Suggested solutions

Additional risks that need to be controlled

1. Interface with children due to proximity of the school

Children are unpredictable and risk-averse, and could:

- run into traffic or site entrances
- attempt to enter the construction site out of curiosity
- have reduced hazard awareness compared to adults
- be distracted or intrigued by increased noise or activity, and want to explore and find out what it is.

2. Increased pedestrian traffic

- High volumes at start/end of school day.
- Congestion near access/egress points, crossings and pavements.
- Risk of:
 - pedestrians being struck by site vehicles
 - trips on uneven surfaces.

3. Vehicle-pedestrian conflicts

- Construction traffic interacting with:
 - parents' cars
 - school buses
 - pedestrians.
- Limited visibility and tight access/egress points increase collision risk.

4. Unauthorised access/trespass/arson

- The public (especially children) may try to:
 - enter gaps in fencing
 - climb hoardings
 - enter sites and risk injury from plant, falls or hazardous materials
 - commit deliberate and malicious criminal acts.

5. Reversing plant and deliveries

- During deliveries, increased risks include:
 - blind spots
 - high noise levels that mask audible warning alarms
 - members of the public potentially walking behind reversing vehicles.

6. Noise, dust and environmental disturbance

- Impact on:
 - school environment (learning disruption)
 - public health (dust inhalation/other pollution factors).
- Potential complaints or enforcement action, leading to project delays, reputational damage and additional compensation/prosecution costs.

7. Material storage near boundaries

- Risk of
 - materials falling onto public areas (e.g. footpaths)
 - objects being thrown over fencing/hoarding
 - materials being used to access/climb over fencing/hoarding.

8. Emergency response complications

- Congested roads can delay and compromise:
 - emergency vehicles
 - site evacuation routes.

Risk minimisation controls

1. Segregation and physical controls

- Install robust hoarding (minimum 2.4 m) around site perimeter.
- Use solid, secure barriers (not mesh) near schools.
- Provide clearly defined pedestrian routes, separated from plant/vehicles.
- Secure gates with controlled access.

2. Traffic management plan

- A site-specific traffic management plan is critical to define:
 - one-way systems
 - entry/exit points.

- It uses:
 - bankspeople/traffic marshals
 - temporary traffic lights if required.
- It provides:
 - dedicated delivery zones
 - turning circles/one-way systems.

3. Time restrictions

Avoid high-risk periods:

- Schedule deliveries and heavy plant movement outside school drop-off/pick-up times (generally between 8am-9.30am and 2.30-4pm.
- Co-ordinate with the school for known peak periods and events.

4. Supervision and monitoring

- Put in place trained vehicle marshals during peak times.
- Increase supervision at site entrances and road crossings.
- Use closed-circuit television (CCTV) cameras or security guards where appropriate.

5. Pedestrian safety measures

- Temporary walkways and barriers.
- Clear site signage in place at the site entrance, e.g. 'Construction site - Keep out' or 'Heavy plant crossing'.
- Provide safe crossing points with vehicle marshals during busy periods.

6. Communication and engagement

- Liaise with:
 - school leadership team
 - Local Authority
 - community.
- Inform parents/public of:
 - site working hours
 - traffic changes
 - high-risk activities
 - the need to speak to their children about keeping away from the site, as it is very dangerous and not safe
 - changes by using newsletters or face-to-face meetings, to keep them engaged and informed.

7. Control of deliveries and plant

- Bankspeople for all reversing vehicles.
- Audible and visual alarms.
- Enforce speed limits (e.g. 5 to 10 mph on site).
- Use vehicle exclusion zones.

8. Noise and dust control

- Limit noisy works during school hours where possible.
- Use dust suppression.
- Monitor environmental impact of pollution.

9. Secure storage

- Keep materials away from site boundaries, and properly stack and cover them.
- Prevent loose materials from being accessible or from being blown off site.

10. Emergency planning

- Ensure that emergency routes are not obstructed.
- Make sure that access is always maintained.
- Brief the workforce on the public interface risks, expected behaviours and emergency procedures.

Drugs and alcohol

What are the potential implications and consequences of not dealing with these issues?

- Being under the influence of drugs and alcohol, being fatigued and rising near-misses create a high-risk environment.
- The patterns suggest that substance abuse may be affecting several individuals.
- Impairment directly affects co-ordination, reaction time and hazard perception, all of which are unsafe when operating plant and equipment.
- Workers may ignore health and safety procedures if substance abuse becomes normalised.
- Impairment leads to mistakes that can harm both the user and others.
- Multiple warning signs such as near misses indicate that a serious accident is increasingly likely.
- Supervisors joking about coping mechanisms weakens the enforcement of safety rules and procedures.
- Ignoring a worker who is struggling mentally can lead to serious harm, because their distress may worsen into suicidal thoughts, leaving them unable to focus or think clearly, and at a much higher risk of a major accident on site.

Model answers

Recognising early warning signs

A site supervisor plays a key role in identifying potential drug or alcohol issues by being visible, present and observant on site. Changes such as reduced concentration, altered behaviour, unexplained fatigue, poor timekeeping or a smell of alcohol must be treated seriously, even where there is no immediate incident. Early recognition allows issues to be addressed before health and safety is compromised.

Rather than making assumptions, the supervisor should use professional judgement, supported by evidence and behaviour, to determine whether further action is required. The drug-and-alcohol-misuse policy should be applied if they have any suspicion or concern that drugs or alcohol are being taken, via the testing route. If someone is suspected of being under the influence, they should be suspended from working until testing has been carried out. It is better to be safe than sorry.

Leading by example and setting clear expectations

The supervisor helps reduce the impact of drugs and alcohol by setting the tone for the site. This includes consistently re-inforcing that working under the influence is unacceptable, and that health and safety standards apply equally to everyone regardless of seniority or programme pressure. Calm, respectful and professional behaviour from the supervisor helps normalise discussions around safety and wellbeing.

Promoting awareness

Supervisors can reduce risk by ensuring that drug and alcohol expectations are embedded into everyday site communication. This includes raising the subject during site inductions, toolbox talks and briefings in a factual, non-accusatory way. By introducing the message and raising the awareness of the consequences of drug and alcohol misuse into normal conversations, the supervisor helps avoid stigma and re-inforces that the drugs-and-alcohol-misuse policy exists to protect everyone, not punish them.

Applying company policies and procedures

A competent supervisor must have a clear understanding of company procedures and policies in place to manage drug and alcohol misuse. They need to know what to do if impairment is suspected, how concerns are escalated, how the policy is invoked and when senior management or human resources support should be asked for.

Acting in line with procedure ensures fairness, consistency and legal compliance, and protects both the individual(s) and the company.

Where concerns arise, the supervisor must follow the agreed process rather than attempting to manage the issue informally, or ignore it due to pressure/not wanting conflict.

Supporting disclosure and signposting to help

When an employee approaches the supervisor asking what would happen if someone admitted a problem, the supervisor's response is critical. They should listen without judgement, respect confidentiality and explain the company's stance on support, including any available assistance programmes for counselling/help with rehabilitation, or required occupational-health referrals. By responding professionally and supportively, the supervisor encourages openness and early intervention, which can significantly reduce the risk of impaired working and long-term impact on both safety and wellbeing.

Balancing safety, support and productivity

Even under tight deadlines, and excessive work pressures due to critical programme-related activities, the supervisor must prioritise health and safety above everything else. Addressing potential substance misuse early helps prevent incidents, downtime, absenteeism, prosecution and reputational damage. By dealing with these issues proactively and respectfully, the supervisor contributes and builds an open, safer, healthier and happier working environment.

Safe environmental practices

Suggested answer(s)

Documents and legislation needed

The main document that site supervisors will need is the environmental management plan (EMP), which forms part of the site's environmental management system (EMS). A site supervisor will use the EMP to understand:

- environmental risks on and around the site
- the control measures that must be in place
- what needs to be monitored and how often
- who is responsible for checks and reporting.

Other documents that a site supervisor will use alongside the EMP plan include the following.

- Waste management plan.
- Waste transfer documentation.
- Details of environmental incidents or near misses.
- Environmental monitoring such as audits and inspections.
- Environmental risk assessments.
- Environmental permits/licences (if required).
- Environmental briefings/toolbox talks.
- Surveys/site investigations.

The main pieces of legislation that they will need to be aware of include the following.

- Environmental Protection Act 1990.
- Climate Change Act 2008.
- Wildlife and Countryside Act 1981.
- Control of Pollution Act 1974 (Section 61).
- Environment Act 2021.

Dealing with Japanese knotweed

A knotweed management plan can be produced to outline how to identify, treat, and monitor Japanese knotweed. Once the area of knotweed is identified, an exclusion zone should be set up using barriers/fencing. Sub-contractors should be briefed on the zone to ensure that it is kept secure, using inductions and toolbox talks. A remediation method will need to be agreed, which could be to:

- spray or inject it with chemicals (this may take up to three years)
- bury it
- burn it
- excavate it and dispose of it off site (the last resort).

There are requirements which must be met for all the above options, and companies who treat or dispose of knotweed must have the appropriate skills and experience. Documentation relating to the treating or disposal of Japanese knotweed must be kept to evidence environmental compliance.

Dealing with contaminated land

Environmental factors

- Both cadmium and lead are toxic heavy metals with serious health impacts.
- Heavy metals can get into groundwater or surface water, especially if soils are disturbed or there is heavy rainfall
- They are toxic to plants, soil organisms and aquatic life.
- They can build up in vegetation and enter the food chain.

How to mitigate these risks

- Review the land contamination risk assessment if available.
- Arrange for a detailed site investigation to identify the amount of cadmium and lead in soil and groundwater, by having a competent professional collect samples.
- Identify hotspots to help with selecting the most suitable remediation plan.
- Make sure that exclusion zones are set up to prevent spreading of contaminated soil.

- Put controls in place, such as:
 - using dust suppression (misting, sheeting) to prevent airborne spread
 - personal protective equipment (PPE)
 - preventing runoff from entering drains or watercourses
 - selecting a remediation strategy based on contaminant levels and site constraints
 - ensuring compliance with UK waste regulations during treatment and transport, where required.

Documentation relating to the treating or disposal of contaminated land must be kept to evidence environmental compliance.

Dealing with a diesel spill

Controls

- Stop the source of the spill. Turn off the pump, close the valve or remove the nozzle.
- Isolate the area and put up barriers/signs.
- Use a spill kit to clear up the spill, and refer to control of substances hazardous to health (COSHH) assessments for control measures such as PPE.
- Protect drains and watercourses, for example covering drains with drain mats.
- Clean up contaminated material, and store waste in a labelled, sealed container.
- Record and report the incident following your site's environmental emergency procedures.
- Dispose of contaminated material safely and in line with waste regulations.

How to mitigate these risks

- Investigate any spills and determine what is required to prevent this happening again.
- Review the spill procedure to make sure that this is still suitable and sufficient.
- Make sure that there is a designated refuelling area with hardstanding, spill kits, drain protection, fire extinguishers and lighting.
- Ensure that spill kits are stocked, sufficient and accessible.
- Use drip trays or plant nappies when refuelling.
- Train workers on correct refuelling procedures, and carry out spill drills.
- Make sure that daily plant inspections are carried out which include inspecting hoses, nozzles and bowsers.

Dealing with roosting bats

Actions

- Stop work in and around the building, and isolate the area using barriers and signs.
- Notify the site manager or relevant person as per company procedure.
- Make sure that the bat is not in danger. If the bat is still in the roost, leave it there; if not, you can contact the National Bat Helpline.
- Seek advice about the works from a licensed bat ecologist.
- The ecologist will provide a mitigation plan, and there may be a requirement for a bat licence.

Why?

- Bats and roosts are protected under pieces of legislation (different legislation for England, Scotland, and Wales).
- It is illegal to disturb bats, damage or destroy a roost; block access to a roost; or handle bats without a licence.
- Penalties include unlimited fines and up to six month's imprisonment.
- Protecting a roost, no matter the size, is an important contribution to bat conservation.

Encouraging green technologies and sustainable materials

How?

- Integrate sustainability into design by setting targets at the planning stage.
- Specify sustainable materials in procurement.
- Lead by example.
- Reward good practice and recognise subcontractors who reduce waste or adopt greener methods.
- Train and brief workers on the benefits of using green technologies.

Where?

- Solar-powered cabins.
- Hybrid generators or connections to the electricity supply.
- Electric/hybrid plant.
- Turning off plant when not in use.
- Providing chargers for electric vehicles.
- Recycle water.
- Use recycled materials.
- Request suppliers minimise packaging.
- Use digital tools such as building information modelling (BIM) for material optimisation; digital snagging to reduce printing; and carbon-tracking software.
- Use modular construction.
- Reduce on-site waste.