

# Standard Health and Safety and

**Environmental practices** 

**HSE** 

Ver. 1.1

Date: 30 September 2019



Revision	Description	Released by	Date
0.1	Working draft	J de Villiers	12/03/2019
1	First release	J de Villiers	19/06/2019
1.1	Remove reference to typhoid	J de Villiers	30/09/2019

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# **Summary of changes**

Version	Section	Description of revision
1.1	Part A, section 4	Removed requirement for typhoid injections



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# **Glossary: Terms and abbreviations**

AA Access authority

Accept(ance) a sign-off by Watercare that it is in general agreement with a

proposal. This sign-off does not transfer the designer's liability to

Watercare.

EMP Environmental management plan

HSMP Health and Safety Management plan

HSWA Health and Safety at Work Act (2015)

JSA Job safety assessment

MBIE (DoL) Ministry of Business, Innovation and Employment (former

Department of Labour)

mm Millimetre

PCBU Person conducting a business or undertaking



# Part A – Health and Safety



# 1. Introduction

This document is produced in line with the Watercare Health and Safety Policy, and the Watercare Health and Safety Toolkit to set out the general requirements on construction sites during the delivery of contract physical works for the following actions:

- Trained and engaged workers
- Managing access
- · Managing risk
- Workplace health
- Emergency response
- Managing incidents
- Monitoring, review and assurance

Watercare manages health and safety in accordance with the legislative requirements of the Health and Safety at Work Act 2015 (HWSA), and the Watercare health and safety management framework consistent with AS/NZS 4801 Occupational Health and Safety Management Systems.

Watercare's health and safety policy and toolkits are designed for use by Watercare staff, who can provide a copy to consultants and contractors on request.

#### 2. Site safety requirements

- a) The provisions of the Health and Safety at Work Act 2015 (HSWA) shall be complied with as well as any relevant Health and Safety legislation and standards.
- b) Contractors must have an appropriate health and safety policy, and must understand and fulfil relevant duties under the HSWA.
- c) Senior leaders must be engaged with the project construction staff and be suitably visible on site.
- d) A site specific health and safety plan must be submitted to Watercare. The relevant Watercare permits to work at the site must be completed.
- e) Joint ventures: The joint venture must agree one organisational health and safety system for the duration of the works. i.e. Permit to Work, one set of safety documentation / forms, a single reporting, escalation and notification process, emergency management plan, monitoring and inspection process. All personnel must receive training on the agreed health and safety management system and tools.

# 3. Training and engaging workers

The HSWA emphasises the importance of engaging with and training workers.

- a) The contractor shall demonstrate how its staff are provided opportunities to engage in the continuous improvement of hazards, risks and safety practices.
- b) The contractor shall ensure that all its staff, and all staff from subcontractors and suppliers, are competent to perform the task required. The contractor must be able to demonstrate how the measurement of competency is achieved. This may include:
  - Record of qualifications, licences and training.



• Supervision of workers undergoing training/development, or otherwise not yet competent.

#### c) The Contractor shall:

- Hold and record regular safety (tool box/tailgate) meetings with all site staff as specified in the safety plan.
- Attend regular health and safety and co-ordination meetings chaired by the monitoring consultant or Watercare.
- Ensure their own employees and the employees of sub-contractors are inducted into the requirements of this document prior to undertaking work for Watercare.
- Induct all personnel including their own employees, sub-contractors and the sub-contractors' staff onto the safety requirements for the contract prior to commencement of the contract.
- Ensure their employees and those of their sub-contractors have appropriate and current training, certification/licensing and have the necessary knowledge and experience to carry out tasks, use plant and equipment, objects, substances and protective clothing safely. If they are not, then they must be supervised at all times by someone who has the required knowledge.
- Record evidence of all health and safety inductions and training in their safety documentation.
- Complete refresher training every two years unless legislated elsewhere. This is to ensure that personnel are aware of any changes in the legislation and current work practices.
- Monitor to ensure all training is current.

# 4. Occupational health and hygiene

- a) The contractor shall provide washing, changing and toilet facilities where these are not available.
- b) The contractor's staff that are involved with wastewater works shall have current inoculation against hepatitis-A, hepatitis-B, tetanus and poliomyelitis.
- c) Contractor staff that work on wastewater systems are not allowed to work on water supply systems.
- d) No person shall be under the influence of drugs or alcohol while working on a Watercare site.
- e) Contractors must ensure that Watercare's drug and alcohol policy is observed and complied with while working on Watercare assets and facilities.

#### 5. Personal protection and equipment

- a) The contractor shall provide and maintain appropriate site personal protective equipment.
- b) The minimum personal protective equipment shall be:
  - Safety boots
  - Hi-viz (high visibility) vest with markings in accordance with current New Zealand standards (AS/NZS 4602)
  - Hard hat
  - Safety glasses
  - Appropriate gloves for site activates to be carried at all times and used when appropriate
  - Ear protection as required
  - Clothing with long sleeves and trousers (including overalls where appropriate)



- Harness for when working at height
- Reparatory protection
- c) The contractor shall ensure that their equipment is maintained in a serviceable condition and in accordance with any standards that may be applicable.

#### 6. Managing contractors and access

#### 6.1 Access authority

- a) Watercare manages access for contractors to work on assets, sites and facilities using an Access Authority (AA) process.
- b) This is a form that is completed by the contractor, and approved by representative Watercare staff, confirming who is doing the work, what it is, where, and when.
- c) If the contract works require access to, or interface with, an operational asset, then the contractor must gain an approved AA prior to taking possession of the site.
- d) All staff working on the site must be signed-in and out of the site with an appropriate record keeping system. The records must be provided to Watercare on a weekly basis.
- e) An induction ID card will be issued when working on a Watercare site that must be held on all staff's person when on site.

#### 6.2 Job safety analysis

- a) Any access for works must be accompanied by a Job Safety Analysis (JSA). On large projects, there may be multiple JSAs associated with the works.
- b) The breakdown of work into manageable packages should be considered as part of the construction methodology.

#### 6.2.1 Site typical hazards

- a) Watercare shall notify the contractor of any safety hazards and risks associated with the works or the site, or any specific safety measures that Watercare is aware of which an experienced contractor may not reasonably expect.
- b) Contractors and their staff shall address the following typical site hazards:
  - Rotating plant and other machinery may automatically shut, open, start or stop without warning.
  - Ventilation shall be provided and be suitable for the tasks being undertaken. When carrying out work to areas where ventilation is required, entrance to the works area shall be controlled and all staff briefed on any limitations of work and on executing the emergency response plan.
  - Exposure to chemicals used as part of the site works, waste products and any chemicals used on site processes.
  - Pressurised pipelines or electrical cables in the vicinity of the works. Works on these systems must follow an isolation and lock-out procedure. In some instances isolation may be required when working in the vicinity of such services e.g. overhead power lines.
  - Water hazards relating to ponds, tanks or filled trenches of significant depth, flooding as a result
    of storm events in open channels or wastewater systems. Aerated water that reduced buoyancy
    or particles that obscure below surface view.
  - Falling from height when working at elevated surfaces or above recessed levels such as trenches.
     The contractor shall construct and maintain all necessary barriers, fencing, safe access ways and lighting to provide a safe working environment.
  - Tripping hazards relating to site conditions, obstructions and housekeeping.
  - Equipment and parts delivery to site.



- Confined spaces.
- Where workers are exposed to significant hazards, hazard controls must be documented, reviewed and agreed before any work starts.
- The health and safety management plan (HSMP) must be shared with and accessible to all workers or their health and safety representatives.
- The principal contractor will regularly review and monitor the works of the subcontractor in accordance with the agreed HSMP.

#### 6.3 Inductions

- a) Before work can commence on a Watercare work site the contractor's staff and sub-contractor's staff must attend an induction session on Watercare's general safety rules and procedures as well as the site specific safety rules and produces.
- b) The contractor should confirm what inductions are required for the project work.
- c) Watercare inductions are generally conducted on weekly timetable basis across various sites, and an attendance booking is required.
- d) All staff, once inducted must be up to date with the requirements of the site specific health and safety plan and the relevant working permits.

#### 7. Safety inspections and reporting

- a) A representative from Watercare for the purpose of conducting safety audits shall be allowed access to the works site.
- b) The Watercare representative must be inducted on site.
- c) Safety inspection may be undertaken at any time to ensure that activities and procedures are maintained in accordance with the applicable legislation and regulatory requirements. Non-compliant activities or procedures may be suspended in part or whole by the Watercare representative until agreed corrective actions have been implemented.
- d) The contractor must conduct their own health and safety inspections and maintain a record of all actions. These records must be made available to Watercare at a minimum bi-weekly frequency or may be extended to once a month for projects with a duration in excess of a month. (HS206 Watercare Contractors Monthly Health, Safety and Environmental Report).

# 7.1 Definitions for reporting

- A **Near Miss** is defined as an incident where if the circumstances were different, harm to a person or persons may have occurred.
- **Lost Time** is where a person is off work due to a work related injury beyond the date of the injury, for more than 8 working hours (8 hours = 1 day).
- Accident requiring First aid is where a person requires First aid treatment for their injury only.
- Accident requiring medical treatment is where an injured person has received treatment from a Doctor, A&E Clinic or Hospital.
- Serious Harm is as per the First Schedule in the Health and Safety in Employment Act
- Site Any place work is performed.
- **Provisional Improvement Notice (PIN):** A written notice issued by a Health and Safety Representative (HSR) to a person or a PCBU asking them to address a health and safety concern in the workplace.
- **Improvement Notice**: A written notice by a WorkSafe Inspector to a person or PCBU to address non-compliance with the HSWA.



- **Prohibition Notice:** A written notice by a WorkSafe Inspector to a person or PCBU to immediately cease activity that the inspector reasonably believes is or may involve a serious risk to the health or safety of a person arising from an immediate or imminent exposure to a hazard.
- **Non-disturbance Notice**: A written notice by a WorkSafe Inspector to a person or PCBU who manages or controls a workplace if the inspector reasonably believes that it is necessary to do so to facilitate the exercise of his or her compliance powers.
- Watercare Safety Improvement / Stop Work Notice. A notice from Watercare that specifies steps to ensure compliance with a provision of the Health and Safety in Employment Act and/or Watercare Minimum Health & Safety Requirements for Physical Works and/or the site specific safety plan. A "Stop Work" notice issued by Watercare until the Watercare representative issuing the notice is satisfied that acceptable measures have been taken to remedy the hazard.

#### 8. Emergency response

The contractor must have an appropriate emergency response plan for the particular project site that they are working on. This must include the following key details:

- a) Identify emergency situations that occur.
- b) Detail roles and responsibilities for emergency management on site.
- c) Identify first aiders, location of first aid kits, fire extinguishers and other specific emergency equipment.
- d) Ensure all personnel including sub-contractors and associated people are aware of all its emergency response requirements.
- e) Determine the frequency of trial emergency response exercises to be conducted on site, and record evidence of such exercises being conducted. Examples of a trial emergency response could be:
  - i. Collapsed trench
  - ii. Confined space rescue
  - iii. Rescue from height
  - iv. Medical emergency
  - v. Hazardous spill
  - vi. Traffic accident
  - vii. Site evacuation

#### 9. Notifiable events and incidents

- a) Contractors must ensure that escalation procedures are agreed with Watercare's project representative at the start of the works. The escalation procedures must include an ascending list of contacts within both Watercare and the contractor's organisation, who can be called in the event of an incident occurring. The escalation procedures must be displayed in a prominent place in the site office (or appropriate accessible site location).
- b) All deaths, injuries, illnesses and notifiable incidents as required by law shall be reported to WorkSafe or the designated regulatory agency under the HSWA. Records must be held for at least 5 years from the date of notice of the relevant event.
- c) Watercare must be notified in the first instance so that we can report to the Health and Safety Regulator on behalf of the project and to prevent double reporting. Should Watercare deem the incident not notifiable after discussion with the contractor, the contractor may then still choose to report independently of Watercare.
- d) The contractor shall ensure that the site where the notifiable incident occurred is not disturbed until authorised by the Health and Safety Regulator.
- e) The contractor shall provide Watercare with a copy of any information and notices that the Health and Safety regulator issues relating to notifiable events.



- f) The contractor must assist Watercare as is reasonably necessary to conduct investigations to a notifiable event, incident or accident.
- g) The contractor must provide a report to Watercare giving full details and results from any investigations into the cause of notifiable events and any recommendations for prevention of a similar event occurring.
- h) The contractor must notify Watercare of any proceedings or enforcement actions issued.

#### 10. Suspension of work

- a) Work must be suspended as required for under conditions in section 9 above.
- b) Non-compliant site conditions, activities or procedures may be suspended in part or whole by the Watercare representative until appropriate corrective actions have been implemented.

#### 11. Health and safety management plan

#### 11.1 General requirements

- a) Documents must set out:
  - Health and safety risk controls
  - Methods and frequency of communication between principal contractor and the sub-contractor
  - Allocation of responsibilities (including where they are shared or overlap)
  - Monitoring requirements
  - Performance measures
  - Reporting requirements
- b) The contractor must have a robust system for the management of subcontractors including:
  - Providing a clear scope of work for the sub-contractor
  - Selecting the appropriate sub-contractor for the work. Evaluation should include the potential contractor's ability to manage critical hazards and risks. The level of detail required will depend on the nature of the work and the risks involved. The evaluation must include consideration and assessment of:
    - i. The extent to which the critical hazards and risks will be reduced so far as reasonably practicable
    - ii. The contractor's experience with the type of work to be carried out
  - iii. The resources in relation to the work to be undertaken
  - iv. Their health and safety management systems and practice

#### 11.2 Managing risks

- a) Contractors must ensure that systems are in place for identifying and assessing new and existing hazards associated with the works.
- b) Ensure the list of new and existing hazards is kept up-to date and communicated to all affected parties for the duration of the contract.
- c) Contractor must apply the hierarchy of controls to reduce the risk of harm as far as reasonably practicable.
- d) Risk management must address:
  - Permits to work that includes but are not limited to:
    - Working at heights



- ii. Confined space
- iii. Hazardous atmospheres
- iv. Isolation permits
- v. Hot works
- Hazard identification
- Operating mobile plant and vehicles
- Traffic management
- Confined space entry
- Working at height (including excavations)
- Working around buried or overhead services
- Working around suspended loads
- Handling and storage of hazardous substances
- Fatigue management
- Change management
- e) The contractor must regularly review their safety plans, method statements, task analysis and permits.



# Part B – Environmental



#### 1. Introduction

This document is to set the minimum criteria for contractors to maintain a working environment that follows best practice and to ensure that the requirements of the Environmental Act, Historic Places Act and Heritage New Zealand Pouhere Taonga Act are adhered to.

#### 2. Education and training

- a) All site staff and subcontractors shall be trained in the protocols and actions of the environmental management plan (EMP).
- b) Engagement form staff shall be encouraged for continual improvement.

# 3. Site appearance and housekeeping

- a) The site shall be maintained in a good and safe order at all times.
- b) The works shall be constantly monitored for waste generation areas that are becoming untidy and rectified.
- c) The site area shall have demarcated areas for storage, disposal and staff quarters or facilities. Disposal areas facilities shall be maintained and regularly cleaned.
- d) Grassed areas shall be kept trimmed and thoroughfare areas identified and kept clear of obstructions that could cause tripping hazards.

# 4. Archaeological, anthropological and antiquarian discoveries

- a) In the event of any discovery, work shall be suspended and Watercare informed as well as:
  - i. Contact local Iwi
  - ii. Inform Watercare in writing of any notable discovery
  - iii. Take precautions to prevent loss, damage or removal of the discovered item
  - iv. Inform the Auckland Council and comply with the provisions of the Historic Places Act.
- b) In the event of discovering human remains the work shall be suspended and NZ Police informed.
- c) In the event of lava cave discoveries:
  - i. Stop work and contact the project geologist to determine significance. If deemed insignificant then work may continue with no further action.
  - ii. If deemed significant the following actions must be undertaken:
    - Stop work and secure the area, including machinery within 20m of any part of the discovery.
    - Inform:
      - i. Auckland Council
      - ii. Heritage New Zealand as determined by Auckland Council
      - iii. For human remains and archaeological finds see a) and b) above
  - iii. Recommence work once sign-off is obtained for:
    - Heritage NZ provide authority to continue
    - Protected Objects Act has been met
    - Material for scientific and educational purposes is taken, including photographs and notes



- The site must be measured and recorded for possible future re-entry and protected from adverse effects
- Resource consent is granted for any change in works
- There are no outstanding Archaeological requirements
- d) Discovery protocols for deep cavities (lava caves) will be activated when tunnelling machines advances for greater than one meter under the following conditions:
  - i. Lava cave encountered in the top half of the tunnel face
  - ii. Lava cave encountered in lower half of tunnel face which doesn't extend below line of Tunnel Boring Machine (TBM)
  - iii. Lava cave encountered in lower half of face which does extend below line of TBM

The following actions shall be undertaken for deep cavity discovery:

- Stop tunnelling machine
- Inform Auckland Council at Auckland Council of the cave presence
- Record the cave location and any observations that can realistically be made safely.
- Request permission to continue the works
- Undertake any necessary remedial measures which could range from doing nothing, adjusting tunnelling machine speed; back fill or grout the void if required.
- Continue tunnelling

#### 5. Erosion and sedimentation control

- a) Erosion and sedimentation control shall in general comply with the Auckland Council technical guidelines Erosion and sedimentation control (GD05).
- b) Erosion control must be developed at programme level as well as for each site area/location.
- c) The plan must show erosion control devices, methods and stock-pile areas.
- d) Erosion and sedimentation control devices must be maintained in good working order.
- e) Polluting substances shall not be discharged over land or into water.
- f) The site and surrounding roadway must be kept neat and tidy.
- g) Slurry and silt from subsurface construction methods:
  - i. Slurry and silt shall be removed from site. Saturated material must be pumped into a tank or truck and disposed at an appropriate dumpsite. Records must be made available of the dumping volume and certified by the receiving site manager.
  - ii. Slurry and silt shall not be disposed to the kerb, stormwater or wastewater systems.
- h) Concrete cuttings and concrete "wash" shall not be disposed to the kerb, stormwater or wastewater systems. Saturated material must be pumped into a tank or truck and disposed at an appropriate dumpsite. Records must be made available of the dumping volume and certified by the receiving site manager.
- i) Stock piling must be approved and identified in the EMP including:
  - i. Excavated material shall not be placed on or within one metre of kerbs and impervious such as driveways or concrete hard stands.
  - ii. Stockpile removal offsite must be by sealed vehicles containers and the loading inspected for avoidance of spillage during transportation.



 Approved stockpile areas must have sedimentation and erosion control applied in accordance with GD05.

#### j) Open pits and trenches

- i. Excavations for trenching and other pits shall be backfilled and compacted within two working days of final testing of the buried pipe or structure. Progressive backfilling may be required as work advances.
- ii. Excavations for any connection shall be closed within 24 hours of exposing the connection point.
- iii. Sediment laden water must be filtered before being discharged over grassed areas, or removed from site. Sediment shall not be disposed to the kerb, stormwater or wastewater systems.
- k) Excavated materials intended for reinstatement shall be sample tested and a report submitted to Watercare in accordance with the requirements of the Ministry for the Environment, 2011, Contaminated Land Management Guidelines No. 1 - Reporting on Contaminated Sites in New Zealand conducted by a NATA/IANZ accredited laboratory. The following minimum levels:
  - i. No asbestos containing material or volatile organic compounds in site soils.
  - ii. No free (or separate) phase liquid contaminants and groundwater contaminant concentrations, with the exception of volatile organic compounds, which must be below the Australian and New Zealand Guidelines for Fresh and Marine Water Quality at the level of protection for 80% of freshwater species. Concentrations of volatile organic compounds shall be below typical laboratory screening detection limits (0.5 mg/L or lower).

Contaminant	Acceptance level (mg/kg)
Arsenic	<24
Cadmium	<7.5
Chromium	<400
Copper	<325
Lead	<250
Mercury	<0.75
Nickel	<105 <sup>1</sup>
Zinc	<200 <sup>1</sup>
Benzo(a)pyrene	<2.15
equivalent	
Pyrene	<1
ΣDDT	<0.7
VOCs	Below laboratory detection
	limit

<sup>&</sup>lt;sup>1</sup> Can use upper limit background concentration in Auckland region (i.e. 320 for Nickel and 1160 for Zinc) if the soil is volcanic source

- I) Top soil must be placed a minimum of 100mm thick for reinstatement in grassed areas and berms. All stones larger than 20mm shall be removed.
- m) Newly reinstated grassed areas shall be covered with saturated mulch and wetted until grass has been re-established.
- n) Secondary sedimentation controls for stormwater catch-pits shall be proprietary insert devices with a bag mesh size of 30 to 50 microns. Devices shall be cleaned on a daily basis in the event of rain and content disposed offsite. Catch-pits that are out of the ordinary where proprietary devices don't fit shall follow the methods outlined in GD05.



### 6. Vegetation, tree and root management

- The contractor shall adhere to all consents obtained in relation to vegetation removal and reinstatement.
- b) An appointed arborist shall oversee all works within close proximity to trees.
- c) Any tree-trimming or temporary tie-backs shall be carried out with correct arboriculture practices.
- d) Machinery, equipment or materials shall be operated, stored and position outside the drip-line of trees unless otherwise agreed with the appointed arborist.
- e) Where necessary tress shall be protected by barriers or fencing around the branches, drip-line or root-base to protect it from surrounding works activities.
- f) Replanting of vegetation shall be to the appointed arborist's specification on species and location in consultation with the Auckland Council advisor.

#### 7. Dust and noise management

- a) Dust shall be managed so as not cause a nuisance, endanger health or damage property.
- b) Noise levels shall be kept within the hours and limitations of the Auckland Council. <a href="https://www.aucklandcouncil.govt.nz/licences-regulations/noise/Pages/construction-and-maintenance-noise.aspx">https://www.aucklandcouncil.govt.nz/licences-regulations/noise/Pages/construction-and-maintenance-noise.aspx</a>
- c) Asbestos shall be managed in accordance with the Worksafe approved code of practice.

#### 8. Vibration controls

- Vehicles and machinery shall be fitted with adequate dampening devices such as rubber tracks on excavators.
- b) Limit size and time for breaking up hard material on site.
- c) Reduce vehicle speed.

#### 9. Protection of property

- a) The contractor shall take reasonable steps to prevent nuisance and prevent damage to property.
- b) The contractor shall apply environmental controls to ensure that no person is adversely inconvenienced or suffers hardship from noise, vibration, dust or other activities from the site works.
- c) Grievances and claims must be managed by the contractor and reported to Watercare.

#### 10. Environmental incidents

Environmental incidents must be reported and may include:

- a) Discharge of sediment or other pollutants to drains, streams and beaches, and/or correspondence from either Watercare or Local environmental regulator.
- b) Infringement or abatement notice, fine, enforcement order or prosecution pending.
- c) Damage to archaeological sites, property, harm to trees or related complaints from public (including excess noise or dust).

#### 11. Severe weather incidents

a) Equipment, machinery and materials must be tied down or stored in a manner to secure against flooding, wind damage or displacement.



# 12. Environmental management plan

- a) The contractor shall prepare an environmental management plan (EMP) prior to any works starting on site.
- b) The EMP shall include the measurement and controls for the above sections 2 to 10.
- c) The contractor shall ensure that all staff and subcontractors are familiar with the EMP and are trained in the emergency protocols and actions as set out in the plan.
- d) The contractor shall in his plan make sure that all measures and actions comply with the relevant statutory consents and are with lawful direction.