Bridges

BHS HSI 41C

Civil Engineering Safety Rules

Issue 03

REMEMBER:

Everyone at Bridges is empowered to STOP work if they feel the task they are being asked to perform is unsafe.

CIVIL ENGINEERING SAFETY RULES
SAFE WORKING PROCEDURES

The Bridges Civil Engineering Safety Rules are in place to ensure that the actions of our employees, staff or any person working directly for or on behalf of the company do not create a hazard or dangerous occurrence that may put themselves or any other person at risk of injury.

These rules are mandatory and it is the responsibility of all to ensure that they are complied with and to report any situation they consider unsafe or having the potential to cause harm.

Written: S Spencer – SHEQ Director

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2. General

2.1 Introduction

The purpose of the Civil Engineering Safety Rules is to ensure that all persons involved in civil engineering activities are safeguarded from hazards arising from excavation, earthworks, temporary works, concrete operations, use of plant & equipment, lifting activities and associated construction risks.

2.2 Issue of Safety Rules

These rules shall be issued to all employees and subcontractors engaged in civil works. Compliance is mandatory and forms the minimum standard expected on all Bridges projects.

3. Scope

These Safety Rules apply to all civil engineering works undertaken by Bridges Electrical Engineers Ltd including excavation, drainage, foundations, highways works, concrete structures and temporary works, and apply to all employees and subcontractors.

4. Duties

All persons shall act responsibly, follow RAMS, use equipment safely, report hazards immediately and stop work where unsafe conditions exist. Only trained, competent and authorised persons shall undertake civil activities.

5. Associated Documents

This document shall be read in conjunction with Bridges Health & Safety Policy, CDM arrangements, Risk Assessment and Method Statement procedures, Permit to Work procedures, Temporary Works Procedure, Essential Safety Standards, Project specific Construction Phase Plan and Client specific requirements.

6. Competence

Civil construction worker competence is defined as having the necessary skills, knowledge, experience, and behaviors to perform tasks safely and effectively, particularly under CDM Regulations 2015 and the Building Safety Act 2022.

Civil Subcontractors will have a structured, role‑based approach to competence management to ensure that all employees and sub‑contractors engaged on civil engineering works are capable of carrying out their duties safely, effectively and in compliance with legal and client requirements.

Competence requirement is based on an appropriate combination of knowledge, skills, training, qualifications, experience, and behavioural standards which are determined in accordance with the nature and risk profile of the work, each operatives individual's role and responsibilities.

Role-Based Competence Requirements

Operatives (Groundworkers, Civils Operatives, Trades)

- Relevant NVQ/SVQ (typically Level 2 or above)
- CSCS Skilled Worker or equivalent card
- Task-specific training (e.g. excavations, utilities, confined spaces, lifting operations)
- Proven experience on similar civil engineering activities

Plant Operators

- Valid CPCS or NPORS card for the specific item of plant
- Associated NVQ achievement where applicable
- Familiarisation or task-specific training as required.
- Experience relevant to site conditions and work scope.

Supervisors, Gangers

- NVQ Level 3 or 4 in Occupational or Site Supervision
- CSCS Gold Supervisor card or working towards
- SSSTS or higher-level safety management training
- Demonstrable experience supervising civil works and managing workforce interfaces.

Site Managers, Project Managers and Engineers

- NVQ Level 6 or 7, degree, or equivalent construction or engineering qualification
- CSCS Black Manager card (or working towards)
- SMSTS or higher level safety management training
- Knowledge of CDM duties, temporary works, RAMS, and permit systems
- Experience managing safety-critical civil engineering projects.

Measuring Competence

Competence shall be measured using objective, verifiable evidence, and ongoing performance assessment:

Qualification and card verification (CSCS, CPCS, NPORS, NVQs)

- Review of experience and employment history for relevance to scope of works
- Training records and competence matrices, including monitoring of currency and expiry dates, written confirmation from employer.
- Site-based observation and supervision, including behavioural safety.
- Monitoring of compliance with RAMS, procedures, and safe systems of work
- Review of incident, near-miss and safety performance data.

Ensuring Sub-contractor competence

Bridges applies the following standards of competence assurance to sub-contractors as to its own workforce.

- Pre-Qualification

Sub-contractors are required to demonstrate:

- Relevant experience in comparable civil engineering works
- A competent, qualified, and carded workforce
- Effective health and safety management arrangements
- Ability to comply with Bridges policies, procedures, and site controls.
- Competence requirements embedded within contractual arrangements
- Compliance with effective RAMS and control measures
- Individual competence verified on arrival to site.
- Sub-contractor activities are actively supervised and monitored.

Ongoing Assurance

Performance is reviewed through inspections, audits and safety interactions, non-conformances are addressed through corrective actions and are monitored and reviewed for trends.

Changes in industry best practice are monitored, reviewed, and considered as part of our ongoing commitment to continuous improvement.

Persistent failure to meet competence standards can result in removal from site or supply chain.

7. Permit to Work

Permits are mandatory for Confined Space Entry, Breaking Ground, Lifting Operations, Working at Height (where collective protection measures are not in place) and Hot Works. Hot Works permits are valid for one shift only and must be reissued daily.

8. Plant Person Interface

This requirement sets out mandatory controls to prevent people being struck by moving plant, recognising that plant–person interface incidents are high-severity, low-frequency but often fatal or life-changing.

Pedestrian Routes

Pedestrian access routes include but are not limited to:

- Routes from car parks to offices
- Routes to welfare facilities

- Access into excavations
- Access to structures
- Routes within buildings or across structures
- Routes across working yards or storage areas
- Routes to any other area where pedestrians need to access for their work.

All pedestrian routes shall be planned to be separated from areas where plant movements are taking place.

Pedestrian routes shall be:

- Separated from construction plant routes by a physical barrier.
- Clearly signed, indicating routes, hazards and warnings.
- Adequately lit.
- Be a minimum of 1m in width.
- As direct as possible to the work areas to encourage the right behaviour.
- Set out to provide early visibility of oncoming construction vehicles. Every crossing must be sited to enable pedestrians to see any
- vehicle approaching them from a place of safety i.e. they should have good lines of sight.
- Separated from reversing areas, loading bays and high-risk construction operations.
- Maintained in good condition: clear of obstacles, debris, litter, mud, snow and ice
- All pedestrian site personnel should be instructed to keep to the pedestrian routes provided.
- Ensure crossing points are easily identifiable such as the use of red painted hoops over the path at either side of the haul route.

Plant Operating Zones

People must be kept out of plant operating risk zones. Where this cannot be achieved, formal escalation and strict controls are required.

Hierarchy of Control – Mandatory Approach

1. Elimination (First Priority)

- Work should be designed and planned to remove the need for people to be near plant:
- Design out plant movements where possible
- Use off-site manufacture

2. Isolation (Primary Control)

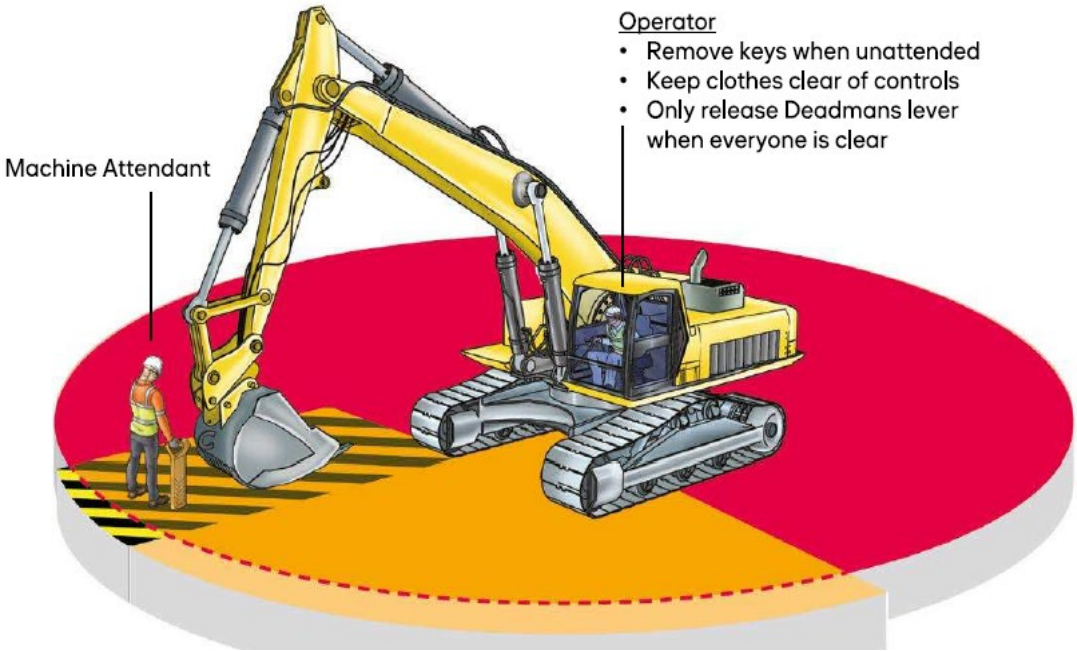
Where elimination is not possible:

Physical segregation is mandatory

- Cones alone are not acceptable unless linked by solid barriers
- Solid barriers should be used to designate segregation between orange & yellow zones
- RAMS must clearly identify the controls which are in place

- Risk Zones must be defined and enforced:

  - **Restricted (Red) Zone** – Working Area or full swing radius of an excavator
  - **Amber Risk Zone** – plant approach area
  - **Yellow Working Zone** – segregated work area



There is to be no entry into the Red or Amber zone whilst the item of plant is operating unless highlighted with additional controls in RAMS.

Exemption:

Where an exceptional activity is identified and alternative methods are thoroughly assessed and are not viable, entry into the red zone can be considered provided it is specifically risk assessed and additional controls agreed and introduced e.g. single operative only, continuous monitoring by a non-working supervisor in attendance at the location of work.

If an activity is identified and agreed as the last option, it MUST be classed as an Exception Event and subjected to an individual specific RAMS submission with augmented review and approval process implemented. Approved RAMS must be one-off and cannot be used in other locations or activities.

Operatives involved in an exception event MUST be experienced, briefed that the location is still red zone and aware of proximity risks.

Standard Procedure for Entering Amber/Red Zones

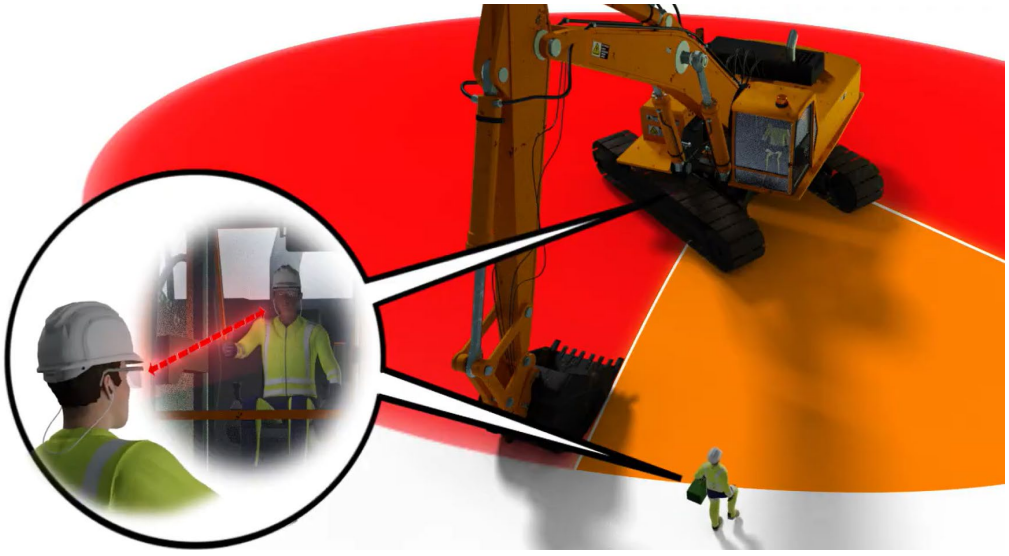
Stop: The pedestrian stands in the safe zone, out of the operator's blind spots.

Make Contact: Establish direct eye contact with the operator.

Signal: Indicate intent to approach and wait for the operator to return a "thumbs up".

Isolate: The operator must ground the machine attachment (bucket), apply brakes, put the machine in neutral (or shut down the engine) & lift deadman to isolate plant movement.

Enter: Only approach after the operator initiates the "thumbs up".



During the Interaction:
Line of Sight: The operator must be able to see the pedestrian at all times.

Operator Control: The operator must not move the machine until the pedestrian has exited the red/amber zone.

Leaving the Amber/Red Zone:

Exit: Leave through the same path taken to enter.

Confirm: Ensure the operator confirms the exit and safe clearance.

Training and Competency Requirements

All authorised persons who are required to work in the Amber/Red Risk Zone must have received appropriate Red Zone Training. This training should also include the plant operator working with the gang to ensure everyone is aware of the specific communication method and system to be used.

Communications and briefings

The Risk Zone exclusion requirements and all pedestrian and vehicle routes must be communicated to everyone on site, including visitors through the relevant induction process.

One off delivery drivers / plant operators must receive a specific vehicle movement induction before being allowed onto site.

9. Plant & Equipment

Training and Competency Requirements

- Competency assessment prior to being put to work – be familiar with plant / equipment
- Complete Pre-use check sheet/inspection
- Comply with pre-use and defect reporting system
- Evidence of having signed onto the appropriate Safe System of Work documentation for the task
- Always operate/use plant and equipment in accordance with manufacturer's instructions / recommendations
- Engine must be turned off and keys removed from ignition before leaving the vehicle unattended
- Operator to mount and dismount machine using fixed access arrangements and always facing the machine using 3 points of contact
- Operator to stop work if the event of unauthorised personnel entering working area / zone
- Report all unsafe conditions
- Where vehicle or mobile plant utilised on site has to be driven on the public highway, the driver/operator must hold a current valid driving licence with the appropriate category for that vehicle/mobile plant
- Full site-defined PPE required if outside cab - none loose fitting PPE required in all cases to avoid catching on controls
- Additional PPE to be worn as defined by risk assessment specific for the task to be undertaken
- Moving/Operating plant to be provided with a banksman at all times.

- Mobile plant no more than 4½ years old or 4500 hours
- 6 tonne maximum size forward tipping dumper
- 360º cameras and green seatbelt lights to be fitted.

Hazards / Risks

Significant hazards/risks identified when operating the plant item or equipment and for those adjacent to plant items or equipment:

- Access into cab/refueling and maintenance
- Clothes can get snagged on controls prior to release of servo isolator/safety handle
- Danger of crushing in slew zone
- Effect of weather on visibility and working/traffic surfaces
- Fire
- Hazardous substances such as fuels, oils, and greases
- Limitations to all round visibility / restricting operator vision
- Overhead obstructions – cables/bridges / power lines / telephone lines
- Plant and personnel interface
- Public interface – working alongside pedestrians/vehicles / plant crossings
- Transportation including loading/unloading

Note: All persons preparing risk assessments involving plant or equipment are encouraged to visit the proposed area of work and to review previous risk assessments undertaken for similar work.

10. Breaking Ground/Service Avoidance

All work must be carried out in accordance with HSE guidance HSG47

There are three key elements for working safely with regards to services:

- Planning the works

- Detecting, identifying and marking underground services

- Safe excavation/safe digging practices

All persons breaking ground must be trained, competent & understand the risks & control measures associated with the task.

Re scan the ground as a minimum every 150mm in depth when excavating.

Ensure Cable Avoidance Tool (CAT) data downloads are being undertaken at least weekly

Live Services

In line with HSG47 there is a legal requirement to isolate known live services prior to breaking ground.

HV Assessment where services are known to present on site and could be affected by activities.

HV Competent person to be present at all times where an isolation cannot be undertaken.

No excavation shall commence without an approved Breaking Ground Permit.

Banned items

- Toothed buckets are not permitted
- Semi-quick hitches
- Crank start equipment
- Uninsulated road pins

All breaking ground activities must be carried out in full compliance with Bridges Essential Standard o3 – Service Avoidance.

11. Temporary Works

All temporary works must be designed, checked and implemented in accordance with Bridges Essential Standard 12 – Management of Temporary Works.

Temporary Works Coordinator and Supervisor roles must be formally appointed. No works shall proceed without approved designs where required.

12. Lifting Operations

All lifting operations shall be planned by a competent Appointed Person and executed in accordance with LOLER and Bridges Essential Standard 18 – Lifting Operations.

Crane lifts must be procured on a `Contract lift` basis unless agreed in writing with by a Bridges Lifting AP.

Excavator operators who are to be engaged in lifting operations must be trained and competent in lifting with an excavator and must be familiar with Rated Capacity Indicators, understand the machine's lifting duty chart and be competent in the use of the specific quick hitch attachments for the machine in use.

Excavators used for lifting duties must have a tested lifting point and if the SWL is greater than 1 ton they require check valves, rated capacity indicators and duty charts. Forks attached to backhoe actors are prohibited.

Operator must hold A58 Training or equivalent with excavator and a lift plan must be in place.

Key personnel must be appointed for lifting duties i.e. crane supervisor, crane driver, machine operator, slinger/signaler. These persons must be trained and competent to carry out their duties and must be in possession of a Construction Plant Competence Scheme or equivalent card.

A Lifting Plan must be completed and agreed with a Bridges Lifting AP prior to any lifting appliance commencing work. This will require all statutory certificates and registers for the lifting equipment and lifting accessories to be readily available for inspection.

13. Commissioning & Handover

Civil works shall be inspected, signed off and safely handed over prior to use. Inspection Test Plan (ITP) documentation must be completed during and after construction.

14. PPE

Bridges Essential Standard 02 – Personal Protective Equipment applies to all civil engineering activities with the following additions:

Gloves – ground working – minimum specification Cut level C for non-cutting and Cut level D-F for all cutting operations.

Working with concrete presents serious risks, including chemical burns, dermatitis from the high alkalinity (pH 12–13) of wet cement, and respiratory issues from silica dust. Therefore additional PPE & RPE will be required as per the task specific risk assessment.

15. People

Supervisors to hold SSSTS as a minimum, or SMSTS if in charge of supervisors themselves

Hold EUSR Water Hygiene Card for clean water sites

Supervisors to be Environmental Awareness trained (SEATS or equivalent)

Fitness for Work (Occupational Health Assessment) for all Safety Critical Workers (Confined Space Workers, work at height, plant operators, crane operators, slingers/signalers, plant/vehicle marshalls, asbestos workers, HIAB operators, road workers)

Enhanced Bridges non-working direct supervision of civil sub-contractors must be provided for the following high risk activities:

- All plant movements, whilst working (Does not apply to access & Haul roads)
- Hidden services (buried or concealed)
- Lifting activities
- Working at height
- Demolition & dismantling

This document shall be read in conjunction with Bridges Health & Safety documents which are available at www.bridgessafety.co.uk