

# CONSTRUCTSAFE TIER 2 HEALTH AND SAFETY COMPETENCY TEST - ROLLER FRAMEWORK

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## **1. Introduction**

This framework document allows those who design and contribute to construction health and safety training content to align with ConstructSafe Tier 2 Health and Safety Competency assessment for Roller requirements. The intent is to make it easy for training content to meet the knowledge and aptitude requirements that candidates need to pass the test.

The framework was developed by a collaboration between Broadspectrum, Civil Contractors NZ, CHASNZ, Downer, Fletcher, Fulton Hogan, Heb, Higgins, Goodmans, McConnell Dowell, NZ Transport Agency, QRS.

The framework has been divided into module headings that match the ConstructSafe Tier 2 test structure.

### **1.2 Candidate minimum required knowledge**

Candidates undertaking a ConstructSafe Tier 2 Roller Health and Safety Competency Assessment must have the ConstructSafe Tier 1 Foundation Health and Safety competency to access this assessment.

### **1.3 Test framework**

The framework for the ConstructSafe Tier 2 Health and Safety Competency Assessment for Rollers is outlined on the following pages and was created by representatives of industry.

### **1.4 Test summary**

The test for this framework has 60 questions, which will cover all aspects of the framework.

To achieve this competency, a candidate must get 90% or more.

### **1.5 Additional components**

Following the theory assessment, this competency requires successful candidates to be assessed at work across all of the framework elements at least once every three years.

Where candidates cannot demonstrate ongoing competency through at work assessment over this period, a candidate is required to undertake this ConstructSafe assessment again.

Risk Area	Identified risk	Controls	Expected knowledge outcome (Candidate can...)	Learning outcome
Planning	Work requirements	Work safety plans (Risk assessments, job plans, Safe work Method statements or processes required to undertake work safely)	Can understand the requirement for a safety plan, written or communicated verbally dependent on the likely work interactions.	1.01
			Can understand, interpret and relay to others the work scope and work is to be done.	1.02
			Confirm the work area to be serviced are in accordance with job instructions.	1.03
			Confirm method and sequence of work.	1.04
			Understand any safety controls or hold points and process required to continue work.	1.05
			Understand and verify appropriate exclusion zones are in place.	1.06
			Identify any parts of the plan which are unsafe before operating the equipment.	1.07
			Checks all permits are in place.	1.08
	Equipment choice	Understand the characteristics, capabilities, and limitations of the different types of equipment	Can select and relay the most appropriate type of equipment for the work task and work area.	2.01
			Can convey where equipment specifications are available for operator use.	
			Can identify the limits of the equipment to be used.	2.02

			Can relay and escalate the need for a different type of equipment for specific tasks.	2.03
			Can communicate their level of competency for equipment to be used and identify the limits of the operator.	2.04
	Work area (Site) specific controls.	Understands agreed communication protocols between spotters, truck drivers, and other site personnel.	Can identify and relay common site communication controls.	3.01
			Can respond to changes from common site communication or control.	3.02
			Can recognise and relay the need to improve work planning where communication or site specific controls do not meet common standards of safety.	3.03
		Work area specific control measures.	Can identify any specific controls needed due to services in the work area	3.04
			Can identify the need for specific controls due to work area environment (Ground stability, slopes, proximity to other parties, access and egress)	3.05
			Can identify and relay site traffic plan requirements.	3.06
	Emergency controls.	Site emergency controls specific to plant.	Can identify and relay the stop work procedure for those entering the operator area of influence.	4.01
			Can identify and relay the controls for spillage of fuel or substances.	4.02

			Can Identify and relay common environmental controls; Including reduction of air, water or land pollutants.	4.03
			Can identify and relay common health controls; Including the need to reduce vibration, human pollutants.	4.04
			Can identify emergency zones for plant.	4.05
<b>Pre Start</b>	Differing machine class or type than was planned.	Manufacturers operator manual or information.	Can locate or identify where manufacturer information is held.	5.01
			Can stop work where relevant safety information particular to equipment is not available.	5.02
			Can confirm that they hold appropriate competency for selected equipment.	5.03
			Can stop work and escalate to supervisor when competency for machine type is not met.	5.04
		Licence for machine class and weight.	Can confirm they hold appropriate licence class and machine weight.	5.05
			Can understand and relay the need to escalate to supervisor where competency is not held.	5.06
			Can confirm they have appropriate competency on this class.	5.07
			Can identify when there is a need for familiarisation on this particular machine.	5.08
	Defective or inoperable equipment.	Pre Use checks.	Can identify and follow any specific manufacturer, company or work area requirements for prestart.	6.01

			Can demonstrate a safe approach to the machine.	6.02
			Can identify the manufacturer or safety specific log book or instructions.	6.03
			Can identify and confirm the presence of emergency equipment.	6.04
			Can identify any defects in the cab area including warning lights through the operating system.	6.05
			Can identify and confirm the safe condition of moving external parts (Tyres, moving levers or similar).	6.06
			Can identify and confirm the safe condition of safety critical machine parts and controls, including: missing or damaged pins, rams, keeper plates, hoses, fittings, worn skid plates, cutting edges, bucket / fork pins are in place and secure.	6.07
			Can identify and confirm the safe condition of internal parts including: oil level, water level, brake fluid, steering fluid, pneumatic operation fluid, equipment is properly greased)	6.08
			Can identify and confirm the safe condition of guards in place, including: guards are locked in place, guards display no visible damage, guarding systems have not been modified.	6.09
			Takes appropriate steps to ensure personal safety around the machine including: Access and egress of the machine, machine is locked from operation during pre use check, operator has isolated the machine from other persons during pre use check.	6.10

			Can identify the need to remove a machine from use due to safety concerns.	6.11
		Lock out/make safe controls.	Can identify, relay and escalate the need to lock out a machine due to safety controls.	6.12
			Can identify and communicate common machine lock out controls.	6.13
			Can identify a lock out control and its meaning for the operator.	6.14
<b>Unloading or loading of machinery for transport</b>	Rolled plant, damage to equipment, people, work area.	Operator must be capable of securing/un-securing the machine for transport, whilst working with others.	Can demonstrate and relay the safe positioning of truck and trailer and that it is set up correctly (level ground, legs down, safe access and egress)	7.01
			Can identify and communicate that the attachments are in the correct position for movement	7.02
			Can demonstrate and explain how operator control of plant reduces risk throughout plant movement	7.03
			Can communicate and obey hand signals, or agreed signals given by spotter.	7.04
			Can relay and demonstrate why plant should be positioned in a central position on transporter.	7.05
			Can relay and demonstrate safe plant state (Lowered attachments, movement security, locked guards) once in position.	7.06
			Can demonstrate and explain why plant controls must be in neutral, pivot lock secured (if fitted),	7.07



			park brakes applied, keys removed and secured and chained down on trailer.	
			Can explain and demonstrate stop work action where safe conditions for loading or unloading are unable to be implemented.	7.08
<b>Basic control and manoeuvrability</b>	Harmful events due to mis communication.	Understands and uses site or agreed communication methods with others on site.	Can identify and communicate the appropriate hand signals, radio protocols and other communications methods used on the site or work area.	8.01
			Can identify and demonstrate when a spotter is needed and how they should be positioned for safe communication and operation.	8.02
			Can demonstrate and communicate clearly and appropriately with spotters, other plant operators and other workers.	8.03
			Can relay and demonstrate stop work protocol where agreed communication cannot be made.	8.04
	Events during normal operation causing harm to people, equipment or the work area.	Competent control of machinery.	Can relay and demonstrate why the roller must be manoeuvred smoothly and in a controlled manner, ensuring operator control of the roller at all times.	9.01
			Can relay and demonstrate the need for spatial awareness in clear zones, restricted work areas, or around services or contained substances.	9.02
			Can relay and demonstrate the need for a stop work action when there is risk to people or causing damage.	9.03

			Can relay and demonstrate the need to position roller on level stable ground with clearance from trenches, batters, benching or soft shoulders.	9.04
			Can explain and demonstrate why the machine must manoeuvre with adequate clearances, considering: overhead wires, underground services, dangerous materials, other equipment, recently filled trenches.	9.05
			Can explain and demonstrate why the operator must maintain control when working around other machines, personnel, structures, traffic, survey pegs.	9.06
			Can demonstrate roller control on slopes and uneven ground.	9.07
			Can relay and demonstrate travel to the safe speed limit.	9.08
			Can relay and demonstrate the need for a stop work action when there is risk to people or causing damage.	9.09
			Can identify and stay within exclusion zones.	9.10
			Can identify and demonstrate stop work action where safe control is not maintained.	9.11
	Travel between different work areas or sites.	Competent navigation of machinery.	Can identify and demonstrate a travel path for the roller to be driven on where no traffic plan is in place, by assessing risks including: traffic, ground conditions, interaction with people, plant or wildlife, live services and the travel capabilities of the machinery.	10.01

			Can identify and demonstrate travel at legal and safe speed.	10.02
			Can explain and demonstrate why the vibrator must be disengaged while travelling.	10.03
	Changed work environment.	Operator understands limits to their own competency and when specialist knowledge or qualifications are required.	Can explain and demonstrate stop work action following a changed work condition.	11.01
			Can explain and demonstrate close down action where a changed condition is beyond the safe competency limit of an operator.	11.02
<b>Basic operations</b>	Compaction of fill	Operator must work within limits of machinery whilst demonstrating ongoing risk assessment during operation.	<b>Operator can explain and demonstrate;</b>	
			Safely rolling in a forward direction with clear vision ahead.	12.01
			Positioning themselves in the roller on the side closest to the edge (seatbelt worn).	12.02
			When rolling in reverse, keeps 2m (or agreed safe working limit) away from the edge to give larger safety zone.	12.03
			Why they must use a temporary mark every 20 – 20m to give a line to follow whilst in reverse.	12.04
			Why, when rolling downhill, they must always start in the lowest gear and don't change gears at anytime.	12.05

			Why, when rolling around corners, starting 2m (or agreed safe working limit) away from the edge and slowly moving across to within 1m (or agreed safe working limit) of the edge.	12.06
			How the vibrator can move the roller sideways and make shoulder unstable.	12.07
			Why they must roll edges with vibrator off.	12.08
			Why, when changing direction they must turn vibrators off or on whilst the machine is moving.	12.09
	Operating on Slopes or Uneven Ground.	Operator must work within limits of machinery whilst demonstrating ongoing risk assessment posed by the work area during operation.	<b>Operator can explain and demonstrate;</b>	
			How weight distribution changes when turning and the safety implications.	13.01
			Why they must travel directly up or down slope, and must not traverse.	13.02
			Why they must assess the risk posed by a slope to adjust to a safe speed for travelling on an incline.	13.03
			Why they must be aware of uneven or soft surfaces, and the risks to people, plant and the work environment.	13.04
			Why they must keep a safe distance from edges, drop-offs or other structures.	13.05
			Why, when commencing a run to compact a road, they must commence at the kerbside and not the crown or high side of the fill area.	13.06

			Why they must assess the risk of using the vibrator on the first run on a slope of uncompacted materials or near buildings.	13.07
			The stop work and recovery action when a machine has reached its limit of control.	13.08
<b>Close down</b>	Harm to people, equipment, premises and the environment	Close down checks.	Can explain and demonstrate the need to park the machine in a low risk area including: stable and level ground, away from chemical or fire hazards, not causing traffic hazards, not preventing emergency access or egress.	14.01
			Can identify and follow any specific manufacturer, company or work area requirements for close down.	14.02
			Can demonstrate a safe approach to the machine.	14.03
			Can identify any defects in the cab area including warning lights through the operating system.	14.04
			Can identify and confirm the safe condition of moving external parts (Tyres, moving levers or similar).	14.05
			Can identify and confirm the safe condition of internal parts including: oil level, water level, brake fluid, steering fluid, pneumatic operation fluid)	14.06
			Can identify and confirm the safe condition of guards in place, including: guards are locked in place, guards display no visible damage, guarding systems have not been modified.	14.07

			Takes appropriate steps to ensure personal safety around the machine including: Access and egress of the machine, machine is locked from operation during close down check, operator has isolated the machine from other persons during close down check.	14.08
			Can identify the need to report any defects, maintenance requirements or safety concerns related to a machine.	14.09
		Close down lock out/make safe controls.	Can leave the machine in a safe condition, locked out to none competent people.	15.01
			Can identify, relay and escalate the need to lock out a machine due to safety controls.	15.02
			Can identify and communicate common machine lock out controls.	15.03
			Can identify a lock out control and its meaning for the operator.	15.04