

Job safety analysis (JSA)

Phone: (09) 442 2222
Website: www.watercare.co.nz

Please fill in all sections



1. Site and project details

Site name Project name/work order #

Site address: Number Street name Suburb Post Code

Work location/process area: Authorised access (AA) #:

Service provider undertaking the works: JSA #:

Work planned start date: Work planned end date: JSA developed by: *(Person in charge of work)*

Description of the works *(Scope of work)*

Reviewed by *(Watercare representative)* Name Confirmation to proceed with work *(Watercare approver)* Name

Date and signature Date and Signature

2. Emergency response information

Emergency contacts

• Person in charge of the work: full name		Contact phone	
• Watercare representative: full name		Contact phone	
• Other: full name		Contact phone	
• Facility control: full name		Contact phone	
• Control room: water/wastewater treatment plant:		Contact phone	
• Nerve Center New Market: full name		Contact phone	





















Nearest medical facility address and contact details:

Evacuation point First Aid kit location

IN THE EVENT OF AN EMERGENCY DIAL 111

IMPORTANT: Injuries, incidents and near misses must be reported to your Watercare representative without delay. For serious events, the incident scene must not be altered (unless to make it safe) and all work in the vicinity of the event must cease until permission to proceed has been granted by your Watercare representative.

3. Personal protective equipment - mark all that apply

 <input checked="" type="checkbox"/> High visibility clothing	 <input checked="" type="checkbox"/> Foot protection	 <input checked="" type="checkbox"/> Protective clothing	 <input type="checkbox"/> Dust mask	 <input type="checkbox"/> Breathing apparatus
 <input type="checkbox"/> Respirator	 <input type="checkbox"/> Head protection	 <input type="checkbox"/> Life vest	 <input type="checkbox"/> Eye protection	 <input type="checkbox"/> Safety harness
 <input type="checkbox"/> Hearing protection	 <input type="checkbox"/> Face shield	 <input type="checkbox"/> Hand protection	 <input type="checkbox"/> Welding mask	 <input type="checkbox"/> Gas detection
 <input type="checkbox"/> Portable ventilation	 <input type="checkbox"/> Fire extinguisher	 <input type="checkbox"/> Portable radio	 <input type="checkbox"/> Tripod and winch	 <input type="checkbox"/> First Aid kit

4. Hazards - what could cause harm? Mark all that apply









<p>Atmospheric conditions</p> <p><input type="checkbox"/> Facility entry point (covers and manholes etc)</p> <p><input type="checkbox"/> Confined space</p> <p><input type="checkbox"/> Toxic Gas (H2S, Methane etc)</p> <p>Biological</p> <p><input type="checkbox"/> Viral / bacterial</p> <p><input type="checkbox"/> Rodents / insects</p> <p>Excavation / penetration</p> <p><input type="checkbox"/> Trench / excavation</p> <p><input type="checkbox"/> Penetration</p> <p><input type="checkbox"/> Tunnelling</p> <p>Energy</p> <p><input type="checkbox"/> Mechanical</p> <p><input type="checkbox"/> Electrical</p> <p><input type="checkbox"/> Hydraulic / Pneumatic</p> <p><input type="checkbox"/> Ultraviolet (UV)</p> <p><input type="checkbox"/> Gravitational/Potential</p> <p><input type="checkbox"/> Underground/Overhead Services</p> <p><input type="checkbox"/> Other: _____</p>	<p>Work environment</p> <p><input type="checkbox"/> Hazardous surface conditions</p> <p><input type="checkbox"/> Hot/cold temperature</p> <p><input type="checkbox"/> Poor visibility</p> <p><input type="checkbox"/> Unstable ground</p> <p><input type="checkbox"/> Noise</p> <p><input type="checkbox"/> Vibration</p> <p><input type="checkbox"/> Weather</p> <p><input type="checkbox"/> Sharps, needles and broken items</p> <p>Hazardous zones</p> <p><input type="checkbox"/> Explosive Atmosphere Zone <i>Electrical equipment for hazardous area (EEHA)</i></p> <p><input type="checkbox"/> Major Hazard Facility (MHF)</p> <p>Manual Handling</p> <p><input type="checkbox"/> Heavy Lifting</p> <p><input type="checkbox"/> Repetitive</p> <p><input type="checkbox"/> Other: _____</p> <p>Working at Height</p> <p><input type="checkbox"/> Structure without barrier</p> <p><input type="checkbox"/> Ladder</p> <p><input type="checkbox"/> Skylight or non-weight bearing structure</p> <p><input type="checkbox"/> Other: _____</p>	<p>External</p> <p><input type="checkbox"/> Public/Third parties</p> <p><input type="checkbox"/> Animals</p> <p>Fire / explosion</p> <p><input type="checkbox"/> Hot works</p> <p><input type="checkbox"/> Flammable substances</p> <p><input type="checkbox"/> Explosive gases</p> <p>Hazardous Substances</p> <p><input type="checkbox"/> Chemicals (liquid/gas/fume) Hazardous Materials</p> <p><input type="checkbox"/> Asbestos</p> <p><input type="checkbox"/> Chemical or environmental dust</p> <p>Water bodies</p> <p><input type="checkbox"/> Dams, lakes, ponds, lagoons Channels/aqueducts</p> <p><input type="checkbox"/> Pipelines</p> <p><input type="checkbox"/> Reservoirs/wells</p>	<p>Materials movement & storage</p> <p><input type="checkbox"/> Stacking/racking</p> <p><input type="checkbox"/> Suspended loads</p> <p><input type="checkbox"/> Lifting equipment</p> <p><input type="checkbox"/> Loading/unloading</p> <p>Plant & Equipment</p> <p><input type="checkbox"/> Fixed plant and equipment</p> <p><input type="checkbox"/> Mobile plant and equipment</p> <p>Physiological/human factors</p> <p><input type="checkbox"/> Fatigue</p> <p><input type="checkbox"/> Impairment</p> <p><input type="checkbox"/> Working alone</p> <p>Working with Traffic</p> <p><input type="checkbox"/> Road corridor traffic</p> <p><input type="checkbox"/> Site traffic</p> <p><input type="checkbox"/> Pedestrians</p> <p><input type="checkbox"/> Other: _____</p>
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5. Workpack documentation - tick all that apply, attach PDFs or jpgs or physical copies to this form

Regulator notification: Yes: No:

Worksafe notification form

Permits to work *attachments*

- | | | | |
|--------------------------|---|----------------------------------|--------------------------|
| <input type="checkbox"/> |  | Confined space Permit | <input type="checkbox"/> |
| <input type="checkbox"/> |  | Excavation permit | <input type="checkbox"/> |
| <input type="checkbox"/> |  | Explosive atmosphere area permit | <input type="checkbox"/> |
| <input type="checkbox"/> |  | High risk activity permit | <input type="checkbox"/> |
| <input type="checkbox"/> |  | Hot work permit | <input type="checkbox"/> |
| <input type="checkbox"/> |  | Safety device impairment permit | <input type="checkbox"/> |
| <input type="checkbox"/> |  | Work at height permit | <input type="checkbox"/> |
| <input type="checkbox"/> |  | Hazardous energy permit | <input type="checkbox"/> |

Isolations required: Y/N

- Isolation Request
- Self-isolation (LOTO)

Supporting documentation: Y/N

- Work methodology/SOP
- CAR form (change form)
- Site plans/drawings
- Lift plan
- MHF regulation applies
- CSRP (Change to system risk profile)
- Electrical equipment for hazardous area regulation applies
- Other (explain):

Record energy isolation/safety arrangements agreed with Watercare Operations or utility provider:

Interaction with utilities: Y/N

- | | | |
|--------------------------|------------------------------------|----------------------|
| <input type="checkbox"/> | Electricity - what voltage? | <input type="text"/> |
| <input type="checkbox"/> | Pressure/fluid/air - what product? | <input type="text"/> |
| <input type="checkbox"/> | Gas - what pressure? | <input type="text"/> |
| <input type="checkbox"/> | Water/sewer/storm water - mains? | <input type="text"/> |
| <input type="checkbox"/> | Communication/phone - what type? | <input type="text"/> |

Risk Matrix			Consequence / Potential Severity				
			Minimal Non-injury or First Aid injury (FAI).	Minor Medical treatment injury.	Moderate Medical treatment injury, with lost time (LTI).	Major Injury requiring hospital-isolation/notifiable event.	Catastrophic Fatality or multiple fatalities.
Likelihood	Very High	Almost certain: Commonly occurs.	3: Medium	4: High	4: High	5: Very High	5: Very High
	High	Likely: Could easily happen.	2: Low	3: Medium	4: High	4: High	5: Very High
	Medium	Possible: Could happen or has been known to happen.	2: Low	2: Low	3: Medium	4: High	5: Very High
	Low	Unlikely: Hasn't happened yet but could happen.	1: Very Low	2: Low	3: Medium	3: Medium	4: High
	Very Low	Rare: Very unlikely but could happen in exceptional circumstances.	1: Very Low	2: Low	2: Low	3: Medium	4: High

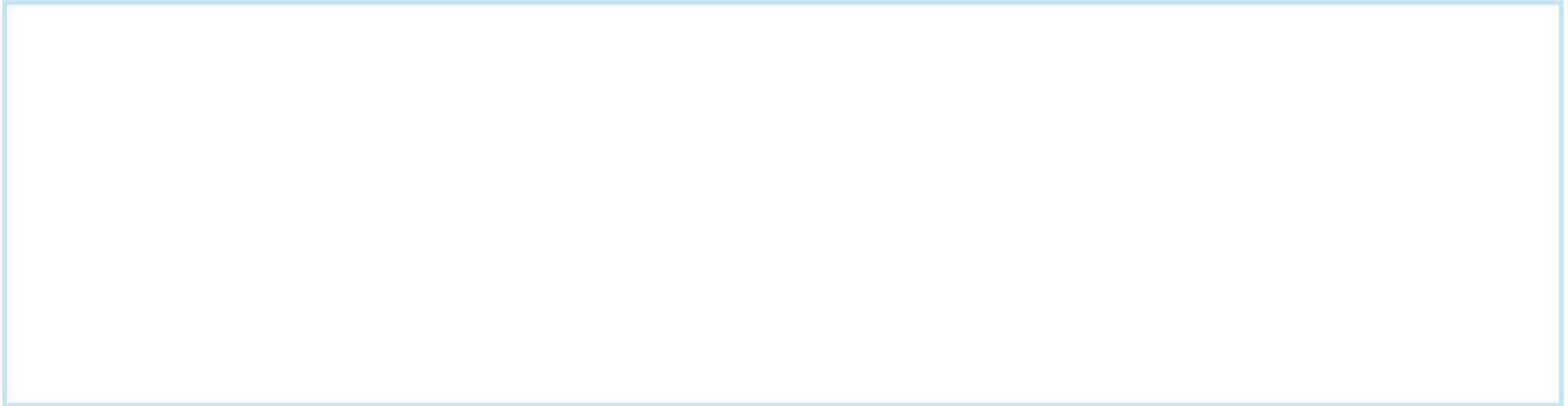
6. Steps taken to complete the job

What are we doing? <i>(step by step)</i>	Hazards <i>(one per line)</i>		Hazard controls – what do we need to do to make it safe?			
	What could cause harm?	Existing risk level <i>(use risk matrix)</i>	Can we eliminate the risk? <i>List how below</i>	If elimination is not possible, can we: - substitute and/or - isolate and/or - use engineering controls	If any risk still remains: - use admin controls and/or PPE <i>(PPE is the least effective and should not be first or the only control measure)</i>	Residual risk level

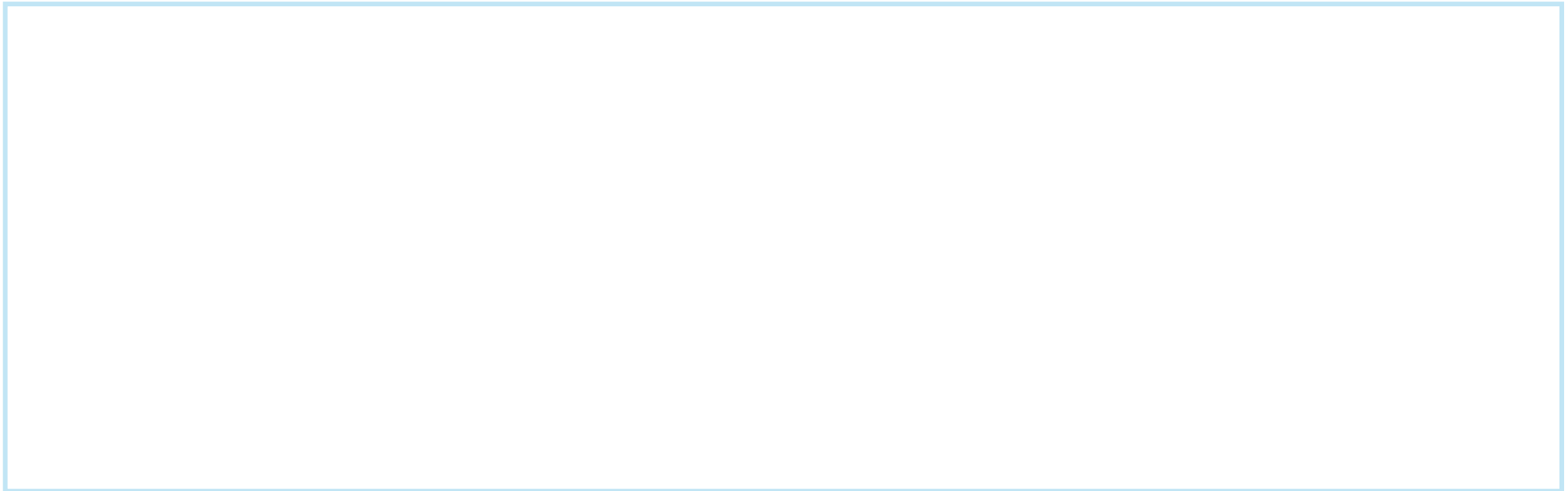
continued >>>

7. Site Map, Emergency Response Plan and diagrams

Emergency Response Plan – *include self-rescue, assisted rescue and emergency services rescue*



Site Map/ diagrams/ isolations sketches




8. Changes and updates to the JSA


List any changes or modifications to the job below, in order	New hazards <i>(one per line)</i>	Existing risk level <i>(use risk matrix)</i>	Hazard controls – what do we need to do to make it safe?			Residual risk level
			Can we eliminate the risk? <i>List how below</i>	If elimination is not possible, can we: - substitute and/or - isolate and/or - use engineering controls	If any risk still remains: - use admin controls and/or PPE <i>(PPE is the least effective and should not be first or the only control measure)</i>	


Hold point: All changes and modifications to the job must be authorised by a Watercare representative or control room


Permit to Work – Decision Trees


Use the Permit to Work Decision Tree to assess activity risks and determine if a permit is necessary. If the "YES" column is marked in the PTW column, a Permit to Work is mandatory. For entries marked with Y/N, the Permit Receiver and Permit Issuer should discuss necessary controls to decide on permit requirements. – *obtain PTW forms from your Watercare Representative.*

Confined Space Work in an enclosed or partially enclosed space. Note: The Watercare Confined Space Entry Certificate and Confined Space Risk Decision Tree must be completed for ALL Confined Space entries. 	PTW Req?
Is the residual risk score 2 or above on the Confined Space Decision Tree?	YES
Is the residual risk score 1 on the confined space decision tree?	NO


Excavation Work involving the removal of soil or rock from a site to form an open face trench, hole or cavity. 	PTW Req?
Will the excavation be deeper than 1.5metres?	YES
Is there a risk of atmospheric contamination or build-up of gases or fumes within the excavation?	YES
Is de-watering required?	YES
Will the excavation contain contaminated soil?	YES


Explosive Atmosphere Areas These are areas that encompass explosive atmosphere zones, refer: AS/NZS 60079.10.1:2009 Classification of areas – Explosive atmospheres 	PTW Req?
Is any of the work in a designated explosive atmosphere zone ?	YES
Is any of the work undertaken in a designated hazardous (explosive) area , that is covered by an approved SOP?	Y/N

Hazardous Energy Permit Containing mechanical, chemical, electrical, thermal gravitational, potential, pneumatic or hydraulic energy. Note: The Watercare Isolation Procedure & Isolation Certificate still applies. Note: Work Type Competency (WTC) must be held if working on or near Electrical Energy Areas i.e. Motor Control Centre (MCC), Switch Rooms, Transformers, Earthing and Ring Main Unit (RMU) 	PTW Req?
Will it work involve working on High Voltage equipment?	YES
Will it involve live product work including all work either inside or on live wastewater or water pipes where either product or vapours may still be present?	YES
Will it involve working in a HV room or within 2 metres of HV equipment? (Excludes routine activities undertaken by WTC trained personnel, with a Watercare approved SOP).	YES
Will it involve working on live equipment, electrical circuits, energised pipes or pressure vehicles?	YES
Does the work require any remote isolation(s)?	YES
Does the work require energising during testing or commissioning?	YES
All other isolation of hazardous energy; the Watercare Isolation Procedure applies	NO

Hot Work Where a source of ignition is introduced to a work environment 	PTW Req?
Does it involve any non-intrinsically safe activity or non- Ex rated equipment within a confined space where flammable or explosive conditions realistically could exist (be introduced through the work or normal conditions, or has been known to exist before in the space)?	YES
Does it involve any non-intrinsically safe activity or non- Ex rated equipment, within a designated explosive atmosphere zone?	YES
Will there be any hot work on equipment or pipes?	YES
Will there be any hot work in an operational plant, offices or admin areas?	Y/N
Will the hot work be undertaken outdoors, when a fire ban is in place and/or within 3 metres of a structure?	Y/N

Other High-risk Work Any other tasks where the risk assessment generates a controlled risk score in the red zone of the job safety analysis (JSA).	PTW Req?
After planning safety measures to reduce risks, is the level of risk remaining still considered high (4) or very high (5)?	Yes
Other high-risk activities not covered by a specific permit, i.e complex crane lifts, diving etc.	YES

Safety Device Impairment Where the work will disable or affect emergency systems (emergency monitoring systems, fire fighting, escape or rescue systems) or safety critical elements on a Major Hazard Facility. 	PTW Req?
Will the work disable or affect emergency systems, including leaving a site operating with a disabled emergency alert system or safety device?	YES
Will the work disable or affect a MHF safety critical element as specified in the site MHF Safety Case (applies to Ardmore WTP only)	YES

Working at Heights Working in place where a person could be injured if they fell from one level to another. 	PTW Req?
Will it involve working at a height of 5 metres or higher? (Notification to Worksafe?)	YES
Will it involve working at a height between 2 metres and 5 metres? Excludes: Under 5 metres when working from a scaffold erected by a competent person or from a scissor lift, a boom lift or a permanent ladder where the fall protection is permanently I equipment.	YES
Working at height less than 2m (NOTE: ALL height work must have safety controls planned and used)	NO

CONFINED SPACE IDENTIFICATION CHART

The identification of a confined space shall be done in accordance with the following process:

