COMPETENCE FRAMEWORK

Water Jetting

Background

The report, Building a Safer Future - Independent Review of Building Regulations and Fire Safety: Final Report (Dame Judith Hackitt DBE FREng, May, 2018) stated that industry had:

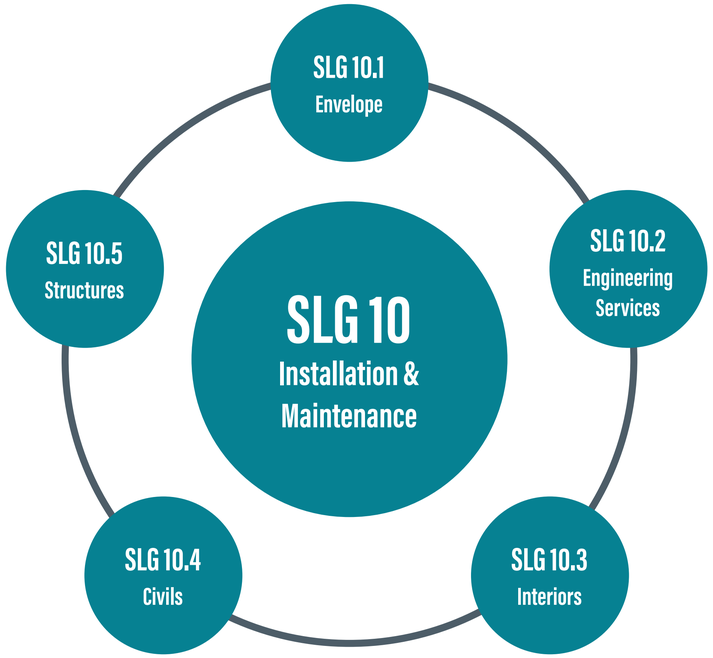
"An existing approach to competence which was fragmented, encompassing a range of disciplines and different competence frameworks even within one discipline and without reference to other interacting without reference to other interacting disciplines."

The Building Safety Act (published on 25 July 2022), together with The Building Regulations etc. (Amendment) (England) Regulations 2023, has introduced a new regulatory regime that defines competence as having the appropriate **skills**, **knowledge**, **experience** and **behaviours (SKEB)**. This requires all individuals carrying out any design, construction or refurbishment work to be competent to undertake the role to which they are appointed.

[1] Building a Safer Future - Independent Review of Building Regulations and Fire Safety: Final Report (Dame Judith Hackitt DBE FREng, May, 2018, Summary 5.2, p.75)

The Industry Competence Steering Group (ICSG)

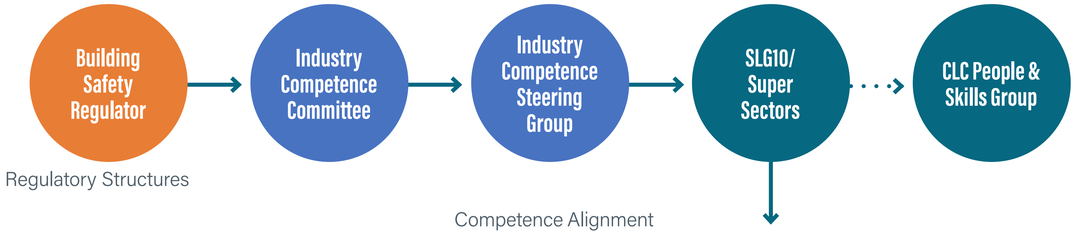
SLG 1 Quantity Surveyors	**SLG 2** Consultant Design	**SLG 3** Engineering	**SLG 4** Construction Product Testing, Assessment & Certification	**SLG 5** Construction Product Manufacturing
SLG 6 Construction Product Merchants & Distribution	**SLG 7** Project & Programme Management	**SLG 8** Commercial & Procurement	**SLG 9** Construction Management Delivery	**SLG 10** Installation & Maintenance
SLG 10.1 Envelope	**SLG 10.2** Engineering Services	**SLG 10.3** Interiors	**SLG 10.4** Civils	**SLG 10.5** Structures
SLG 11 Buildings & Built Environment Operations & Management	**SLG 12** Passive Fire Protection	**SLG 13** Active Fire Protection	**SLG 14** Envelope	**SLG 15** Clients



[1] Building a Safer Future - Independent Review of Building Regulations and Fire Safety: Final Report (Dame Judith Hackitt DBE FREng, May, 2018, Summary 5.2, p.75)

ICSG Working Groups

The Competence Steering Group (CSG) was set up to tackle competence shortcomings identified in the 2018 Hackitt Review. The CSG report **Setting the Bar – a new competence regime for building a safety future** (October 2020), included recommendations for Installers (pages 54-60).



Competence Structure - 2024

In December 2024, the Industry Competence Steering Group (ICSG) was formally established as a working group under the **Industry Competence Committee**, one of three committees set up under the Building Safety Act, which reports to the **Building Safety Regulator.** The purpose of the ICSG and its SLGs is to enable industry access to appropriate competencies, so they may safely contribute to the creation and use of built environments and can demonstrate their competence to others. This includes developing industry consensus agreed competence frameworks that can be used to map against all training and qualifications to bring consistency across the sector. Sector Lead Group 10 (SLG10) in the ICSG represents Installation and Maintenance and is leading on competence frameworks and other competence-related challenges within these disciplines.

Since the publication of **Setting the Bar – a new competence regime for building a safety future** (October, 2020, p.54, Recommendations 243 and 244), the primary focus was Higher Risk Buildings (HRBs) whilst developing the pilot competence frameworks, the working groups noted that there is very little difference between work carried out in a HRB and a non-HRB. Consequently, SLG10 has focussed on delivering the recommendations that a framework should be adopted for all the installer roles working on in scope buildings.

In 2024, SLG10 scaled up its initial pilot programme into the format on the next page, grouping the work into five workstreams: Envelope, Engineering Services, Interiors, Civils and Structures.

CITB is supporting industry with the creation of the Competence Frameworks for all roles within its scope order. CITB helps facilitate the Sector Group work, standardising the approach, sharing best practice and aligning common functions.

CITB also plays a pivotal role in the implementation activities, supporting future-state planning, and taking a lead on the development of any key products to support the newly defined Competence requirements.

[1] Building a Safer Future - Independent Review of Building Regulations and Fire Safety: Final Report (Dame Judith Hackitt DBE FREng, May, 2018, Summary 5.2, p.75)

Fire Safety in Buildings

Setting the Bar – a new competence regime for building a safety future (October, 2020, p.54, Recommendation 243), also requires

"All installers [to] have a core knowledge of fire safety in buildings – training to be standardised and made mandatory."

A group of industry stakeholders consulted on the content for a Fire Safety in Buildings training course for all installers to undertake. CITB have funded the creation of the course, and it is now a free-to-access training resource which sits on the eLearning platform on the CITB website.

Fire Safety In Buildings Free Online Training Course

Competence Frameworks

The Competence Frameworks have been written in line with **BS 8670-1:2024 Competence Frameworks for building safety Part 1: Core criteria – Code of practice** (published May, 2024, p.10, Competence and Competence Frameworks, 0.3.2 to 0.3.5) which outlines the key components of a Competence Framework.

The Competence Framework consists of the following components:

1. **Recommended Routes to Competence:**
   Route to Competence is read from the bottom to the top. It contains 3 routes for a new entrant, someone who has some experience as well as an experienced worker who has much more experience. Identifying the recognised routes to achieving competence.
2. **Functional Map:**
   This shows how a specific role in construction is broken down into different functions: Core Construction Competencies, Core Trade Competencies and Trade Specific Competencies.
3. **Core Construction Competencies:**
   These are the considered the fundamental competencies for most roles within construction. Competencies such as Health & Safety or Manual Handling which enable everyone to work onsite safely.
   ***Please note that Core Construction competencies have undergone a format revision and are currently draft versions pending a collective review by industry*
4. **Core Trade Competencies:**
   These are shared across multiple roles within an occupational family. An example of this might be Safe Working Practices, which are used by both Roof Slaters and also Solar Collector Installers as they both work in the same environment.
5. **Trade Specific Competencies:**
   These are several distinct functions, that when put together define the competence requirements for a role. Use the Knowledge and Skill tabs to show/hide the details within each function.

Competence Framework Key Definitions

BS 8670-1:2024 Defines the key elements of Competence Frameworks as follows:

Competence: application of skills, knowledge, experience and behaviour to achieve a defined outcome

Skills: ability to perform an activity or task consistently with a specific intended outcome

Knowledge: assimilation of facts, theories and practices in relation to a given role, function, activity or task

Experience: participation in relevant activities or observation of facts and events leading to acquisition or improvement of knowledge and skills

Behaviours: observable things that an individual does or does not do

Validation: formal process of assessing an individual's competence against a sector-specific competence framework

Revalidation: formal process of reassessing an individual's competence against a sector-specific framework on a periodic basis to check that competence has been maintained

Sector Overview

Development Process

The development of the Water Jetting Competence Framework aims to establish a structured, standardised approach for assessing and ensuring the competencies of operatives working in water jetting. The framework serves to address the growing demand for high-quality and safe installations, promoting the development of skilled professionals who meet industry standards.

The framework outlines key competencies required for water jetting, including installation, health and safety, training and qualification landscape and any re-validation requirements. It is designed to guide training programs, qualifications, employers, workers, regulatory bodies across the industry. This competency model is intended to reduce risks associated with poor installation practices, improve building performance, and ensure compliance with relevant regulations and standards.

Key components of the framework include:

1. Routes to Competence: Identification of the recognised routes to achieving competence.
2. Competency Levels: Clear definitions of the Skills, Knowledge, Experience & Behaviours required for each function for water jetting.
3. Technical Skills: A comprehensive understanding of materials, techniques, and equipment used in water jetting.
4. Health and Safety: Emphasis on safety standards to minimise accidents and ensure safe working environments.
5. Sustainability and Efficiency: Incorporating best practices for energy efficiency, sustainability, and the long-term performance from water jetting.

The framework is intended for use by industry professionals, training providers, and regulatory bodies to create a consistent and accountable approach to competency in water jetting. By ensuring that operatives meet the framework's requirements, the industry can improve the quality of water jetting projects and support regulatory compliance.

Development Process

The development process involved extensive consultation and collaboration through a series of working group meetings with SLG10 Installation and Maintenance (previously WG2 Installers), federations/associations representation including the Water Jetting Association, employers and CITB. An online survey and webinar were also available to present the Competence Framework and offer an opportunity to review, provide feedback, support and validate the framework development.

Thorough analysis of existing competencies, standards, training, qualifications, current working practices and known issues and challenges were carried out to produce the framework and identify actions that needed to be addressed.

The working groups were generally very well attended and were conducted in a very cooperative, open and friendly manner with all participating getting the opportunity to contribute to the discussions and work being done in relation to the SKEB.

Sector Overview
Outcomes and Findings

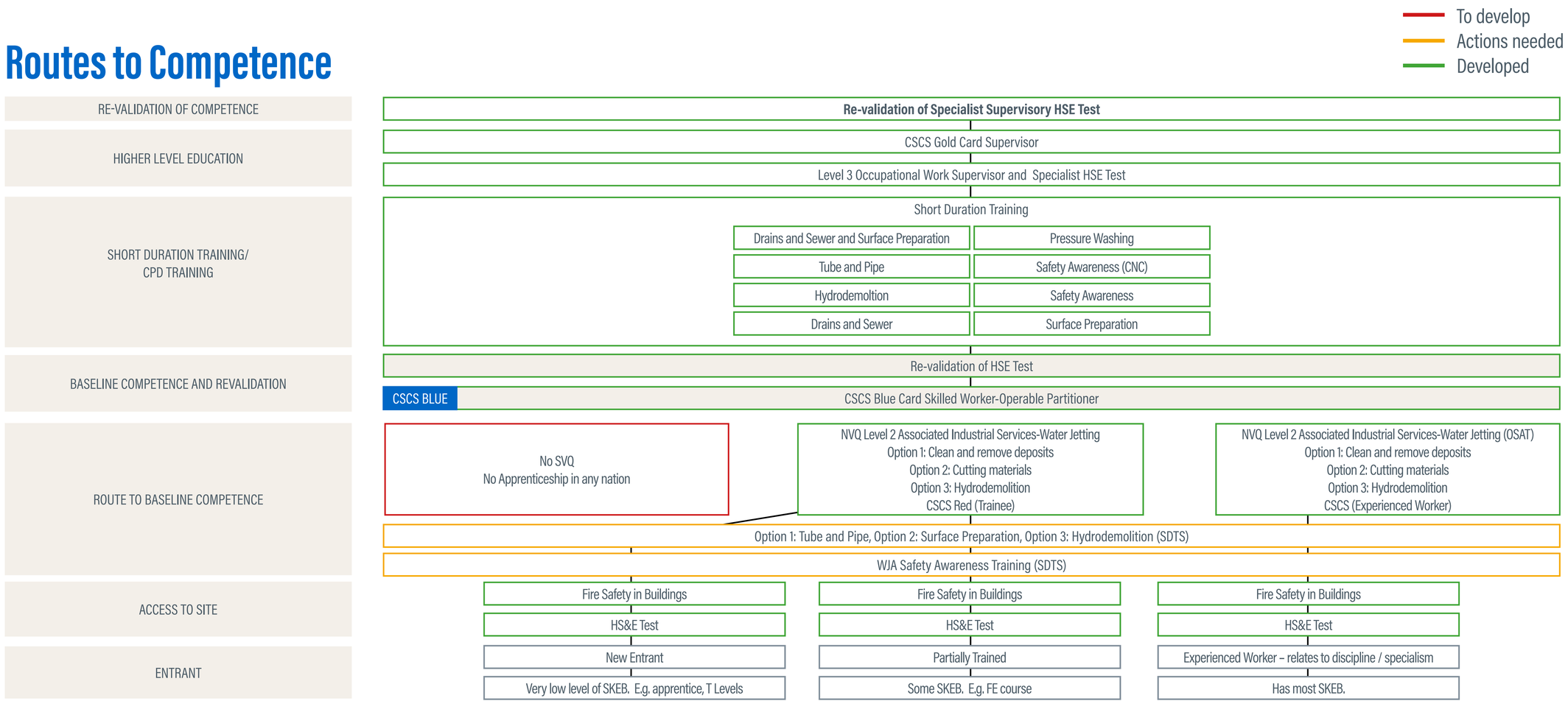
The following actions have been identified and will be addressed as part of an implementation plan:

- Complete the review the existing NOS documents for water jetting so they align with the Competency Framework
- Develop short duration training courses
- Introduce Fire Safety in Building training as a mandatory competence requirement

The National Occupational Standards (NOS) were used to develop the Competence Framework. The NOS and subsequent S/NVQ went through a revision and update in 2024. With this alignment to the NOS, it has been identified these standards and vocational qualifications are still fit for purpose.

The working group have also identified the Experience and Behaviour requirements. When adapted either individually or through an organisation, these will promote a culture of self-development, responsibility and reinforce positive values

Routes to Competence



Functional Map

Core Construction Competencies

FUNCTIONAL MAP ACTIVITIES		WATER JETTING		
		REMOVE MATERIALS PROPOSED COMPETENCE ROUTE	**COLD CUTTING** PROPOSED COMPETENCE ROUTE	**HYDRODEMOLITION** PROPOSED COMPETENCE ROUTE
CORE CONSTRUCTION COMPETENCIES				
CC001	Conform to general health, safety and welfare in the workplace	✓	✓	✓
CC002	Conform to productive working practices in the workplace	✓	✓	✓
CC003	Move, handle and store resources	✓	✓	✓

Functional Map

Trade Specific Competencies

FUNCTIONAL MAP ACTIVITIES		WATER JETTING			SHORT DURATION TRAINING STANDARDS	
		REMOVE MATERIALS PROPOSED COMPETENCE ROUTE	COLD CUTTING PROPOSED COMPETENCE ROUTE	HYDRODEMOLITION PROPOSED COMPETENCE ROUTE	TRAINING	RE-VALIDATION
TRADE SPECIFIC COMPETENCIES						
WJ001	Remove materials and deposits by water jetting	✓			Water Jetting Safety Awareness Tube and Pipe	Renewal of WJA training and card
WJ002	Cold cutting materials by water jetting		✓		Water Jetting Safety Awareness Surface Preparation	Renewal of WJA training and card
WJ003	Cut and remove materials by hydrodemolition			✓	Water Jetting Safety Awareness Hydro Demolition	Renewal of WJA training and card

Core Construction Competencies

Conform to general health, safety and welfare (CC001)

Function: Conform to general health, safety and welfare

Refs: COSVR641 Conform to general health, safety and welfare

Description: This function in the context of your occupation and work environment, is about awareness of relevant current statutory requirements and official guidance; responsibilities, to self and others, relating to workplace health, safety and welfare; personal behaviour and security in the workplace.

SKILLS

You must be able to:

Workplace health, safety and welfare

Comply with all workplace health, safety and welfare legislation requirements at all times

Avoid risk by complying with given information relating to the following:

- induction
- briefings
- application of prior training (safe use of health and safety control equipment)

Adhere to statutory requirements and/or safety notices and warning signs displayed in the workplace or on equipment

Recognition of hazards

Recognise hazards, associated with the workplace and report them in accordance with organisational procedures

Recognise hazards created by changing circumstances, that have not been previously controlled, and report them in accordance with organisational procedures

Organisational policies and procedures

Accept responsibility for, and comply with, organisational policies and procedures in order to contribute to health, safety and welfare

Show personal behaviour which demonstrates active responsibility for general workplace health, safety and welfare

KNOWLEDGE

Comply with organisational policies and procedures relating to the following:

- consideration of others
- interpretation of given instructions to maintain safe systems of work
- contributing to discussions (offer and provide feedback)
- maintaining quality working practices
- contributing to the maintenance of workplace welfare facilities
- storage and use of equipment provided to keep people safe
- disposal of waste and/or consumable items

Security arrangements

Comply with and support organisational procedures for maintaining the security of the workplace:

- during the working day
- on completion of the day's work
- from unauthorised personnel (other operatives and/or the general public)
- from theft

Core Construction Competencies

Conform to productive working practices (CC002)

Function: Conform to productive working practices

Refs: COSVR642 Conform to productive working practices in the workplace

Description: This function in the context of your occupation and work environment, is about productive communication with line management, colleagues and customers, interpreting information, planning and carrying productive work practices, working with others or as an individual.

SKILLS | KNOWLEDGE

You must be able to:

Communicate with others

Communicate with line management, colleagues, or customers to ensure work is carried out productively

Respect the needs of others when communicating

Follow procedures

Interpret and follow organisational procedures and use appropriate resources to plan the sequence of work in order to conform to productive work practices and maintain records

Complete documentation as required by the organisation

Work Relationships

Maintain good work relationships

Work productively with line management, colleagues, customers, or other people

Apply the principles of equality and diversity

Core Construction Competencies

Move, handle and store resources (CC003)

Function: Move, handle or store resources
Refs: COSVR643 Move, handle or store resources

Description: This function in the context of your occupation and work environment, is about interpreting information, adopting safe and healthy working practices, selecting aids or equipment to move, handle or store occupational resources and moving, handling and storing occupational resources to maintain useful condition.

SKILLS | KNOWLEDGE | >

You must be able to:

Interpretation of Information

Interpret the information to move, handle or store occupational resources, and use and store lifting aids and equipment for the following:

- technical
- written
- product and regulatory
- graphical presentation
- oral

Safe Work Practices

Comply with the relevant legislation and official guidance to move, handle or store occupational resources and maintain safe and healthy work practices relating to the following:

- methods of work
- safe use of lifting aids
- safe use of health and safety control equipment
- protection of the environment

Selection of Resources

Select the required resources associated with moving, handling or storing:

- lifting and handling aids
- fixing, holding and securing systems
- container(s)

Minimise the Risk of Damage

Comply with organisational procedures to minimise the risk of damage to the work and surrounding area by:

- protecting the occupational resources and their surrounding area from damage
- maintaining a safe, clear and tidy work area
- disposing of waste in accordance with current legislation

Comply with Occupational Resource Information

Comply with the contract information to move, handle or store resources efficiently to the required specification by:

- demonstrating work skills to:
  - move
  - position
  - store
  - secure
  - use lifting aids and kinetic lifting techniques
- Move, handle or store occupational resources to meet product information and organisational requirements relating to at least three of the following:
  - sheet material
  - loose material
  - bagged or wrapped material
  - fragile material
  - tools and equipment
  - components
  - liquids

Allocated Time

Complete the work within the estimated, allocated time in accordance with organisational procedures, the programme of work and to meet the needs of other occupations and/or client

Core Trade Competencies

Interpret Information

Description: These core trade functions contain all the common competencies including: interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, minimising damage, and working within the allocated time, in accordance with organisational requirements which are equal to or exceed current statutory and legislative requirements.

SKILLS | KNOWLEDGE

You must be able to:

Interpret the information relating to the work and resources to confirm its relevance for the following:

- drawings
- specifications
- site requirements
- schedules
- risk assessments
- method statements
- codes of practice
- manufacturers' information

Core Trade Competencies

Safe Work Practices

Description: These core trade functions contain all the common competencies including: interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, minimising damage, and working within the allocated time, in accordance with organisational requirements which are equal to or exceed current statutory and legislative requirements.

SKILLS | KNOWLEDGE

You must be able to:

Comply with the relevant legislation and official guidance to carry out the work and maintain safe and healthy work practices relating to the following:

- methods of work
- safe use of health and safety control equipment
- safe use, storage and handling of tools and materials
- safe use and maintenance of equipment
- specific risks to health

Core Trade Competencies

Selection of Resources

Description: These core trade functions contain all the common competencies including: interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, minimising damage, and working within the allocated time, in accordance with organisational requirements which are equal to or exceed current statutory and legislative requirements.

SKILLS | KNOWLEDGE

You must be able to:

Check the compatibility of the components, assembly, and that the working order conforms with the specification for:

- materials
- fixings
- tools and equipment

Core Trade Competencies

Minimise the risk of damage

Description: These core trade functions contain all the common competencies including: interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, minimising damage, and working within the allocated time, in accordance with organisational requirements which are equal to or exceed current statutory and legislative requirements.

SKILLS | KNOWLEDGE

You must be able to:

Comply with organisational procedures to minimise the risk of damage to the work and the environment by:

- protecting the work and its surrounding area from damage
- maintaining a safe, clear and tidy work area
- disposing of waste in accordance with current legislation

Core Trade Competencies

Approach to work

Description: These core trade functions contain all the common competencies including: interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, minimising damage, and working within the allocated time, in accordance with organisational requirements which are equal to or exceed current statutory and legislative requirements.

SKILLS | KNOWLEDGE

You must be able to:

Promote a safe, inclusive, and productive working environment whilst working independently and with others

Trade Specific Competencies

Remove materials and deposits by water jetting (WJ001)

Function: Remove materials and deposits by water jetting

SKILLS

KNOWLEDGE

You must be able to:

Demonstrate work skills to:

- jet
- check
- monitor and evaluate
- connect, secure and adjust
- start, stop and control

Use the correct tools for connecting hoses and the water jetting equipment for the activity

Use the correct level of protective equipment for the task including PPE

Prepare and carry out pre-start checks including test runs to working instructions relating to:

- erecting barriers and signs
- connecting hoses
- jetting equipment
- water supply
- earthing equipment

Remove materials and deposits by operating and monitoring high pressure water jetting equipment to working instructions

On completion of work dismantle and decontaminate equipment and making the work area safe by:

- removing barriers and signs
- disconnecting hoses
- removing jetting equipment
- disconnecting water supply
- remove waste

Trade Specific Competencies

Cold cutting materials by water jetting (WJ002)

Function: Cold cutting materials by water jetting

SKILLS

KNOWLEDGE

You must be able to:

Demonstrate work skills to:

- jet
- check
- monitor and evaluate
- connect, secure and adjust
- start, stop and control
- cut and break

Use the correct tools for connecting hoses and the water jetting equipment for the activity

Use the correct level of protective equipment for the task including PPE

Prepare and carry out pre-start checks including test runs to working instructions relating to:

- erecting barriers and signs
- connecting hoses
- jetting equipment
- water supply
- earthing equipment
- water jet abrasive cold cutting equipment

Operate water jetting equipment to cold cut materials using water with abrasives

On completion of work dismantle and decontaminate equipment and making the work area safe by:

- removing barriers and signs
- disconnecting hoses
- removing jetting equipment
- disconnecting water supply
- remove waste
- removing water jet cold cutting equipment

Trade Specific Competencies

Cut and remove materials by hydrodemolition (WJ003)

Function: Cut and remove materials by Hydrodemolition

SKILLS

KNOWLEDGE

You must be able to:

Demonstrate work skills to:

- jet
- check
- monitor and evaluate
- connect, secure and adjust
- start, stop and control
- cut and break

Use the correct tools for connecting hoses and the water jetting equipment for the activity

Use the correct level of protective equipment for the task including PPE

Prepare and carry out pre-start checks including test runs to working instructions relating to:

- erecting barriers and signs
- connecting hoses
- jetting equipment
- water supply
- earthing equipment
- hydrodemoliton equipment

Use water jetting gun or lance, or automated equipment

Operate water jetting equipment to cut and break materials by hydrodemolition

On completion of work dismantle and decontaminate equipment and making the work area safe by:

- removing barriers and signs
- disconnecting hoses
- removing jetting equipment
- disconnecting water supply
- remove waste
- removing hydrodemolition equipment

Experience

The WJA Safety Awareness SDTS and an additional module related to the specialisation

On site assessment of operative against the short duration training courses every three years

Behaviours

You must be able to demonstrate:

Prioritising health, safety and environment

Developing good working relationships recognising dependencies, using co-operative approaches to optimise workflow and productivity with limited supervision, showing respect for colleagues

Applying logical thinking, using clear and valid reasoning when making decisions related to undertaking the work instructions

Taking responsibility, completing own work to required quality standards and has eye for detail/accuracy

Working effectively, undertakes work in a reliable, tidy and productive manner

Effective time management, using their time effectively to complete work to schedule and always arrives at, and ready to work on time

Adjustable when required, adapting to changes to work instructions or variations in workplace contexts and environments

References/Glossary

The Competence Framework page hosted by the CLC: Competence – Construction Leadership Council

Details of the new ICSG Structure: Industry Competence Steering Group – Construction Leadership Council

CITB Competence Framework page: Competence Frameworks - CITB

The BSI Competence Programme pages: Raising Competency Across the Built Environment | BSI

Definitions

SKEB - Skills, Knowledge, Experience and Behaviours
VQ - Vocational Qualification
NVQ - National Vocational Qualifications
SVQ - Scottish Vocational Qualifications
NOS - National Occupational Standards
COSVR XXX - Specific National Occupational Standards
RQF - Regulated Qualification Framework (England)
SCQF – Scottish Credit & Qualifications Framework
ICC - Industry Competence Committee
CLC - Construction Leadership Council
CSG - Competence Steering Group
ICSG - Industry Competence Steering Group (Formerly CSG)
CITB - Construction Industry Training Board
SLG - Sector Lead Group