***SECTION 4*** *Operational Procedures and Guidelines*

WORKING IN AND AROUND WATER

PURPOSE

This procedure describes the methods for all work in areas where there is water below, nearby or workers are required to work in water.

The intent of this procedure is to provide guidelines to minimise the likelihood of injury, to protect personnel working over water, and to prevent water ways from becoming polluted through construction or other work activities performed over water.

GENERAL REQUIREMENTS

The need to undertake any work over, in, or near water adds a further risk to those that already exist for the specific task. The failure to adequately assess risk and provide systems of control that effectively manage those risks may result in personnel injury through drowning, hypothermia, contact with watercraft etc. and/ or equipment and material loss or damage.

The hierarchy of controls should always be applied and implemented prior to commencing any work over or near water including the assessment as to whether the risk can be eliminated.

Appropriate precautions should be taken to prevent people and materials from falling into the water / effluent. This

commonly consists of edge protection which meets the following requirements:

 Guard rails with a minimum height of 950mm

 Intermediate guard rails or other rigid barriers such that there is no unprotected gap and toe boards with a minimum height of 150mm to prevent persons from slipping under the intermediate rail and materials from falling.

If fencing or guarding is not reasonable practicable, PPE must be properly planned and workers trained and supervised.

### RISK ASSESSMENT AND PLANNING

All persons involved in any work activity over or near water shall carry out a task specific JSA prior to undertaking work.

Personnel required to work over, in, or above water must do so only when they are in the company of at least one other person.

Where work is to be conducted in and around inlet vales or pumps, grills should be fixed at points where there is a risk of workers being sucked or swept into pipes/conduits.

### PERSONAL PROTECTIVE EQUIPMENT

All personnel must wear an approved floatation jacket at all times when performing any work in, over, on, or above the water under any of the following conditions:

 Standing, or wading in any water body, including lagoons or inlet channels

 Outside of the confines of hand railed platforms

***PROCEDURE***

 Within 3.0 metres of an unprotected edge

 Not restrained through the use of a fall restraint system

The use of a fall restraint system where practical may also be required. Consideration must be given to the nature of the work, the materials and equipment located below and adjacent to the activity and the potential and severity for injury with and without the system.

Consideration must be given to the type of protective footwear provided and used so as to provide maximum protection from slipping on wet/slippery surfaces.

The placement of signs around the workplace is necessary to reinforce the requirement for the use of floatation jackets.

Sufficient floatation jackets shall be available for all personnel who are exposed to free fall into the water. Information about types of flotation devices and jackets may be obtained from Maritime New Zealand:

[*http://www.maritimenz.govt.nz/recreational/safety/lifejackets/*](http://www.maritimenz.govt.nz/recreational/safety/lifejackets/lifejacket-types.asp)[*lifejacket-types.asp*](http://www.maritimenz.govt.nz/recreational/safety/lifejackets/lifejacket-types.asp)

All PPE including life jackets, harnesses and equipment must be checked every time they are used i.e. they should be checked

to see that the pill is in place and the gas cylinder has not been breached.

PPE should also be regularly checked. Checks should include the general condition and automatic inflation devices. A record of these checks should be maintained. Life jackets should be maintained in accordance with the manufacturer’s instructions. Life rings and throwing lines should be checked for deterioration.

### WORKING IN WATER

When working in water (standing, non-diving activities) the JSA process shall include assessment of hazards associated with:

 Slips and falls into the water

 Inundation by upstream waters, Where water is flowing sufficiently fast to carry a person away, only physical protection should be used, such as a bar or chain across.

 Where work is on or over water manually operated hand tools shall be suitably restrained using a tool leash that is attached to the person’s wrist.

When working in, or near aeration tanks, or aerated water, the aeration process reduces water density and therefore extra buoyancy lifejackets (275 Newtons) are required to be worn.

### UNDER-WATER WORK

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Diving work is highly specialised and workers conducting work involving diving must hold a current New Zealand Occupational Diving Certificate of Competency.

The responsible person shall ensure that and WorkSafe have been informed where workers breathes compressed air, or a respiratory medium other than air (diving).

All diving operations must be carried out in accordance with 2004 Guidelines for Occupational Diving,

***PROCEDURE***

[*http://www.worksafe.govt.nz/worksafe/information-guidance/pdf-*](http://www.worksafe.govt.nz/worksafe/information-guidance/pdf-documents-library/diving-2004/diving-1008.pdf)[*documents-library/diving-2004/diving-1008.pdf*](http://www.worksafe.govt.nz/worksafe/information-guidance/pdf-documents-library/diving-2004/diving-1008.pdf)

SYSTEMS/EQUIPMENT & RESCUE PROCEDURE

Radio/phone contact must be maintained between all work crews and project supervision whilst work is taking place in, over or adjacent to the water.

An air horn (or equivalent) shall be maintained at all locations where work is being undertaken to provide a secondary means of alerting others in the event of an emergency where radio/phone communication fails.

Life rings with sufficient rope attached shall be maintained at all work locations where work is being carried out over or in the water.

In the event of a person or persons accidentally entering the water, all available rescue equipment (work boat/skip, life rings, etc) will respond immediately and attend the location to render assistance and provide rapid transport for the affected person(s) to land.

Consideration may also be given to the use of scramble nets (secured top and bottom) for some workplace areas.

Contact Emergency Services as required by calling “111”.

MATERIALS & EQUIPMENT

All equipment and materials used on or above the water must be firmly secured at all times. Any hazardous substances

or chemicals must be stored in an approved container with appropriate bunding to contain any spill. Where environmental contaminants are required to be used on or over the water the volume of product should be kept to a minimum and contained in suitable leak proof receptacle at all times. A spill kit capable of containing the volume of contaminant and Safety Data Sheets (MSDS) must be available at the work location at all times.

Equipment and material will be minimised wherever possible and returned to land when no longer required.

TRAINING REQUIREMENTS

All people required to supervise and/or work over on near water shall be trained in the applicable parts of this procedure. All workers required to use PPE including life jackets and or safety harness must shall be instructed in their correct use, pre use checks (pill in place, gas cylinder not ruptured) and storage.

Appropriate personnel shall be trained in the emergency rescue of persons in water and the emergency procedure containing spills.

Persons in control of the workplace shall maintain records of training and make available during inspections and audits.

Divers should be trained in accordance with the requirements outlined in the Under-Water work section of this procedure.

REFERENCES

### WATER NEW ZEALAND PROCEDURES & GUIDELINES:

#### Health and Safety Procedures

 Contractor Health and Safety Management

 Hazard Identification and Risk Assessment

 Working at Heights

 Job Safety Analysis

 Health and Safety Training Programme

 Workplace Chemical Management

### LEGISLATION, REGULATION AND STANDARDS

 Health and Safety at Work Act 2015

 Health and Safety in Employment Regulations 1995

 ANSI/UL 1123 and 1177 type II PFD near shore buoyant vest

 AS 4758 level 100

 AS 1512 PFD type I

 AS/NZS 2299.1:2007 Occupational diving operations - Standard operational practice