



WHS Manual

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Release 14

Legend: Revised Documents New Documents

Revised Documents:

SWMS1289 Index SW WHS Manual

WWW022 SWMS1286 Operating Whipper Snipper

WWW025 SWMS1289 Dosing Sewerage System with Hydrated Lime Via Manholes

WWH086 PRD14/81 Emptying, Cleaning and Inspection of Aeration Tanks at Bendalong and Lake Conjola Wastewater Treatment Plants

WD006 SWMS1295 Replacing Water Meters in the Field

SOP001 WHS Manual

New Documents:

SOP026 PRD14/955 Water Treatment Plant Quality Procedure

SOP027 PRD14/194 Electrical Safety Procedures for Changing Water Meters

General

WWW

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SOP026	PRD14/95	Water Treatment Plant Quality Procedure	13/08/2014	1
SOP027	PRD14/194	Electrical Safety Procedures for Changing Water Meters	13/08/2014	1

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MANUAL AND OPEN GEAR OPERATED SLUICE VALVES

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1 This safe work procedure (SWP) provides details of safety considerations to alert valve users to the potential hazard with this type of thrust collar arrangement if excessive force is applied and to flag early warning signs of damage evident for open geared and manual sluice valves.

2. SCOPE

- 2.1 This SWP provides guidance on general safety considerations for manual and open gear operated sluice valves. Current valve standards and specifications for sluice valves have permitted acceptance of screwed-thrust-collars secured by pin(s). This arrangement should not present a problem under normal operation, however if excessive torque is applied, the collar can break allowing the spindle to disengage from the gate drive nut with potentially dangerous consequences

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1 For advice on valves and manufacturing details, please contact either:
The valve maker; OR
For Eureka Valves, John Valves Pty Ltd Tel: (02) 9897 3322
- 3.2 DLWC Notice, from Mr Neil Baker (since retired).

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

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5. DESCRIPTION

4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.

4.3 Identification of Valves at Risk and Damaged Valves

4.3.1 Open geared valves (as shown in the sketches) and to a much lesser extent ungeared valves, incorporating pinned collars, which are subject to excessive torques, are at greatest risk. Valves fitted with gearboxes (enclosed gears) which take stem thrust are not considered to be at risk.

4.3.2 Sketch No. 1 attached, shows a typical pinned thrust collar used by Eureka valves in sizes 350mm to 600mm between 1984 and 1990. Other valve brands may have similar locking systems and this aspect would need to be followed up by the user.

4.3.3 For open geared valves where excessive torque has broken the collar, gear misalignment as shown in Sketch 2 (refer Items 2, 7 and 8) is an indicator of the problem as would be upward spindle displacement for ungeared valves.

4.4 Operation of Open Geared and Manual Valves

4.4.1 To minimise sluice valves being subject to excessive torque, operators should confirm the operating mode (e.g. open or closed) prior to operating the valve and apply the correct direction of rotation. Valve should be operated under balanced head conditions wherever possible and bypasses (where fitted) should be used to achieve this.

4.4.2 Operations personnel should check:

- For open geared valves – upward displacement of the main gear relative to the pinion and,

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- For ungeared valves – upward displacement of the valve spindle.

4.4.3 A valve should not be operated if vertical displacement of the gear or spindle is detected and action should be taken immediately to isolate the valve from pressure.

4.5 Risk Assessment and Remedial Action

4.5.1 Owners of sluice valves are encouraged to:

- Check for these valves in their system and identify their locations
- Inspect and effect remedial action for valves suspected of being damaged
- Provide operating instructions to operations personnel to ensure excessive force is not applied and damage to the valves is avoided.

NOTE: Standard AS 2638, Sluice Valves for Waterworks Purposes, was to be modified to address this problem.

6. QUALITY CONTROL

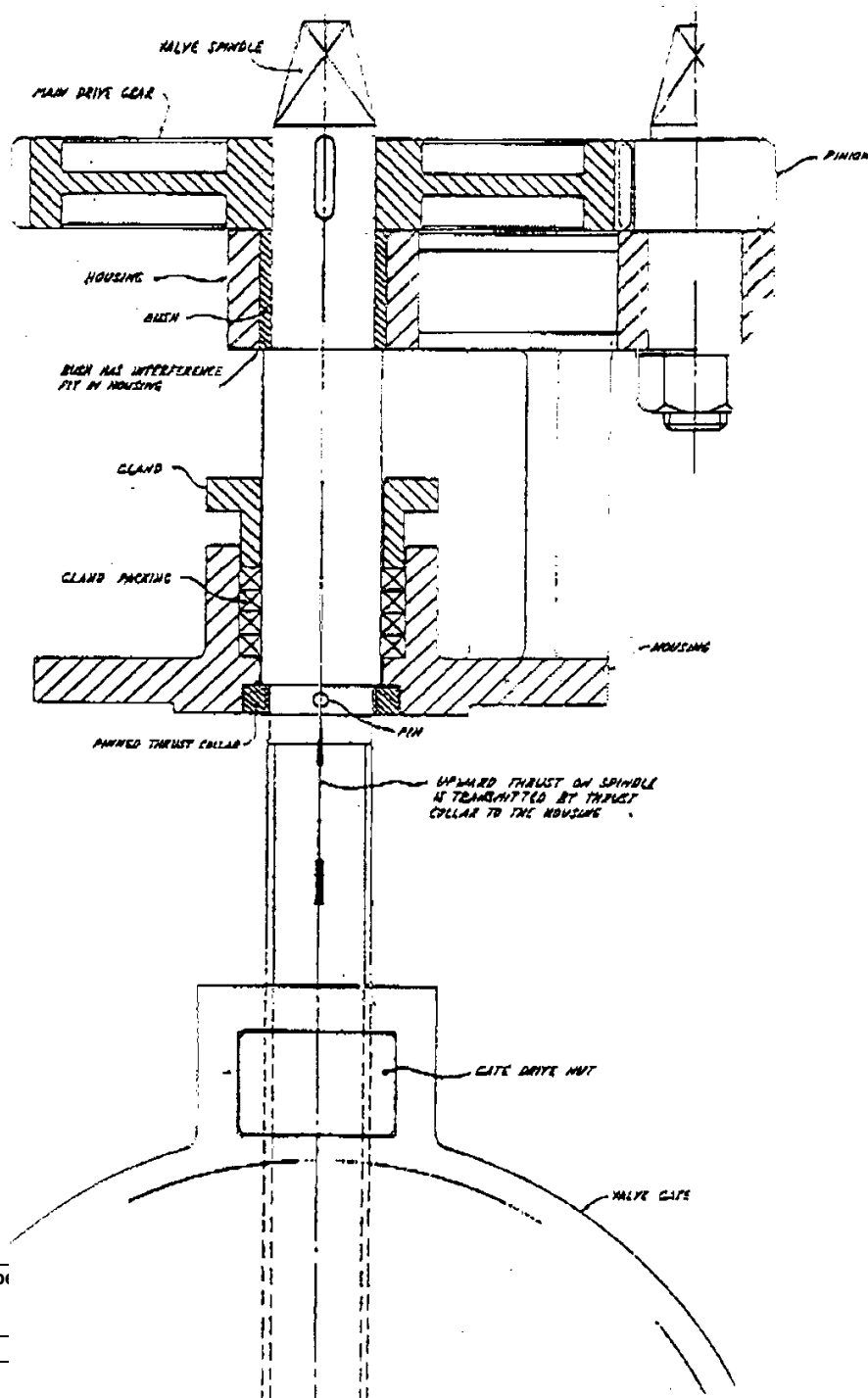
6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

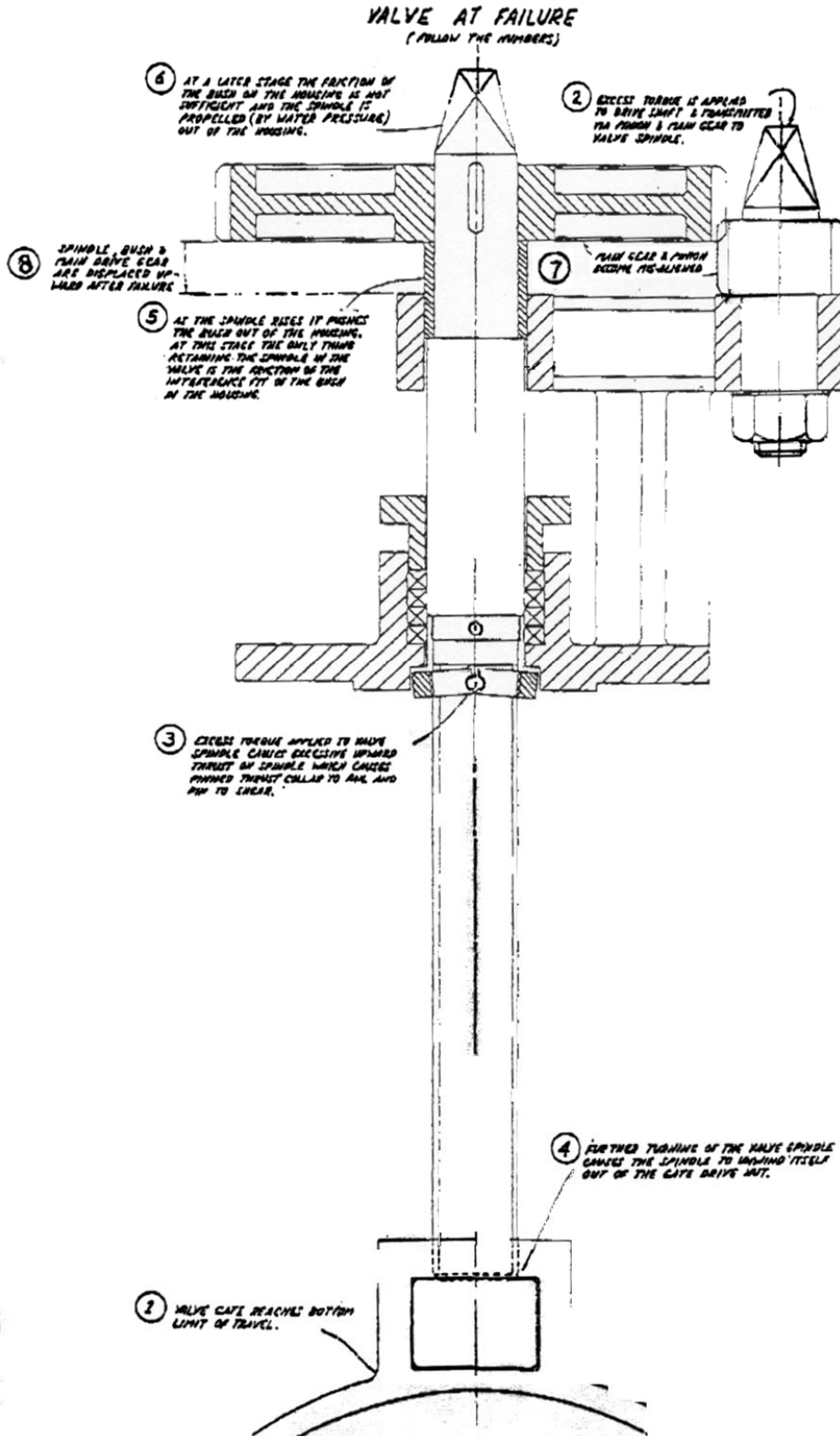
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SKETCH NO. 1

*VALVE UNDER NORMAL
OPERATING CONDITIONS*



SKETCH NO. 2





A Group of Shoalhaven City Council

Safe Work Procedure

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8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The All Shoalhaven Water Co-ordinators are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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WORKING UNDER A SLUNG LOAD

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To eliminate or reduce the potential for injury to employees and others using a backhoe or Mini Excavator to sling loads into trenches and or holes/pits.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 An approved lock-out device is to be placed on the ram to prevent accidental lowering of the bucket
- 4.3 The job site is to have a work practice in place and all staff are to be made aware of this practice
- 4.4 All slings are to be checked to make sure they are approved and marked.
- 4.5 Consideration is to given to the possibility of trench collapse. The operator of the machine is to ensure suitable positioning of stabilisers to ensure stability of machine
- 4.6 It is recommended that Tag Lines be used to manoeuvre loads into position within the trench and or pit until load is positioned within the trench or pit. The Tag Lines and slings can then be released safely thus avoiding staff working under loads at all.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment

6. QUALIFICATIONS AND TRAINING

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- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Confined Space Work
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

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- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
		- An approved lock-out device is to be placed on the ram to prevent accidental lowering of the bucket
		- Slings are to be checked to make sure they are approved and marked
11. Excavation/ Trenching - Trench collapse		-The operator of the machine is to ensure suitable positioning of stabilisers to ensure stability of machine
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

RECOVERY STRAP USE FOR EXTRACTING BOGGED VEHICLES

1. PURPOSE

- 1.1 This safe work procedure (SWP) provides details of safety considerations to eliminate or reduce the potential for injury to employees and others using a recovery strap.

2. SCOPE

- 2.1 This SWP provides guidance on general safety considerations for the use of a recovery strap in extracting bogged vehicles. A recovery strap, as is the case with a lot of recovery equipment, can be known by a variety of names. Apart from Recovery Strap, they can be referred to as Snatch Straps, Tug-em-straps and, in a more correct technical term, "Kinetic Energy Strap".

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. Position rescue vehicle as directly as possible to bogged vehicle.
- 5.3. Attach one end of the strap to the bogged vehicle and the other to the rescue or recovery vehicle using the tow hooks located at the front and rear of vehicles.
- 5.4. Allow approximately half the length of the strap to lay loose on the ground between both vehicles.
- 5.5. Make sure there are no obstructions within proximity of each vehicle.
- 5.6. Both vehicle drivers to select 1st gear, driver of rescue vehicle accelerates to ¾ speed in 1st gear, and when the load is placed suddenly on the strap it will stretch 20% to 30% of its length. The stored energy (kinetic) will rebound or spring back to the bogged vehicle springing it from its position.
- 5.7. If the first attempt is unsuccessful, try again using a “rocking” motion with the recovery strap fully extended with the rescue vehicle.

CARE AND SAFETY HINTS

- 5.8. Always use protection, i.e. towel or Hessian bag around sharp corners.
- 5.9. connection must be made by a shackle, use only quality bow shackles with a safe working load of 5.25 tonnes, giving a maximum breaking strength of 12.8 tonnes.
- 5.10. Always inspect the strap prior to use for any cuts or fraying. If in doubt, do not use. Inspection can be carried out by most 4WD dealers, or phone SpanSet Australia for technical information.
- 5.11. Do not use as an extension to your winch, the recovery strap has too much stretch. Use a SpanSet Winching Strap designed for use with your winch.
- 5.12. After using your Recovery Strap make sure it is clean and dry then roll it up and store. When dirty, wash in clean water, using a mild soap if necessary.

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NOTE: For Shoalhaven City Council vehicle use only

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Use of Self Contained Breathing Apparatus (SCBA)

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees while carrying out emergency chlorine plant repairs at Water & Wastewater Treatment Plants.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Occupational Health and Safety

4. PROCEDURE

NOTE: The Self Contained Breathing Apparatus set should be serviced every 6 months by a qualified service technician.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change.
- 4.2 Remove the complete breathing apparatus from the storage cabinet.
- 4.3 Check the “Test service date” on the air cylinder. The maximum period between tests is:
 4.3.1 5 years for steel.
 4.3.2 3 years for aluminium. (Total lifespan for aluminium cylinders is 15 years from first date).
- 4.4 With the demand valve closed, open the valve on the cylinder momentarily, and then close the valve again.
- 4.5 Check the cylinder pressure gauge on the air line. The cylinder should be about 90% full (i.e. 220 & 250 Bar) & there should be no loss of pressure over a one minute period.
- 4.6 Check for foreign bodies inside the mask, pull the straps over the front of the mask, place the mask on your face and begin to breathe normally to evacuate the line.

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- 4.7 Observe the pressure gauge and note the pressure at which the alarm sounds. This should be at about 40 to 50 Bar.
- 4.8 Make sure the face straps & harness straps are extended
- 4.9 Check cylinder securing strap is tight.
- 4.10 Don the harness
- 4.11 The cylinder should rest in the small of the back
- 4.12 Tension the harness
- 4.13 With the demand valve closed turn cylinder valve on.
- 4.14 Fit mask to face & adjust straps starting with top strap, followed by the two side straps simultaneously.
- 4.15 Breathe normally, the demand valve will open and release air. Check that mask is sealing on face. The SCBA is now ready for use.
- 4.16 When finished, turn the cylinder off to evacuate the line.
- 4.17 When the line is evacuated, remove the mask beginning with the side straps followed by the top strap.
- 4.18 Extend all straps on the mask and the harness and return the apparatus to its storage cabinet.

RECOMMENDATION: This procedure should be carried out by all chlorine plant operators at least every 6 months so as to maintain a sound working knowledge of the procedure in case of an emergency.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work

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- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.4. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.5. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Chlorine Handling Course
- 6.6. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WHS Policies and Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Policies and Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

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9. HAZARD ASSESSMENT

9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

USE OF CRANES AS PERSONNEL ATTACHMENT POINTS FOR CONFINED SPACE ENTRY

1. INTRODUCTION

- 1.1 This Safe Work Method Statement is to be used in conjunction with Council's Confined Space Work Procedure.
- 1.2 Approved Crane Rhino Hooks can be used as an attachment point if the correct method for safe work is followed.

2. OBJECTIVE

- 2.1 To eliminate or reduce the potential for injury to employees and others using a crane Rhino Hook as an attachment point for confined spaces entry.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 RPD: Rope Positioning Device
- 3.5 TCP: Traffic Control Plan
- 3.6 VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 No smoking is permitted while doing this class of work.
- 4.3 The work area is to be secured and sign posted to prevent unauthorised entry.
- 4.4 All employees in the work area shall be aware of their specific duties.
- 4.5 One of the work crew shall be first aid certified and have a complete first aid kit present.
- 4.6 The operator of the vehicle loading crane shall have evidence of his/her competency to operate the unit.

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- 4.7 An effective means of communication is to be present at the work site, for example a mobile phone or two way radio.
- 4.8 No dangerous or hazardous substances are to be taken into the confined space unless they are stated on the permit to enter and have been considered in the assessment of the confined space. All employees shall know the location of relevant “Material Safety Data Sheets” for all material of this class in the work area.
- 4.9 Prior to setting up the vehicle loading crane, the crane logbook shall be inspected to determine if any defects have been reported and/or repairs carried out. The crane is then to be inspected for defects before setting up. Any defects found are to be rectified before crane operations are undertaken and registered in the logbook. A hard hat is to be worn while using the crane.
- 4.10 The vehicle-loading crane is to be positioned and set up on stable level ground adjacent to the point of entry. This crane shall have a minimum 1000KG SWL (or the SWL at a specified slewing radius determined in writing by a crane manufacturer or supplier for this class of crane use, eg. Personnel security point as per this procedure) at the jib radius existing when the crane is set up to be used as a personnel attachment point, and be of a rigid or telescopic type (not a knuckle or scissor type folding jib crane).
- 4.11 The crane to be fitted with:
- Key lockable isolation switch (electric powered crane)
 - Over centre valve (load holding) fitted to lift cylinder ram
 - Over centre valve (load holding) on the boom extension system.
- 4.12 The jib will be positioned in the lowest position that allows employees safe entry / exit to the confined space work area.
- 4.13 The crane operator is to remain above ground level close to the crane.
- 4.14 The ignition key and the isolation switch key (if electric powered crane) to the truck are to be removed and carried by the crane operator.
- If during the work the crane is required to be repositioned any person attached to it shall leave the confined space, before any movement of the crane is permitted to occur.
- 4.15 The work area shall be checked with a calibrated suitable gas detector before entry, the unit to be left in the work area switched on until all work is completed.
- 4.16 All PPE found to be required after the confined space assessment, is to be checked and worn (this includes a rescue harness that meets Australian Standards requirements for confined space work, an RPD personal winch (or equivalent) and a shock absorber lanyard which is placed between the RPD and the rescue harness. The RPD is attached to the crane personnel attachment point).

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- 4.17 The employee is attached to the crane personnel attachment point (provided by the crane manufacturer as a separate point other than the normal hook), the individual using this is not to weight more than 105 KG. Only one person is to be attached to the crane personnel attachment point.

- 4.18 On entering and exiting the work area sufficient rope is to be paid out (a small amount – no more than 100 mm) on the personnel winch to prevent the employee being raised or lowered by it, when entering or exiting a well that is provided with steps, ladder rungs or other stable material where footing can be safely made.

- 4.19 In areas where safe footing is not available (wells) an individual can be secured by a personnel winch provided a secondary safety line is used of a similar capacity (SWL) as the crane set up required above. This is to be secured at a separate attachment point from the crane structure; the attachment point is to be determined by a competent person.

The secondary safety line is to be kept with no more than 100mm slack in it.

- 4.20 No other personnel or equipment shall be attached to the personnel winch line while it is being used.

- 4.21 When any load shifting is to take place, no employee shall be attached to the crane, or be in the well beneath the load.

NOTE: Any emergency retrieval using the crane to lift a patient is only to be considered when:

- **An unobstructed path to the surface is present.**
- **The ascent path is near vertical.**
- **Direct communication with the crane operator is possible.**
- **Any load security (for example a portable litter) is arranged by a competent person.**
- **Only a single patient is to be lifted at a time.**
- **The supervisor and associated support (ambulance / fire brigade / police) are agreed that the lift can be accomplished safely.**

- 4.22 On completion of work all equipment is to be correctly stowed and the permit to enter is to be signed off after the area or well is secured.

- 4.23 Councils Workshop is to carry out scheduled maintenance required for the crane by the manufacturer or supplier of the unit.

- 4.24 No modifications are to be carried out on the cranes structure or mountings (this includes transferring the crane from one chassis to another) without reference to:
 - 4.24.1 The crane manufacturer for recommendations for the modifications, or;
 - 4.24.2 An engineer who is competent for the class of work provides details / instructions on how the work is carried out and the section head for the crane authorises this action.

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4.25 Any defects / problems with equipment or work environment are to be reported to the supervisor promptly.

5. PLANT AND EQUIPMENT REQUIRED

5.1 Vehicle Loading Crane

5.2 First Aid Kit

5.3 Gas Detector

5.4 PPE to include:

- Full body harness that meets Australian Standard Requirements for confined space work
- RPD-1 personnel winch (or equivalent)
- Shock Absorber Unit

5.5 Secondary safety line

6. QUALIFICATIONS AND TRAINING

6.1 All permanent employees on site shall have completed the following training:

6.1.1 WHS Construction (and General) Induction

6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety

6.1.3 Manual Handling

6.1.4 Confined Space Work

6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.

6.5 Any employee operating plant or using equipment shall have had the appropriate training.

6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

- Gas Detection

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- Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

6.9 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Confined Space Procedure
 - 7.4.2 Manual Task Guidelines
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES		
Load shifting	Injury or accident	- When any load shifting is taking place, no employee shall be attached to the crane or be in the confined space while not attached		
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
Fall	Death or serious injury	<ul style="list-style-type: none"> - Use appropriate PPE as described in this and confined space procedures (See 4.17) - Individual using crane personnel attachment point not to weigh more than 105 kg - Secondary safety line to be kept with no more than 100mm slack in it. - Cover plate over the crane control valve is to be secured until the completion of the personnel attachment work
3. Heat - Explosion or fire	Death or serious injury	<ul style="list-style-type: none"> - Assess confined space for potentially explosive or flammable materials prior to entry - Check work area with a calibrated gas detector before entry, the unit to be left in the work area and switched on until all work is completed. - No smoking is permitted while doing this class of work
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	<ul style="list-style-type: none"> - Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	<ul style="list-style-type: none"> - Inspect crane logbook - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Handling and Storage of Liquefied Chlorine Gas

1. INTRODUCTION

- 1.1 All liquefied chlorine gas facilities shall conform to the Australian Standard 2927-1987 "The Storage and Handling of Liquefied Chlorine Gas", and be operated in accordance with the procedures set down in the ORICA Chlorine handbook.
- 1.2 Employees who are involved in the handling of chlorine, or work in areas where chlorine is used, shall have access to a copy of the chlorine handbook so they may read and familiarise themselves with the information and procedures for operating purposes.

2. OBJECTIVE

- 2.1 To eliminate or reduce the potential for injury to employees and others handling liquefied chlorine gas.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 SCBA: Self Contained Breathing Apparatus
- 3.4 BA: Breathing Apparatus
- 3.5 WHS: Work Health and Safety
- 3.6 ppm: parts per million

4. PROCEDURE

WARNING: This chemical may be considered a hazardous substance as well as dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 The ORICA Chlorine Handbook contains important information regarding handling and storage of liquid Chlorine. All employees working with Chlorine should be familiar with the contents of this Handbook. Particular attention should be given to those titles highlighted by an asterisk in Section 7.9 of this SWMS.

CONNECTION & DISCONNECTION PROCEDURE

Unique Document Number: WWW008	Document Name: Handling and Storage of Liquefied Chlorine Gas	Responsible Group: Shoalhaven Water	TRIM Reference: SWMS1154
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4.4 4.4.1 NOTE: Prior to connecting or disconnecting a chlorine container the following conditions must be met.

- i) Two or more trained personnel must be present at all times. At least one of these should not become involved in the operation and should remain on site as the safety observer.
- ii) Self contained breathing apparatus (SCBA) should be present and should be checked for serviceability and made ready for immediate use if necessary. All personnel involved in these operations should have had training in the use of SCBA.
- iii) The ventilation fan (if present) must be operational and must remain on until the operation has been completed.
- iv) All doors to the chlorine plant must be opened to provide additional ventilation and allow a ready exit if a leak was to develop. Also the exits must not be obstructed by any equipment or article.
- v) Appropriate PPE's such as Goggles, Chemical resistant gloves and safety boots should be worn.
- vi) At no time should a cylinder cap be removed from a 70 Kg cylinder unless it is first securely chained into position.
- vii) Finally, a bottle containing 5% ammonia solution must be provided to assist with leak detection if required.

4.4.2 Once all the above preparations & precautions have been made, isolate the pipework from the empty cylinder or drum by closing the main outlet valve.

4.4.3 If possible run the chlorinator for a short period to allow any residual gas to be evacuated from the system.

4.4.4 Isolate the empty side from the system via any downstream isolation valves ie. Manifold valves or Inline ball valves.

4.4.5 Loosen the drum or cylinder connection and evacuate to a safe distance to allow the residual chlorine gas to dissipate to atmosphere.

4.4.6 Follow all remaining steps as laid out in the "Chlorine Handbook"

4.4.7 If connecting a full drum or cylinder refer directly to the "Chlorine Handbook".

HANDLING CHLORINE LEAK EMERGENCIES

4.5 4.5.1 A chlorine leak emergency can fall into 1 of 3 categories:

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1. A local emergency, which is a minor leak unlikely to affect anyone more than a few metres from that part of the plant involved. This type of emergency can generally be dealt with by council personnel using BA equipment.
2. A Site emergency, which is a more substantial leak likely to cause danger to people in other work areas within the Water or Wastewater facility. This type of leak may require the aid of the fire brigade to provide additional equipment etc. ORICA Australia can provide advice if required.
3. A Serious emergency, which is a major leak that could cause a danger to people outside the Water or Wastewater facility. This type of leak has the potential to cause major injury or damage and would involve the possible evacuation of the surrounding community. This type of emergency would almost certainly require advice from the ORICA Australia emergency team.

NOTE: In almost every case, a leak can be stopped by closing the containers valve. If not ORICA Australia emergency teams have specialised equipment available 24 hrs a day for such emergency situations.

ORICA AUSTRALIA 24 Hr EMERGENCY CONTACT NO.
1 800 033 111
FIRE BRIGADE, POLICE & AMBULANCE CONTACT NO.
000

- 4.5.2 In any emergency the co-ordinator in charge of the Water or Wastewater facility will decide the actions to be taken based on the circumstances and location of the leak.
- 4.5.3 In order to help determine the extent of a leak, all of the Water and Wastewater Treatment facility chlorine leak detectors should be calibrated to indicate a “Low Level” leak at 2 ppm Chlorine and a “High Level” leak at 20 ppm Chlorine.
- 4.5.4 For more detailed information regarding the handling of emergencies refer to the section titled “Handling Emergencies” in the Chlorine Handbook.

CHLORINE LEAK PROCEDURE

- 4.6 NOTE: In the event of a chlorine leak the following procedure must be carried out:
 - 4.6.1 If during a workday, initiate the Evacuation Procedure specific to the Treatment Plant for all people likely to be in any danger or if after hours, the co-ordinator will call the on-call operator in order to first establish the validity of the alarm. This will be done by the operator visiting the site and cautiously approaching the chlorinator and its immediate surrounds to determine if a chlorine leak is present.

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4.6.2 If a leak is detected, and the co-ordinator determines it appropriate, two or more trained personnel must be present at all times in order to isolate a chlorine leak. At least one of these should not become involved in the operation and should remain on site as the safety observer.

4.6.3 All staff participating in this operation must use a serviceable SCBA set.

4.6.4 The person entering the Chlorine Drum room shall shut down all chlorine drum valves and then evacuate to fresh air as soon as possible.

4.6.5 Time should then be allowed for the chlorine gas to dissipate prior to attempting to establish the location of the gas leak and making good the repairs.

TRANSPORTING 70 KG CYLINDERS

4.7 4.7.1 Cylinders are heavy and should be handled using a properly designed trolley with a safety chain by two trained staff members.

4.7.2 Valve protection caps must always be in position when chlorine cylinders are being moved.

4.7.3 Cylinders should be transported horizontally in a properly designed cradle and secured to the truck or trailer using a correctly tensioned winchbelts or overcentre clamps.

4.7.4 As a minimum the truck and trailer should be marked with front and rear “Toxic Gas 2” and “Corrosive” diamond signs.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Self Contained Breathing Apparatus
- 5.3 5% Ammonia Solution
- 5.4 Trailer/Cradle/Trolley

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Confined Space Work
 - 6.1.5 Hazardous Substances/Users
 - 6.1.6 Chlorine Handling
 - 6.1.7 Breathing Apparatus
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator

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will ensure that any new employees do not work in tasks for which they haven't been trained.

- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.
- 6.8 Chlorine Handling training shall be provided every 2-3 years or as required, for staff required to work on/with chlorine equipment or in areas where chlorine is used.
 - 6.8.1 The training shall be to a standard required by:
 - Legislation pertinent to the industry at the time
 - Australian Standard AS2927-01 (or amendments)
 - ORICA "Chlorine Handbook" (relevant at the time)

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Task Guideline
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes
- 7.7 Australian Standard AS2927-2001 – The Storage and Handling of Liquefied Chlorine Gas
- 7.8 Australian Standard AS1715 – Selection, Use and Maintenance of Respiratory Protective Devices where required.
- 7.9 ORICA Chlorine Handbook

NOTE: The sections of most relevance to the chlorine plant operator are in the first half of the handbook and are titled as follows.

 - 7.9.1 General Information
 - Description of Main Properties
 - Description of Product & Packaging
 - 7.9.2 Operating Information

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- Selection and Training of Operators
- Handling Containers
- Valve Gland Adjustment
- Connecting a Drum – Copper Pigtail System – gas withdrawal
- Disconnecting a Drum – Copper Pigtail System – gas withdrawal
- Connecting a Cylinder – Vacuum System
- Disconnecting a Cylinder - Vacuum System
- Connecting a Drum – Vacuum System
- Disconnecting a Drum – Vacuum System
- Maintenance
- Trouble Shooting
- Transportation of Chlorine

7.9.3 Handling Emergencies

- What is an Emergency?
- The Role of Emergency Services
- General Rules to Follow
- Gas Leaks
- Evacuation of Areas Affected by Chlorine Gas
- Fires in Chlorine Installation
- Safe Handling of Chlorine
- First Aid

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

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9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals Liquefied Chlorine Gas 26. Toxic Gases	Burn Toxic if inhaled Irritating to eyes, respiratory system and skin	-Avoid contact with eyes (PPE) - Wear suitable protective clothing - Appropriate PPE's such as Goggles and Chemical resistant gloves should be worn. - If insufficient ventilation wear suitable respiratory equipment - SCBA should be present ready for immediate use if necessary - The ventilation fan (if present) must be operational - All doors to the chlorine plant must be opened. - The exits must not be obstructed by any equipment or article - Two or more trained personnel must be present at all times. At least one of these as the safety observer - Loosen the drum or cylinder connection and evacuate to a safe distance to allow the residual chlorine gas to dissipate to atmosphere.
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment - Cylinders are heavy and should be handled using a properly designed trolley with a safety chain by two trained staff members.
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

TRENCHING AND GROUND SUPPORT GUIDELINES

1. INTRODUCTION

- 1.1 This is a guideline only and should be used in conjunction with WorkCover NSW's Code of Practice for Excavation Work and Trenching and Ground Support training.

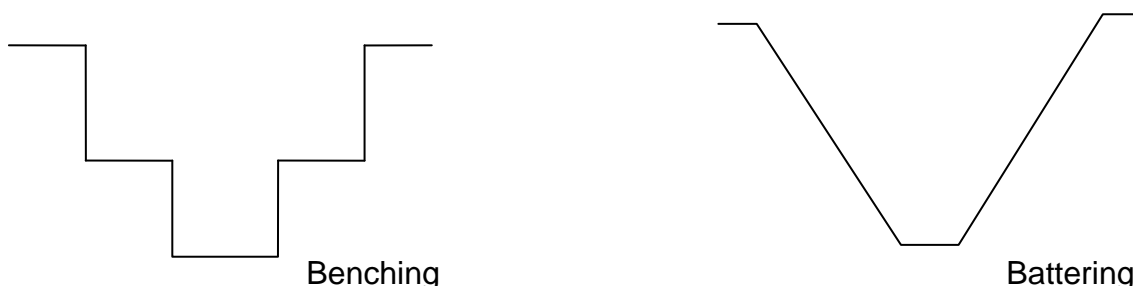
2. OBJECTIVE

- 2.1 To ensure continued health and safety of Shoalhaven Water staff and associated workers while working in and around trenches.
- 2.2 To ensure work teams are familiar with operational requirement and have resources and training for working in and around trenches.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 Shoring: The use of timber, steel or other structural material for the purpose of providing effective and adequate temporary support to maintain the stability of the walls of an excavation.
- 3.5 Benching: A method of minimising the risk of soil or rock slipping into an excavation by reducing the height of the vertical wall by cutting a series of steps.

Figure 1



- 3.6 Battering: A method of minimising the risk of soil or rock slipping into an excavation by sloping the wall back to a predetermined angle. An angle of repose of 45 degrees should not be exceeded unless certified in writing by a geotechnical engineer.
- 3.7 Angle of repose: The angle to the horizontal at which the material in the cut face is stable and does not fall away.
- 3.8 Open excavation: An excavation where the width is equal to or greater than the depth.
- 3.9 Trench: An excavation having a depth that exceeds its width, measured at the bottom.
- 3.10 Zone of influence: The volume of soil around the excavation affected by any external load, eg. Vehicles, plant, excavated material. The zone of influence can be estimated as one metre from the top of the trench per metre depth for clay, or 1.75

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metres from the top of the trench for metre depth for sand. If there are other influences, such as water charged or previously excavated ground, these estimates may not be valid.

4. PROCEDURE

PLANNING AND PREPARATION

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. A second 'Site Specific Risk Assessment' must be completed after the trench has been dug to determine any risks with respect to ground conditions and depth of trench. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change, after collapses or falls of materials, and after adverse weather conditions.
- 4.3 No excavation shall be commenced prior to completing the risk assessment.
- 4.4 Employees involved in planning engineering controls (shoring, benching or battering) and risk assessment will have attended "Trenching and Ground Support" training.
- 4.5 Everyone on site at a minimum shall be involved in planning and preparation. At a minimum, the following shall be considered during the planning and preparation stage:
 - Assessment of risks.
 - Method to prevent injury (control measures).
 - Assessment of ground conditions and working environment including past contamination by chemicals and/or toxic waste.
 - Suitable and safe access to and from the workplace.
 - Area of excavation work appropriately defined, barricades and/or sign posted.
 - Identification and marking of above ground, underground or overhead services – gas, water, sewer, electricity, telecommunication cables, etc.
 - Work does not affect the structural integrity of adjoining buildings or structures, roads or footpaths, or plans in place to address. For example, replace footpath upon completion of work.
 - Electrical safety, including underground and overhead.
 - All employees on site are appropriately trained, instructed and supervised.
 - Security of the site when unattended.
 - Emergency and rescue procedures.
 - Consider applicability of Confined Space Work requirements.
- 4.6 Work must be examined prior to commencement of work and at regular intervals to ensure that the excavation and its supporting systems are stable and intact. The risk assessment should determine the intervals of inspection. Inspections should be conducted and documented by a competent person.

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TRENCHES LESS THAN 1.5 METRES IN DEPTH

- 4.7 Trenches less than 1.5 metres in depth should be Risk Assessed and the following steps taken to prevent possible collapse:
- All pre-excavated material (from old services/trenches etc) to be removed from trench walls
 - If unable to removal all pre-excavated material trenches to be excavated so that they are twice as wide as they are deep, plus pipe O/D (eg, 240mm pipe, 1.0 metre deep = 2.240 metre wide trench).
 - Pipe to be centrally located in trench.
 - Competent observer on-site at all times monitoring hazards and the effectiveness of controls.

TRENCHES OVER 1.5 METRES IN DEPTH

- 4.8 Any Trench over 1.5 metres in depth requires approved shoring, benching, or battering if employees will be required to enter the trench to work/complete tasks. The use of adequate shoring, benching and battering is essential to control the risk of a collapse or failure of a trench or open excavation. These control measures must prevent a fall or dislodgement of earth, rock or other material forming the side of, or adjacent to, any excavation work from burying, trapping or striking a person that is in the excavation.
- 4.9 Shoring is not required if, having regard to the nature and slope of the side of the excavation and other relevant circumstances, there is no reasonable likelihood that earth, rock or other material will fall or dislodge from a height of more than 1.5 m and bury, trap or strike a person who is in the excavation.
- 4.10 Persons performing the work in the excavation should not work outside the protection of the ground support system.
- 4.11 Excavated material should be placed at a minimum of 1000mm from the edge of any trench. Consideration should be given to ground conditions. If risk assessment indicates it is necessary, excavated material should be placed 1000mm outside of the zone of influence. For clay ground that is approximately equivalent to an additional one metre away for every metre of depth.
- 4.12 Shoring should be used in **WATER CHARGED** ground at all times.
- 4.13 If other potential water sources exist which could create the risk of drowning, for example, gravity sewers, sewer rising mains or water pressure mains, isolation procedures are to be followed to prevent ingress into the trench.
- 4.14 If liquid is leaking into the trench from a pipe break or rain, for example, the liquid should be pumped out to prevent water levels from rising to dangerous levels.

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- 4.15 If there are static loads within the zone of influence, for example, structures, spoil piles, or plant, consideration should be given to removing or reducing the loads from near the excavation. If this is not possible, additional shoring may be necessary.
- 4.16 If there are dynamic loads within the zone of influence, for example, traffic or plant, consideration should be given to providing stops or barriers to prevent the approach of machinery near the edge of the excavation.
- 4.17 Keep heavy plant and vibrating equipment from edge of trench to avoid stress on trench walls. If in a high traffic area, a traffic control plan may need to be implemented.
- 4.18 If trench is not battered, a suitable ladder for safe entry and exit shall be used. The ladder shall extend from the base of the trench to at least one metre above the top of the trench. The ladder must be secured both top and bottom against movement.
- 4.19 Keep motorised equipment (generators etc) away from edge of trench to avoid toxic gases entering the trench.
- 4.20 PPE shall be worn as appropriate. Safety boots shall be worn at all times. A safety helmet shall be worn while working in or around trenches or excavations. High visibility garments/safety reflective vests shall be worn. Gloves shall be worn as appropriate to the task. Eye and hearing protection shall be worn if indicated by the Site Specific Risk Assessment.
- 4.21 Live powerlines (overhead or underground) have caused fatalities. Plant that comes in contact with overhead or underground cable may become electrified and pose a serious danger to the operator and any bystanders. Refer to Corporate OH&S Procedure: Electrical Safety for Crane and Plant.

SECURITY OF EXCAVATIONS

- 4.22 Depending on the location and length of time an excavation will be open, it may be necessary to secure it to prevent injuries to the public. Consider
 - Isolating the area using fencing, barricades or Para webbing.
 - Removing ladders when no-one is in the trench.
 - Immobilising plant to prevent unauthorised use.
 - Hazard warning lights, signs, markers or flags
 - Night lighting
 - Traffic Control Plan
- 4.23 For excavations less than 1.5 metres deep, the trenches can be secured overnight using star pickets and well strained, sound, Para webbing.
- 4.24 For excavations greater than 1.5 metres deep, the trenches need to be boarded over as well as Para webbed..

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EMERGENCY AND RESCUE

- 4.25 Mobile phones shall be available at the worksite to enable contact of emergency services if required.
- 4.26 A minimum of one first aid trained employee shall be on site.
- 4.27 A fire extinguisher is located on all Shoalhaven Water trucks.
- 4.28 All personnel shall cooperate with emergency services and other authorities.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment - boots, eye and hearing protection, high visibility vest, gloves, safety helmet
- 5.2 Plant as appropriate to task. Kubota or crane, for example.
- 5.3 Hand tools as appropriate to task.
- 5.4 Barricades, webbing, signs as appropriate to site.

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Trenching and Ground Support
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers License as applicable to the vehicle
- 6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Asbestos Awareness

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NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

6.9 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Excavation Guidelines
 - 7.4.2 Manual Task Guidelines
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes, including Cat No. 312 Excavation
- 7.7 Trenching and Ground Support Manual

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
11. Excavation/ Trenching - Trench collapse due to depth	Death Permanent disability Cuts or abrasions	H	- Any Trench over 1.5 metres in depth requires approved shoring, benching, or battering. - Observer on-site at all times

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11. Excavation/ Trenching - Trench collapse due to stresses caused by pre- excavated material	Death Permanent disability Cuts or abrasions	H	- All pre-excavated material (from old services/trenches etc) to be removed from trench walls - If unable to removal all pre-excavated material trenches to be excavated so that they are twice as wide as they are deep, plus pipe O/D (eg, 240mm pipe, 1.0 metre deep = 2.240 metre wide trench).
11. Excavation/ Trenching - Trench collapse due to stresses caused by excavated material	Death Permanent disability Cuts or abrasions	H	- Excavated material should be placed at a minimum of 1000mm from the edge of any trench, considering zone of influence if indicated by risk assessment.
11. Excavation/ Trenching - Trench collapse due to vibration causing instability	Death Permanent disability Cuts or abrasions	H	- Keep heavy plant and vibrating equipment from edge of trench to avoid stress on trench walls.
11. Excavation/ Trenching - Trench collapse due to water charged ground	Death Permanent disability Cuts or abrasions	H	- Shoring should be used in water charged ground at all times
11. Excavation/ Trenching - Trench collapse due to moving plant or traffic causing instability	Death Permanent disability Cuts or abrasions	H	- Implement a Traffic Control Plan if indicated by risk assessment. - Record TCP as per SUPP012. - Observers to insure plant does not get too near edge of excavation.
11. Excavation/ Trenching - water ingress	Drowning Injury	M	- Isolation of likely ingress sources such as gravity sewers, sewer rising mains or water pressure mains - Pump out as collects - Ensure employees can reach a position of safety if it become necessary - Observer to monitor any potential water hazard
11. Excavation/ Trenching - fall into water	Drowning Injury	L	- Consider if hand rails or other barrier would be appropriate to the site

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2. Manual Handling - Entry and Exit – slips, trips and falls	Permanent disability, sprains or strains	M	- If not battered, use a suitable ladder for safe entry and exit that extends from the base of the trench to at least 1 metre above the top of the trench. - The ladder should be secured top and bottom to prevent movement
14. Biological - Exposure to waste water	Illness or infection	L	- Wear appropriate PPE - Strict personal hygiene - Strict worksite hygiene
7. Chemicals - Exposure to toxic gas	Loss of consciousness	L	- Keep motorised equipment (generators etc) away from edge of trench to avoid toxic gases entering the trench. - Consider applicability of Confined Space procedures to the site
5. Contact with electricity	Death or serious injury	L	- Refer to Corporate OH&S Procedure: Electrical Safety for Crane and Plant. - Use RCDs when using a 240V power supply
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	L	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	L	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant putting personnel at risk	Death or serious injury	M	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	L	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

<p>12. Machine Operation - Equipment Malfunction or misuse</p>	<p>Muscle sprain (limbs or torso) Cuts and abrasions Entrapment</p>	<p>L</p>	<p>- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures - Report and defects. If defect is likely to pose an immediate risk to health and safety, the equipment or plant should not be used until the defect is rectified.</p>
<p>3. Heat - Excessive exposure to UV</p>	<p>Sunburn Skin cancer</p>	<p>L</p>	<p>- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations</p>

UNLOADING AND LOADING MINI-BACKHOE FROM SERVICE TRUCK, DELIVERY TRUCK OR TRAILER

1. PURPOSE

- 1.1 This safe work procedure (SWP) provides details of safety considerations to eliminate or reduce the potential for injury to employees and others while loading and unloading a Mini-Backhoe from a truck or trailer.

2. SCOPE

- 2.1 This SWP provides guidance on general safety considerations mini-backhoe. This procedure is a brief guide only and all relevant Regulations (Work Health and Safety Act 2011, Work Health & Safety Regulation 2011 and the Roads and Traffic Authority) shall be complied with.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
VMP	Vehicle Movement Plan

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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. Before operating:
- 5.2.1. Carry out necessary visual safety inspections before leaving Depot.
- 5.2.2. Where possible, ensure the service truck or trailer is on level and stable ground.
- 5.3. Unloading Trailer:
- 5.3.1. Make sure the park brake of the truck is engaged so the truck doesn't move during the unloading process.
- 5.3.2. The trailer must be attached to the truck and its stabilisers must be lowered.
- 5.3.3. Ensure that the ramp locking arms/chains are free from moisture/dust which may make them slippery when removing, and that they are loose on the locking pin.
- 5.3.4. Carefully remove ramp locking arms/chains from the locking pin (securing point) ensuring that at no stage are you standing directly under them.
- 5.3.5. Using the correct manual handling techniques slowly lower ramps ensuring that you are not standing directly beneath them.
- 5.3.6. Release securing chains from Mini-Backhoe.
- 5.3.7. Start machine (Mini-Backhoe), lift outriggers or stabilisers.
Note: Seat belt must be worn.
- 5.3.8. Engage low gear and let the machine move down the ramps without acceleration.
- 5.4. Unloading Service Truck:
- 5.4.1. Make sure the park brake of the truck is engaged.
- 5.4.2. Ensure that the ramp locking arms/chains are free from moisture/dust which may make them slippery when removing and that they are loose on the locking pin.
- 5.4.3. Carefully remove ramp locking arms/chains from the locking pin ensuring that at no stage are you standing directly under them.
- 5.4.4. Using the correct manual handling techniques, slowly lower ramps ensuring that you are not standing directly beneath them.
- 5.4.5. Release securing chains from Mini-Backhoe.
- 5.4.6. Start machine (Mini-Backhoe) lift outriggers or stabilisers.
Note: Seat belt must be worn.
- 5.4.7. Engage low gear and let the machine move down the ramps without acceleration.

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5.5. Unloading Delivery Truck:

- 5.5.1. Make sure the park brake of the truck is engaged.
 - 5.5.2. Using the correct manual handling techniques fit detachable ramps ensuring that locking pins are correctly fitted.
 - 5.5.3. Lower rear airbags and raise tipper slightly
 - 5.5.4. Release securing chains from Mini-Backhoe.
 - 5.5.5. Start machine (Mini-Backhoe) lift outriggers or stabilisers.
- Note: Seat belt must be worn.
- 5.5.6. Engage low gear and let the machine move down the ramps without acceleration.

5.6. Loading Trailer:

- 5.6.1. Make sure the park brake of the truck is engaged.
- 5.6.2. The truck must be attached to the trailer and the trailer's stabilisers lowered.
- 5.6.3. The Mini-backhoe must be loaded in a forward direction for weight distribution purposes. Operator drives machine up ramps and on to the trailer.
- 5.6.4. Engage park brake and lower stabilisers to just touching tray of trailer.
- 5.6.5. Secure machine to trailer with chains and chain binder (ratchet dog).
- 5.6.6. Using the correct manual handling techniques, lift ramps and secure locking chains.

5.7. Loading Service Truck:

- 5.7.1. Make sure the park brake of the truck is engaged.
- 5.7.2. Operator reverses machine up ramps and on to back of truck.
- 5.7.3. Engage park brake and lower stabilisers to just touching tray of truck.
- 5.7.4. Secure machine to truck with chains and chain binder (ratchet dog)
- 5.7.5. Using the correct manual handling techniques, lift ramps and secure locking chains.

5.8. Loading Delivery Truck:

- 5.8.1. Make sure the park brake of the truck is engaged.
- 5.8.2. Operator reverses machine up ramps and on to back of truck.
- 5.8.3. Engage park brake and lower stabilisers to just touching tray of truck.
- 5.8.4. Secure machine to truck with chains and chain binder (ratchet dog)
- 5.8.5. Using the correct manual handling techniques, remove ramps from rear of truck and secure in tipper.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

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7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The All Co-ordinator's and Supervisor's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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INTRUDER ALARMS

1. PURPOSE

1.1. To instruct in safe working procedure for Intruder Alarms.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken, with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.2 All Shoalhaven Wastewater Treatment Plants, Wastewater Pumping Stations, Water Treatment Plants, Reservoirs and Water Pumping Stations are equipped with Intruder Alarms which, when tripped, will cause an audible siren to sound for approximately 4 minutes.
- 5.3 If a door switch triggers the alarm, and providing the door is not closed after the siren has stopped, it will not sound again until the door is closed.
- 5.4 If a movement sensor triggers the Alarm, then every time the sensor detects movement outside of the 4-minute period, it will activate the siren.
- 5.5 At Wastewater Pumping Stations, once an Intruder alarm has been isolated, there is a period of approximately 4 hours before the alarm automatically resets.

WASTEWATER TREATMENT PLANTS AND/OR WASTEWATER PUMPING STATIONS

- 5.6 The following procedures should be adhered to when working at Wastewater Treatment Plants and/or Wastewater Pumping Stations.
- 5.7 When programming any work, the Wastewater Treatment Plant Operator of the Scheme where the work is to be carried out, should be advised of the intention to carry out any work. He should be advised of the location of the planned work and the type of work to be carried out and the anticipated duration of the work.
- 5.8 Before commencing any work that could possibly trigger an alarm, contact should be made with the relevant Wastewater Treatment Plant Operator or Wastewater service attendant to ascertain the status of the intruder alarm at the site where the work will be carried out.
- 5.9 Under no circumstances should work commence that could possibly cause an intruder alarm to be activated until verification has been received that the alarm has been disarmed and, in the case of Wastewater Pumping Stations, the period of time available until the alarm automatically resets has been established.

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- 5.10 If work is to continue past the time that the alarm automatically resets, then work should cease just prior to the alarm resetting and contact made with the Wastewater Treatment Plant Operator or the Wastewater Service Attendant from the scheme where the work is being carried out to ensure that the alarm has been disarmed again.
- 5.11 Under no circumstances should a Telemetry Station be tampered with in an attempt to bypass an intruder alarm. If anybody is found to have bypassed or attempted to bypass an intruder alarm, it will be considered a breach of Council's security and the offender will be dealt with under those guidelines.
- 5.12 On the completion of work, the Wastewater Treatment Plant Operator or the Wastewater Service Attendant from the scheme where the work has been carried out should be notified that all work has ceased and the site has been left so that normal site monitoring can resume.

RESERVOIRS, MOTORISED VALVES AND FLOW METER CABINETS

- 5.13 Before commencing any work that could possibly trigger an alarm, contact should be made with the relevant Operator or Attendant to ascertain the status of the intruder alarm at the site where the work will be carried out.
- 5.14 Under no circumstances should work commence that could possibly cause an intruder alarm to be activated until verification has been received that the alarm has been disarmed.
- 5.15 Isolate the alarm using telemetry systems prior to entering the Reservoir, motorised valve or flow meter cabinets.
- 5.16 On the completion of work, follow telemetry instructions to reactive the alarm system.

PUMPING STATIONS, RESERVOIR HUTS AND BENDEELA WTP

- 5.17 Before commencing any work that could possibly trigger an alarm, contact should be made with the relevant Operator or Attendant to ascertain the status of the intruder alarm at the site where the work will be carried out.

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- 5.18 Under no circumstances should work commence that could possibly cause an intruder alarm to be activated until verification has been received that the alarm has been disarmed.
- 5.19 Enter your security code into the key pad as soon you enter, before the alarm goes off.
- 5.20 On completion of work, enter your security code again when leaving to reset the alarm.

CHLORINATORS

- 5.21 Some chlorinators have systems which operate in the same way as reservoirs. Others have systems which operate in the same way as pumping stations.
- 5.22 If you are not sure which system operates at a particular site, check with your Coordinator before attending the site.

WATER TREATMENT PLANTS

Note: This does not include Bendeela WTP.

- 5.25 Before commencing any work that could possibly trigger an alarm, contact should be made with the relevant Operator or Attendant to ascertain the status of the intruder alarm at the site where the work will be carried out.
- 5.26 Under no circumstances should work commence that could possibly cause an intruder alarm to be activated until verification has been received that the alarm has been disarmed.
- 5.27 Digiplex keypads are located in the main entrance foyer. When attending Water Treatment Plants proceed directly to the main foyer and enter your security code in the key pad to deactivate alarms throughout the WTP.
- 5.28 When work is completed, make sure all doors are closed and locked.
- 5.29 Re-enter your security code in the Digiplex keypad and leave immediately.

6. QUALITY CONTROL

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6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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TOWING TRAILERS

1. PURPOSE

- 1.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

2. SCOPE

- 2.1 This SWP provides guidance on general safety considerations for Towing Trailers Safely. Council will supply and maintain trailers and associated equipment suitable for work activities that require the use of trailers. Council vehicles may tow only trailers supplied and or approved by Council.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
VMP	Vehicle Movement Plan

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. When undertaking work activities that involve the use of and towing of approved trailers, the following rules are to be complied with
- 5.4. Ensure that vehicles and trailers used is appropriate for load/s to be carried including load ratings of tow bars and tow balls.
- 5.5. Ensure all trailers have jockey wheels attached and are serviceable.
- 5.6. Ensure there is a positive down force on the tow ball that does not exceed manufacturer's specifications, (generally not more than 10% of the mass carried).
- 5.7. Ensure the safety chain is properly attached & only the correct load rated Bowtie or D shackles are used
- 5.8. Ensure all lights are operating on the vehicle and trailer.
- 5.9. Ensure all loads are appropriately restrained in keeping with Council and RTA guidelines.
- 5.10. Ensure that the trailer is subject to a regular inspection and maintenance program.

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6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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LOAD RESTRAINT

1. PURPOSE

- 1.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.
- 1.2 To comply with relevant regulations and performance standards as outlined on page 127 of the Load Restraint Guide (eg “must be capable of withstanding the forces that would result if the laden vehicle were subjected to each of the following separately:
 - 1.2.1 0.8g deceleration in forward direction
 - 1.2.2 0.5g deceleration in rearward direction
 - 1.2.3 0.5g acceleration in a lateral direction
 - 1.2.4 0.2g acceleration relative to the load in a vertical direction)
- 1.3 To ensure that Loads on vehicles do not exceed legal weights or dimensions currently allowed unless a permit application has been accepted.
- 1.4 To ensure that any load bearing structure is assessed before a load is carried to verify its safety integrity. (eg. Bridges or heavy vehicles)

2. SCOPE

- 2.1 This SWP provides guidance on general safety considerations for Load Restraint Guide issued by Roads and Maritime Services.
- 2.2 In NSW the **Guide** has not been fully adopted into these Regulations. The requirements for **Performance Standards** as stated on page 127 of the Guide have however been adopted.
- 2.3 The load restraint methods in the Guide generally relate to specific bulk loads such as pipe, slab plate, timber etc; they do not address methods of restraining small mixed loads that are common on Council vehicles.
- 2.4 Requirements in the Guide allow ‘Limited Movement’ of restrained loads. This allows for the use of suitable webbing nets, cages and boxes for restraining loads, as well as traditional load security devices.

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3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes
- 3.7. RTA Load Restraint Guide
- 3.8. Australian Standard AS1235-1991 – ‘Roof racks and roof bars for passenger vehicles’

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
GVM	Gross Vehicle Mass
VMP	Vehicle Movement Plan

5. DESCRIPTION

5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

5.2 All vehicles are to be assessed to determine if any load equipment on them can be stored elsewhere.

5.3 All loads are to be restrained by of one or a combination of the following means of restraint that would meet the performance requirements stated on page 127 of the Guide:-

5.3.1 Indirect (Friction used to restrain load – between load and body structure component);

5.3.2 Containing (eg. contained within a sided body with sides of a specified height above the centre of mass of any loose object – currently 150mm);

5.3.3 Direct (eg. blocked or attached loads).

NOTE – Platform bodies, ones with no sides, will require some form of restraint system.

5.4 All load restraint equipment is to be assessed for suitability and defects

Note: rope is a product that deteriorates rapidly and requires careful inspection before use.

5.5 Tension able synthetic flat web winches are preferred for small to medium load restraint requirements; chains and alternatives for heavier requirements.

5.6 Rubber load mats can be used to reduce the number of lashings required.

5.7 Provision is to be made for additional storage boxes, where existing load floor area permits. These storage boxes are for lighter equipment such as crowbars, shovels, picks etc. The box mountings are to be engineered to retain the mass being carried.

5.8 All vehicles are to be fitted with standard anchorage points to comply with the following minimum ratings for standard GVM's:-

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- Less than 3.5 tonne GVM - 4.0 Kilo Newton anchor point
- 3.6 to 7.5 tonne GVM - 8.0
- 7.5 to 12 - 10.0
- Greater than 12 tonne - 20.0

- 5.9 The minimum anchor point capacity should be clearly marked on the vehicle.
- 5.10 Only where a specific rating has been given to tie rail support points that exceed 2 tonnes should loads exceeding this be restrained by such points.
- 5.11 Fleet management are to adopt these above standards for all new load-carrying vehicles in their tender requirements, and to progressively upgrade existing units to these standards.
- 5.12 Fleet management are to consult with users of plant and equipment regarding safety considerations.
- 5.13 Load restraint Guides are to be issued to all instructed/trained operators.
- 5.14 All roof moulded ladder racks and load security systems are to be inspected annually by trained Workshop personnel, to ensure compliance with Australian Standard AS1235-1991 – ‘Roof racks and roof bars for passenger vehicles’.
- 5.15 All station wagons and vans are to be fitted with suitable internal cargo barriers or suitable purpose built containers for load restraint, before tender specifications are completed, (where a risk assessment requires it).
- 5.16 Heavy solid objects shall not be carried in the cabin area of Council vehicles.
- 5.17 Workshop maintenance Risk Assessments are to include load restraint equipment that is fitted to a vehicle.
- 5.18 Dangerous goods shall not be carried on Council vehicles unless a risk assessment has been completed.
- 5.19 A Register of Safe Working Loads for bridges maintained by Council shall be kept and made available for relevant staff.

5.20 Load Restraint Risk Assessment

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5.20.1 DO:-

- Remember that small items can become missiles during emergency braking.
- Remember that the size, height and position of your load will affect the handling of your vehicle.
- Remember that loose loads can settle and shift during a journey, allowing lashings to slacken. Keep your load items tightly packed together, filling empty spaces.
- Check your load, before moving off and during the trip.
- Block the load against the front headboard before tying down your load.
- Tie down your load where possible.
- Check you have adequate packing and protectors for all loads.
- Check your load every time you remove or add an item.
- Check the load after any abrupt manoeuvre or emergency braking.
- Remember long slippery items like pipes require individual lashing or lashing in groups.
- Remember loads projecting over 1.2m behind the vehicle require a warning flag or a red light at night.
- Remember to make sure the vehicle's load space and the condition of it's load platform are suitable for the type and size of the load.
- Remember to make sure loose bulk loads cannot fall or be blown off the vehicle.

4.20.2 DON'T:-

- Move your vehicle if any part of your load is not correctly restrained.
- Overload the vehicle or its individual axles.
- Load the vehicle too high.

NOTE: Don't take any chances; there are better things to do than have an accident!!!

5.21 Load Restraint Requirements

5.21.1 DO:-

- Make sure you have enough lashings and that they are in good condition and strong enough to secure the load.
- Make sure that tie-down lashings are as near vertical as possible.
- Make sure that direct lashings attached to loads on wheels are **NOT** near to the vertical.
- Attach lashings at tie-rail support points.

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- Check and re-tighten the lashings or other restraining devices as required.
- Use lashing protectors on sharp edges.
- Use wedges and chocks to block your load.
- Make sure that loose bulk loads cannot fall or be blown off your vehicle.
- Use a vehicle that is built strong enough for the job.
- Take extreme care when releasing a fixed lever load-binder.

5.21.2 DON'T:-

- Use faulty equipment.
- Attach chains or webbing between tie-rail supporting points.
- Tie down loads onto greasy or dirty steel decks.
- Stand over and push down on a load-binder.

NOTE: Don't take any chances; there are better things to do than have an accident!!!

5.22 Driving Laden Vehicles

5.22.1 DO:-

- Remember that the size, nature and position of your load will affect the handling of your vehicle.
- Remember that loads can settle and shift during a journey, causing lashings to slacken.
- Check your load before moving off.
- Check your load periodically and at routine stops such as tyre checks.
- Check your load every time you remove or add items to your load during your journey.
- Check your load after emergency braking or an excessively sharp manoeuvre.

4.22.2 DON'T:-

- Move your vehicle if any part of the load is not correctly restrained.

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NOTE: Don't take risks!!!

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Works & Services Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The **[Click & Type Position name]** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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HANDLING POISONS

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in Handling Poisons in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety

4. PROCEDURE

WARNING: This chemical may be considered a hazardous substance as well as dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Wear correct P.P.E.
- 4.4 Refer to Corporate OH&S Procedure S2 OHS 54 Workplace Hazardous Substances
- 4.5 Ensure relevant safety data sheet is available.
- 4.6 Decontaminate P.P.E. Gear after use.
- 4.7 Wash face and hands before eating.
- 4.8 If poisoning occurs follow the appropriate Material Safety Data Sheet.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment

6. QUALIFICATIONS AND TRAINING

Document Number: WWW016	Document Name: Handling Poisons	Responsible Group: Shoalhaven Water	Reference: SWMS1155
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- 6.1 All permanent employees on site shall have completed the following training:
- 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Confined Space Work
 - 6.1.6 Hazardous Substances/Users
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers License as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
- Confined Space Work
 - Asbestos Awareness
- NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.3 Corporate WHS Procedures
 - 7.3.1 Hazardous Substances and Dangerous Goods Procedure
- 7.4 Shoalhaven Water WHS Procedures
- 7.5 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

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- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Poisoning	Death or illness	- Read appropriate MSDS and follow safety precautions - Refer to Corporate OH&S Procedure S2 OHS 54 Workplace Hazardous Substances
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

MAINTAIN SERVICE VEHICLE

1. PURPOSE

- 1.1 To instruct in maintaining service vehicles in a safe manner. This SWMS applies to Shoalhaven Water personnel completing routine service only. It does not apply to mechanics conducting regular service or repairs.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Isolate and tag out any machinery that has the potential to cause injury or death in the event of falling into or onto. Refer to Corporate OHS Procedure S2 OHS 15 Energy Isolation.
- 5.4 Prior to performing a vehicle safety check take the following precautions:
 - Verify that the vehicle is in park for an automatic transmission or first gear for a manual transmission.
 - The hand brake is engaged.
 - Insure that the bonnet is held securely in an open position for the duration of time spent working in the engine compartment.
 - Take appropriate action to insure eyes are protected from liquids or air during servicing.
- 5.5 Carry out check of water, oil, lights and tyres Daily before commencing shift.
- 5.6 Wash Service Vehicle when it is needed.
- 5.7 Regular servicing and registration when it is due for Service Vehicle by Workshop.
- 5.8 Check if cages and boxes are secured appropriately.
- 5.7 Use correct fuels.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

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A Group of Shoalhaven City Council

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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USE OF FORCED AIR VENTILATION FAN (AIR BLOWER) FOR ENTRY INTO CONFINED SPACES

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the use of ventilation for Confined Spaces in a safe manner.
NB: Two-person operation. Do not attempt this operation in rain and wet conditions.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
3.2 PPE: Personal Protective Equipment
3.3 WHS: Work Health and Safety
3.4 TCP: Traffic Control Plan
3.5 VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 Check all electrical equipment required for the operation has current electrical check tags attached.
- 4.3 Check all electrical leads for damage. (Make sure electrical earth leakage switch is used).
- 4.4 Load the Air Blower onto transport, (two-man lift) using correct lifting procedure.
- 4.5 Secure Air Blower to the vehicle as per load restraint guidelines.
- 4.6 Proceed to the work site.
- 4.7 Remove the Air Blower from the vehicle and position it away from the Confined Space and any source of contaminated air, including engine exhaust fumes and ensuring that poses no trip hazard risk.

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- 4.8 Connect air hose securely to the Air Blower.
- 4.9 Place the end of the hose in the confined space vent pipe (where fitted and or applicable), or otherwise in a position to create maximum clean airflow.
NB: Consideration should be given to the potential of aggravating a fire or explosive hazard by the introduction of air.
- 4.10 Connect the power leads for the Air Blower to a power source.
- 4.11 Operate the Air Blower in conjunction with the Confined Space regulations.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Air Blower
- 5.3 Vehicle and load restraint equipment

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Confined Space Work
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.

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6.9 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Confined Space Procedure
 - 7.4.2 Manual Task Guidelines
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 Workcover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Loading the Air Blower	Muscle strain or sprain	- Two man lift
Load Shifting	Accident or injury	- Appropriate load restraint per OH&S Procedure – Section 2 – ‘Load Restraint’ and WWW014 ‘Load Restraint’

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
8. Confined Space -Contaminated air - Fire or Explosion	Respiratory distress Suffocation Death Burns	- Position air blower away from the Confined Space and any source of contaminated air, including engine exhaust fumes - Follow confined space procedure and check materials in confined space, including Safety Data Sheets
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures - Check all electrical equipment required for the operation has current electrical check tags attached - Check all electrical leads for damage. (Make sure electrical earth leakage switch is used).
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep Hydrated (Drink Water and take salt tablets as required)

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Operation of an Angle Grinder

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the use of angle grinders in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
3.2 PPE: Personal Protective Equipment
3.3 WHS: Work Health and Safety

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Before connecting to mains power, check overall condition of tool for damage including power lead, power plug and cutting disc.
- 4.4 Check disc is secure.
- 4.5 Check tool has current electrical tag clearly marked.
- 4.6 Select and wear appropriate PPE (may include gloves, overalls, ear protection and eye protection).
- 4.7 Refer to the Operation Manual for the angle grinder.
- 4.8 While operating tool keep hands and body clear of cutting disc.
- 4.9 Be aware that sparks and hot metal can travel a number of metres in any direction.
- 4.10 Be aware of 240v mains power cable while cutting or grinding.
- 4.11 Restrict public access to work site.

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Angle Grinder

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guideline
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.

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- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Angle Grinder - Sparks and hot metal - Kickback - Cutting disc - Power Cable	Burns Broken bones Cuts Electrocutation Hearing loss	- Select and wear appropriate PPE (may include gloves, overalls, ear protection and eye protection) - While operating tool keep hands and body clear of cutting disc - Restrict public access to work site. - Guards fitted
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures - Before connecting to mains power, check overall condition of tool for damage including power lead, power plug and cutting disc - Check disc is secure - Check tool has current electrical tag clearly marked
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

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Operation of a Power Drill

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the use of the power drill in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
 3.2 PPE: Personal Protective Equipment
 3.3 WHS: Work Health and Safety

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Before connecting to mains power, check overall condition of tool for damage including power lead, power plug and chuck.
- 4.4 Check tool has current electrical tag clearly marked.
- 4.5 Select and wear appropriate PPE (may include gloves, overalls, ear protection and eye protection).
- 4.6 Do not wear loose clothing that may get caught in rotating parts.
- 4.7 While operating tool keep hands and body clear of drill bit and chuck.
- 4.8 Be aware of 240v mains power cable while drilling.
- 4.9 Restrict public access to work site.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
 5.2 Power drill

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6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 Workcover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

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8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

OPERATING WHIPPER SNIPPER

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the operating of the whipper snipper in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 TCP: Traffic Control Plan
- 3.5 VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change. If this task is completed at more than one site, all sites must be listed on the Site Specific Risk Assessment.
- 4.3 Before operating or starting refer to Manufacture’s Operation Manual.
- 4.4 Adhere to Manual Handling and Back Care Course.
- 4.5 Wear correct PPE gear.
- 4.6 Whilst operating keep body parts away from moving parts.
- 4.7 Refer to Manufacturer’s Operations Manual for type of fuel appropriate to the whipper snipper in use.
- 4.8 If needed, place appropriate warning signs around work site.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Whipper Snipper

6. QUALIFICATIONS AND TRAINING

Document Number: WWW022	Document Name: Operating Whipper Snipper	Responsible Group: Shoalhaven Water	Reference: SWMS1286
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- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Policies and Procedures
- 7.4 Corporate WHS Policies and Procedures
- 7.5 Shoalhaven Water WHS Policies and Procedures
- 7.6 WorkCover regulations and codes
- 7.7 Manufacturer's Operation Manual

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

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8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Whipper Snipper trim line	Cuts or abrasions Eye damage	- While operating keep body parts away from moving parts Wear approved safety goggles or wrap around glasses
17. General Issues - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations Keep Hydrated (Drink Water and take salt tablets as required)

OPERATING SELF PROPELLED VICTA MOWER

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “OHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the operating of the Self Propelled Victa Mower in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
 3.2 PPE: Personal Protective Equipment
 3.3 WHS: Occupational Health and Safety
 3.4 TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Inspect mower for any loose bolts etc.
- 4.4 Check cutter blades for serviceability & change as necessary (disconnect the spark plug before attempting to change the cutting blades).
- 4.5 Check fuel level, top up if needed.
- 4.6 Adjust cutter height.
- 4.7 Set throttle.
- 4.8 Start engine by pulling cord briskly.
- 4.9 Warm up engine before cutting grass.
- 4.10 Refer to Operations Manual.

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Victa Self Propelled Mower

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guideline
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.

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- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

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Operating Electrical Pressure Washer SWP

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. This safe work procedure (SWP) provides details of safety considerations to eliminate or reduce the potential for injury to employees and others while operating an Electrical Pressure Washer.

2. SCOPE

- 2.1. This SWP provides guidance on general safety considerations with regard to Electrical Pressure Washer. This procedure is a brief guide only and all relevant Regulations (Work Health and Safety Act 2011, Work Health & Safety Regulation 2011 and the Roads and Traffic Authority) shall be complied with.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent

Unique Document Number: WWW024	Document Name: Operating Electrical Pressure Washer SWP	Responsible Section: [Click & Type Section name]	TRIM Reference: 18446E PRD13/195
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risk assessments are to be completed if the work activity and/or the method used, conditions or staff change.

- 5.2 Appropriate PPE.
- 5.3 Before starting check Manufacturer's Operation Manual.
- 5.4 Check electricians have tagged lead. (Use a Residual Current device at all times)
- 5.5 Place any signage (if necessary).
- 5.6 Do not spray directly at anyone.

6 QUALITY CONTROL

- 6.1 The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7 APPENDICES

- 7.1 Nil

8 RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9 PROCEDURE OWNER

- 9.1 The All Co-ordinator's and Supervisors are assigned ownership to ensure the policy is maintained and updated.

10 REVIEW OF DOCUMENT

- 10.1 This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WHS System Management.

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Dosing Sewerage System with Hydrated Lime via Manholes and Pump Station Wet Wells

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others when dosing the reticulation system with hydrated lines via manholes or pump station wet wells.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. OHS: Occupational Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. VMP: Vehicle Movement Plan

4. PROCEDURE FOR DOSING SEWERAGE SYSTEM WITH HYDRATED LIME VIA MANHOLES

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 Hydrated lime powder should not be ingested as it can cause breathing difficulties. Wear appropriate PPE including filter-type breathing apparatus, gloves and disposable coveralls.
- 4.3 Put in place signs and barricades as indicated when completing the ‘Site Specific Risk Assessment’.
- 4.4 Implement Confined Spaces and Working at Heights measure e.g. Gas detection, Grating, Fall Arrest etc.

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- 4.5 Use correct method of lifting manhole lids as per WWD009 – Manual Lifting of Sewer Manhole Lid (Light Duty Lid Not Exceeding 75 kg) and follow correct manual handling techniques when lifting lime bags on and off the truck.
- 4.6 Fix stand pipe and lay flat hose ready to hydrate the main.
- 4.7 Mix lime with water in a bucket to form pourable slurry.
- 4.8 Maintain a gap between the water hose and sewerage in manhole to ensure the hose is not contaminated.
- 4.9 With water hose running, pour bucket of slurried lime into manhole in front of water flow. Pour carefully to avoid splashing.
- 4.10 Continue mixing and pouring of lime into the manhole until all of the required hydrated lime is used.
- 4.11 Let water flow for approximately 20-30 minutes after lime application to give time for flushing and mixing.
- 4.12 Clean equipment and pack up lime bags while water is flushing the system.
- 4.13 When finished, shut off water, remove stand pipe, ensuring ball valve is shut.
- 4.14 Put lid back on manhole, roll up hose, pack up equipment.
- 4.15 Remove contaminated PPE. Clean or dispose of PPE upon return to depot.

5. PROCEDURE FOR DOSING SEWERAGE SYSTEM WITH HYDRATED LIME VIA PUMP STATION WET WELLS

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change.
- 5.2 Hydrated lime powder should not be ingested as it can cause breathing difficulties. Wear appropriate PPE including filter-type breathing apparatus, gloves and disposable coveralls.
- 5.3 Put in place signs and barricades as indicated when completing the 'Site Specific Risk Assessment'.

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- 5.4 Implement Confined Spaces and Working at Heights measure e.g. Gas detection, Grating, Fall Arrest etc.
- 5.5 After ensuring that pump station intruder alarms have been disarmed open cabinet/building door and turn off pumps at pump station controls and allow well to fill to TWL.
- 5.6 Follow correct manual handling techniques when lifting lime bags and associated equipment on and off the truck.
- 5.6 Fix hose to pump station water supply in readiness to mixing lime slurry.
- 5.7 Empty half of a 20 kg bag into a 60 litre steel garbage bin (or similar) and mix lime with water until bin is full ensuring that lime is completely mixed to form pourable slurry and pour slurry into wet well endeavouring to clear pumps, pump rails, ladders and other fixture as much as possible. Pour carefully to avoid splashing.
- 5.8 Mix the remaining lime from the 20 kg bag and repeat mixing and dosing instructions from previous step.
- 5.9 When lime slurry has been added to contents of wet well turn pumps back on and allow well to pump down to BWL.
- 5.10 Hose any lime slurry residue and dry lime spillages into wet well and then hose any splashed lime slurry from grates, pump rails, ladders, floats, probes and pumps working from top to bottom to ensure that no lime residue is left on equipment, fixtures and surrounding areas.
- 5.11 When finished and equipment cleaned, shut off water, remove hose, and close lids of pump station wet well ensuring that they are secure and locked.
- 5.12 Pack up lime bags and return empty bags, bin, hose and PPE to truck.
- 5.13 Check that pump station controls are in automatic operation and secure pump station cabinet/building.
- 5.14 Remove contaminated PPE. Clean or dispose of PPE upon return to treatment plant or depot.

6. PLANT AND EQUIPMENT REQUIRED

- 6.1. Personal Protective Equipment
- 6.2. Bucket or steel garbage bin
- 6.3. Standpipe and lay flat hose (for manhole dosing) or normal hose
- 6.4. Manhole lifting equipment
- 6.5. Confined Spaces and Fall Arrestor Equipment

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7. QUALIFICATIONS AND TRAINING

- 7.1 All permanent employees on site shall have completed the following training
 - 7.1.1 WHS Construction (and General) Induction
 - 7.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 7.1.3 Manual Handling
 - 7.1.4 Hazardous Substances/Users
 - 7.1.5 Confined Spaces

- 7.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

- 7.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

- 7.4 Any employee operating plant or using equipment shall have had the appropriate training.

- 7.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

- 7.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

- 7.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.

- 7.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

8. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 8.1. WHS Act 2011
- 8.2. WHS Regulation 2011
"Working at Heights"
- 8.3. Shoalhaven City Council Policies and Procedures
- 8.4. Corporate WHS Policies and Procedures
Shoalhaven Water WHS Policies and Procedures
- 8.5. WorkCover regulations and codes

9. ROLES AND RESPONSIBILITIES

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- 9.1. Managers are to ensure there is a safe system of work.
- 9.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 9.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 9.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

10. HAZARD ASSESSMENT

- 10.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Hydrated Lime	Irritating to eyes, respiratory system and skin	<ul style="list-style-type: none"> - Read MSDS and follow safety precautions - Do not breathe dust (wear filter-type breathing apparatus) - Avoid contact with skin (wear gloves and disposable coveralls) - Strict personal hygiene - Strict worksite hygiene - If contact with eyes, rinse with plenty of water and contact doctor or Poisons Information Centre.
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations Keep hydrated (Drink water and take salt tablets as required)
Overcome by Gases	Death or Serious Injury	- Gas Detection prior to opening manhole lid whilst undertaking task
Fall from Height	Death or Serious Injury	- Use of RPZ device - Retractable lanyard attached to a rated anchor point - Grating over manhole

USE OF GAS DETECTORS (DRAGER-MINIWARN)

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1 To eliminate or reduce the potential for injury to employees and others using gas detectors.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Occupational Health and Safety
- 3.4 L.E.L.: Lower explosive level

4. CONDITIONS

- 4.1 Gas detector must be within calibration period
- 4.2 Gas detector must pass a response check

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change.
- 4.2 To switch on the gas detector: Press and hold red right hand button [] on the front of the unit until an alarm sounds.
- 4.3 The gas detector now runs through a self test procedure with the display screen illuminated.
- 4.4 After the self test, the currently measured gas concentration values are displayed.
- 4.5 Conduct a response check using a calibration gas mixture and record results in the Gas Detector Sensitivity Results book.
 Note: L.E.L. must reach 56% (plus or minus 10%) in 45 seconds. If gas detector fails the response check, it must not be used and should be sent to the electricians for calibration as soon as possible.

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- 4.5 Before use of the gas detector in or around a confined space, all readings must be zero except for the oxygen level (19.5 – 23.5%). **Set up & down arrows to allow gas detector to hold the highest reading.** If any abnormalities appear, have the gas detector serviced or repaired by an authorised technician before use.
- 4.6 Attach a lanyard/rope securely to the handle of the cover.
- 4.7 Perform all duties for entry into a confined space in conjunction with the use of the gas detector.
- 4.8 Lower gas detector on lanyard/rope into the confined space.
- 4.9 Whilst lowering the gas detector on lanyard/rope, check spaces at top, middle and bottom levels because of stratification of gases and vapours.
- 4.10 Raise the gas detector and check and record readings at each level.
- 4.11 Lower the gas detector back into the confined space and continuously monitor while the confined space is occupied. All readings on the gas detector are done automatically via the inbuilt sensors.
- 4.12 During normal use, the gas detector will beep and flash once approximately every 8 seconds.
- 4.13 When an alarm has been detected, the signal tone and red alarm light are constantly activated.
- 4.14 Raise the gas detector, check alarm recordings and take appropriate action.
- 4.15 To turn off: Press the two red left hand buttons (up and down keys) simultaneously for more than 3 seconds.
- 4.16 The red alarm light illuminates, accompanied by a signal tone.
- 4.17 Release the two buttons and the gas detector will switch off.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Gas Detector
- 5.3 Calibration gas mixture

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction

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- 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
- 6.1.3 Manual Handling
- 6.1.4 Confined Space Work

- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

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8.3 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Loss of consciousness Death due to asphyxiation	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

OPERATING AN ELECTRICAL VALVE TURNER

1. PURPOSE

- 1.1 This safe work procedure (SWP) provides details of safety considerations to eliminate or reduce the potential for injury to employees and others using an electrical valve turner.

2. SCOPE

- 2.1 This SWP provides guidance on general safety considerations for operating an electrical valve turner. These procedures address operating an electrical valve turner (to be set-up as confined space procedure).

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1 OHS Act 2000
- 3.2 OHS Regulation 2001
- 3.3 Shoalhaven City Council Policies and Procedures
- 3.4 Corporate OHS Policies and Procedures
- 3.5 Shoalhaven Water OHS Policies and Procedures
- 3.6 WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

5. DESCRIPTION

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Make sure Pump Station alarms are isolated.
- 4.4 Open Pump Station control cabinet.
- 4.5 Inset earth leakage switch into power source.
- 4.6 Connect council approved leads to the earth leakage switch and valve turner lead.
- 4.7 Turn power on.
- 4.8 Reset earth leakage Switch to the 'on' position indicated by a light
- 4.9 Open Wet Well / Valve Pit or remove Valve shaft cover.
- 4.10 Install valve key extension.
- 4.11 Connect Electric valve turner to the valve extension.
- 4.12 Position the two personnel in safe operating positions.
- 4.13 Set the counter to zero on the valve turner
- 4.14 If this is the first operation time, record the number of turns for the opening and closure of the valve. (Care should be taken on reaching the maximum and minimum turns)
- 4.15 Record the number of turns within the cabinet door for future reference.
- 4.16 Operate the valve turner using the switch to determine the operating direction.

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- 4.17 Close the valve making sure to slow down when approaching the maximum turns to avoid twisting injuries.
- 4.18 If the valve shows signs of sticking, grease the spindle and hose out the gate guide, repeat the opening and closing until free.(Any activity that requires compliance with Confined Spaces,must have a Confined Spaces permit completed prior to any work)
- 4.19 Make sure the valve is then left in the open position.
- 4.20 Look and Listen **for unusual flow sounds**.
- 4.21 Close the Wet Well.
- 4.22 Remove electric power source.
- 4.23 Disconnect power leads.
- 4.24 Remove valve turner and replace in the storage box provided.
- 4.25 Store leads and tools.
- 4.26 Replace valve spindle cover.
- 4.27 Close pump Station control cabinet.
- 4.28 Check that the work site is left in a safe condition.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

- 7.1 Nil

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

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A Group of Shoalhaven City Council

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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INSTALLATION OF, REPAIRS AND CUT-INS TO WASTEWATER AND WATER MAINS

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others whilst installing or conducting repairs and cut-ins to water and wastewater mains including asbestos cement mains.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. AC: Asbestos cement
- 3.6. WAE: Work as Executed

4. PROCEDURE

- 4.1. Obtain the relevant plans and paperwork before proceeding to the site (Service locations; Telephone, Gas, Power, Water, Sewer) and identify the type and size of the main to be worked on.
- 4.2. Obtain the permission from property owners if conducting planned work on private property prior to arriving on-site (preferably 24 hours notice). Ensure that owners are fully aware of the extent of the work and how it will impact on them and their property prior to commencing (eg. removal of vegetation and fences, blocked driveways, damaged lawn etc). Advise owners of commencement of work and conclusion of work before leaving site.
- 4.3. For minor Water repairs and planned work all potentially affected customers as well as Shoalhaven Water’s customer service staff should be notified 24 hours in advance.
- 4.4. If an emergency Water repair is considered necessary, notify the Council’s after hours service or Shoalhaven Water’s Customer service staff before isolating the relevant section of main, making sure to only isolate the smallest possible area, so as to have the least effect on customer’s water supplies. If the leak is determined to be a broken back and the extent of the leak is minor, the repair may proceed under pressure.

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- 4.5. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

NOTE: At a minimum, the truck’s ‘Workmen Ahead’ sign, flashing lights and PPE must be used. Alternatively if at all possible, the truck should be parked off the road reserve (Road Reserve is the area from property boundary to property boundary which includes the road and footpath areas).

- 4.6. If there is any foreseen difficulty with the use of a generic TCP, the operator should consult with the co-ordinator to design a specific TCP for the job.
- 4.7. **Refer to the “Plant and Equipment Safety” procedure in Section 2 of the WHS Manual and to Shoalhaven Water SWMS WWW011 Unloading and Loading Mini-backhoe from Service Truck or Trailer.**
- 4.8. Take photos of the proposed worksite prior to and upon completion of work highlighting existing problems and defects (cracked concrete, broken tree limbs etc).
- 4.9. Locate any power, Telstra cables, gas, water, sewer and other utilities using cable locator and marker locations by applying potholing techniques before commencing backhoe excavations.
- 4.10. Install erosion and sedimentation controls as required.
- 4.11. Isolate and apply appropriate tagging/lockout systems to any Valves, Pump Stations gravity mains etc. Contact coordinator to organise Pump-out trucks if necessary.
- 4.12. **Refer to the Workcover “Excavation Work” Code of Practice, Cat. No. 312 (31/3/00) before commencing work.**
- 4.13. Excavate to the minimum size and depth necessary to safely conduct the work. If necessary install shoring etc as indicated in the Workcover Code of Practice.
- 4.14. For a main with a broken back

Excavate the minimum sized trench required in order to fit a stainless steel band around the break. Clean the area immediately around the split with water and place a stainless steel band around the pipe and tighten as per manufacturer’s specifications.

ii) For a main with a Longitudinal split

For AC pipe excavate the entire length (including collars), of the section of pipe requiring repair unless the situation prohibits otherwise. For all other types of pipe a section extending a minimum of 1.0m either side of the damaged area should be removed and replaced.

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4.15. Conduct the work as per the relevant Standard, Code or Work instruction (contact Coordinator if not sure)

NOTE: When working on ASBESTOS Cement pipe reference should be made to the “Asbestos Material Procedure” in section 2 of the WHS manual and to the “Working with Bonded Asbestos SWMS” in section 3 of the WHS manual. The following points must be adhered to:

4.16. Fence off the area using parawebbing and “Hazardous Materials - Do Not Enter” tape to restrict access of all non-approved persons to the worksite.

4.17. Arrange all necessary equipment to be utilized during the procedure, to be situated inside the designated work area i.e. All tools, fittings and cleanup materials.

4.18. All staff working with the AC pipe should don appropriate PPE including, but not limited to: Disposable coveralls with a hood, disposable gloves and an approved respirator (such as a half facemask) fitted with a P2 filter cartridge.

4.19. Manually excavate around the collars and use one of the following preferred techniques to remove the damaged length of pipe:

- i) For smaller diameter AC pipes it is preferable to wrap the collars in wet rags before smashing the collars using a sledgehammer or crow bar or cut using a handsaw. If this procedure is used, the pipe and fittings should be kept wet with water, to eliminate dust.
- ii) When a full length cannot be removed, snap cutters may be used to achieve a smooth square-cut end. Again if this method is used, the pipe and fittings should be kept wet with water, to eliminate dust.
- iii) In extreme circumstances such as where manual tools are ineffective (eg. On larger couplings), or the repair access is limited, the use of a quick cut saw **with a continuous water flow** is permissible. However, other safety considerations such as location and wind direction etc, may need to be assessed and taken into account prior to adopting this method. As per the above methods, the pipe and fittings should be kept wet with water, to eliminate dust. This may be best achieved by leaving the pipe completely submerged during the cutting process.

4.20. The new piece of PVC or DI pipe can then be installed using the appropriate gibault joints.

4.21. Broken AC pipe & collars shall be secured in plastic bags in accordance with the NSW EPA requirements, identified and disposed of at an approved site. Proprietary tape and bags already identified for asbestos are available for this purpose. Full length AC pipes shall be wrapped and secured in heavy duty plastic, identified and disposed of at an approved site.

NOTE: Under no circumstances should AC material be unnecessarily broken up or leave the worksite unwrapped.

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- 4.22. Fill in excavations and compact as is required.
- 4.23. All PPE and equipment used during the process should then be meticulously cleaned down with water or “wet wipes” (eg. Wet Ones) or a similar product. The used wipes, disposable gloves, respirator cartridges and disposable coveralls should then be discarded immediately into the AC waste bags prior to sealing ready for disposal.
- 4.24. Restore excavations as near as possible to the original condition (Topsoil, seed and/or turf if required.)
- 4.25. Install covers, markers etc as per required (relevant Standard, Code or Work instruction).
- 4.26. Remove all fencing and warning tape before restoring the excavation as near as possible to the original condition. (Topsoil, seed and/or turf if required).
- 4.27. The AC waste bags can be stowed in designated AC waste bins -or be delivered directly to the West Nowra Waste depot for immediate burial.
- 4.28. Ensure hands and faces are cleaned immediately after completing any work involving Asbestos Cement pipes.
- 4.29. Clothing worn in an asbestos removal procedure should be regarded as being potentially contaminated with asbestos. Contaminated clothing may be safely laundered in a conventional washing machine separate from other laundry, provided the clothing is thoroughly wetted when discarded by the worker and not allowed to dry out until washed.
- 4.30. Complete appropriate paperwork and supply to Coordinator (Water Service Application, Cams, WAE, Repairs List etc)

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Backhoe – Caterpillar/John Deere
- 5.3 Mini Backhoe – Kubota/Venieri
- 5.4 Cutquik
- 5.5 Reciprocating Saw
- 5.6 Shovel and other hand tools
- 5.7 Parts as required
- 5.8 Disposable coveralls with hood
- 5.9 Disposable gloves
- 5.10 Approved respirator fitted with p2 filter cartridge

6. QUALIFICATIONS AND TRAINING

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- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Erosion Protection Workshop
 - 6.1.5 Bonded Asbestos awareness
 - 6.1.6 Job safety analysis

- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle / machine

- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.

- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Cutquik Operation
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Council Policies and Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Asbestos Management Procedure
 - 7.4.2 Excavation Work Guidelines
- 7.5 Shoalhaven Water WHS Procedures
 - Section 2 Unloading and Loading Mini-backhoe from Service Truck or Trailer
- 7.6 Workcover "Excavation Work" Code of Practice

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8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
1. Traffic - Moving traffic or plant	Death or serious injury	H	- Implement approved or modified TCP - If necessary, implement VMP - Use only trained traffic controllers
1. Traffic - Working in close proximity to roads	Death or serious injury	H	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers - At a minimum, the truck's 'Workmen Ahead' sign, flashing lights and PPE must be used. If at all possible, the truck should be parked off the road reserve.
5. Contact with Electricity - Overhead power lines	Electrocution Death or serious injury	H	- Do not work within prescribed distances of overhead powerlines - Risk assessment indicates distances may not be maintained consider alternative way of doing work

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POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
13. Asbestos - Exposure to asbestos	Asbestosis	H	<ul style="list-style-type: none"> - If tapping an AC pipe, it is essential to flush out the pressure chamber using the “blow off” valve to purge out all AC particles to waste. - Keep work site wet and damp at all time till work and disposal has finished - Correct disposable dust respirators - Disposable overalls - Dust goggles - Gum boots - Riggers gloves - Asbestos disposable bags and tape
17. General Issues - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	M	-‘3’ point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	M	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	M	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	M	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer’s recommendations and other safety procedures - Immobilisation of plant to prevent unauthorised use
Pedestrian Traffic falling into trench/being hit by plant	Muscle sprain (limbs or torso) Broken bones Cuts and abrasion	M	<ul style="list-style-type: none"> - Use appropriate signage - Isolate workers and public from plant/vehicles via barriers and/or staff - Secure incomplete trench at end of day with fencing / signes

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POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
Materials dropped	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	M	- Trained 'dogman' - Inspect slings and holds before use - Sling as per manufactures recommendations - Keep safe work area around lifts do not place or stack materials near excavation
11. Excavation /Trenching - Collapse of trench	Death or serious injury	H	- Excavation to be benched, battered or shored - Periodic checks of trench walls and shoring for signes of stress or unstable conditions - Ladder provided or good exit and entry positions
Laser injury	Eye damage	M	- Wear appropriate safety glasses - Always point at target - Laser awareness for site supervisor and staff
Component of pipeline becoming a projectile at high velocity due to water pressure	Death or serious injury	H	- Ensure all components are securely attached to pipeline - Appropriate PPE (i.e. Safety glasses, hard hat)
8. Confined Space - Asphyxiation	Death or serious injury	H	- Don't leave machines running near trench (i.e. sludge pumps ,trucks waker rammers etc) - Ensure adequate ventilation around workers as trenches below ground level are natural receptacles for gases heavier than air (i.e. carbon monoxide)
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	L	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)
Plant Overturn	Death or serious injury	H	- Ensure ground is suitable under the surface by probing - Work within Plant limits - Ensure reach is within limits

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POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
3. Heat - Excessive Exposure to UV	Sunburn Skin cancer	L	- Wear hats and/or long sleeves and/or long trousers, if not, use sunscreen in accordance with manufacturer's recommendations.
15. Dust - Dusty conditions	Respiratory illness	L	- Use dust suppression or dust removal techniques where conditions above min exposure levels - wetting down surface, if asbestos - use face masks, overalls and gloves, if asbestos
Sharp Objects	Hepatitis HIV Aids Cuts	L	- training in syringe ('sharps') disposal - do not place hands where can't see contact area - wear puncture resistant gloves - use tongs, if practical - keep guards, protective sheaths etc in place

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POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
11. Excavation/ Trenching - falling earth or rock - instability - water seepage or inrush - unplanned contact with utility services - falls - heavy plant affecting the excavation - vehicle movement - excessive noise - underground, above ground and overhead services - rescue	Permanent Disability Injury	H	<ul style="list-style-type: none"> - Refer to WHS Procedure, Section 2 – Excavation Work Guidelines, and WWW009 Trenching and Ground Support Guidelines - Any Trench over 1.5 metres in depth and over 2.4 metres in length requires approved shoring, benching, or battering. - All pre-excavated material (from old services/trenches etc) to be removed from trench walls - If unable to removal all pre-excavated material trenches to be excavated so that they are twice as wide as they are deep, plus pipe O/D (eg, 240mm pipe, 1.0 metre deep = 2.240 metre wide trench). - Pipe to be centrally located in trench. - Observer on-site at all times - Keep heavy plant and vibrating equipment at a minimum of 1000mm from edge of trench to avoid stress on trench walls. - Excavated material should be placed at a minimum of 1000mm from the edge of any trench. - Shoring should be used in WATER CHARGED ground at all times

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Operation of Forklift

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To eliminate or reduce the potential for injury to employees and others whilst operating fork lift

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
3.2. PPE: Personal Protective Equipment
3.3. WHS: Work Health and Safety
3.4. TCP: Traffic Control Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. Carry out safety check list on forklift (as per Daily Inspection Checklist Book) to assist in maximising efficient and safe operation of forklift and to alert of any inefficiencies.
- 4.3. Check:
- 4.3.1. for structural damage
 - 4.3.2. tyres and wheels
 - 4.3.3. forks
 - 4.3.4. gas leak
 - 4.3.5. horn / flashing light
 - 4.3.6. parking brake
 - 4.3.7. steering
 - 4.3.8. brakes
 - 4.3.9. controls
 - 4.3.10. understand refuelling procedures
- 4.4. Check and understand the safe working load (on the load rating plate) for mast vertical and mast forward, and the controls of the forklift

NOTE: At a minimum, the forklifts flashing lights and PPE must be used.

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- 4.5. The operator of the forklift shall have evidence of his /her competency to operate / licence
- 4.6. During operation be aware of other employees or public around work place
- 4.7. Conduct the work as per the relevant Standard, Code or Work instruction (contact Coordinator if not sure)
- 4.8. Handbrake should be applied when raising or lowering load
- 4.9. Do not put slings around forks / do not use only one fork
- 4.10. Always look over shoulder before reversing. Do not rely on rear vision mirrors only.
- 4.11. When approaching a blind corner or entering and leaving building / shed give three long horn blasts
- 4.12. When work is finished park forklift with tips of forks on the ground with tilt forward, engage handbrake and turn off gas bottle. Remove key.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
 - 5.1.1 Safety helmet
 - 5.1.2 Gloves
 - 5.1.3 Safety boots
 - 5.1.4 Ear muffs
 - 5.1.5 Eye protection
 - 5.1.6 Respirator (if required)
- 5.2 Forklift

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Licence / certification
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that all employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a forklift shall have a Licence as applicable to the machine
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.

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- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Load restraint
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Council Policies and Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover Forklift operations manual

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

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9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
Carrying large loads at height	Death or serious injury	E	- Carry loads as low as possible as to provide the best possible view for operator
Make sure forks are centred and locked	Death or serious injury	H	- Make sure that the forks are centred when entering a pallet or load as to avoid toppling of heavy load
12. Machine Operation - Hydraulic controls - using controls too quickly	Death or serious injury	M	- Ease controls - if plugged or pushed quickly the load will jerk and bounce around causing load to be unstable and possibly fall
5. Contact with electricity	Death or serious injury	L	- Check for overhead power lines and adjust work method
Run over staff or public	Death or serious injury	L	- blow the horn three times and drive slowly when approaching a blind corner or when entering and leaving a building - always look over shoulder when reversing - make sure hazard light is working - If a TCP is required, both standard and modified TCPs used must be documented per SUPP012. - Record TCP as per SUPP012
17. General Issues - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	L	- '3' point technique – back out while exiting, check for uneven ground

POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	L	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	M	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Death or serious injury Entrapment	H	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures - Immobilisation of plant to prevent unauthorised use
Pedestrian Traffic	Muscle sprain (limbs or torso) Broken bones Cuts and abrasion	L	- Use appropriate signage - Isolate workers and public from plant/vehicles via barriers and/or staff
Carrying passengers	Death or serious injury	H	- Do not carry passengers at any time forklifts are a one person vehicle
1. Traffic - Reversing fork around yard	Running over fellow workers or public Death or serious injury	M	- Always look over shoulder before reversing fork do not rely on rear vision mirrors
8. Confined Space - Asphyxiation	Death or serious injury	L	- Don't leave machines running near confined spaces ie small sheds garages with doors down - Ensure adequate ventilation around work site as gases are heavier than air (ie carbon monoxide)
12. Machine Operation - Plant Overturn	Death or serious injury	M	- Ensure ground is stable and surface flat do not drive across a slope - Work within Plant limits - Ensure reach is within limits

POTENTIAL HAZARDS	POTENTIAL RISK	RISK RATING	CONTROL MEASURES
3. Heat - Excessive Exposure to UV	Sunburn Skin cancer Heat exhaustion	L	- Wear hats and/or long sleeves and/or long trousers, if not, use sunscreen in accordance with manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)
15. Dust - Dusty conditions	Respiratory illness	L	- Use dust suppression or dust removal techniques where conditions above min exposure levels
4. Exposure to Noise - Engine noise	Hearing problems	L	Wear correct ppe ie ear muffs

OPERATION OF A SATELLITE CHLORINATOR

1. INTRODUCTION

- 1.1 All liquefied chlorine gas facilities shall conform to the Australian Standard 2927-1987 “The Storage and Handling of Liquefied Chlorine Gas”, and be operated in accordance with the procedures set down in the ORICA Chlorine handbook.
- 1.2 Employees who are involved in the handling of chlorine, or work in areas where chlorine is used, shall have access to a copy of the chlorine handbook so they may read and familiarise themselves with the information and procedures for operating purposes.

2. OBJECTIVE

- 2.1 To eliminate or reduce the potential for injury to employees and others handling liquefied chlorine gas.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 SCBA: Self Contained Breathing Apparatus
- 3.4 BA: Breathing Apparatus
- 3.5 WHS: Work Health and Safety

4. PROCEDURE

WARNING: This chemical is considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the activity with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 The ORICA Chlorine Handbook contains important information regarding handling and storage of liquid Chlorine. All employees working with Chlorine should be familiar with the contents of this Handbook. Particular attention should be given to those titles highlighted by an asterisk in Section 7.9 of this SWMS.

ROUTINE INSPECTION PROCEDURE

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- 4.4 4.4.1 Check Radtel telemetry software to compare actual satellite chlorinator chlorine residual with targeted levels to determine whether any change in dosage is required.
- 4.4.2 Also check Radtel telemetry software to determine the need to replace any empty cylinder at the site to be visited. If a cylinder replacement is required follow the steps in 4.5 concurrently with 4.4.
- 4.4.3 Carry out a chlorine residual test on a reticulated sample from the relevant supply.
- 4.4.4 Deactivate the Intruder Alarm at the relevant Chlorinator. This may involve deactivation via the telemetry system prior to the site visit.
- 4.4.5 Before opening the Chlorinator room door, push the vacuum switch button to evacuate the internal atmosphere of any potential chlorine gas. Do not open the door until the vacuum switch has returned to the normal position (approx. 2 minutes) as per the signage adjacent to the entry door.
- 4.4.6 Open the entry door, making sure to latch the door in the open position to prevent accidental closure. The ventilation fan will automatically operate while-ever the entry door is in the open position.
- 4.4.7 Before commencement of work inside the chlorine room, the operator must ensure the safety eye wash facility is in good working order. He must also be familiar with its operation.
- 4.4.8 Enter chlorinator building and record all relevant information necessary to update the appropriate electronic records.
- 4.4.9 Take a sample from sampling point and test chlorine residual using Hach portable analyser.
- 4.4.10 If required adjust the analyser to match the portable chlorine residual analysers reading.
- 4.4.11 Make any necessary adjustments to the chlorine dosage controller to achieve the desired residual after taking into consideration the trending graph of the chlorine residual and any adjustment to the online chlorine analyser.
- 4.4.12 If a cylinder is required to be changed proceed to step 4.5 (Connection & Disconnection Procedure).
- 4.4.13 Resecure the Chlorinator room and re-activate the Intruder Alarm.
- 4.4.14 Record the plant readings in the relevant “Chlorinator Flows & Stocks” spreadsheet.

CONNECTION & DISCONNECTION PROCEDURE

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- 4.5 4.5.1 Using the purpose built chlorine cylinder handling trailer, two or more trained personnel must be used to load the necessary chlorine cylinders onto the trailer from the Bamarang WTP Chlorine drum/store room. Make sure the cylinders are secured using the individual cylinder clamps provided.
- 4.5.2 Record the details of the cylinders removed from the storage area in the relevant “Bamarang Flows & Stocks” spreadsheet.
- 4.5.3 NOTE: Prior to any work involving the connection or disconnection of a chlorine container the following conditions must be met.
- i). Two or more trained personnel must be present at all times. At least one of these should not become involved in the operation and should remain on site as the safety observer.
 - ii). Self contained breathing apparatus (SCBA) should be present and should be checked for serviceability and made ready for immediate use if necessary. All personnel involved in these operations should have had training in the use of SCBA.
 - iii). The ventilation fan must be operational and must remain on until the operation has been completed.
 - iv). All doors to the chlorine plant must be opened to provide additional ventilation and allow a ready exit if a leak was to develop. Also the exits must not be obstructed by any equipment or article.
 - v) Appropriate PPE’s such as Goggles and Chemical resistant gloves should be worn.
 - vi). A bottle containing 5% ammonia solution must be provided to assist with leak detection if required.
- 4.5.4 Once all other preparations & precautions have been made, isolate the pipework to the empty cylinder using the plastic ball valves.
- 4.5.5 Turn off the chlorine cylinder valve.
- 4.5.6 Loosen the cylinder regulator’s yolk bolts using the cylinder key and evacuate to a safe distance to allow the residual chlorine gas to dissipate to atmosphere.
- 4.5.7 Once the gas has cleared from the room, remove cylinder chain, disconnect the cylinder regulator unit and suspend using the chain mounted from the ceiling, making sure to remove the old lead washer.
- 4.5.8 Transfer full cylinder from the trailer and position on cylinder scale, making sure to chain the new cylinder in place to prevent it from falling.

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- 4.5.9 Remove cylinder regulator from the chain, fit new lead washer and reconnect to the new cylinder via the yolk assembly, making sure that it is tight.
- 4.5.10 Open ball valves in cylinder pipework.
- 4.5.11 Crack open, then close the cylinder valve and check for leaks using the 5 % ammonia solution.
- 4.5.12 If a leak is detected, check the tension on the yolk, and or lead washer and replace if necessary. Redo step 4.5.11
- 4.5.13 If no leak is detected open the cylinder valve 1^{1/2} turns.
- 4.5.14 Press the reset button on the cylinder changeover unit to reset the scale (should now read around 70 Kg)
- 4.5.15 Note the details of the cylinder disconnected and the new cylinder connected in order to record the details in the relevant "Chlorinator Flows & Stocks" spreadsheet at the WTP.
- 4.5.16 Replace any used tools etc. to the toolbox and resecure the chlorinator room.
- 4.5.17 Reactivate the Intruder Alarm for the relevant Chlorinator. This may involve reactivation via the telemetry system following the site visit.

CHLORINE LEAK PROCEDURE

- 4.6 4.6.1 If a chlorine leak is detected by the chlorine leak sensor, a Telemetry alarm will be triggered to page & dial out an alarm message to the co-ordinator.
- 4.6.2 The co-ordinator will then call the WTP on-call operator in order to first establish the validity of the alarm. This will be done by the operator visiting the site and cautiously approaching the chlorinator and its immediate surrounds to determine if a chlorine leak is present.
- 4.6.3 If a leak is detected two or more trained personnel must be present at all times in order to isolate the chlorine leak. At least one of these should not become involved in the operation and should remain on site as the safety observer.
- 4.6.4 All staff participating in this operation must use a serviceable SCBA set.
- 4.6.5 The person entering the Chlorinator room shall shut down the chlorine cylinder valves and then evacuate to fresh air as soon as possible.

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4.6.6 Time should then be allowed for the chlorine gas to dissipate prior to attempting to establish the location of the gas leak and making good the repairs.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Self Contained Breathing Apparatus (SCBA)
- 5.3 5% Ammonia Solution
- 5.4 Cylinder Valve Spanner

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Confined Space Work
 - 6.1.5 Hazardous Substances/Users
 - 6.1.6 Chlorine Handling
 - 6.1.7 Breathing Apparatus
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.
- 6.8 Chlorine Handling training shall be provided every 2-3 years or as required, for staff required to work on/with chlorine equipment or in areas where chlorine is used.
 - 6.8.1 The training shall be to a standard required by:
 - Legislation pertinent to the industry at the time
 - Australian Standard AS2927-87 (or amendments)
 - ORICA "Chlorine Handbook" (relevant at the time)

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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Task Guidelines
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes
- 7.7 Australian Standard AS2927-17897 – The Storage and Handling of Liquefied Chlorine Gas
- 7.8 Australian Standard AS1715 – Selection, Use and Maintenance of Respiratory Protective Devices where required.
- 7.9 ORICA Chlorine Handbook

NOTE: The sections of most relevance to the chlorine plant operator are in the first half of the handbook and are titled as follows.

 - 7.9.1 General Information
 - Description of Main Properties
 - Description of Product & Packaging
 - 7.9.2 Operating Information
 - Selection and Training of Operators *
 - Handling Containers *
 - Valve Gland Adjustment *
 - -Connecting a Container to an Installation *
 - Disconnecting a Container *
 - Maintenance *
 - Trouble Shooting
 - Transportation of Chlorine
 - 7.9.3 Handling Emergencies
 - What is an Emergency?
 - The Role of Emergency Services
 - General Rules to Follow
 - Gas Leaks
 - Evacuation of Areas Affected by Chlorine Gas
 - Fires in Chlorine Installation
 - Safe Handling of Chlorine
 - First Aid

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.

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- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

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9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/WHS/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals Liquefied Chlorine Gas 26. Toxic gases	Burn Toxic if inhaled Irritating to eyes, respiratory system and skin	<ul style="list-style-type: none"> - Avoid contact with eyes (PPE) - Wear suitable protective clothing - Appropriate PPE's such as Goggles and Chemical resistant gloves should be worn. - If insufficient ventilation wear suitable respiratory equipment - SCBA should be present ready for immediate use if necessary - The ventilation fan must be operational - All doors to the chlorine plant must be opened. - The exits must not be obstructed by any equipment or article - Two or more trained personnel must be present at all times. At least one of these as the safety observer - Loosen the cylinder regulator's yolk bolts using the cylinder key and evacuate to a safe distance to allow the residual chlorine gas to dissipate to atmosphere.
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
10. Struck by Object - Cylinder falling over	Crush injuries Bruising	<ul style="list-style-type: none"> - Transfer full cylinder from the trailer and position on cylinder scale, making sure to chain the new cylinder in place to prevent it from falling.

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Operating Dingo TM K9-4

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the "OHS Act 2000" to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct in the use of operating the Dingo TM K9-4 in a safe manner.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
3.2. PPE: Personal Protective Equipment
3.3. OHS: Occupational Health and Safety

4. PROCEDURE

- 4.1. All employees together on-site must complete the 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment' including documenting hazards identified and control measures taken.
- 4.2. The 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment' is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Before transporting the Dingo carry out the necessary visual safety inspections of the trailer ie: lights, blinkers, emergency brake cable. Ensure that all the tie-downs/securing chains are correctly fitted and fastened on both the machine and any implements mounted on the trailer.
- 4.4. Unloading Dingo from Trailer:
4.4.1. Make sure the park brake of the truck is engaged.
4.4.2. Release securing chains from machine.
4.4.3. Lower ramps at back of trailer make sure stays are down.
4.4.4. Drive the machine down the ramps without acceleration.

NOTE: When unloading from a trailer, the truck must be attached to the trailer and the bucket is at the minimum height necessary to clear trailer and ramps to avoid over balancing machine.

- 4.5. Loading Dingo onto Trailer:
4.5.1. Make sure the park brake of the truck is engaged.
4.5.2. Engage low gear and drive machine onto trailer without acceleration.

NOTE: When loading to a trailer, the truck must be attached to the trailer, the

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trailer's ramps lowered and the dingo must be loaded in a forward direction for weight distribution purposes

- 4.6. Always check the following before operating; fuel, engine oil, air filter, tyre pressures, radiator level and look for leaks and damaged or loose components.
- 4.7. Get to know your control levers and control panel ie: throttle, choke, drive controls and attachment tilt lever, loader arm lever, 4 in 1 bucket / backhoe attachment before operating the machine.
- 4.8. Move all the levers gently to avoid damaging loads and knocks. Do not insist in using the hydraulic cylinders if they are unable to oppose the necessary resistance as this opens the main hydraulic valve and could lead to dangerous oil overheating.
- 4.9. Before connecting any attachments, make sure mount plates are dirt and debris free, move pump control lever to slow position, slowly push the attachment tilt lever forward to tilt the attachment mount plate forward, position mount plate into upper lip of the attachment receiver plate raising the dingo arms while tilting back the mount plate at the same time.
- 4.10. Attachment should be raised enough to clear the ground and the mount plate tilted all the way back, turn ignition off and engage lock pins. The lock pins are located on the outer edge of the mount plate and should be turned towards the inside to engage.
- 4.11. When disconnecting attachments you lower attachment to the ground, turn ignition off, move the auxiliary hydraulics lever forward and backward and then back to the neutral position to relieve pressure at the hydraulic couplers, slide collar back on the hydraulics and disconnect attachment couplers from machine couplers.
- 4.12. Always wear appropriate P.P.E. as indicated by risk assessment.
- 4.13. Always turn off the engine before checking & topping up fuel & oil levels.
- 4.14. Regularly check the hydraulic couplers for blockages & clear as necessary, making sure the engine is turned off before handling the pump heads.
- 4.15. Adhere to Manual Handling and Back Care principles.
- 4.16. If needed place appropriate signage around work site.
- 4.17. Clean all hydraulic couplers and flush faces and replace caps

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Other equipment needed to perform actions described in the procedure.

6. QUALIFICATIONS AND TRAINING

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- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. OHS Construction (and General) Induction
 - 6.1.2. Work Activity OHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle.
- 6.4. Any employee operating plant or using equipment shall have had the appropriate training and ticket to operate.
- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6. All employees on site shall have completed a Site Induction using the 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment'.
- 6.7. Additional qualifications and training requirements may be identified when completing the 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment'. For example:
 - Confined Space Work
- 6.8. Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. OHS Act 2000
- 7.2. OHS Regulation 2001
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate OHS Policies and Procedures
Specific section may be referenced if applicable
- 7.5. Shoalhaven Water OHS Policies and Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

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- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
Machine Operation	Burns Death	- Always turn off the engine and hydraulic pump motor before checking & topping up fuel & oil levels or clearing blockages
Entanglement	Broken bones Cuts Burns death	Keep all foreign material and objects clear of attachment, Hair net (long hair), wear protective clothing, keep hands away from moving parts.
Coming into contact with sharp or flying objects	Broken skin Broken bones infections	Ensure all relevant safety equipment is supplied and worn First aid kit
Uncontrolled or unexpected movement	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	Operate plant on surfaces that are level and capable of supporting the total weight of the machine and operator
Proper handling and operating of machine	Serious injury death	Make sure you have both feet on machine before engaging operation levers
Striking due to work pieces being ejected when using broom attachment	Muscle sprain (limbs or torso) Broken bones Death	Operate the machine at safe speed relative to the material being cut and work environment
Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations
High pressure fluid	Burns Broken skin	Ensure all hoses and fittings are in good condition Keep couplers clean and free of debris
Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
Repetitive movement	Muscle sprain (limbs or torso)	Do not operate equipment for prolonged periods
Inadequate lighting	Muscle sprain (limbs or torso) Broken bones Entanglement	Always operate in well lit areas or provide adequate lighting
Noise – Dust	Hearing loss Respiratory problems	Ensure approved hearing protection is worn Ensure adequate water supply is available
Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - If necessary, implement VMP - Use only trained traffic controllers - Make sure the park brake of the truck is engaged - If unloading from a trailer, the truck must be attached to the trailer

Operating Venieri VF 1.33 Backhoe Loader

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the use of operating the Venieri VF 1.33 backhoe loader in a safe manner.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety

4. PROCEDURE

- 4.1 All employees together on-site must complete the ‘Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment’ including documenting hazards identified and control measures taken.
- 4.2 The ‘Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment’ is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change
- 4.3 Before operating:
- 4.3.1 Carry out necessary visual safety inspections before leaving Depot. ie: lights / blinkers / emergency brake cable.
- 4.3.2 Where possible, ensure the service truck or trailer is on level and stable ground.
- 4.4 Unloading:
- 4.4.1 Make sure the truck park brake is engaged.
- 4.4.2 Release securing chains from machine.
- 4.4.3 Lower ramps at back of trailer and make sure stays are down.
- 4.4.4 Engage low gear and let the machine move down the ramps without acceleration.

NOTE: If unloading from a trailer, the truck must be attached to the trailer and the bucket is at the minimum height necessary to clear trailer and ramps to avoid over balancing machine.

Document Number: WWW036	Document Name: Operating Venieri VF 1.33 Backhoe Loader	Responsible Group: Shoalhaven Water	Reference: SWMS1234
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- 4.5 Loading:
 - 4.5.1 Make sure the truck park brake is engaged.
 - 4.5.2 Engage low gear and drive machine onto trailer without acceleration.
 - 4.5.3 Attach securing chains and tighten.
 - 4.5.4 Lower machine stabs.
 - 4.5.5 Raise ramps and secure.
 - 4.5.6 Raise and secure stays

NOTE: If loading to a trailer, the truck must be attached to the trailer, the trailer's ramps lowered and the Venieri must be loaded in a forward direction for weight distribution purposes

- 4.6 Always check the following before operating; fuel, engine oil, air filter, tyre pressures, radiator level and look for leaks and damaged or loose components.
- 4.7 Get to know your control levers and control panel ie: throttle, choke, drive controls and attachment tilt lever, loader arm lever ,4 in 1 bucket / backhoe attachment before operating the machine - refer to operation manual for correct operation.
- 4.8 Move all the levers gently to avoid damaging loads and knocks, do not insist in using the hydraulic cylinders if they are unable to oppose the necessary resistance : this in fact ,opens the main hydraulic valve and could lead to dangerous oil overheating .
- 4.9 Before connecting any attachments, make sure mount plates are dirt and debris free.
- 4.10 Always wear appropriate P.P.E. as indicated by risk assessment.
- 4.11 Always turn off the engine before checking & topping up fuel & oil levels.
- 4.12 Regularly check the hydraulic couplers for blockages & clear as necessary, making sure the engine is turned off before handling the pump heads.
- 4.13 Adhere to Manual Handling and Back Care principles.
- 4.14 If needed place appropriate signage around work site.
- 4.15 Clean all hydraulic couplers and flush face and replace caps

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Venieri VF 1.33 backhoe loader
- 5.3. Sweeper attachment

Document Number: WWW036	Document Name: Operating Venieri VF 1.33 Backhoe Loader	Responsible Group: Shoalhaven Water	Reference: SWMS1234
Adopted: 09/08/2006	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 3 Page 2 of 5

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle.
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment'.
- 6.8. Additional qualifications and training requirements may be identified when completing the 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment'. For example:
 - Confined Space Work
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedure
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Machinery Guarding Procedures
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

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8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation	Burns Death	- Always turn off the engine and hydraulic pump motor before checking & topping up fuel & oil levels or clearing blockages
12. Machine Operation Entanglement	Broken bones Cuts Burns death	Keep all foreign material and objects clear of attachment, Hair net (long hair), wear protective clothing, keep hands away from moving parts.
16. General Issues Coming into contact with sharp or flying objects	Broken skin Broken bones infections	Ensure all relevant safety equipment is supplied and worn First aid kit
12. Machine Operation Uncontrolled or unexpected movement	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	Operate plant on surfaces that are level and capable of supporting the total weight of the machine and operator
12. Machine Operation Proper handling and operating of machine	Serious injury death	Make sure you have both feet on machine before engaging operation levers
12. Machine Operation Striking due to work pieces being ejected when using broom attachment	Muscle sprain (limbs or torso) Broken bones Death	Operate the machine at safe speed relative to the material being swept and the work environment. Ensure all guards are fitted.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations
12. Machine Operation High pressure fluid	Burns Broken skin Heat exhaustion	Ensure all hoses and fittings are in good condition Keep couplers clean and free of debris. Keep hydrated (Drink water and take salt tablets as required)
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	'3' point technique – back out while exiting, check for uneven ground
2. Manual Handling Repetitive movement	Muscle sprain (limbs or torso)	Do not operate equipment for prolonged periods
17. Working at Night Inadequate lighting	Muscle sprain (limbs or torso) Broken bones Entanglement	Always operate in well lit areas or provide adequate lighting
4. Noise – Dust	Hearing loss Respiratory problems	Ensure approved hearing protection is worn Ensure adequate water supply is available
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - If necessary, implement VMP - Use only trained traffic controllers - Make sure the park brake of the truck is engaged - If unloading from a trailer, the truck must be attached to the trailer

Operation of Wheeler-Rex PipeMaster Pipecutter

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct staff in the safe operating of the Wheeler-Rex Hydraulic Pipemaster Pipe Cutter so as to eliminate or reduce the potential for injury.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the work with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Place the PipeMaster unit on a stable platform and remove the blade cover, the blade retaining nut and the spacer washer and collar. Select the correct blade for the material to be cut – Diamond tipped for CI & DI, Carbide tipped for Carbon Steel etc.
- 4.4. Slide the selected blade onto the drive shaft. Be sure to install with the correct rotation orientation as noted on the blade and the blade cover. The blade should rotate counter-clockwise.
- 4.5. Determine the amount of chain required – see chain chart. The tool has 11 chain sections installed. Additional chain sections can be attached after the tool is placed on the pipe.
- 4.6. Clean the area of the pipe where the PipeMaster is to be placed ensuring to remove all loose and protruding material that may affect the rotation of the cutter. Ensure that adequate space is dug out under the pipe to allow for the cutter to travel completely around the circumference of the pipe – approx 200mm.
- 4.7. Set the PipeMaster onto the pipe to be cut. Be sure that the blade has been raised to its highest position so that the blade will not be resting on the pipe. The blade is

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positioned by loosening the hex nut to the notched side arm and moving it up or down.

- 4.8 Ensure that the unit is square on the pipe by checking that the 4 wheels are all in solid contact with the pipe wall.
- 4.9 Attach the proper amount of chain, wrap it around the pipe and engage the hooks on the chain take-up mechanism. Tighten the chain securely using the open wrench supplied in the tool kit. It is acceptable if several sections of chain extend beyond the take-up mechanism.
- 4.10 The unit should be started with the blade slightly past the vertical centre point so that the cut will be finished on top of the pipe. This will minimise pinching the blade.
- 4.11 Ensure that the drive engagement lever is in the neutral or no-travelling position. The neutral position is extending straight out from the body of the cutter.
- 4.12 Connect the unit to a Hydraulic Power Pack or other hydraulic source ensuring that the hydraulic flow doesn't exceed 6 ltrs/min. Check that no adjusting keys or wrenches are connected to the cutter and start the hydraulic flow checking the blade rotation. If the blade is not rotating counter-clockwise, reverse the hoses.
- 4.13 Connect a water supply to the connections on the tool and ensure that it is spraying onto the blade.
- 4.14 Loosen the blade lock nut and plunge the blade fully into the pipe so that the blade housing is just clear of the pipe surface.
- 4.15 Engage the travel lever to start the unit moving around the pipe.
- 4.16 The tool should travel on it's own for the duration of the cut. However, the operator should watch the progress closely to ensure proper operation. Wedges should be installed at a few points around the pipe to avoid pinching the blade – especially once the cutter reaches the bottom portion of the pipe. Be sure that water is always supplied to the blade. If necessary stop the cut and refill water tanks as needed.
- 4.17 Occasionally on pipes that are wet and slippery, the travelling wheels may begin to slip as the cutter comes up the back side of the pipe. Slight upward pressure may be needed to be applied until the tool reaches the top of the pipe.
- 4.18 Depending on the diameter and thickness of the pipe, there may be some deviation from the start and end of the cut. If a totally accurate cut is required, a tracking guide will have to be used.
- 4.19 When the cut is completed stop the unit by switching the travel lever to the off position and raise the blade fully out of the pipe whilst it is still cutting to prevent it from jamming. Lock it in the raised position.

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- 4.20 Turn off the Hydraulic and water supplies and remove the hoses.
- 4.21 Loosen the chain take-up mechanism and remove the PipeMaster from the pipe. Thoroughly clean the unit and pack it and all the accessories back into its carry box.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Wheeler-Rex Pipemaster Pipe Cutter
- 5.3. Hydraulic Power Pack or other hydraulic source (backhoe, truck etc)

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Asbestos Management Procedure
 - 7.4.2. Manual Task Guidelines
 - 7.4.3. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
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<p>13. Asbestos - Exposure to asbestos</p>	<p>Asbestosis</p>	<ul style="list-style-type: none"> - If tapping an AC pipe, it is essential to flush out the pressure chamber using the “blow off” valve to purge out all AC particles to waste. - Keep work site wet and damp at all time till work and disposal has finished - Correct disposable dust respirators - Disposable overalls - Dust goggles - Gum boots - Riggers gloves - Asbestos disposable bags and tape
<p>2. Manual Handling - Uneven or slippery ground</p>	<p>Muscle sprain (limbs or torso) Broken bones Cuts and abrasions</p>	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
<p>2. Manual Handling - Inappropriate Manual Handling</p>	<p>Muscle sprain (limbs or torso)</p>	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
<p>12. Machine Operation - Equipment Malfunction or misuse</p>	<p>Muscle sprain (limbs or torso) Cuts and abrasions Entrapment</p>	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
<p>3. Heat - Excessive exposure to UV</p>	<p>Sunburn Skin cancer Heat exhaustion</p>	<ul style="list-style-type: none"> - Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)
<p>Asphyxiation</p>	<p>Death or serious injury</p>	<ul style="list-style-type: none"> - Don't leave machines running near trench (i.e. sludge pumps, power packs etc) - Ensure adequate ventilation around workers as trenches below ground level are natural receptacles for gases heavier than air (i.e. carbon monoxide)

Entanglement; Clothing, gloves, hair etc	Entangled body parts Amputation, crushing of limbs or fingers	<ul style="list-style-type: none"> - Ensure adequate guarding is fitted - Don't place hands near cutter when its travelling - Ensure no loose clothing is being worn when operating machine
Contact with debris, flying objects	Death or serious injury Eye damage Burns	<ul style="list-style-type: none"> - -Eye protection to be worn - All guard to be in place when operating machine
High pressure Fluid	Eye damage Burns Scalds	<ul style="list-style-type: none"> - Eye protection to be worn - All guard to be in place when operating machine - Hydraulic Hose to be checked before use - Connection points to be checked and tightened prior to use. - Hoses to be connection to prevent being damaged due to rubbing , pinching etc
14. Dusty conditions	Respiratory illness	<ul style="list-style-type: none"> - Use dust suppression or dust removal techniques where conditions above min exposure levels - wetting down surface, if asbestos - use face masks, overalls and gloves, if asbestos

Operation of Overhead Gantry Crane

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct staff in the safe operation of STP Chlorinator Overhead Gantry Cranes.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Note that safe handling procedures as described in WWW008 Handling and Storage of Liquefied Chlorine Gas, and the Corporate Procedure S2 OHS 29 Liquefied Chlorine Gas Handling and Storage Procedure must be followed.
- 4.4. Deactivate the intruder alarm on the chlorinator building if applicable.
- 4.5. Open all doors, latch them open & ensure that all exhaust fans are operating.
- 4.6. Disconnect empty 920Kg Chlorine Gas drum using Orica’s Safe Handling & connection of chlorine containers procedures (as per wall charts).
- 4.7. Locate the crane remote control and drum lifting cradle for Overhead Gantry Crane.
- 4.8. Read & follow “Manufacturers Operational Procedures” for the use of “Abus Kransysteme model GM-5” (or the appropriate Manufacturers Operational Procedures) overhead gantry system crane.
- 4.9. Adhere to all instructions for the removal of empty drums & the replacement with full drums.

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1 Liquefied Chlorine Gas Handling and Storage Procedure

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7.4.2 Manual Task Guidelines

- 7.5. Shoalhaven Water WHS Policies and Procedures
 - WWW008 Handling and Storage of Liquefied Chlorine Gas
 - Wall charts
- 7.6. WorkCover regulations and codes
- 7.7. ORICA Chlorine Handbook
- 7.8. Australian Standard AS2927 – 17897 – The Storage and Handling of Liquefied Chlorine Gas
- 7.9. Australian Standard AS1715 – Selection, Use and Maintenance of Respiratory Protective Devices were required.

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
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<p>7. Chemicals - Liquefied Chlorine Gas</p>	<p>Burn Toxic if inhaled Irritating to eyes, respiratory system and skin</p>	<ul style="list-style-type: none"> - Avoid contact with eyes (PPE) - Wear suitable protective clothing - If insufficient ventilation wear suitable respiratory equipment - SCBA should be present ready for immediate use if necessary - The ventilation fan (if present) must be operational - All doors to the chlorine plant must be opened - The exits must not be obstructed by any equipment or article - Two or more trained personnel must be present at all times, at least one of these as the safety observer.
<p>2. Manual Handling - Inappropriate Manual Handling</p>	<p>Muscle sprain (limbs or torso)</p>	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
<p>12. Machine Operation - Equipment Malfunction or misuse</p>	<p>Muscle sprain (limbs or torso) Cuts and abrasions Entrapment</p>	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

Access to Reservoir Roofs

1. PURPOSE

- 1.1. To ensure the health and safety of Shoalhaven Water Staff and associated workers when accessing reservoir roofs for the purposes of cleaning and/or maintenance.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
VMP	Vehicle Movement Plan

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

Reference should be made to the Corporate Procedures S2 OHS 50 “Working at Heights”, S2 OHS 7 “Confined Space ” and S2 OHS 26 “Ladders – Use & Maintenance” procedures, located in Section 2 of the Corporate OH&S Manual.

- 5.2. If the roof of the reservoir is not protected by a hand rail, a safety harness and lanyard must be worn.
- 5.3. If the roof of the reservoir is protected by a hand rail, working at heights requirements apply but a safety harness is only required if the access cover is open.
- 5.4. Access to the roofs of reservoirs shall be via their associated ladders and/or access shaft, as is the case of Pitt St High Level Reservoir.

Note: The access shaft to Pitt St High Level Reservoir has been specifically padlocked to prevent access without the prior knowledge of the Coordinator.

- 5.5. If an employee intends to enter a reservoir, confined space requirements apply, beginning with completion of a Confined Spaces Permit.
- 5.6. Prior to accessing a reservoir roof, regardless of whether or not a hand rail is present, weather conditions must be assessed.
- 5.6.1. Roofs must not be accessed during strong winds or thunder storms or other severe weather conditions.

ACTIVITIES

- 5.7. The most frequent reasons for accessing the roof of a reservoir are:
- 5.7.1. Roof Inspection – visual check for integrity of roof
- 5.7.2. Check locks - for deterioration, rusting and prove they can be opened easily

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- 5.7.3. Clean gutters – scrape out all leaves etc within the guttering and place them in the bucket
- 5.7.4. Maintenance of roof or reservoir

5.8. A minimum of two people are required to complete any of these activities.

Note: If an activity requires accessing the roof of a reservoir, Working at Heights requirements apply.

Note: If an activity requires entry into the reservoir, Confined Space Work requirements apply.

5.9. As a minimum, the crew should carry a mobile phone, necessary tools and have a first aid kit available if required.

5.10. The work crew must notify their Coordinator of both their departure and return to the truck as soon as possible.

Note: Any work on the roof of a high level reservoir should be carried out without delay.

- 5.11. Workers aloft must:
 - 5.11.1. Have no medical constraints
 - 5.11.2. Be comfortable working at heights

- 5.12. Workers aloft may also be required to be:
 - 5.12.1. First Aid trained
 - 5.12.2. Confined Space trained

WHEN NO HAND RAIL IS PRESENT

- 5.13. Complete Working at Heights Permit
- 5.14. Put on a safety harness and adjust for comfort.
- 5.15. Place lanyard, fall arrestor and required tools in a bucket with a rope attached.

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- 5.16. Proceed up ladder with bucket to roof level. Once you have reached the roof, proceed directly to the attachment point and attach.
 - 5.16.1. Attach one end of the lanyard to the centre anchorage point on the roof and the other end to the harness.
- 5.17. When finished activity, detach the lanyard from the anchorage point and harness and leave the roof via the ladder.
- 5.18. Shut & lock door to reservoir.

WHEN A HAND RAIL IS PRESENT

- 5.19. Complete Working at Heights Permit
- 5.20. Place required tools in a bucket with a rope attached.
- 5.21. Proceed up ladder with bucket to roof level.

Note: If it is necessary to open the access cover, a safety harness must be put on and attached to an attachment point with a lanyard BEFORE opening the cover.

- 5.22. When finished activity, collect all equipment in the bucket and leave the roof via the ladder.
- 5.23. Shut & lock door to reservoir.

TRANSPORT OF REQUIRED MATERIALS TO THE ROOF BY CRANE

- 5.24. When it has been determined that due to the weight or nature of materials required on the roof they cannot be safely carried by an operator, a crane can be used to handle the materials and equipment.

Unique Document Number: SWP WWW041	Document Name: Access to Reservoir Roofs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/231
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5.25. All people involved in the operation of the crane and any associated load security shall carry appropriate WorkCover certification.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The All Co-ordinator's and Supervisor's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWW041	Document Name: Access to Reservoir Roofs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/231
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Waste Water Distribution

WWD

SECA High Pressure Sewer Clearing Machine

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct staff in the safe operating of the SECA High Pressure Sewer Clearing Machine so as to eliminate or reduce the potential for injury.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WH&S: Occupational Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. AC: Asbestos Cement

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 Basic Safety Rules
- 4.2.1 Always wear the correct PPE (boots, eyewear, gloves, hearing protection, safety vests)
 - 4.2.2 Always ensure all equipment is in good working condition
 - 4.2.3 Never work on unstable ground
 - 4.2.4 Never use the gun attachment with the trigger locked on
 - 4.2.5 Never point the gun at anyone, even if switched off
 - 4.2.6 Never change fittings on gun or hose unless machine is switched off
 - 4.2.7 Safety glasses to be worn at all times when using gun attachment
 - 4.2.8 Hearing protection to be worn whenever machine is operating
 - 4.2.9 Hand signals to be agreed upon before operating machine
- 4.3 Signs indicating the following should be displayed at all times whilst operating jetting unit:
- DANGER: HIGH PRESSURE WATER JETTING EQUIPMENT IS IN USE**
- 4.4 Check oil and fuel.

Unique Document Number: WWD002	Document Name: SECA High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1222
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- 4.5 Connect water tank filler hose to suitable water source and turn on. Feed pressure hose through the “Tiger Tail” hose protector.
- 4.6 Select nozzle or cutter required and attach to pressure hose.
- 4.7 Insert nozzle or cutter into pipe until orange part of hose is completely inside pipe.
- 4.8 Always insert cutter on downstream side of choke (where possible).
Note: If the pressure pump attendant and hose attendant cannot make visual contact with each other, two-way radio headsets, mobile phones or a third man should be used.
- 4.9 Do not start motor or open stop valve unless the cutter is completely inside the pipe otherwise severe injury or death could occur – run at pressure required:
Note: Do not exceed 2000 P.S.I.
- 4.10 When cutter reaches a blockage (this will be indicated when the cutter stops moving up the line) gently pull the hose back and forward until choke is cleared.
- 4.11 If pressure hose begins to twist, turn off immediately as both the cutter and hose could be damaged.
- 4.12 Try to avoid cutter entering next manhole.
- 4.13 Grease cutter after each use.
- 4.14 Safety glasses should be worn when clearing boundary traps.
Note: Pressure hose winch is not to be used to remove cutter from pipeline. It is only to assist in rolling the hose onto the reel. Hose should always be under pressure when coiled back onto reel.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. SECA High Pressure Sewer Clearing Machine
- 5.3. Signs

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WH&S Construction (and General) Induction
 - 6.1.2. Work Activity WH&S and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed.

Unique Document Number: WWD002	Document Name: SECA High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1222
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Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WH&S Act 2011
- 7.2. WH&S Regulation 2011
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WH&S Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WH&S Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

Unique Document Number: WWD002	Document Name: SECA High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1222
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- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - High Pressure Water Injury	Soft tissue injury Infection Death Blindness Puncture Wounds Infection	- Always wear the correct PPE (boots, eyewear, gloves, safety vests) - Never use the gun attachment with the trigger locked on - Never point the gun at anyone, even if switched off - Never change fittings on gun or hose unless machine is switched off - Safety glasses to be worn at all times when using gun attachment and when clearing boundary traps - Do not start motor or open stop valve unless the cutter is completely inside the pipe
4. Exposure to noise	Hearing loss	- Hearing protection to be worn whenever machine is operating - Hand signals to be agreed upon before operating machine
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers

Unique Document Number: WWD002	Document Name: SECA High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1222
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

SECA Projct Muni High Pressure Sewer Clearing Machine

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct staff in the safe operating of the Seca Projct Muni High Pressure Sewer Clearing Machine so as to eliminate or reduce the potential for injury.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. Basic Safety Rules
- 4.2.1. Always wear the correct PPE (boots, eyewear, gloves, safety vests)
 - 4.2.2. Always ensure all equipment is in good working condition
 - 4.2.3. Never work on unstable ground
 - 4.2.4. Never use the gun attachment with the trigger locked on
 - 4.2.5. Never point the gun at anyone, even if switched off
 - 4.2.6. Never change fittings on gun or hose unless machine is switched off
 - 4.2.7. Safety glasses to be worn at all times when using gun attachment
 - 4.2.8. Hearing protection to be worn whenever machine is operating
 - 4.2.9. Hand signals to be agreed upon before operating machine
- 4.3. Signs indicating the following should be displayed at all times whilst operating jetting unit:
DANGER: HIGH PRESSURE WATER JETTING EQUIPMENT IS IN USE
- 4.4. Check oil, water (Radiator) and fuel.

Unique Document Number: WWD003	Document Name: SECA Projct Muni High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1223
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- 4.5. Connect water tank filler hose to suitable water source and run for a short period to clear line of any sediment before filling water tank (Especially when using a Hydrant).
- 4.6. Feed pressure hose through the “Tiger Tail” hose protector.
- 4.7. Where possible position the high pressure hose reel approximately on the centreline of the manhole downstream of the blockage.
- 4.8. Select nozzle or cutter required and attach to pressure hose. Small Penetrator nozzle to be used initially on all chokes to relieve build-up prior to using the cutter attachment **(Always check that the nozzle jets are clear of obstructions and that they are not worn).**
- 4.9. Always operate machine from the downstream manhole back up the main whether line washing or clearing chokes (where possible) as the jetter is more effective when not operating in a full pipe and there is less chance of a large root build-up dislodging and causing problems further downstream.

Note: If the pressure pump attendant and hose attendant cannot make visual contact with each other, two-way radio headsets, mobile phones or a third man should be used.

- 4.10. Do not start motor unless the cutter/nozzle is completely inside the pipe and the high pressure water control valve is in the **Off** position. Open the throttle 1/3 then turn on the ignition and choke as required. If engine won't start check water level as tank is fitted with an emergency cut off switch to prevent pump from running dry **(emergency cut-off should be checked regularly to ensure its operation).**

Note: Do not exceed 2900 P.S.I. / 200Bar (or 2000 PSI when operating the root cutter)

- 4.11. Turn water control valve to the **On** position and increase the throttle to full revs which will cause the hose to move up the line. When cutter/nozzle reaches a blockage (this will be indicated when the cutter stops moving up the line) gently pull the hose back and forward until choke is cleared.
- 4.12. If pressure hose begins to twist, stop unit immediately by lowering revs to idle speed, move control valve to the **Off** position and turn off ignition as both the cutter and hose could be damaged.
- 4.13. Try to avoid cutter entering next manhole.
- 4.14. When withdrawing the hose from the line, shut off the water when the Leader hose becomes visible and wait 30 seconds before removing to allow remaining pressure to ease.

Unique Document Number: WWD003	Document Name: SECA Projet Muni High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1223
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- 4.15. Wind pressure hose on to reel and remove cutter/nozzle. Prior to securing hose end open control valve to release any remaining pressure and secure hose end. Place control valve back in the Off position.
- 4.16. Grease cutter after each use.
- 4.17. Safety glasses should be worn when clearing boundary traps.

Note: Pressure hose winch is not to be used to remove cutter from pipeline. It is only to assist in rolling the hose onto the reel. Hose should always be under pressure when coiled back onto reel.

- 4.18. For specific information in regards to other forms of jetting/cleaning refer to the operators manual.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Seca Projet Muni High Pressure Sewer Clearing Machine
- 5.3. Signs
- 5.4. Two-way radio and headsets, if applicable

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

Unique Document Number: WWD003	Document Name: SECA Projet Muni High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1223
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6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

- Asbestos Awareness
- Confined Space Work

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Machinery Guarding Procedure
 - 7.4.2. Manual Task Guidelines
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
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Unique Document Number: WWD003	Document Name: SECA Projct Muni High Pressure Sewer Clearing Machine	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1223
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2. Machine operation - High Pressure Water Injury	Soft tissue injury Infection Death Blindness Puncture Wounds Infection	<ul style="list-style-type: none"> - Always wear the correct PPE (boots, eyewear, gloves, safety vests) - Never use the gun attachment with the trigger locked on - Never point the gun at anyone, even if switched off - Never change fittings on gun or hose unless machine is switched off - Safety glasses to be worn at all times when using gun attachment and when clearing boundary traps - Do not start motor or open stop valve unless the cutter is completely inside the pipe
4. Exposure to noise	Hearing loss	<ul style="list-style-type: none"> - Hearing protection to be worn whenever machine is operating - Hand signals to be agreed upon before operating machine
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	<ul style="list-style-type: none"> - Implement approved or modified TCP - Record TCPs as per SOP012. - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	<ul style="list-style-type: none"> - Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

NORTHERN WASTEWATER DISTRIBUTION AFTER HOURS ON CALL WORK

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the operations of the after hours on call work

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 TCP: Traffic Control Plan
- 3.5 VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed prior to the start of the work with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 The on call mobile phone should be kept turned on at all times outside of working hours.
- 4.4 There is no need for the On Call Operator to have the mobile phone at his side 24 hours a day while at home unless the mobile phone is the nominated first contact number, as the Call Centre Operator will always ring the first nominated contact number and then the second nominated contact number.
- 4.5 During the night the On Call Operator can have the mobile phone set to silent mode so that it will not disturb their family unless the mobile number is the nominated first contact number. **The mobile phone should be connected to the 240-volt battery charger every night to ensure that it remains fully charged at all times.**
- 4.6 The mobile phone should be checked each morning for messages or missed calls and any problems actioned as required.

Document Number: WWD004	Document Name: Northern Wastewater Distribution After Hours On Call Work	Responsible Group: Shoalhaven Water	Reference: SWMS1224
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- 4.8 When the On Call Operator leaves their house for any reason, they must take the mobile phone with them and ensure that it is fully charged and ready for use.
- 4.9 When contacted by Council's after hour's Call Centre the On Call Operator is to attend to the complaint immediately. This will involve but not be limited to an assessment of the information provided by the SCC after-hours Call Centre, physically checking the site as required and possibly a phone call to the person from whom the report was taken if further information is required.
- 4.10 When called out, the On Call Operator will first determine if the task will definitely require two employees before requesting assistance. This will generally involve the On Call Operator actually inspecting and assessing the task.
- 4.11 If the On Call Operator is unsure about any aspect of the task he should contact the Coordinator as soon as possible.
- 4.12 The On Call Operator will pick up or meet another employee on the job as required, having regard for the time taken to get to the job and the nature of the job.
- 4.13 The On Call Operator is to ensure that his mobile phone is ON and in close proximity to him at all times when on a job. He must also ensure that his truck's two-way radio is ON whenever he is on a job.
- 4.14 Employees who are required to be on call are not required to remain at their usual place of residence or other place appointed by Council. However, the On Call Operator must be able to be contacted and be able to respond in accordance with Shoalhaven Water's "Levels of Service" document or the criticality of a job.
- 4.15 The Council vehicle may be used to travel short distances, for family or local sport reasons, but the employee must be able to respond when he receives a call-out.
- 4.16 The vehicle cannot be used for shopping etc.
- 4.17 No other person may travel in the vehicle due to insurance reasons, except in extenuating circumstances with prior approval of the Coordinator.
- 4.18 Employees shall not work in remote areas unless special safety arrangements are made between the Coordinator and the employee.
- 4.19 The On Call Operator will not work more than 5 hours continuous on any single job without contacting the duty Coordinator before the 5 hours is up.
 - 4.19.1 The On Call Operator will not have more than 2 jobs on at any one time.
 - 4.19.2 If the Call Centre continues to ring through with jobs to be attended to, the On Call Operator will contact the Duty Coordinator who will take over the receiving & issuing of jobs until the On Call Operator has caught up & has no work to attend to, at which time he will contact the Duty Coordinator and advise him of his availability.

Document Number: WWD004	Document Name: Northern Wastewater Distribution After Hours On Call Work	Responsible Group: Shoalhaven Water	Reference: SWMS1224
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4.20 The taking of a mandatory 10-hour break between shifts if appropriate will require the On Call Operator to contact the Call Centre at the completion of the last job that entitles him to a mandatory 10 hour break and request that the Call Centre Operator notify the Duty Coordinator at 6.00am the next morning that he will be taking the mandatory 10 hour break and where the keys to his truck can be found if the truck is needed that day. He will also advise of his time of return to work.

4.21 On call staff shall wear their Shoalhaven Water clothing and carry their ID card as identification for dealing with the public after hours.

4.22 At no time will any On Call Operator undertake any excavation work without the Duty Coordinators approval

5. PLANT AND EQUIPMENT REQUIRED

5.1 Personal Protective Equipment

6. QUALIFICATIONS AND TRAINING

6.1 All permanent employees on site shall have completed the following training:

6.1.1 WHS Construction (and General) Induction

6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety

6.1.3 Manual Handling

6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

6.4 Any employee operating plant or using equipment shall have had the appropriate training.

6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

- Confined Space Work
- WWD006 Motorised Sewerage Choke Clearing Machines
- WWD002 SECA High Pressure Sewer Clearing Machine

Document Number: WWD004	Document Name: Northern Wastewater Distribution After Hours On Call Work	Responsible Group: Shoalhaven Water	Reference: SWMS1224
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- WWD010 Operation of the Harben High Pressure Sewer Clearing Machine
- WWD003 SECA Project Muni High Pressure Sewer Clearing Machine

6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Policies and Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-'3' point technique – back out while exiting, check for uneven ground

Document Number: WWD004	Document Name: Northern Wastewater Distribution After Hours On Call Work	Responsible Group: Shoalhaven Water	Reference: SWMS1224
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where you can't see a firm surface e.g. long grass - Don't drive onto soft or slippery ground

Document Number: WWD004	Document Name: Northern Wastewater Distribution After Hours On Call Work	Responsible Group: Shoalhaven Water	Reference: SWMS1224
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MOTORISED SEWERAGE CHOKE CLEARING MACHINES

1. PURPOSE

- 1.1 To instruct staff in the safe operating of the motorised sewer choke clearing machine so as to eliminate or reduce the potential for injury.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

Unique Document Number: SWP WWD006	Document Name: Motorised Sewerage Choke Clearing Machines	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/191
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 1 of 4

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2 Before use check that all equipment on the choke clearing machine is in working order (equipment is safe to use).
- 5.3 Ensure all equipment on the work vehicle and sewerage choke machine trailer is properly stowed.
- 5.4 **Check:**
- 5.4.1 The tow hitch and safety chains are properly secured & all safety chains are adequately rated.
- 5.4.2 Turn indicators for proper function.
- 5.4.3 Work vehicle for complete First Aid kit being present.
- 5.4.5 No loose clothing, i.e. any loose clothing to be tucked into trousers.
- 5.5 During choke clearing work prevent public access to sewerage choke clearing work area – where required by barrier boards.
- 5.6 Check for **overhead electrical power** above work area. In the case of an unforeseen rod ejection from the manhole – stop rod rotation by throwing the drive clutch out, or stopping the machine engine (if this can be done safely).
- 5.7 Ensure adequate lighting for working at night.
- 5.8 At all times endeavour to clear the choke area:-
- 5.8.1 From the upstream side.
- 5.8.2 By using the small auger to free choke and relieve pressure
- 5.8.3 By using **no more than six rods** connected from the machine to the manhole in use.

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5.8.4 By handling rotating rods sleeved with polyethylene tubing supplied.

5.9 Under No Circumstances

5.9.1 Use **large** auger to clear a choke from the downstream side.

5.9.2 Are gloved hands to be brought into direct contact with rotating clearance rods.

NOTE: Use safety bar supplied for removal of stationary rods

5.10 If any doubt about a safety aspect of a sewerage choke clearance exists – **contact the co-ordinator immediately.**

5.11 Report any defects in equipment to the Coordinator, and tag if in dangerous condition.

5.12 Stow all equipment properly before leaving site

5.13 Turn fuel off on motor and ensure nothing is left in the work area that could present a safety hazard to others.

5.14 In the event of an incident advise the relevant Coordinator or administration switchboard of:

5.14.1 Person injured.

5.14.2 Nature of injury.

5.14.3 Location of work area.

5.14.4 Work **with** any support service eg. Ambulance to assist in evacuation of injured.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

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7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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MANUAL LIFTING OF SEWER MANHOLE LID (LIGHT DUTY LID NOT EXCEEDING 75 KG)

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to assist in the safe manual removal of sewer manhole lids – light duty not exceeding 75kg

2. OBJECTIVE

- 2.1 To ensure continued health and safety of Shoalhaven City Council employees whilst lifting manhole lids not exceeding 75 kg (light duty).
- 2.2 To ensure work teams are familiar with operational requirements and have resources and training for lifting all types of manhole lids.
- 2.3 To ensure work teams use correct manual handling techniques for lifting manhole lids to eliminate the risk of injury.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 TCP: Traffic Control Plan
- 3.5 Lifter: Manual manhole lid lifting device designed by the Shoalhaven Water Group

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 All Shoalhaven Water personnel involved in manual lid lifting operation must have completed “Back Care Manual Handling” training. The training must be up to date and employees should attend a refresher course every 3 years after initial training.
- 4.3 **Manhole lids with weight not exceeding 75kg (light duty) should generally be lifted as a 2 person lift except for situations described under item (4.7) below.**

Document Number: WWD009	Document Name: Manual Lifting of Sewer Manhole Lid (Light Duty Lid Not Exceeding 75 kg)	Responsible Group: Shoalhaven Water	Reference: 18446E SWMS782
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4.4 Centre lift manholes should only be lifted using the Centre-to-Side Lifter

Operation of Centre-to-Side Lifter

- 4.4.1 Place Lifter on lid with main body facing in preferred direction of lift
- 4.4.2 Locate Lifting lug into centre lifting slot turning it 90 degrees once it drops in place.
- 4.4.3 Tighten locking nut ensuring that lifting lug remains 90 degrees to slot
- 4.4.4 Fix lifting handles to both sides of Lifter Body for 2 person lift or to the required side of lifter body for single person lift.
- 4.4.5 Using correct manual handling techniques, lift lid

Note: Do Not hold your breath when lifting.

- a) For single person lift drag lid towards yourself **ensuring that it is free of the surround after the initial lift**
- b) For two person lift, lift the lid up together and move to the side resting the lid on the lid surround.
- c) For both single and two person lifts, reposition yourself to be able to move the lid clear of the manhole.

- 4.4.6 Persons doing a 2 person lift should be careful not to swivel or reach away from their bodies.
- 4.4.7 Secure manhole opening as appropriate (grate, barricades)
- 4.4.7 To replace lid for single person lift fix handle to opposite end of Lifter body
- 4.4.8 Lift or drag manhole lid back into position in stages as per removal.
- 4.4.9 Loosen centre lug locking nut and remove Manhole Lifter

4.5 Side lift manhole lids should only be lifted using the attachment on the Centre-to-Side Lifter or with a Lid Lifter with the following details:-

- 4.5.1 Lengths of horizontal bar - 915mm
- 4.5.2 Diameter of horizontal bar - 33mm outer diameter pipe
- 4.5.3 Material of horizontal bar - Galvanised iron pipe
- 4.5.4 Height of lid lifter – 570 mm (minimum) 680mm (maximum)
- 4.5.5 Diameter of lid lifter - 12mm
- 4.5.6 Material of lid lifter - stainless steel rod
- 4.5.7 Lid lifter key shall be compatible to all types of side lift manhole lids
- 4.5.8 The lid lifter shall be certified by Engineer for lifting light duty manhole lids not exceeding 75 kg.

4.6 If height disparity becomes a major concern for carrying out 2 person lift of manhole lid, a specially made lid lifter (already supplied to work crew) with an eye hole at the top of the lid lifter in conjunction with a non slip horizontal bar shall be used to lift manhole lid.

4.7 Manhole lids should generally be lifted as a two man lift, per item 4.3, if for any reasons (eg on call situation, limited space around the manhole etc.) lifting has to be carried out as one person lift, no more than 8 lifts (4 manhole lids) shall be lifted by a person followed by a compulsory 10 minutes break.

4.8 Concrete manhole lids shall be replaced by plastic or steel lids (subject to load considerations) where 2 person lid lifting operation becomes impossible due to the

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condition of terrain or the space restriction around the manhole. Employees identifying this condition in the field must report the matter to the relevant Coordinator who will take appropriate action to implement the replacement of the lid.

- 4.9 Manhole lids exceeding 75 kg (Heavy Duty lid) **shall not be lifted manually**. Heavy-duty lid shall be lifted by crane or other lifting devices only by using short handled gatic lifting key for both types of lids (centre lift and side lift).
- 4.10 All manhole lid lifting lugs / points must be inspected prior to any lift being carried out to determine their serviceability and condition. All defects to be reported to the relevant Coordinator as soon as possible.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Lifting devices per 4.4 and 4.5

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS Induction
 - 6.1.3 Manual Handling
 - 6.1.4 Using Sewer Manhole Lifting Device**
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff required to use the pit lid lifter shall have completed the training for the pit lid lifter.
- 6.5 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - 6.5.1 Confined Space Work
 - 6.5.2 Asbestos Awareness
- 6.6 Training details are located in TRAAD System and/or Supervisor Training Plans.

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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven Water WHS Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1. Machinery Guarding Procedure
 - 7.4.2 Manual Task Guidelines
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	RISK RANKING	CONTROL MEASURES
2. Manual Handling - Height disparity when carrying out two person lift	Permanent Disability Sprains or Strains	H	- Use specially made lid lifter with an eye hole at the top in conjunction with a non-slip horizontal bar
2. Manual Handling - One person lift when two person recommended	Permanent Disability Sprains or Strains	H	- No more than 8 lifts (4 manhole lids) shall be lifted by a person followed by a compulsory 10 minute break - Do not hold breath when lifting

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2. Manual Handling - Two person lift no longer possible due to terrain or space restrictions	Permanent Disability Sprains or Strains	H	<ul style="list-style-type: none"> - Concrete manhole lids shall be replaced with plastic or steel lids (subject to load considerations) - Employees identifying this condition in the field must report the matter to the relevant Coordinator who will take appropriate action to implement the replacement of the lid - Do not hold breath when lifting
2. Manual Handling - Manhole lid exceeding 75 kg	Permanent Disability Sprains or Strains	H	<ul style="list-style-type: none"> - Shall NOT be lifted manually - Lifted by crane or other lifting devices only by using short handled gatic lifting key for both types of lids
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	L	<ul style="list-style-type: none"> - '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	M	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	E	<ul style="list-style-type: none"> - Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	H	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment - Do not swivel or lift weight away from body - Do not hold breath when lifting
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	L	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

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<p>3. Heat - Excessive exposure to UV</p>	<p>Sunburn Skin cancer Heat exhaustion</p>	<p>L</p>	<p>- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)</p>
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Harben High Pressure Sewer Clearing Machine

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. PURPOSE

2.1 To instruct staff in the safe operating of the Harben High Pressure Sewer Clearing Machine so as to eliminate or reduce the potential for injury.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 TCP: Traffic Control Plan

4. PROCEDURE

4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

4.2 Basic Safety Rules

- 4.2.1 Always wear the correct PPE (boots, eyewear, gloves, hearing protection, safety vests)
- 4.2.2 Always ensure all equipment is in good working condition
- 4.2.3 Never work on unstable ground
- 4.2.4 Never use the gun attachment with the trigger locked on
- 4.2.5 Never point the gun at anyone, even if switched off
- 4.2.6 Never change fittings on gun or hose unless machine is switched off
- 4.2.7 Safety glasses to be worn at all times when using gun attachment
- 4.2.8 Hearing protection to be worn whenever machine is operating
- 4.2.9 Hand signals to be agreed upon before operating machine

4.3 Signs indicating the following should be displayed at all times whilst operating jetting unit:

DANGER: HIGH PRESSURE WATER JETTING EQUIPMENT IS IN USE

4.4 Check oil, water (Radiator) and fuel.

Note: Refer to plant manual for all levels and bleed point information and procedures

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- 4.5 Connect water tank filler hose to suitable water source and run for a short period to clear line of any sediment before filling water tank (Especially when using a Hydrant). Feed pressure hose through the “Tiger Tail” hose protector.
- 4.6 Select nozzle or cutter required and attach to pressure hose. Small Penetrator nozzle to be used initially on all chokes to relieve build-up prior to using the cutter attachment.
- 4.7 Insert nozzle or cutter into pipe until orange part of hose is completely inside pipe.
Note: Tiger tail hose protector (or equivalent) to be used at all times
- 4.8 Always operate machine from the downstream manhole back up the main whether line washing or clearing chokes (where possible).
Note: If the pressure pump attendant and hose attendant cannot make visual contact with each other, two-way radio headsets, mobile phones or a third man should be used.
- 4.9 Do not start motor unless the cutter is completely inside the pipe and the High Pressure selector is in the recycle (**dump**) position otherwise severe injury or death could occur – run at pressure required:
Note: Do not exceed 3500 P.S.I. (or 2000 PSI when operating the root cutter)
- 4.10 When cutter reaches a blockage (this will be indicated when the cutter stops moving up the line) gently pull the hose back and forward until choke is cleared.
- 4.11 If pressure hose begins to twist, stop unit immediately by lowering revs to tick-over speed, move High Pressure Selector to **dump** position and turn off ignition as both the cutter and hose could be damaged.
- 4.12 Try to avoid cutter entering next manhole.
- 4.13 Grease cutter after each use.
- 4.14 Safety glasses should be worn when clearing boundary traps.
Note: Pressure hose winch is not to be used to remove cutter from pipeline. It is only to assist in rolling the hose onto the reel. Hose should always be under pressure when coiled back onto reel.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment – boots, eyewear, gloves, hearing protection, safety vests
- 5.1 Harben High Pressure Sewer Clearing Machine
- 5.2 Signs

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6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Policies and Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
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8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine operation - High Pressure Water Injury	Soft tissue injury Infection Death Blindness Puncture Wounds Infection	- Always wear the correct PPE (boots, eyewear, gloves, safety vests) - Never use the gun attachment with the trigger locked on - Never point the gun at anyone, even if switched off - Never change fittings on gun or hose unless machine is switched off - Safety glasses to be worn at all times when using gun attachment and when clearing boundary traps - Do not start motor or open stop valve unless the cutter is completely inside the pipe
4. Exposure to noise	Hearing loss	- Hearing protection to be worn whenever machine is operating - Hand signals to be agreed upon before operating machine
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

LIFTING GATIC COVERS USING TROLLEY GATIC LIFTER

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1 To instruct in the correct method of removing and replacing the Gatic lids using the Gatic lid trolley.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 TCP: Traffic Control Plan
- 3.5 VMP: Vehicle Movement Plan

4. PROCEDURES

4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

4.2 Check Gatic lifter for damage or corrosion.

4.3 Lay unit down with lever arm uppermost and remove the locking pin. Unfold lid lifter.

NOTE: If the pneumatic tyres are fitted, ensure the tyre pressures are between 245 and 280 kPa (35-40 psi).

4.4 Make sure extension locking pins are securely in place.

4.5 All manhole lid lifting lugs /points must be inspected prior to any lift being carried out to determine their serviceability and condition.

4.6 Prior to the commencement of lift, all manhole lids should be tapped around the perimeter of the lid to help loosen/break the seal that may have formed due to debris build-up or the formation of rust.

4.7 Engage Gatic lifter lugs into Gatic lid & turn at right angles to slots.

Document Number: WWD016	Document Name: Lifting Gatic Covers Using Trolley Gatic Lifter	Responsible Group: Shoalhaven Water	Reference: SWMS1164
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- 4.8 Tighten lug nuts to break the seal so that the lugs can't work loose.
- 4.9 Apply downward pressure to handle of Gatic lifter until lid lifts free. (If lid is hot from sun exposure, it may be necessary to cool lid with water in order to free lid).
- 4.10 Pull backwards on Gatic lifter, while maintaining downward pressure, to slide lid out of seat.
- 4.11 The weight of the lid should be slowly taken up without any sudden or jerky movements.
- 4.12 If the lid fails to move at this point – with the lifter experiencing little or no strain – mechanical devices should be used to complete the lift.
- 4.13 Once the manhole lid has been removed, grating or barricades/fencing should be placed over or around the opening prior to any work commencing unless staff are using the appropriate fall arrest/restraining equipment.
- 4.14 When replacing lid, check that the securing lugs have not rotated in slots & check that nuts are still tight.
- 4.15 Apply downward pressure to lifter handle to lift lid, & push forward until lid sits in guides of seat.
- 4.16 Push lid along guides until only a small gap remains. Disconnect lifter lugs from Gatic lid.
- 4.17 Firmly tap the lid with the trolley wheels to seat lid.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Trolley Gatic Lifter

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

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- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

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9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual handling – lift heavy lid	Back strain	- Steps in the procedure (Section 4) outline manual handling techniques which must be applied to avoid injury. - If the lift cannot be completed with a minimum of strain after applying these techniques, a mechanical lifting device must be used
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-‘3’ point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer’s recommendations and other safety procedures - Check Gatic lifter for damage or corrosion
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer’s recommendations
3. Heat - Hot lid	Burn	- If lid is hot from sun exposure, it may be necessary to cool lid with water in order to free lid

Waste Water Headworks

WWH

WORKING AROUND OPEN WASTEWATER PUMPING STATION WET WELLS AND PITS

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1 To ensure the health and safety of Shoalhaven Water staff and associated workers when working around Wastewater Pumping Station Wet Wells and Pits.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 All employees together on-site (Minimum of two staff, except if approved safety grating or mesh is in place to ensure no access) must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 All Pumping Station electrical cabinet doors are to be closed when not accessing the pump controls.
- 4.4 All Pumping Station lids to be flat on the ground or locked in place to prevent wind blowing them shut.
- 4.5 All vehicle engines should be switched off while vehicles are in close proximity to open wells or pits.
- 4.6 All tools and equipment should be kept away from Open Pumping Stations and pits so as not to create a trip hazard.

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- 4.7 When working around and over an open Pumping Station or pit not fitted with protective grating (e.g. hosing, adjusting or cleaning probes or control floats), a rescue harness should be worn and securely fastened to a rated anchor point or like object (Vent Stack until rated anchor points are in place) to prevent falling into the open well or pit.
- 4.8 Under no circumstances should any person take a short cut around open wells or pits by stepping or jumping over the open wells or pits.
- 4.9 All persons not engaged in any work around open wells or pits should be kept at least 1.0 metre clear until all lids have been closed and locked.
- 4.10 All electrical power outlets and light switches should be kept serviceable at all times.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Rescue harness
- 5.3 Lid lifter as appropriate to task

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

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6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

- Confined Space Work

6.9 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

7.1 WHS Act 2011

7.2 WHS Regulation 2011

7.3 Shoalhaven City Council Policies and Procedures

7.3 Corporate WHS Procedures

7.3.1 Working at Heights

7.3.2 Manual Task Guidelines

7.4 Shoalhaven Water WHS Procedures

7.5 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

8.1 Managers are to ensure there is a safe system of work.

8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

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9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
Fall from height into water	Serious Injury Drowning	- Under no circumstances should any person take a short cut around open wells or pits by stepping or jumping over the open wells or pits. - All persons not engaged in any work around open wells or pits should be kept at least 1.0 metre clear until all lids have been closed and locked
Exposure to airborne contaminants	Asphyxiation Respiratory distress	- All vehicle engines should be switched off while vehicles are in close proximity to wells or pits
Wind blown doors	Bruises Injuries – bruises, broken bones	- Electrical cabinet doors are to be secured when open to prevent wind blowing them shut
Wind blown lids	Injuries – bruises, broken bones	- All Pumping Station lids to be flat on the ground or locked in place to prevent wind blowing them shut
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment Electrocution	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures - All electrical power outlets and light switches should be kept serviceable at all times
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep Hydrated (Drink water and take salt tablets as required)

Wet/Dry Well Pumping Station Cleaning

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To ensure the health and safety of Shoalhaven Water staff and associated workers while cleaning wet and dry well pumping stations.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. RPD: Rope Positioning Device
- 3.6. VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Fill in the Confined Spaces Permit to enter.
- 4.4 All appropriate Personal Protective Equipment and required safety equipment must be used for this task.
- 4.4.1 The person entering the confined space (wet /dry well) must at all time wear an approved rescue harness attached to a shock absorber lanyard and an RPD device. The RPD is then attached to an approved anchorage point (rhino Hook on a crane or the like).
 - 4.4.2 The safety equipment for this task will include but not be limited to signage, crane, and fall arrest equipment as well as safety line anchor points.
 - 4.4.3 Continued use of required PPE and safety equipment whilst entering, working in, and exiting pumping stations is mandatory.
- 4.5 Gas detect around all lids prior to opening:
- 4.5.1 All open lids are to be either laid flat on the ground or locked open to prevent them being accidentally knocked closed or the wind blowing them closed

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- 4.5.2 Continue gas detection until all work in the confined space has been completed.
- 4.6 Establish & maintain a safe atmosphere whilst entering / leaving and working in the confined space.
NOTE: Forced ventilation is mandatory while all work is being carried out in the confined space
- 4.7 Pump well down to the lowest possible level.
- 4.8 Close all inlet isolating valves and isolate all pump electrical controls whilst carrying out work.
NOTE: Ensure DO NOT OPERATE tags are attached to all isolated electrical equipment
- 4.9 While entering or leaving a wet / dry well the fall arrester safety equipment must be used.
- 4.10 At all times while the operator is inside the well the stand by operator must:
- 4.10.1 Wear an approved rescue harness with a line attached to an approved anchor point or stay behind any safety railing to prevent them falling into the well
 - 4.10.2 Have line of sight wherever possible with the operator inside the well.
 - 4.10.3 Have communication at all times ie a set of hand, rope or whistle signals in place prior to the operator entering the well, if it is possible that voice communication will be difficult to maintain.
 - 4.10.4 Have all slack taken up on any RPD ropes, lines, cable or leads at all times
- 4.11 The Operator should be standing on the access ladder at all times while the pumps are being operated in manual mode. (Automatic mode should not be used while the operator is in the well).
- 4.12 The pumps must not be run for any period longer than is essential while the operator is in the well.
- 4.13 The pumps must not be run while the operator is standing beside them.
- 4.14 Work on and around the floors of wells must be carried out with the fall arrester attached; the operator inside the well must be wearing approved footwear, the soles of which must be in good condition. Hand holds to prevent slipping and/or falling must be used where appropriate.
- 4.15 After the operator has left the well, open all flow isolating valves, remove all isolating tags and return the pumps to automatic mode before leaving the site.
- 4.16 Sign off the Confined Spaces Permit to Enter.
- 4.17 Ensure that at all times if additional personnel come onto the site to work, they sign onto the Confined Spaces Permit to Enter and then sign off before leaving the worksite.

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Confined Spaces Bag
- 5.3. Gas Detector and Sensitivity Test Kit
- 5.4. RPD plus attachment point
- 5.5. Pump

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011

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- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Confined Space Procedure
 - 7.4.2. Manual Tasks Guideline
 - 7.4.3. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
8. Confined Space - Asphyxiation	Death Loss of consciousness	<ul style="list-style-type: none"> - Complete confined space entry permit - Reference should be made to S2 OHS 7 "Confined Space Work" procedures, located in Section 2 of the Corporate OH&S Manual - Use gas testing equipment - No equipment capable of generating noxious gas in the work area - Ventilate confined space - Wear safety harness and fall arrestor
12. Machine Operation - Lids inadvertently falling, blowing closed Trip/fall hazard	Muscle sprain Cuts and abrasions Broken bones Concussion Serious injury Death	<ul style="list-style-type: none"> - All lids are to be either laid flat on the ground or locked open to prevent them being knocked closed or the wind blowing them closed

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Slippery surfaces - Uneven footing - Water level remaining in well	Muscle sprains (limbs or torso) Broken bones Cuts and abrasions Serious injury Death	- Work on or around the floors of wells must be carried out with the fall arrestor attached - The operator inside the well must be wearing approved footwear, the soles of which must be in good condition - Hand holds to prevent slipping and or falling must be used where appropriate
12. Machine Operation - Unplanned pump starts	Serious Injury Death	- Ensure DO NOT OPERATE tags are attached to all isolated electrical equipment
12. Machine Operation - Engulfment by contaminants	Serious injury Death	- Isolate potential inflow - Pump the well down to its lowest possible level - Monitor level of well and leave if level cannot be appropriately maintained
4. Exposure to noise	Hearing loss	- Operator should be standing on the access ladder at all times while the pumps are being operated - Pumps must not be run for any period longer than is essential while the operator is in the well - Pumps must not be run while the operator is standing beside them
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

USE OF THE R.P.Z. ON PUMP TRUCKS

- BACKFLOW PREVENTION DEVICE

1. PURPOSE

- 1.1 Compliance with plumbing regulations to prevent backflow of contaminated water into the town water supply pipelines through the correct use of the R.P.Z. Backflow Prevention Device when hosing pumping stations.

2. SCOPE

This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1 WHS Act 2011
- 3.2 WHS Regulation 2011
- 3.3 Shoalhaven City Council Policies and Procedures
- 3.4 Corporate WHS Policies and Procedures
- 3.5 Shoalhaven Water WHS Policies and Procedures
- 3.6 WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. For the proper operation of the R.P.Z. device, consult the operator/safety manual. For more information in regards to **back flow prevention** contact Keith Foley (Backflow Prevention Officer) on:
 - Office (02) 4429 3518
 - Mobile 0402 126 057
- 5.4. Considerations have been implemented when you mount the R.P.Z device. Some of them are as follows.
 - 5.2.1 Room on the vehicle
 - 5.2.2 Where to mount
 - 5.2.3 Accessibility
 - 5.2.4 Device size, e.g. 20 mm, 25 mm etc.
- 5.5. **Mounting R.P.Z.**
 - 5.5.1 The device is secured to the tray floor of your vehicle, and should not interfere with the general work area of the truck.
 - 5.5.2 Mounting is done by using the instruction manual provided and direction arrow on the device as a guide.
 - 5.5.3 The arrow is indicative of the flow direction, so be aware of which is the inlet/outlet side.
 - 5.5.4 Brass/copper fittings are recommended with tray mounted water pressure pump(s), in series.

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Note: The vehicle can be mounted with the R.P.Z. device on its own. It's recommended that a water pressure pump be mounted on your vehicle as water pressure varies from area to area.

5.6 Using R.P.Z.

5.6.1 At work place, park vehicle as close as practical to a tap.

5.6.2 Uncoil hose from the inlet side of the R.P.Z. device, then connect to tap.

5.6.3 The electrical cable for the water pressure pump, if fitted, is then plugged into the available power supply.

5.6.4 The hose with the nozzle (which is connected to the outlet of the water pressure pump) is also uncoiled.

5.6.5 The hose with the nozzle is then pointed away from the body (or at the item in which you intent to use it on).

5.6.6 The tap is then turned on, to its maximum.

5.6.7 The switch for the power supply is turned on, if water pressure pump fitted.

5.6.8 Water is then immediately utilised.

5.6.9 To pack the above equipment up, reverse the shown steps, remembering that opposites apply.

NOTE: Under no circumstances is the R.P.Z. device to be by-passed, regardless of job deadlines etc.

NOTE: Steps 4.6.3 and 4.6.7 only apply if your vehicle is fitted with a water pressure pump.

5.7 Servicing of R.P.Z Device

5.7.1 The R.P.Z device should be serviced by a qualified person(s) when repairs are required or on a yearly basis, (anniversary of the R.P.Z device's installation). Any further complications that may arise, do not hesitate to contact your Coordinator, or the back flow prevention officer on the above number.

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6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

7.1 Nil

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinators are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH011	Document Name: Use of the R.P.Z. on Pump Trucks	Responsible Section:	TRIM Reference: 18446E PRD12/217
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 4 of 4

WASTEWATER SLUDGE/BIOSOLIDS MANAGEMENT

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the procedure for testing and disposal of Wastewater Sludge / Biosolids produced at Shoalhaven Water’s STP’s in safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 DEC: Department of Environment and Conservation
- 3.5 TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Isolate all full Wastewater Sludge Lagoons to prevent further filling for a period of at least 6 months.
- 4.4 After a period of at least 6 months the sludge is dewatered either by running onto drying beds or spun through a Centrifuge.
- 4.5 During drying, representative sample(s) of the dewatered sludge are sent to a NATA accredited Laboratory for testing. All sampling and Testing is carried out in accordance with DEC Guidelines for the “Use and Disposal of Biosolids Products”.
- 4.6 Test results are forwarded to an accredited consultant for classifying. An accredited consultant is engaged to select and prepare suitable sites for the reuse of all-suitable for reuse Biosolids.
- 4.7 Arrangements are made for the Biosolids to be transported to the selected and prepared sites for incorporation into the selected site soil.

Document Number: WWH012	Document Name: Wastewater Sludge / Biosolids Management	Responsible Group: Shoalhaven Water	Reference: SWMS1148
Adopted: 02.06.05	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 5
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- 4.8 All Transporting trucks are issued with the SWMS WWH013 ‘Loading and Transporting of Wastewater Sludge/Biosolids’ prior to transporting any Biosolids.
- 4.9 If the Biosolids are determined by an accredited consultant as unsuitable for reuse then they are to be disposed of at the **West Nowra Recycling and Waste Landfill** site.
- 4.10 The **West Nowra Recycling and Waste Landfill** site is to be informed at least 24 hours prior to the commencement of transporting to their site of any unsuitable for reuse Biosolids.
- 4.11 Councils Waste Management Group are to be provided with a copy of the following information regarding any Biosolids that are transported to their site.
 - Analytical Test Results
 - Classification Results (by accredited consultant)
 - Comparison of analytical test results with the contaminant thresholds in the NSW Waste Classification Guidelines (DECC, 2009)

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven’t been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work

Document Number: WWH012	Document Name: Wastewater Sludge / Biosolids Management	Responsible Group: Shoalhaven Water	Reference: SWMS1148
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6.8 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Policies and Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guideline
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes
- 7.7 EPA Guidelines for the Use And Disposal Of Biosolids Products.

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
14. Biological/Chemical - Sludge/Biosolids	Infection or illness	- Strict personal hygiene, including wearing gloves and washing hands before eating or drinking - Strict worksite hygiene
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations

LOADING AND TRANSPORTING OF WASTEWATER SLUDGE / BIOSOLIDS

1. INTRODUCTION

- 1.1 This Safe Work Method Statement addresses the loading and transporting of Wastewater Sludge / Biosolids produced at Shoalhaven Water's STP's.
- 1.2 This Safe Work Method Statement advises you of your responsibilities when you are engaged in the transportation of Biosolids between Wastewater treatment Plants or from Wastewater Treatment Plants to Councils waste depots (Tips) or to areas for beneficial reuse.

2. OBJECTIVE

- 2.1 To instruct in the method of loading and transporting of Wastewater Sludge / Biosolids produced at Shoalhaven Water's STP's in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 STP: Sewerage Treatment Plant
- 3.5 TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 *All truck drivers must report to the STP Operator before proceeding into the plant and commencing work.*
- 4.4 *All Truck Drivers must sign a copy of the "Transportation of Biosolids in Trucks" in Appendix A to show they understand the requirements to transport Biosolids.*
- 4.5 The Trucks must have a watertight seal tailgate.
- 4.6 The Trucks must be fitted with a grain lock on the tailgate or similar mechanism
- 4.7 The Trucks must have a full tarpaulin cover over the Biosolids.

Document Number: WWH013	Document Name: Loading and Transporting of Wastewater Sludge/Biosolids	Responsible Group: Shoalhaven Water	Reference: SWMS864
Adopted: 02.06.05	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 6
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- 4.8 The Trucks must be hosed down before leaving the Treatment Plant to prevent the depositing of Biosolids onto Public Streets.
- 4.9 The Trucks should be hosed off before leaving the approved tipping site to prevent the depositing of Biosolids onto Public Streets.
- 4.10 In the event of a vehicle accident involving a truck transporting Biosolids the following actions should be followed:
1. Notify emergency services, if necessary;
 2. Contact the person in charge (Northern Wastewater Headworks Coordinator on 0411 404 734 or Central Wastewater Headworks Coordinator on 0419 201 435) if a Biosolids spill has occurred and the Shoalhaven Waters Biosolids Spillage Management Plan will be implemented.
- 4.11 In the event of a Biosolids spill during Transport the following actions should be taken:
1. Notify surrounding traffic of danger & control as required, hazard lights must be used to warn traffic;
 2. Contact the person in charge (Northern Wastewater Headworks Coordinator on 0411 404 734 or Central Wastewater Headworks Coordinator on 0419 201 435); the Shoalhaven Waters Biosolids Spillage Management Plan will be implemented
 3. Ensure the safety of the area; Clear area of bystanders.
- 4.12 While you are transporting Biosolids drivers must adhere to strict personnel hygiene at all times, by way of wearing gloves while operating the tailgate mechanism and hosing the Truck down of any Biosolids that may have been spilt onto the vehicle during loading or be caught in the tread of the tyres.
- 4.13 It is essential that hands are washed before eating or smoking.
- 4.14 The Biosolids being transported` must not be taken to any other location than the approved disposal site at the time of engagement.
- 4.15 A copy of the classification of Biosolids that are being transporting is available if required.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Watertight Seal Tailgate
- 5.3 Full Tarpaulin Cover
- 5.4 Gloves

6. QUALIFICATIONS AND TRAINING

Document Number: WWH013	Document Name: Loading and Transporting of Wastewater Sludge/Biosolids	Responsible Group: Shoalhaven Water	Reference: SWMS864
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- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Policies and Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guidelines
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

Document Number: WWH013	Document Name: Loading and Transporting of Wastewater Sludge/Biosolids	Responsible Group: Shoalhaven Water	Reference: SWMS864
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8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
14. Biological - Biosolids	Infection or illness	- Strict personal hygiene, including wearing gloves when operating tail gates and washing hands before eating / drinking or smoking - Hose truck down before leaving the Treatment Plant and before leaving tipping site to prevent the depositing of Biosolids onto Public Streets
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

Document Number: WWH013	Document Name: Loading and Transporting of Wastewater Sludge/Biosolids	Responsible Group: Shoalhaven Water	Reference: SWMS864
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Appendix A

Shoalhaven Water

TO: All Truck Drivers

FROM: S.Glennan – Wastewater Headworks Coordinator

SUBJECT: Transportation Of Biosolids In Trucks

DATE: 22nd May, 2008

FILE: **CONTACT:** S.Glennan - 44211704
0411404734

This Memo is to advise you of your responsibilities when you are engaged in the transportation of Biosolids between Wastewater treatment Plants or from Wastewater Treatment Plants to Councils waste depots (Tips) as well as from Wastewater Treatment Plants to farmland for reuse.

The following procedure is to be adhered to at all times: -

- The Trucks must have a watertight seal tailgate.
- The Trucks must be fitted with a grain lock on the tailgate or similar mechanism
- The Trucks must have a full tarpaulin cover over the Biosolids.
- The Trucks must be hosed down before leaving the Treatment Plant to prevent the depositing of Biosolids onto Public Streets.
- The Trucks should be hosed off before leaving the approved tipping site to prevent the depositing of Biosolids onto Public Streets.
- While you are transporting Biosolids you must adhere to strict personnel hygiene at all times, by way of wearing gloves while operating the tailgate mechanism and hosing the Truck down of any Biosolids that may have been spilt onto the vehicle during loading or be caught in the tread of the tyres.
- It is essential that you wash your hands before eating or smoking.
- The Biosolids being transported must not be taken to any other location than the approved disposal site at the time of engagement.
- In the event of a vehicle accident involving a truck transporting Biosolids the following actions should be followed
 3. Notify emergency services, if necessary
 4. Contact the person in charge (Steve Glennan 0411404734) if a Biosolids spill has occurred & the Shoalhaven Waters Biosolids Spillage Management Plan will be implemented
- In the event of a Biosolids spill during Transport the following actions should be taken
 4. Notify surrounding traffic of danger & control as required, hazard lights must be used to warn traffic
 5. Contact the person in charge (Steve Glennan 0411404734), the Shoalhaven Waters Biosolids Spillage Management Plan will be implemented
 6. Ensure the safety of the area; Clear area of bystanders

A copy of the classification of the Biosolids that you are transporting is available if required.

S.Glennan

Wastewater Headworks Coordinator

Drivers Name _____, Signature _____, Date _____

Document Number: WWH013	Document Name: Loading and Transporting of Wastewater Sludge/Biosolids	Responsible Group: Shoalhaven Water	Reference: SWMS864
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COLLECTING AND STORAGE ONSITE OF GRIT AND SCREENINGS SWP

1. PURPOSE

- 1.1. This Safe Work procedure addresses the collecting and disposal of grit and screenings, which is to be carried out at least twice per day (a.m. & p.m. on normal working days)

2. SCOPE

- 2.1. [Click & Type Information. Please use SWP styles for sub headings]

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Procedures
- 3.5. Shoalhaven Water WHS Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.

Unique Document Number: WWH014	Document Name: COLLECTING AND STORAGE ONSITE OF GRIT AND SCREENINGS SWP	Responsible Section: [Click & Type Section name]	TRIM Reference: 18446E PRD13/174
Adopted: 13/02/2008	Last Amended: 14/08/2013	Review Date: 14/08/2016	Version: 6 Page 1 of 3



- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Turn off the grit classifier at the local isolating switch.
- 5.4. Open the lid of the grit and screenings disposal pit and empty the contents of the collection wheelbarrow into the pit.
- 5.5. Hose clean the wheelbarrow and any spillage into the collection pit.
- 5.6. Shovel fill sand or other appropriate material on top of grit (150mm coverage at least).
- 5.7. Close lid of collection pit. (The pit lids must kept closed at all times to keep vermin out of pit)
- 5.8. Reposition the wheelbarrow under Grit Classifier emptying chute.
- 5.9. Turn on Grit Classifier local isolating switch back on and hose clean the area.
- 5.10. Turn off the Step Screen local isolating switch (this section is only for STP's that press dry the screenings, otherwise treat the screenings the same as the grit).
- 5.11. Remove the full Sulo bin of screenings from under the screenings disposal chute and store in an appropriate area in readiness for collection by the waste collection truck and replace it under the disposal chute with an empty bin.
- 5.12. Turn on the Step Screen isolating switch and hose clean the area.
- 5.13. Under no circumstances is a half full or full Sulo bin or the like to be wheeled over to the grit trench and the contents tipped into the trench or laid on its side and the screenings shovelled into the trench.
- 5.14. If there is no waste collection service available then wheel barrows are to be used as for the grit system.
- 5.15. For Plants with automatically raked screens or manually raked screens, a wheel barrow or motorised dump truck is to be used to deposit screenings into the trench.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

- 7.1. Nil

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1. The Operations Manager is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

Unique Document Number: WWH014	Document Name: COLLECTING AND STORAGE ONSITE OF GRIT AND SCREENINGS SWP	Responsible Section: [Click & Type Section name]	TRIM Reference: 18446E PRD13/174
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A Group of Shoalhaven City Council

Shoalhaven Water
Safe Work Procedure

WWH014
PRD13/174
COLLECTING AND
STORAGE ONSITE
OF GRIT AND
SCREENINGS
Page 3 of 3

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinators are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WHS System Management.

Unique Document Number: WWH014	Document Name: COLLECTING AND STORAGE ONSITE OF GRIT AND SCREENINGS SWP	Responsible Section: [Click & Type Section name]	TRIM Reference: 18446E PRD13/174
Adopted: 13/02/2008	Last Amended: 14/08/2013	Review Date: 14/08/2016	Version: 6 Page 3 of 3

BEACH INSPECTION AT EXFILTRATION SYSTEM - SUSSEX INLET ONLY

1. PURPOSE

- 1.1 To inspect, in a safe manner, Cudmirrah Beach and the surrounding area at the Exfiltration trench site for effluent discharge and carry out trench rotation on a monthly basis.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

Unique Document Number: SWP WWH015	Document Name: Beach Inspection at Exfiltration System – Sussex Inlet Only	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/203
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5. DESCRIPTION

- 5.1 Complete Operating Checklist for Gator All Terrain Vehicle. (Appendix A).
- 5.2 All employees involved in the procedure to complete a Site Specific Risk Assessment for the operation of the Gator All Terrain Vehicle, and for negotiating roadway to Cudmirrah Beach.
- 5.3 Drive to the Sussex Inlet Surf Club, where the trenches are located on the beach 200 metres south of the Club House (this procedure is to be carried out at least monthly). The access gate to the beach is located on the Northern Side of the Club House. Unlock the gate and drive through and relock the gate behind you.
- 5.4 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.5 The Site Specific Risk Assessment is to be completed at the start of the Task (at the Surf Club Carpark) with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.6 Drive to the end of the concrete ramp and onto the gravel beach access surface.
- 5.7 Push the switch on the dashboard to engage 4WD. Place gear lever in forward, high range (high range is usually sufficient to traverse the beach but in soft sand, or if vehicle struggles, then place the gear stick in low range and engage the differential lock if necessary).
- 5.8 Proceed towards the beach over the timber access frame. Once clear of the access frame, turn right (South) staying well clear of the high water level. **CAUTION:** Beware of bathers lying on the beach. Travel approximately 400metres and turn towards post at the end of the fence line behind 1st line of sand hills, where the inlet pit and the No1 PVC trench isolation valve riser pipe is located. Check valve status sheet; turn the three valves that are closed to open. Select three different valves and turn them off. Make a note of the valve status and enter into the Plant Diary at the STP.
- 5.9 There are 10 trenches in all; drive past the trenches ensuring that the PVC pipes all have their end caps in place which prevents the ingress of sand into the pipe. Check for signs of effluent surfacing and foliage growth over the exfiltration site (the exfiltration site is to be kept free of any foliage growth). Check the overflow pit located just past the last PVC pipe for any signs of overflowing of effluent.

Unique Document Number: SWP WWH015	Document Name: Beach Inspection at Exfiltration System – Sussex Inlet Only	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/203
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 2 of 3

- 5.10 All exfiltration defects are to be noted in the Plant daily diary as well as being attended to as a matter of urgency (all signs of effluent surfacing must be reported to the Central Wastewater Headwork’s Coordinator ASAP).
- 5.11 Once you have driven the full length of the trenches, turn around and head back along the way you came, staying in the same tyre tracks and return to the Surf Club gravel beach access surface.
- 5.12 Once on the gravel beach access surface, stop the vehicle, disengage 4WD and differential lock if used. Put gear lever in forward, high range, and then proceed to gate.
- 5.12 After exiting, ensure gate is locked, and that the padlock shaft is linked to the other padlocks on the gate.
- 5.13 Return to STP and wash Gator to remove sand and salt.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator’s are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH015	Document Name: Beach Inspection at Exfiltration System – Sussex Inlet Only	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/203
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PUMPING STATION TELEMETRY CHECK

1. PURPOSE

- 1.1. To check the integrity and performance of the pump stations Telemetry System under battery and 240 volt mains power in a safe manner.

2. SCOPE

- 2.1. This SWP provides guidance on general safety considerations to eliminate or reduce the potential for injury to employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1 WHS Act 2000
- 3.2 WHS Regulation 2001
- 3.3 Shoalhaven City Council Policies and Procedures
- 3.4 Corporate WHS Policies and Procedures
- 3.5 Shoalhaven Water WHS Policies and Procedures
- 3.6 WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
PS	Pump Station

5. DESCRIPTION

Unique Document Number: SWP WWH018	Document Name: Pumping Station Telemetry Check	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/218
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- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Make sure all OH&S procedures and PPE are used.
- 5.4. Disarm the PS intruder alarms on the Status Overview page from the plant Clear SCADA computer.
- 5.5. .
- 5.6. Click on Inhibit Call Outs on the Station Overview page.
- 5.7. Select the time for the alarms to be inhibited.
- 5.8.
- 5.9. At the Pump Station park the vehicle a safe close distance from work area for Harness and Retractable lanyard connection if using the Rhino hook on the crane as an anchor point. Refer to WWH006 Use of Cranes as Personnel Attachment Points for Confined Space Entry. The method described is also used for working over water.
- 5.10. Open control cabinet.
- 5.11. Check the pump well to see how full the pump station is.
- 5.12. Assuming the pump station does not require pumping down; shut the mains power switch off to the pump station. (This is to check not only the floats but also the Back up battery as well).
- 5.13. With the pump station lids open and secured, locate the Telemetry floats.
- 5.14. Find the Wet Well High float and raise the float to the surface.
- 5.15. Turn the float upside down. (This should engage the Mercury switch inside the float that will send the signal) and place in a position that will hold the switch in the on position

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- 5.16. Check with the plant operator that the signal is received at the STP computer & that alarm is received on the truck phone. If no signal is received, “there is a problem”.
- 5.17. Carry out the same procedure with the Wet Well Extra High and the Wet Well overflow floats. (All these floats dial out to the truck mobile phone & the Oncall phone after hours as well as Securenet monitoring after hours if the alarm is not acknowledged within two minutes of being activated. .
- 5.18. If any alarms are not received repeat this exercise.
- 5.19. This test should then be carried out in 240volt-powered mode.
- 5.20. Report transmission failures to Process Control 442293791 or 0466778712
- 5.21. After confirmation of alarms being received return all floats to well in reverse order (O/flow, Extra High, High)Close pump station and control cabinet.
- 5.22. Check that the work site is left in a safe condition.
- 5.23. At the completion of the Telemetry checks acknowledged all Alarms on the STP Clear SCADA Computer and Cancel Inhibits. (Please note no alarm can dial out for the selected time period. You must be able to view all new alarms on the Clear SCADA computer.)
- 5.24. This procedure should be carried out so the alarms can only be received at the plant.
- 5.25. Repeat at another nominated pump station, lifting one float switch to dial out to the truck mobile phone.
- 5.26. This procedure is to be repeated with the Treatment Plant alarm activated and the Call Centre notified to expect an alarm (this will prove the integrity of the complete system)

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

- 7.1 Nil

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8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Works & Services Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The **[Click & Type Position name]** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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RESETTING ALARM FAULTS IN MACHINERY ROOM CONTROL CABINETS AT VINCENTIA STP

1. PURPOSE

- 1.1 To eliminate confusion as to where, when and how of resetting alarm faults
- 1.2 To minimise or eliminate the potential for injury to employees and others who as part of their normal duties are required to reset alarms in machinery room control cabinets at Vincentia STP

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

Unique Document Number: SWP WWH021	Document Name: Resetting Alarm Faults in Machinery Room Control Cabinets at Vincentia STP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/167
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5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the beginning of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Enter machinery building control room at south western end of STP
- 5.4 Burglar alarm key pad is located on the left hand side as you enter
- 5.5 Push fault reset on cabinet displaying **red** fault light
- 5.6 Log on to Citec computer and push PLC RESET dialogue box on screen

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES Nil

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Central Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH021	Document Name: Resetting Alarm Faults in Machinery Room Control Cabinets at Vincentia STP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/167
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ENTERING THE REMS RECOVERY PUMPING STATION FOLLOWING A CARBON DIOXIDE DISCHARGE

1. INTRODUCTION.

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE.

2.1 To eliminate or reduce the potential for injury to employees and others following the discharge of the carbon dioxide gas system for fire fighting purposes at the REMS recovery pump stations.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 REMS: Reclaimed Water Management System
- 3.5 MSDS: Material Safety Data Sheet

4. PROCEDURE

WARNING: This Chemical is an asphyxiant and is considered a hazardous substance. Before carrying out the following procedure the operators should be familiar with the relevant MSDS and follow all safety precautions listed on the data sheet prior to any potential contact with the chemical.

NOTE: This procedure is designed as a precaution only. The supplier has confirmed that discharging a full carbon dioxide cylinder would only result in a 0.6% reduction in oxygen concentration in the REMS Recovery Pumping Station.

- 4.1 Any alarm condition will be detected via the telemetry system, which will alert the On Call Operator (after Hours) via the Council Call Centre, or the REMS attendant (during normal work hours) to the problem. The Coordinator will then be contacted who will initiate the following procedure:
- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change.

Document Number: WWH024	Document Name: Entering the REMS Recovery Pumping Station Following a Carbon Dioxide Discharge	Responsible Group: Shoalhaven Water	Reference: SWMS1152
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- 4.3 Three staff members are to attend any such incident (Usually the on call operator or the REMS attendant, the Coordinator and an electrician).
- 4.4 The operator is to conduct a Gas Detector Sensitivity Test, which confirms the gas detector is in good working order (results should be recorded in the logbook).
- 4.5 The gas detector should then be attached to the operator's belt before attempting to enter the pump station.
- 4.6 One hour should be allowed to pass prior to allowing the operator to enter the pump station. The second person is to act as an observer from adjacent to the entrance door.
- 4.7 The operator is to first open all doors to help ventilate the area before disabling the fire alarm siren & intruder alarm.
- 4.8 If at any time the gas detectors alarm sounds (Indicating a low oxygen level ie. Equivalent to less than 19.5%), the operator should immediately evacuate to fresh air.
- 4.9 Once the operator has established the atmosphere is safe the second person may enter the pump station. However, Carbon Dioxide is heavier than air and will tend to concentrate in low lying areas. Therefore prior to allowing entry to the pump well the operator should test the atmosphere by lowering the gas detector into the well via a rope.
- 4.10 All electrical cabinets need to be opened and allowed to ventilate for a short period prior to commencement of any work.
- 4.11 Walk to the fire indicator panel
- 4.12 Open the bottom door
- 4.13 Lift the flap on square yellow button and press (this will isolate the system)
- 4.14 Audible noise will commence
- 4.15 Get the attending Electrician to isolate the system
- 4.16 Once all work has been completed close all electrical cabinets, reset the intruder alarm and secure the doors.

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Gas Detector

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Confined Space Work
 - 6.1.5 Hazardous Substances/Users
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

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- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Corporate WHS Procedures
 - 7.3.1 Confined Space Procedure
 - 7.3.2 Hazardous Substances and Dangerous Goods Procedure
 - 7.3.3 Machinery Gaarding Procedure
- 7.4 Shoalhaven Water WHS Procedures
- 7.5 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular

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site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
8. Confined Space – Asphyxiation 7. Chemicals - Carbon Dioxide	Death or loss of consciousness	<ul style="list-style-type: none"> - Read MSDS and follow safety precautions - The operator is to conduct a Gas Detector Sensitivity Test, which confirms the gas detector is in good working order - The gas detector should then be attached to the operator’s belt before attempting to enter the pump station - If at any time the gas detectors alarm sounds (Indicating a low oxygen level i.e. Equivalent to less than 19.5%), the operator should immediately evacuate to fresh air - All electrical cabinets need to be opened and allowed to ventilate for a short period prior to commencement of any work
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer’s recommendations and other safety procedures

TRANSFERRING SEWER CONDITIONING AGENT (SCA) FROM TRUCK-MOUNTED BULKY CONTAINERS (1,000LITRES) TO PUMPING STATION ON-SITE STORAGE CONTAINERS.

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1 To instruct in the handling, transferring and storage of Sewer Conditioning Agent from 1,000 litres truck-mounted containers to pumping station on-site containers in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 SCA: Sewer Conditioning Agent
- 3.5 MSDS: Material Safety Data Sheet
- 3.6 TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed prior to the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 All SCA facilities shall be approved Sites
- 4.4 Employees who are involved in the handling of SCA Solution, or work in areas where SCA is used, shall have read and familiarised themselves with the current MSDS for the SCA.

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- 4.5 Prior to connecting or disconnecting SCA transfer hoses the following conditions must be met:
- 4.5.1 Two trained personnel must be present at all times.
 - 4.5.2 Open building door if applicable and ensure that the ventilation fan is operating if fitted. Use doorstops to prevent door slamming closed.
- 4.6 Ensure that all staff involved in the transfer operation is using appropriate PPE – safety goggles, gloves.
- 4.7 Ensure that the information from the MSDS listed below is available to all Staff
- Description of Main Properties
 - Description of Product & Packaging
- 4.8 Ensure that all emergency showers and eye wash facilities are operational before any work begins.
- 4.9 Ensure that all fire extinguishers are serviceable.
- 4.10 Ensure that wash down hose is serviceable.
- 4.11 Position truck with bulky containers as close as possible to the on-site storage tank.
- 4.12 Connect the transfer hose from truck mounted container to storage tank.
- 4.13 Open all appropriate valves.
- 4.14 Transfer the appropriate amount of SCA solution from the Mobile bulk containers to the On-site storage tank. Keep a close watch on the rate of filling of the on-site storage tank & cease filling operations when the tank has the required amount of SCA solution in it.
- 4.15 After the required amount of SCA Solution has been transferred into the on-site storage tank, shut the hose in line valves.
- 4.16 Disconnect the transfer hose from the mobile bulk tank first and open the hose inline valve closest to the tank and allow any residual SCA solution to empty into the on-site tank.
- 4.17 Connect the kamlock cap to the mobile bulk container outlet valve and flush the delivery hose with water from the wash down hose ensuring that all contaminated water is directed into the pump station.
- 4.18 Ensure that all equipment inside the area is washed down with the wash down hose and that all contaminated water is hosed into the pump station to allow for appropriate disposal.

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- 4.19 On completion of the last SCA transfer, half fill the mobile Bulky Container with potable water and place the delivery hose into the wet well, open the valve on the end of the delivery hose first and then open the outlet valve on the mobile bulky container and drain all the contents off bulky container into the wet well. Repeat this procedure again.
- 4.20 Drain out delivery hose and turn off all valves when the tank is empty.
- 4.21 Load all hoses and equipment onto truck, hose down truck with potable water & return mobile bulky container to the white Cat Depot.
- 4.22 In the event of Sewer Conditioning Agent coming into contact with exposed skin or a spillage over clothing or person, immediately wash off with copious quantities of potable water from an emergency shower / eye system or potable water hose.
- 4.23 After the site has been cleaned up, secured all staff can remove PPE worn during the transferring operation. All disposable PPE must be disposed of in the appropriate manner.

SEWER CONDITIONING AGENT LEAK PROCEDURE

- 4.24 All spills are to be handled in accordance with the Shoalhaven Waters EMERGENCY RESPONSE PLAN.
- 4.25 Two trained personnel must be present at all times in order to isolate an SCA Solution leak. At least one of these should not become involved in the operation and should remain on-site as the safety observer.
- 4.26 If the SCA leak is outside the bunded area and is of a minor nature appropriate action must be taken to contain the spill.
- 4.27 If the spill is of a substantial nature then the Coordinator will contact the appropriate emergency services unit via the triple O phone number.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Truck with mounted 1,000 litre container
- 5.3 Transfer hoses
- 5.4 Emergency showers/eyewash stations
- 5.5 Fire extinguisher
- 5.6 Wash down hose

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction

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- 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
- 6.1.3 Manual Handling
- 6.1.4 Hazardous Substances/Users

- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Task Guidelines
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Policies and Procedures
- 7.6 WorkCover regulations and codes

Document Number: WWH027	Document Name: Transferring Sewer Conditioning Agent from Truck-Mounted Bulky Containers (1,000LITRES) to Pumping Station On-site Storage Containers	Responsible Group: Shoalhaven Water	Reference: SWMS1160
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8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Sewer Conditioning Agent/Ferrous Chloride	Harmful if swallowed Risk of serious damage to eyes	- All SCA facilities shall be approved sites - Read MSDS and follow safety precautions - Open building door and/or ensure that the ventilation fan is operating - Ensure that all emergency showers and eye wash facilities are operational before any work begins - Remove all PPE and clean or dispose of properly
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

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TRANSFERRING SEWER CONDITIONING AGENT (SCA) FROM BULK ROAD TANKER TO ONSITE STORAGE TANKS (ST.GEORGES BASIN STP / BOMADERRY STP & SPS NO 20 KARANA DR NORTH NOWRA)

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1 To instruct in the Handling/Transferring and Storage of SCA Solution in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 SCA: Sewer Conditioning Agent – Ferrous Chloride Solution
- 3.5 MSDS: Material Safety Data Sheet
- 3.6 PTO: Power Take Off
- 3.7 TCP: Traffic Control Plan

4. PROCEDURE

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 All SCA facilities shall be approved sites.

Document Number: WWH028	Document Name: Transferring Sewer Conditioning Agent from Bulk Road Tanker to Onsite Storage Tanks (St. Georges Basin STP, Bomaderry STP & SPS No 20 Karana Dr North Nowra)	Responsible Group: Shoalhaven Water	Reference: SWMS1161
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- 4.4 Employees who are involved in the handling of SCA, or work in areas where SCA solution is used, shall have access to a copy of the current MSDS Sheet for the SCA solution so they may read and familiarise themselves with the information and procedures for emergency purposes.
- 4.5 Prior to connecting or disconnecting SCA solution transfer hoses the following conditions must be met.
 - 4.5.1 Two trained personnel must be present at all times. (Tanker driver being one of the two)
 - 4.5.2 Open building door & ensure that ventilation fan is operating if fitted. Use doorstops to prevent doors slamming closed.
- 4.6 Ensure that all staff involved in the transfer operation are using appropriate PPE. Safety goggles must be worn at all times.
- 4.7 Ensure that the information from the MSDS listed below is available to all staff
 - Description of Main Properties
 - Description of Product & Packaging
- 4.8 Ensure that all emergency showers and eye wash facilities are operational before any work begins.
- 4.9 Ensure that all fire extinguishers are serviceable.
- 4.10 Ensure that wash down hose is serviceable.
- 4.11 Position bulk delivery tanker as close as possible to the onsite storage tank.
- 4.12 Connect all transfer hoses from truck to storage tanks.
- 4.13 Open all appropriate SCA transfer valves.
- 4.14 Connect the truck's transfer pump to an electrical outlet if required.
- 4.15 Turn pump on or engage the bulk tanker PTO if applicable to start transfer of SCA solution & transfer the appropriate amount of SCA solution from the tanker to the onsite storage tank.
- 4.16 Keep a close watch on the rate of filling of the onsite storage tank & cease filling operations when the tank has the required amount of SCA solution in it.
- 4.17 After the required amount of SCA solution has been transferred into the onsite storage tank, turn off the electric transfer pump and disconnect it from the power source or disengage the truck's PTO and turn off its engine.

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- 4.18 Close all valves on transfer hose.
- 4.19 Disconnect the transfer hose from the onsite storage tank first and allow any residual SCA solution to empty into the drain pit.
- 4.20 Disconnect the transfer hose from the tanker and flush the hose with water from the wash down hose ensuring that all contaminated water is directed into the drain pit.
- 4.21 Ensure that all equipment inside the bunded area is washed down with the wash down hose and that all contaminated water is hosed into the drain pit to allow for appropriate disposal.
- 4.22 After the site has been cleaned up and secured , all staff can remove PPE worn during the transferring operation.
- 4.23 All disposable PPE must be disposed of in the appropriate manner.

SEWER CONDITIONING AGENT LEAK PROCEDURE

- 4.24 All spills are to be handled in accordance with the Shoalhaven Water’s EMERGENCY RESPONSE PLAN.
- 4.25 Two trained personnel must be present at all times in order to isolate a SCA solution leak. At least one of these should not become involved in the operation and should remain on site as the safety observer.
- 4.26 If SCA leak is out side the bunded area and is of a minor nature, appropriate action must be taken to contain the spill.
- 4.27 If the spill is of a substantial nature then the Coordinator will contact the appropriate emergency services unit via the triple 0 (000) phone number.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Bulk Road Tanker
- 5.3 Transfer hoses
- 5.4 Wash down hose

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Hazardous Substances/Users

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- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - First Aid Certificate
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Task Guideline
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water OHS Procedures
- 7.6 WorkCover regulations and codes
- 7.7 Shoalhaven Water Emergency Response Plan

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

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8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Sewer Conditioning Agent/Ferrous Chloride	Harmful if swallowed Risk of serious damage to eyes	- All SCA facilities shall be approved sites - Read MSDS and follow safety precautions - Open building door and/or ensure that the ventilation fan is operating - Ensure that all emergency showers and eye wash facilities are operational before any work begins - Remove all PPE and clean or dispose of properly
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

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CLEANING TRICKLE FILTERS

1. PURPOSE

- 1.1 To instruct in Cleaning Trickle Filter Arm Nozzles.
- 1.2 The task of cleaning filter arm Nozzles is to ensure an even distribution of settled wastewater over the media (rocks) of the filter bed. This is achieved by having clean, unblocked Nozzles along the filter arms. These outlets should be cleaned at least once a week.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Minimum PPE that must be worn is:
 - 4.3.1 Safety glasses.
 - 4.3.2 Waterproof gloves eg. Surgical, kitchen or PVC type.
 - 4.3.3 Safety boots or gum boots.
- 5.4 Isolate the Filter by preventing flow reaching it from the Dosing Siphon.

NOTE: Do not attempt this task until the filter arms have stopped rotating.

- 5.5 After the arms have stopped rotating, go to the end of each arm to find either a small swivelling flap or possibly a 100mm test plug. The Flap has to be lifted or the plug taken out to allow the filter arms to drain completely.
- 5.6 Once this has been done, every individual nozzle on each of the four arms must be cleaned, working from the centre to the outside. Cleaning may be done either with a hose or with a hooked piece of fencing wire.
- 5.7 Once all the nozzles have been cleaned the filter arms must be flushed out to remove any material that may have fallen into the arms as a result of the cleaning process.
- 5.8 All material that is cleaned & flushed out as well as any growth that has appeared on the bed surface must be removed before putting the filter back into service

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

Unique Document Number: SWP WWH030	Document Name: Cleaning Trickle Filters	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/180
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7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH030	Document Name: Cleaning Trickle Filters	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/180
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CLEANING OF CONCRETE DECANT PITS AND CONCRETE CHANNELS WITH SODIUM HYPOCHLORITE SOLUTION OR CALCIUM HYPOCHLORITE

1. PURPOSE

1.1 To instruct in the cleaning of Concrete Decant Pits and Concrete channels with Sodium Hypochlorite in a safe manner

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure

Unique Document Number: SWP WWH032	Document Name: Cleaning of Concrete Decant Pits and Concrete Channels with Sodium Hypochlorite Solution	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/181
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5. DESCRIPTION

WARNING: These chemicals are considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise themselves with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Read Material Safety Data Sheet for Sodium Hypochlorite and Calcium Hypochlorite.
- 5.4 Adhere to safe manual handling procedures.
- 5.5 Select and wear correct PPE including rubber boots, rubber gloves, overalls and face shield.

5.6 Sodium Hypochlorite

- a. Half fill watering can with liquid chlorine and fill up with water.
- b. Carefully pour solution over decant pits & channels where algae is present.
- c. Allow 15 minutes detention time to kill algae.
- d. Hose down decant pits and surrounding concrete area.
- e. Remove any residual algae using a Channel brush.
- f. Hose down decant pits and surrounding concrete area.
- g. Thoroughly wash out watering can with clean water.
- h. Remove PPE and wash in soapy water.

5.7 Calcium Hypochlorite is not to be used for this task

Unique Document Number: SWP WWH032	Document Name: Cleaning of Concrete Decant Pits and Concrete Channels with Sodium Hypochlorite Solution	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/181
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6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH032	Document Name: Cleaning of Concrete Decant Pits and Concrete Channels with Sodium Hypochlorite Solution	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/181
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WEEKEND DUTIES FOR ALL S.T.P'S

1. PURPOSE

1.1 To instruct in Weekend Duties for All S.T.P's.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the "WH&S Act 2011" to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
TCP	Traffic Control Plan
VMP	Vehicle Movement Plan

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5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.

Procedures

Shoalhaven HeadsSection 5.3

Berry.....Section 5.4

Bomaderry.....Section 5.5

NowraSection 5.6

CulburraSection 5.7

CallalaSection 5.8

Basin and VincentiaSection 5.9

Sussex Inlet.....Section 5.10

Bendalong and Lake ConjolaSection 5.11

5.3. SHOALHAVEN HEADS

Work must commence before 10:00am each day (1.5 hours Sunday’s & Public Holidays only).

- 5.3.1 Check Radtel System / Citec un arrival and before leaving and attend to any problems if possible. *(If problems cannot be rectified in the time allowed, contact the On Call Coordinator).*

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5.3.2 **Write Friday and Saturday plant flow readings** from bottom of Radtel summary page and enter into **Shoalhaven Heads WWTP Log book and Plant diary.**

5.3.3 Lift one of the lids and tip rags into trench. Using the shovel and sand or material provided, cover the rags and close the trench lid. Reference WWH014 Collection and Storage Onsite of Grit and Screenings for important safety information.

Important! Make sure to cover the rags with 150mm of sand or other appropriate material.

5.3.4 Hose plant and attend to grit and screenings as required.

5.4 BERRY

Work must commence before 10:00am each day (1.0 hour Sunday's & Public Holidays only)

5.4.1 Check Radtel System / Citec un arrival and before leaving and attend to any problems if possible. *(If problems cannot be rectified in the time allowed, contact the On Call Coordinator).*

5.4.2 **Write Friday and Saturday plant flow readings** from bottom of Radtel summary page and enter into **Berry WWTP Log book and Plant diary.**

5.4.3 Hose plant and attend to grit and screenings as required. Reference WWH014 Collection and Storage Onsite of Grit and Screenings for important safety information.

5.5 BOMADERRY

Work must commence on or before 10:00am each day (1.5 hours each day).

5.5.1 Open front gates and proceed to laboratory.

5.5.2 Unlock door and enter access code into security pad.

5.5.3 Check Radtel System / Citec un arrival and before leaving and attend to any problems if possible. *(If problems cannot be rectified in the time allowed, contact the On Call Coordinator).*

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- 5.5.4 Take plant flow readings from bottom of Radtel summary page and enter into plant log book and diary.
- 5.5.5 Add flows at bottom of summary for both plants and write in diary under 'eff disc'.
- 5.5.6 Take readings from temperature gauge on wall at south end of lab building and rainfall gauge south of building.
- 5.5.7 Place these reading in diary.

Important! Put on rubber gloves before next task

Reference WWH014 Collection and Storage Onsite of Grit and Screenings for important safety information.

- 5.5.8 Proceed to bar screen rake at head of trickle filter plant and using tool pull screenings into wheelbarrow.
- 5.5.9 Move wheelbarrow down to end of channel and clean screens at end of channel one at a time.
- 5.5.10 Move to withdrawal siphons located across from screens and lift lid up.
- 5.5.11 Sed tanks: When rotating bridge is closest to gap in wall in the centre of the tank commence withdrawal by turning switch located on back of motor anti clockwise. *(Switch is spring loaded and will return to centre)* when siphon is running clear turn switch clockwise to stop withdrawal.

Important! Complete Step'I' with both tanks.

- 5.5.12 Hose channels, grit ramps and all pits down into gravity pipe *(use hose located next to screens)*.
- 5.5.13 Close withdrawal pit lid and replace hose back on rack.
- 5.5.14 Move wheelbarrow down ramp and turn left, move wheelbarrow under E.A.T. bar screen rake chute and using tool in rack remove screenings from chute into wheelbarrow.
- 5.5.15 Hose down chute and channel at rear with hose located at end of channel and replace hose on rack.

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- 5.5.16 Move wheelbarrow down to end of sludge lagoons and turn left proceed north until you reach E.A.T. screens and place wheelbarrow under screen frame.
- 5.5.17 Remove screens one at a time using block and tackle and lay on frame. Push rags through screen using paint scraper. When finished, place screens back in their original location.
- 5.5.18 Hose down E.A.T screen area with the hose provided. When finished, place hose back on rack.
- 5.5.19 Walk north till you reach the No.2 sludge lagoon, turn right, walk till you reach end of lagoon and turn left, walk north and you will see the rag trench.

Reference WWH014 Collection and Storage Onsite of Grit and Screenings for important safety information.

- 5.5.20 Lift one of the lids and tip rags into trench. Using the shovel and sand or material provided, cover the rags with this material and then close the trench lid.

Important! Make sure to cover the rags with 150mm of sand or other appropriate material.

- 5.5.21 Using the hose provided, hose the wheelbarrow clean of any debris and replace hose on rack.
- 5.5.22 Take the wheelbarrow and head south till you reach the aeration basin No.2, turn right, walk until you reach the end of the aerations basin No.2, turn left, continue forwards and follow the road. When you reach a 'T' intersection STOP and turn 45 degrees to your right. You are facing the T/filter valve room.
- 5.5.23 Approach the valve room and using a 'northern' master key open the control box located at the front of the building, also, open the front door of the valve room with your key.

Important! Inlet and outlet valves for No.1 digester are open (the white valves) all other valves are closed.

Important! If the pump is on, turn it off by using the switch in the control cabinet located to the lower right.

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5.5.24 First check the level of the sludge in the mixing well and note depth for the diary recording (the mixing well is located on the opposite side to the control cabinet).

5.5.25 Return to the front of the building and enter:-

- i. Close the No.1 'digester outlet valve' (white)
- ii. Open the valve marked 'mixing well' (green)
- iii. Go outside to the control unit and turn pump on using switch located to the lower right.
- iv. Watch mixing well pump down, when approaching the bottom return to control cabinet and turn switch to 'Off'.
- v. Quickly enter valve room and close valve marked 'mixing well' (green).
- vi. Open valve marked digester outlet valve (white).

5.5.26 Using the hose located near the supernate valves hose the mixing well walls of remaining sludge and replace hose in original position.

Important! Re-enter the valve room and make sure that the No.1. 'digester inlet' and 'outlet valves' are open. *ANTICLOCKWISE (white valves and all other valves are closed CLOCKWISE.)*

5.5.27 Exit the valve room closing the door behind you and make sure it is locked, moving to the control cabinet, turn the control switch, located to the lower right, to ***time clock***, close and lock cabinet.

5.5.28 Take the wheelbarrow and proceed up the path between the digesters and return it to its' original location next to the trickling filter bar screen rake.

5.5.29 Return to the laboratory and enter the Draw-off volumes in the diary.

Important! Check the summary pages of all PS checking for: - Hours run, Date, Start and Stop times, General alarms, Intruder alarms. Act upon all alarms or pump problems discovered.

5.5.30 Once all duties are completed close lab door from inside and enter your code in security pad. A 60 second countdown will start, exit the building and lock the door. Wait for the countdown to end which will make the external alarm siren chirp. This indicates that the security system is armed.

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5.5.31 Upon exiting the treatment plant make sure to close the gate behind you.

5.6 NOWRA

Work must commence before 10:00am each day (2.0 hours each day).

5.6.1 Open up treatment works

5.6.2 Check Rattel System / Citec un arrival and before leaving and attend to any problems if possible. *(If problems cannot be rectified in the time allowed, contact the On Call Coordinator).*

5.6.3 Print out nightly summary.

5.6.4 Record all necessary Plant Readings in the plant diary/computer files as necessary.

5.6.5 Report on rainfall to Weather Bureau through telephone system.

5.6.6 Complete Sedimentation Tanks draw offs.

5.6.7 Hose down all excess solids.

5.6.8 Adjust PH of the Primary Sludge in the mixing well with lime as required (normally no more that 1 bag of lime should be required) & thoroughly mix before transferring it to the No1 digester. Hose down mixing well of all excess solids. After transferring ensure that all the valves & pump controls are left as indicated on the mixing procedure for normal automatic mixing of the No1 digester. A copy of which is located on the wall in the digester pump room. (Normal automatic mixing of digester No1 is 12.00am – 7.00am, 7days per week)

5.6.9 Collect screenings from dosing syphons screens No.1 and No.2.

5.6.10 Skim fat out of baffle in Imoff tank.

5.6.11 Take all screenings and fat up to automatic bar screen rake.

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5.6.12 Push all rags etc through into dumpy and hose down immediate areas.

5.6.13 Drive dumpy over to splitter box between clarifiers and clean screens also hosing down immediate areas.

5.6.14 Reference WWH014 Collection and Storage Onsite of Grit and Screenings for important safety information.

5.6.15 Empty screenings into screenings trench.

5.6.16 Drive down to automatic bar screen rake at the back of aeration tank and clean screens.

5.6.17 Hose down effected area.

5.6.18 Pump grit up from grit removal system

5.6.19 Shovel into the back of dumpy then hose down effected area.

5.6.20 Grease grit removal system

5.6.21 Top hose splitter and flush rags through to Trickle Filter Plant.

5.6.22 Take rags down to rag trench and empty.

5.6.23 Put 150mm of sand or other appropriate material over rags as top cover.

5.6.24 Replace all lids on screenings trench to keep all vermin out of trench.

5.6.25 Hose down dumpy.

5.6.26 Return dumpy to cage and lock gate.

5.6.27 Re-check Rad-Tel computer.

5.6.28 If everything is OK with pump stations and treatment plant, lock up and go home.

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5.7 CULBURRA

Work must commence before 10:00am each day (1.0 hours each day)

- 5.7.1 Open Security doors at amenities and disarm alarm.
- 5.7.2 Check plant computers (RadTel / Citec) for any alarms and action as necessary.
- 5.7.3 Check SPS's for any irregularities of pump run times and starts on the RadTel computer.
- 5.7.4 Fill in diary and log book from nightly summary sheet and Radtel computer. Also put in temperature (gauge near front door) and rainfall (Weather Bureau gauge near inlet works).
- 5.7.5 Inspect buildings and plant area for security.
- 5.7.6 Check Switch rooms for any alarms and action as necessary.
- 5.7.7 Empty grit into screenings trench and cover with 150mm of sand.
(Reference WWH014).
- 5.7.8 Visually check SPS 12 & 17 rising mains are pumping normally into the STP inlet works.
- 5.7.9 check the level of the equalisation and storm ponds and take any action as required.
- 5.7.10 Hose Inlet Works and check step screen for correct operation.
- 5.7.11 Complete steps 2 & 3 again before leaving the site.
- 5.7.12 Re-arm building and lock all doors and gates.

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5.8 CALLALA

Work must commence before 10:00am each day (1.5 hours each day)

- 5.8.1 Open front gate on Coonamia Road and proceed down and open the STP gate. then open main amenities building & disarm alarm
- 5.8.2 Open REMS gate & inspect all REMS buildings and immediate area for security and any obvious machinery problems.
- 5.8.3 Shut REMS gate .
- 5.8.4 Inspect all the STP buildings and immediate area for security and obvious machinery problems.
- 5.8.5 check operations of the plant and pumping stations via the RadTel and Citec computers.
- 5.8.6 Fill in plant diary and log book from the nightly summary sheet and RadTel computer.
- 5.8.7 Record temperatures and rainfall in plant diary.
- 5.8.8 Go to inlet works and empty grit barrow into screenings trench.
- 5.8.9 Cover grit with 150mm of sand (**Reference WWH014**).
- 5.8.10 Hose Inlet works and check step screen for screenings build up.
- 5.8.11 Recheck Radtel Computer for pump problems.
- 5.8.12 Re-arm building and shut both sets of gates as you leave.

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5.9 BASIN AND VINCENTIA

Work must commence before 10:00 each day (1.0 hour each day Vincentia, 1.5 hours each day Basin).

5.9.1 Check Radtel System / Citec on arrival and before leaving and attend to any problems if possible. *(If problems cannot be rectified in the time allowed, contact the On Call Coordinator).*

5.9.2 Check individual pump stations starts and stops via telemetry.

5.9.3

5.9.4 .

Reference WWH014 Collection and Storage Onsite of Grit and Screenings for important safety information.

5.9.5)

5.9.6 Give inlet works a hose down.

5.9.7 De-rag aerators if required (Basin STP only).

5.9.8 Do visual check of decanters and effluent ponds.

5.10 SUSSEX INLET

Work must commence before 10:00am each day (1.0 hour each day)

5.10.1 Open up the main gates and proceed to the gates at the plant itself and unlock and enter the plant.

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5.10.2 Carry out a visual inspection of the whole plant before entering the amenities building.

5.10.3 Check Radtel System / Citec on arrival and before leaving and attend to any problems if possible. *(If problems cannot be rectified in the time allowed, contact the On Call Coordinator).*

5.10.4 Then fill in the Plant Diary with temperatures and weather conditions for the day and the Operator on Duty on the weekend.

Reference WWH014 Collection and Storage Onsite of Grit and Screenings for important safety information.

5.10.5 Once finished in the office, go up to the top of the plant and clean the bar screen rake at the Inlet works by removing the rags from the trough which is deposited there by the automatic bar screen rake, hose the Inlet works down thoroughly, lift out the secondary screens from the splitter box and clean the rags off and place them in a grit and screenings bin for later removal from site, and hose the splitter box.

5.10.6 Check the Decant operation and aeration cycles, settlement and sludge removal by entering the switch room and record all the starts and hours run into a logbook, decants, sludge pumps, bar screen rake, to determine any down time cause by a breakdown.

5.10.7 Check the operation of the sand filters and check the gas chlorine injection system, and change over the gas bottles if necessary.

5.10.8 Once all of the duties and are completed and everything is in good working order, reset all the building alarms and exit the premises.

5.11 BENDALONG AND LAKE CONJOLA

Work must commence before 8:30am each day to ensure that both sites are secured before 11:00 am (total 2.75 hours).

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5.11.1 Open STP gates and proceed to plant building, open security grate and door and disarm security alarm before proceeding.

5.11.2 Check operations of plant and pump stations on Radtel and Citect systems on arrival and before leaving, attending to any problems if possible. *(If problems cannot be rectified in the time allowed, contact the On Call Coordinator).*

5.11.3 Enter into the main Log Book.

- Flow figures
- Rainfall figures
- Temperature
- Weather

5.11.4 Check remaining storage capacity of rag and grit collection bins and change if required.

Note: Grit at Bendalong and Lake Conjola STP's is removed from site in Sulo bins during the week.

5.11.5 Hose inlet works and check for any blockages of screens, conveyors or channels.

5.11.6 Walk around sludge lagoons checking for any blockages or other obvious problems while also checking integrity of perimeter security fence.

5.11.7 Check EAT's for correct operation.

5.11.8 Check main switchroom for any lit warning lights, rectifying any indicated problem, if possible, and then check operation of all warning lights before leaving switchroom, ensuring it is secured when leaving.

5.11.9 Check blower room for any obvious visible problems with blowers, compressors or air circuits and then check operation of electrical warning lights before leaving blower room, ensuring it is secured when leaving.

5.11.10 Check to see if either warning light or audible alarm is active on at chlorine building before approaching to open either door of the chlorine room.

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IMPORTANT: If either alarm is active, immediately contact duty co-ordinator for his direction before continuing with further duties.

- 5.11.11 After checking external leak sensor alarm indicators, open both doors of chlorine room and latch in the open position, leaving them open for at least two minutes.
- 5.11.12 While waiting for the two minutes to elapse, proceed to filters and check for correct level and operation.
- 5.11.13 Check in-line UV room for any obvious visible problems, checking operation of electrical warning lights and then ensure that room is secure on leaving.
- 5.11.14 Return to chlorine room and check chlorine supply level in bottle room and any obvious visible problems in both bottle and dosing rooms, then check operation of electrical warning lights and chlorine leak sensor before closing both doors and securing building.
- 5.11.15 Return to main plant building, recheck Rattel and Citect systems and re-alarm building, close and lock door and security grate and listen for audible arming signal of alarm, shutting and locking gates on the way out.
- 5.11.16 Proceed to second plant and repeat steps '5.11.1' to '5.11.15' at that plant.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Works & Services Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

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A Group of Shoalhaven City Council

9.1. The [Click & Type Position name] is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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ALUMINIUM SULPHATE DECANT INTO 20 LITRE DRUMS (ST.GEORGES BASIN STP)

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To explain the safest method of decanting Aluminium Sulphate into 20 litre containers at St George’s Basin Waste Water Plant.
- 2.2 Use appropriate PPE.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statements
 3.2 PPE: Personal Protective Equipment
 3.3 WHS: Work Health and Safety
 3.4 Alum: Aluminium Sulphate

4. PROCEDURES

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Read Material Safety Data Sheet for Aluminium Sulphate and follow safety precautions.
- 4.4 Assemble the plastic drums on a solid pallet on the concrete floor in the Dosing Room (**All drums must have labels**) near to the filling point.
- 4.5 Remove the lids & have the labels facing to the outer sides of the pallet.

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- 4.6 Two valves must be opened for the filling operation. The first valve is situated on the opposite side of the wall (inside the Bund wall surround of the Aluminium Sulphate bulk holding area closest to the roller door). The second valve is situated on the right hand side bottom near the roller door.
- 4.7 Attach the 50mm hose (with a shut off valve fitted) to the clip on fitting then release the valve situated inside of the bund wall followed by the valve inside the dosing room roller door.
- 4.8 Place the hose into the drum to be filled and then open the hose valve. Alum (specific gravity of 1.3) is heavier than water so don't over fill. Finish filling the drum just below the drum neck curvature.
- 4.9 Continue on until all drums have been filled. **Note: Do not leave the work site with the valves open.** If filling a second row of drums on the pallet they will fill slightly slower than the first row, as the elevation will slow the Alum flow.
- 4.10 When the job is complete the two main valves must be shut down. The first valve is situated on the opposite side of the wall (in the bud wall surround of the Aluminium Sulphate bulk holding area closest to the roller door). The second valve is situated on the right hand side bottom of the roller door.
- 4.11 Secure the full drums to the pallet and place the full pallet in a safe position using the forklift. Wash down the surface directly under the pallet and hose fittings. Make sure the area is left in a safe condition.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Pallets
- 5.3 Empty drums
- 5.4 50mm hose with shut off valve fitted

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Hazardous Substances/Users
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

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- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Task Guidelines
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

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9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Aluminium Sulphate	Irritating to eyes and respiratory system	<ul style="list-style-type: none"> - Avoid exposure, read MSDS and follow safety precautions - Wear PPE – gloves, goggles and appropriate breathing apparatus - Immediately remove contaminated clothing - In case of contact with eyes, rinse with plenty of water and contact doctor or Poisons Information Centre - All drums must have labels - Wash down the surface directly under the pallet and hose fittings
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer’s recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	<ul style="list-style-type: none"> - Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer’s recommendations. Keep hydrated (Drink water and take salt tablets as required)

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CLEANING / CHANGING OF COPASAC SCREENS AT SHOALHAVEN WATERS' STP'S

1. PURPOSE

- 1.1. To minimise or eliminate the potential of injury to employees and others who as part of their normal duties are required to clear and change Copasac Screens at Shoalhaven Waters' STPs that have Copasac Filtration Systems Installed.
- 1.2. To eliminate confusion as to where and when the screens are cleared and discarded.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the "WH&S Act 2011" to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

CLEARING COPASAC SCREENS

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Equipment needed: wheelbarrow - PPE.
- 5.4 Lift Copasac frame from guide supports while standing on walkway – **do not** walk/work outside of handrail or on Copasac supporting grid.
- 5.5 Remove Copasac from frame – remove locating pins.
- 5.6 Deposit screenings in wheelbarrow – dispose of Copasac if Copasac damaged.
- 5.7 Wash Copasac in wash-down area – or replace with new Copasac.
- 5.8 Replace Copasac onto frame – replace locating pins.
- 5.9 Replace frame in guides.

COLLECT SCREENINGS

- 5.10 Equipment needed: wheelbarrow, shovel and PPE.
- 5.11 Hose and clean screenings area.
- 5.12 Bury screenings in trench or deposit into skip bin if applicable.
- 5.13 Cover with a minimum of 150 mm of sand or other appropriate material.
- 5.14 Hose and clean barrow and shovel – return to shed.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

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7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Norther, Central, and Southern Co-ordinator’s are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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CENTRIFUGE SLUDGE DRYING OPERATION

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. To instruct in Centrifuge Sludge Drying Operation in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
TCP	Traffic Control Plan
O&M	Centrifuge Operation and Maintenance Manual

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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.

PRE-START PROCEDURE

- 5.3. Generator
 - 5.3.1. Carry out daily checks as listed on the Maintenance/Inspection Schedule.
 - 5.3.2. Start the generator and allow it to reach operating temperature.
- 5.4. General
 - 5.4.1. Carry out a visual inspection of the feed sludge and centrate hoses to ensure they are connected properly.
 - 5.4.2. Check that all valves are set in the correct position.
 - 5.4.3. Check that the water supply is turned on.
 - 5.4.4. Remove the basket from the feed sludge tank (if it needs cleaning) and replace it with the spare basket.
 - 5.4.5. Copy Hour and Start Meter readings into diary.

STARTING PROCEDURE

- 5.5. Turn on the Main Isolating Switch (which will turn on the compressor unless it is locally isolated).
- 5.6. Turn on the Compressor (at the Compressor) and shut drain off points for moisture.
- 5.7. Turn the Control Selector Switch to 'Manual'.
- 5.8. Turn on the Centrifuge 'on/off' key.
- 5.9. Reset the Break Tank and Polymer Tank's Low Level Switches.
- 5.10. Push the Alarm reset for the Centrifuge (yellow button).
- 5.11. Turn the Conveyor Switch to 'Manual' to start the conveyor.

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- 5.12. Check that the belt is tracking properly and there aren't any abnormal noises.
- 5.13. If the conveyor has been out of use for more than 24 hrs lift the side of the belt away from the trough to break the seal, this should prevent the driven roller from slipping on start-up.
- 5.14. If the driven roller still slips (and the belt tension is adequate) wet the inside face of the belt next to the roller to allow grip to be established. Sludge on the roller or the inside of the belt will result in slippage.
- 5.15. Turn off the conveyor.
- 5.16. Set the Polymer Dosing Pump Inverter by:- pressing '-' once to bring up on the second line 'Local S = (previous set figure)', change this figure to 21Hz by pressing '*' and either the '-' or '+' at the same time.
- 5.17. Set the Feed Pump Inverter as above.
- 5.18. Go back to the Control Selector Switch and change it to 'Auto'.
- 5.19. Reset the alarms which come up as a result of '5.17'. Set the Tank 1, Tank 2, Dilution and Wash Valves to 'Auto'.
- 5.20. Check that the Polymer Tank Sequence Switch is on the tank you wish to start using and that the tank has polymer in it.
- 5.21. Set the Sump Pump, Conveyor, Water Pump, Dosing Pump and Macerator Switches to 'Auto'.
- 5.22. Leave the Sludge Pump Switch in the 'Off' position.
- 5.23. Open the Dilution Water Valve.
- 5.24. Press 'START' Centrifuge.
- 5.25. The Centrifuge 'Run' (green) light will come on approximately 3 minutes after the Centrifuge has reached its maximum bowl speed.
- 5.26. After the 'Run' light appears press the 'Start' button under 'Auto Cycle'.
- 5.27. In order the Conveyor, Water Pump, Dosing Pump and Macerator will activate.

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- 5.28. Go to the Stirrer/Pump control switches and turn on the Pump.
- 5.29. When the Sludge Tank Level has reached at least 50%, turn the Sludge Pump Switch to 'Auto'.
- 5.30. Shut dilution water valve.
- 5.31. As the feed sludge is delivered to the Centrifuge Bowl a water/polymer mix will overflow from the bowl onto the conveyor as the dewatering process begins (this will only last for about a minute).
- 5.32. The Automatic Backdrive Controller will indicate a preset 'Start-up Differential' of 5 rpm.
- 5.33. Maintain a low feed sludge flow rate (to the Centrifuge) until the start-up differential reverts to the previous set point. Enter a lower set point if the previous set point is more than 10 rpm. Increase the Differential gradually to match the Feed Rate.
- 5.34. While in Differential Mode gradually increase the polymer dosing rate and the sludge feed rate, over a period of approximately 10 minutes, until the desired feed rate is reached.

BOWL VIBRATION

Warning: Don't allow the Centrifuge to vibrate excessively (even if only the warning light is activated) for more than a few minutes or you will risk damage to the Electric Motor mounting plate and bolts.

Trouble with vibration may be experienced while starting causing the 'Vibration Warning' and 'Vibration Alarm' lights to activate. If the 'Vibration Warning' light activates continue on with the steps above because as the feed sludge is introduced the vibration will gradually lessen when the bowl is loaded up. Reset the 'Vibration Warning' light.

- 5.35. If the 'Vibration Alarm' activates, power will be cut to the Feed Pump and Centrifuge motor.
- 5.36. If lights are activated reset all alarms.
- 5.37. Turn the Wash Valve Switch from 'Auto' to 'Manual'.

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- 5.38. Turn the 'Water Pump Switch' from 'Auto' to 'Manual'.
- 5.39. Water will fill the bowl and overflow onto the conveyor. Leave the conveyor turned off during this flushing operation.
- 5.40. Press the Centrifuge 'Start' button.
- 5.41. If the bowl reaches running speed, without shutting down, turn the Control Selector Switch back to 'Auto' and restore the Wash Valve and Water Pump Switches to the 'Auto' position.
- 5.42. Reset the alarms this will restart the Centrifuge. Continue from Step 4.22 of the Starting Procedure.
- 5.43. If the Centrifuge 'Vibration alarm' activates again while in manual operation allow the Centrifuge to come to a complete stop while adding wash water to the bowl until it slows to 300 rpm.
- 5.44. Restart the Centrifuge again, in manual operation, while adding water from 300 r.p.m.
- 5.45. If the Centrifuge operation is okay follow Steps 5.42 and 5.43 above.
- 5.46. If the 'Vibration Alarm' activates again repeat Steps 5.44 and 5.45 above (if necessary twice).
- 5.47. If the Centrifuge cannot be operated then the following Bowl Cleaning Procedure should be followed.

BOWL CLEANING PROCEDURE

This task is to be undertaken by Shoalhaven Mechanical Services

- 5.48. Allow the Centrifuge to stop.
- 5.49. Turn the Centrifuge key to the 'Off' position.
- 5.50. Remove the fibreglass cover.
- 5.51. Remove the bowl cover bolts and 'cover open' sensor.
- 5.52. Lift up the outside of the bowl cover and tie off with rope to the chain block anchor point and at the other end the light support bracket.

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5.53. Wedge a piece of timber between the bowl and support framework and remove the highest and lowest dam plates, using a 6mm Allen Key. You should be able to remove the screws by hand pressure on the key.

5.54. With the nozzle removed, insert the hose into the bowl as far as possible. Remove the hose and rotate the conveyor until you can insert the hose again. Continue this until you have gone at least 360 degrees. Also turn the bowl 180 degrees and wash from the other dam plate opening.

5.55. Reassemble the dam plates.

NOTE - tighten screws without using levers on the Allen Key.

5.56. Reassemble covers and return to 'Starting Procedure' Steps 5.17 to 5.31.

OPERATING PROCEDURE

5.57. A detailed explanation of how the Centrifuge works is contained in the Operation and Maintenance Manual. The following contains most information needed for the day-to-day operation.

5.58. Polymer Preparation: Refer to Section 2.3 of the O & M Manual

5.59. Process Optimization: To achieve an acceptably dry cake and a clear centrate there are a number of variables which can be changed:-

5.59.1. Dam Plate diameter (refer to O & M Manual).

5.59.2. Feed Sludge Dosing Rate – this can be varied according to the % of solids contained in the feed sludge. A high % will require the dosing rate to be decreased for better solids separation.

5.59.3. Polymer Dosing Rate – an increased polymer dosing rate will give a drier cake and a clearer centrate.

5.59.4. Differential – a lower differential will give a drier cake but the centrate won't be as clear. A higher differential will give a clearer centrate but a wetter cake.

OPERATING THE ADVANCED BRAKE CONTROLLER

5.60. There are two modes of operation:-

5.60.1. Differential – this should be used to set the machine running until a stable result is being obtained. The Centrifuge may be operated in Differential Mode especially where the sludge thickness is changing too often for the Torque Mode to work properly.

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5.60.2. Load (or Torque) Mode – this can be used once a fairly stable torque is reached and the ‘Load’ figure can be entered as your ‘Local Set Point’.

5.61. To Change the Mode – press ‘Mode’ then ‘Enter’ within 3 seconds.

5.62. To change the Local Set Point (in either mode):-

- 5.62.1. Press ‘Set Point’
- 5.62.2. Key in the new set point
- 5.62.3. Press ‘Enter’
- 5.62.4. Press ‘Disp’

NOTE - If you key in the wrong figure don’t press ‘Enter’ but press ‘Set Point’ again and restart the procedure. For more detail on the A.B.C. refer to the O & M Manual.

DILUTION WATER

5.63. This may be added to the polymer via the valve set up next to the polymer pump. It may help to achieve a clearer centrate but the cake dryness may decrease. This is use only in special circumstances.

WARNING – If water isn’t being added, via the dilution valve, the Water Pump will be operating against a closed valve. Partially open the Return Valve to the Break Tank.

TEMPORARY SHUTDOWN OF THE FEED SLUDGE

5.64. Turn the Sludge Pump Switch to the ‘Off’ position. This will allow the Centrifuge bowl to empty (e.g. if you have to move a truck from beneath the conveyor or if the Centrate Pump fails).

EMPTYING TRUCK DURING CENTRIFUGE OPERATION

5.65. Turn off the Sludge Pump Switch (on the control panel).

5.66. Turn off the pump on the Stirrer Platform.

5.67. Turn off the Macerator.

5.68. Reset the Dosing Pump Inverter to 21 Hz and the Feed Pump Inverter to 21 Hz.

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- 5.69. Turn off the Dosing Pump (on the control panel) about 2 minutes after turning off the sludge pump in step 5.66.
- 5.70. Turn off the Conveyor (on the control panel) about 3 to 4 minutes after turning off the sludge pump in Step 5.66.
- 5.71. Empty the truck and replace back under the Conveyor.
- 5.72. Restore all switches to Auto position and wait until they automatically start again. Restart the Sludge Pump in the Lagoon.
- 5.73. After the 'Start up Differential' has returned to the preset differential, gradually increase both the Dosing Pump and the Feed Pump Inverters to the original settings.

EXCESSIVE OPERATION OF THE AIR COMPRESSOR

- 5.74. This will occur if there is an air leak, which may be caused by grit stopping one of the release valves seating at the Polymer tank air/solenoid Valves or the Proportional Level Control Air/Solenoid Valve. If this occurs you will be able to hear / feel air escaping at one of the above positions. The Auto Cycle will need to be shutdown completely, as described in the 'Emptying Truck During Centrifuge Operation' Procedure, to rectify this problem. The Centrifuge Bowl can be left spinning if this occurs during operation. The Air Tank should be drained to release pressure and filters also to release moisture. The valve can be removed and cleaned so it will seat correctly.
- 5.75. If air is escaping from the Flow Positioner Controller unit – the Auto Cycle should be shutdown as above. Remove the cover and check for a build up of water or oil, drain if necessary. Air line filters shouldn't let large amounts of water into the Positioner, check their operation. Before restarting the Compressor remove the incoming airline from the quick release joint at the Air Solenoid valve, check for moisture and grit coming down the hose. Replace the hose and allow working pressure to be achieved. Take a piece of paper and pull through the Points until they are clean and proper operation of the Positioner is restored without air leakage.

SHUTDOWN PROCEDURE

- 5.76. Turn off the lagoon Pump and Stirrer.
- 5.77. Allow the Sludge Tank Level to come down below 3%.
- 5.78. Press the Auto Cycle Stop button.

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- 5.79. Make sure the Water Pump Return Valve to the Break Tank is closed.
- 5.80. Return the polymer and feed pump inverters to 21 Hz.
- 5.81. The Automatic Shutdown and Wash Cycle will take approximately 15 minutes until the Water Pump turns off. *Pump light will go out.*
- 5.82. Turn the Control Selector Switch to 'Manual'. Reset any alarms or faults.
- 5.83. Turn the Wash Valve Switch to 'Manual'.

NOTE - Connect extra hose for more water at wash down. Connects up at the polymer and sludge feed point.

- 5.84. Turn the Water Pump to 'Manual' and allow flushing to continue until the bowl speed goes below 400 rpm.
- 5.85. Turn off the Water Pump Switch and the Wash Valve Switch.
- 5.86. To hose off the conveyor turn the Water Pump to 'Manual'.
- 5.87. At the completion of hosing return the Conveyor, Water Pump, Dosing Pump, Macerator and Sludge Pump Switches to the 'Off' position. Also return the Tank 1 and Tank 2 Valves, Dilution Valve and Wash Valve to the 'Off' position.
- 5.88. Turn the Control Selector Switch to the 'Off' position.
- 5.89. Turn the Main Isolating Switch to 'Off'.
- 5.90. Release the air pressure from the Compressor tank release valve. Bleed off the water from the Tank and Gauge Bleed points daily.
- 5.91. Turn off the Isolating Switch in the Generator and turn off the Generator.
- 5.92. Turn water supply off.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

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7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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WORKING OVER & AROUND OPEN LIQUID FILLED PITS / PONDS & BASINS

1. PURPOSE

- 1.1. To instruct in working over and around open liquid filled pits/ ponds & basins in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure

Unique Document Number: SWP WWH039	Document Name: Working Around & Over Open Liquid Filled Pits/Ponds and Basins	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/211
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Inform Operator in Charge or Coordinator before any attempt is made to work around the top of any unprotected liquid filled pit, pond or basin.
- 5.4. Isolate and tag out any machinery that has the potential to cause injury or death in the event of falling into or onto. Refer to Corporate OH&S Procedure S2 OHS 15 Energy Isolation.
- 5.5. Employees should be able to swim or at least tread water.
- 5.6. Employees should not be subject to any medical condition that could cause loss of balance while working close to the edge of any unprotected liquid filled open pit, pond or basin.
- 5.7. Employees should not wear waders around the top of any unprotected liquid filled open pit, pond or basin if there is the potential for total immersion upon falling in.
- 5.8. Employees shall not work outside of any existing safety barrier without wearing an approved life jacket.
- 5.9. Keep grass slopes around the tops of liquid filled unprotected open pits, ponds & basins mown.
- 5.10. Keep all walkways around the tops of liquid filled open pits, ponds & basins free from any matter that is likely to cause slipping & or tripping.

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5.11. While working on any bank of any unprotected liquid filled pit, pond or basin an approved harness must be worn with a safety line attached controlled by a stand by person.

5.12. Ensure that all appropriate P.P.E. is being used and all relevant safety procedures are being adhered to for the duration of work being carried out around the top of any liquid filled pit, pond or basin.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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HANDLING LIQUID POOL CHLORINE (SODIUM HYPOCHLORITE UN NO 1791) CHLORINATING DECANT PITS

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1 To eliminate or reduce the potential for injury to employees and others when handling liquid pool chlorine when chlorinating decant pits.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Read ChemWatch Safety Data Sheet for sodium hypochlorite, UN NO 1791.
- 4.4 Adhere to safe manual handling procedures.
- 4.5 Select and wear correct PPE including rubber boots, rubber gloves, overalls and face shield.
- 4.6 Half fill watering can with liquid chlorine and fill up with water.
- 4.7 Carefully pour solution along edges of decant channel where algae is present.
- 4.8 Allow 15 minutes detention time to kill algae.
- 4.9 Hose down decant pits and surrounding concrete area.
- 4.10 Thoroughly wash out watering can with clean water.

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4.11 Remove PPE and wash in soapy water.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment – rubber boots, rubber gloves, overalls, face shield
- 5.2 Watering Can

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Hazardous Substances/Users
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 201
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Tasks Guidelines
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Pool chlorine (sodium hypochlorite)	Burns Damage to eyes Contact with acids liberates toxic gas	- Read MSDS and follow safety precautions - Select and wear correct PPE including rubber boots, rubber gloves, overalls and face shield. - Thoroughly wash out watering can with clean water - Remove PPE and wash in soapy water

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

HANDLING VOLATILE LIQUIDS

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the Handling of Volatile Liquids in a safe manner.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
 3.2 PPE: Personal Protective Equipment
 3.3 WHS: Work Health and Safety

4. PROCEDURES

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant and a possible ignition source.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Wear correct P.P.E.
- 4.4 Pour or transfer in well-ventilated areas only.
- 4.5 Ensure all relevant Material Safety Data Sheets are available and read.
- 4.6 If using machinery start away from filling area.
- 4.7 Use appropriate funnel or filling equipment only.
- 4.8 Have correct labelling and storage.
- 4.9 Have fire extinguisher available.

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Fire Extinguisher

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Hazardous Substances/Users
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers License as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Task Guideline
 - 7.4.3 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures

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7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

8.1 Managers are to ensure there is a safe system of work.

8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
3. Heat - Fire or explosion	Burns Death Serious Injury	- Pour or transfer in well-ventilated areas only - If using machinery start away from filling area - Use appropriate funnel or filling equipment only - Have correct labelling and storage - Have fire extinguisher available
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations.



MAINTAINING/SERVICING SMALL PLANT (RIDE ON MOWERS)

1. PURPOSE

- 1.1. To instruct in Maintaining/Servicing Small Plant (Ride on Mowers) in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety



5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Check oil and water levels.
- 5.4. Ensure ignition key is removed from the ignition before proceeding any further with maintenance.
- 5.5. Grease all points on steering and pulleys on cutter deck.
- 5.6. Ensure all safety guards are in place and operational.
- 5.7. Regularly clean build up of grass from around pulleys.
- 5.8. Regularly clean build up of grass from around motor.
- 5.9. Refer to Operators Manual for regular servicing by workshop.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH043	Document Name: Maintaining and Servicing Small Plant	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/197
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 2 of 2

OPERATE FLEX-DRIVE PUMP

1. PURPOSE

1.1. To instruct in the use of Operating Flex-Drive Pump in a safe manner.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
VMP	Vehicle Movement Plan

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Always wear appropriate P.P.E. as indicated by risk assessment.
- 5.4. Always turn off the pump motor before checking & topping up fuel & oil levels.
- 5.5. Regularly check the pump head for blockages & clear as necessary, making sure the pump is turned off before handling the pump head.
- 5.6. If using pump near an open hole or excavation, make sure the motor is away from open hole or excavation to prevent the exhaust gases from entering hole or pit.
- 5.7. Always tie off the motor if the pump is running near an open hole or excavation to prevent the motor from slipping into the hole or excavation
- 5.8. Adhere to Manual Handling and Back Care.
- 5.9. If needed place appropriate signage around work site.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

Unique Document Number: SWP WWH044	Document Name: Operate Flex- Drive Pump	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/212
Adopted: : 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 2 of 3



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9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wasteware Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH044	Document Name: Operate Flex- Drive Pump	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/212
Adopted: : 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 3 of 3

MAINTAIN FLOW EQUALISATION / MATURATION AND STORM PONDS

1. PURPOSE

- 1.1. To instruct in maintaining the Flow Equalisation / Maturation and Storm Ponds in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Storm Pond
 - 5.3.1. Always wear appropriate PPE.
 - 5.3.2. Always use a pool scoop with the extendable handle when removing floating debris from the surface of the Storm Ponds and place the rubbish in a plastic bucket, and then place the rubbish in the screenings trench. Cover with 150mm of sand or other appropriate material.
- 5.4. Cleaning the Maturation Pond Screens
- 5.5. Using Hiab crane if required, remove the Aluminium screens and hose and scrape the rubbish off and collect in a bucket and dispose of in the screenings trench at the STP.
- 5.6. Always use a pool scoop with the extendable handle when removing floating debris from the surface of the Maturation Ponds and place the rubbish in a plastic bucket, and then place the rubbish in the screenings trench. Cover with 150mm of sand or other appropriate material.
- 5.7. Put the screens back into the operating position.
- 5.8. Cleaning of Copasac Filters
- 5.9. Refer to procedure WWH035 of this manual – Clearing of Copasac Screens at Shoalhaven Water’s STPs”

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

Unique Document Number: SWP WWH045	Document Name: Maintain Flow Equalisation/Maturation and Storm Ponds	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/198
Adopted: 02/06/2005	Last Amended: 14/02/2016	Review Date:14/02/2016	Version: 6 Page 2 of 3

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH045	Document Name: Maintain Flow Equalisation/Maturation and Storm Ponds	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/198
Adopted: 02/06/2005	Last Amended: 14/02/2016	Review Date: 14/02/2016	Version: 6 Page 3 of 3

SAMPLE COLLECTION (WASTE WATER)

1. PURPOSE

1.1 To instruct in the Collecting all Samples in a safe manner.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
DEC	Department of Environment and Conservation
MLSS	Mixed Liquor Suspended Solids
CL	Chlorine

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Decant Sample
- 5.3.1 After at least five minutes into a decant and standing at the decant channel lower a bucket attached to a rope into the decanting effluent, only catching a small portion in the bucket, rinse & discard the effluent in the bucket (not back into basin). Then lower the bucket back into the Effluent to collect a sample for testing.
- 5.3.2 Back in the Lab rinse the sample bottle with the effluent sample to be used and then fill the bottle up. Also fill the duplicate bottle with the same sample & freeze it with the lid off
- 5.4 MLSS Sample
- 5.4.1 Once an Aeration tank has been Aerating for 10 minutes it has had sufficient mixing in order to determine the MLSS concentration using a portable MLSS meter.
- 5.5 Final Effluent Sample
- 5.5.1 These are to be taken at the nominated EPA sample monitoring points at each Plant, Oil and Grease, Final CL and Final Effluent sample.
- 5.5.2 **The Final CL** sample plastic container is sealed and must only be opened immediately at the time of sample collection and filled and the lid put straight back on and placed in the fridge.(This is a composite sample taken over a minimum of 7 hours
- 5.5.3 **Final Effluent** the sample is to be taken in accordance with the licence requirements & put into the plastic bottle supplied and refrigerated a duplicate sample must be taken as well and put in the freezer with lid off.

Unique Document Number: SWP WWH046	Document Name: Sample Collection (Waste Water)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/205
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- 5.5.4 **Oil and Grease** the glass jar is used for this sample and will be placed in the refrigerated.
 - 5.5.5 **Influent Sample** this sample is to be taken during the peak flow in the morning and is refrigerated a duplicate sample is also required and is frozen down with the lid off.
 - 5.5.6 Each sample bottle is numbered and times and dates of collection are to be recorded as required.
- 5.6 All Bacto samples are to be taken in the containers supplied for that purpose. The sample container should be immersed into the sample so as to avoid any contamination. The lid should be replaced & the sample refrigerated until the sample can be delivered to the Lab. All Bacto samples must be at the Lab within 24hours of sampling

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH046	Document Name: Sample Collection (Waste Water)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/205
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NOWRA TREATMENT WORKS TESTING

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the safe procedure for Nowra STP Process Testing.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
 3.2 PPE: Personal Protective Equipment
 3.3 WHS: Work Health and Safety

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 All testing and sampling to be carried out using the appropriate P.P.E. gear.
- 4.4 MLSS Test
- 4.4.1 Meter to be calibrated weekly (instruction in filing cabinet).
 - 4.4.2 Meter to be turned on before leaving Laboratory.
 - 4.4.3 Test to be carried out in Aeration Basin near discharge point (sample testing has shown that readings taken here are the same or similar to those taken near the Aerators).
 - 4.4.4 Probe to be lowered into basin so that the first red mark is below top water level (approx. 1 metre).
 - 4.4.5 Meter indicator is to be on g/l.
 - 4.4.6 Probe is to remain in basin for 2 minutes to allow meter to level out.
 - 4.4.7 Reading is to be registered in Log Book as mg/l (e.g. 3.12 becomes 3 120 mg/l)
- 4.5 Sludge Settlement Test
- 4.5.1 Sludge sample to be taken from Basin discharge pit.
 - 4.5.2 Plastic bucket outside Lab is used to take sample (approx. 3 litres).
 - 4.5.3 Sample is taken back to Lab and stirred before filling Stirred Cylinder up to the 50 mark.
 - 4.5.4 Cylinder is turned on and timer (located on fridge) is set for 60 minutes.
 - 4.5.5 At the end of the 60 minutes reading is taken and recorded in Log Book.

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4.6 Effluent Testing

- 4.6.1 Sample to be taken from Clarifier Discharge points.
- 4.6.2 Take 800ml beaker from Lab cupboard (labelled Testing Equipment).
- 4.6.3 Ensuring that Clarifier Bridges are well clear of discharge points take composite sample from tanks.
- 4.6.4 Nitrate, Ammonia, PH and Alkalinity tests can then be carried out in the Lab following the instruction sheets located in the Testing Equipment cupboard.
- 4.6.5 Readings to be recorded in Log Book.

4.7 Sludge Blanket Test

- 4.7.1 Test to be carried out in both Clarifiers.
- 4.7.2 Meter to be turned on before leaving Lab.
- 4.7.3 Meter indicator is to be on LEVEL.
- 4.7.4 Probe to be lowered into Clarifiers until reading begins to increase rapidly.
- 4.7.5 Taped marks are to be checked to find out depth (red = 1m intervals, white = 200mm intervals e.g. 2 whites past second red = 2400mm)
- 4.7.6 Readings to be recorded in Log Book in mm's.

4.8 pH Readings

- 4.8.1 Meter to be Calibrated weekly (instructions in filing cabinet).
- 4.8.2 Digester readings to be taken preferably when mixing or after drain valves have been running for about 2 minutes.
- 4.8.3 Sample to be taken in steel bucket located in mixing well area.
- 4.8.4 Middle valves to be used to take samples from Digesters 1 and 2, and bottom valve on Digester 3.
- 4.8.5 Probe to remain in sample for approx 2 minutes before readings are taken.
- 4.8.6 Influent readings are to be taken at the end of the Trickle Filter flume or Aeration flume.
- 4.8.7 Humus tank readings are to be taken off of bridges in the centre of the tanks.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 MLSS Meter/Probe
- 5.3 Stirred Cylinder
- 5.4 PH Meter/Probe
- 5.5 Sludge Blanket Test Probe
- 5.6 Plastic bucket
- 5.7 800ml beaker
- 5.8 Steel Bucket
- 5.9 Portable Spectrophotometer
- 5.10 Alkalinity Test Kit
- 5.11 Scissors
- 5.12 Assorted cylinders with screw caps, i.e. 10ml to 25ml
- 5.13 Dissolved Oxygen Meter/Probe

Document Number: WWH047	Document Name: Nowra Treatment Works Testing	Responsible Group: Shoalhaven Water	Reference: SWMS1281
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6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guideline
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.

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8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
13. Fall, slip or trip into waste water	Drowning Injury Infection	- Take samples from discharge points or pumps wherever possible.
14. Biological - Working with waste water	Infection or illness	- Put on appropriate PPE – goggles, disposable gloves, boots - Strict personal hygiene - Strict worksite hygiene
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement. Don't walk where can't see firm surface e.g. long grass
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations

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CLEAN BAR SCREEN RAKE (MANUALLY) AT WASTE WATER TREATMENT PLANTS

1. PURPOSE

1.1. To instruct in the cleaning of the bar screen rake (manually) in a safe manner.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure

Unique Document Number: SWP WWH049	Document Name: Clean Bar Screen Rake (Manually) at Waste Water Treatment Plants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/184
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 1 of 3

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Isolate rake and all Pumping Stations that deliver flow to the inlet works for the duration of this task and follow tag out procedure.
- 5.4 Wear appropriate PPE – safety goggles, gloves, disposable overalls, rubber boots or waders.
- 5.5 Do job during low flow or, if possible, have flow isolated.
- 5.6 Do not use hands to remove rags under any circumstances to avoid needle stick injuries.
- 5.7 Only use tools to remove rags. For example: multigrips or scraper.
- 5.8 Place rags in wheelbarrow or collection pit ready for disposal. See WWH014: Collection and Storage Onsite of Grit and Screenings.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

Unique Document Number: SWP WWH049	Document Name: Clean Bar Screen Rake (Manually) at Waste Water Treatment Plants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/184
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9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH049	Document Name: Clean Bar Screen Rake (Manually) at Waste Water Treatment Plants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/184
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DERAGGING SURFACE AERATORS AT WASTEWATER TREATMENT PLANTS

1. PURPOSE

- 1.1. To instruct in the Deragging of surface Aerators at Wastewater Treatment Plants in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes
- 3.7. Rad-Tel Operations Manual

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure

Unique Document Number: SWP WWH050	Document Name: Deragging Surface Aerators at Wastewater Treatment Plants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed prior to starting the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Point isolate aerator alarm on telemetry computer. Follow Rad-Tel operations manual.
- 5.4. Turn off aerator in E.A.T. control room and tag accordingly. Follow tagging procedure.
- 5.5. Turn off aerator at local control switch on Walk Bridge and tag.
- 5.6. Take deragging rake out of rack.
- 5.7. Using correct P.P.E. eg: safety goggles, gloves, coveralls and mask.
- 5.8. With the de-ragging rake, the operator removes the accumulation of rag from the top of the aerator impeller & moves to the end of the walkway with the accumulation of rag still on the rake head (**Note: Do Not Lift Rags Out of Water While Still On Aerator or Walkway**). The rake head is then dragged up the side of the aeration basin with rags attached. If there is any doubt about being able to lift the accumulation of the rags safely, then two operators must carry out the task of actually removing the accumulation of rags from the aeration basin.
- 5.9. Place rags into a wheelbarrow & thoroughly hose down the area where the rags were dragged up the aeration basin wall and around the wheel barrow.
- 5.10. Replace rake in holder.
- 5.11. Place rags in trench and cover with at least 150mm sand or other appropriate material. or place collected material into the appropriate bin for collection & disposal.
- 5.12. Remove all isolating tags.
- 5.13. Return aerator control switch in E.A.T. switch room to Auto and local control switch on walkway to ON.

Unique Document Number: SWP WWH050	Document Name: Deragging Surface Aerators at Wastewater Treatment Plants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
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5.14. Remove point isolates from Telemetry computer.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH050	Document Name: Deragging Surface Aerators at Wastewater Treatment Plants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
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GREASE AND OIL CHECKS

1. PURPOSE

- 1.1 To instruct in Grease and Oil Checks for STPs in a safe manner

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 PPE required – safety glasses, rubber gloves, and safety boots.
- 5.4 Tools required – adjustable wrench, grease gun.
- 5.5 All equipment to be electrically isolated at local power switches before carrying out grease and oil checks.
- 5.6 With grease gun grease the following equipment:-
 - Bar screen Rake
 - Archimedes Screw
 - Grit Hopper
 - Aerators/ Aerator Blowers
 - Decants
 - Effluent Pumps
 (Information on location of grease points can be found in Operational Manuals in the Office)
- 5.7 Oil checks to be carried out at the same time as greasing.
- 5.8 Aerators have dipsticks located at the base and levels can also be seen through the oil filters.
- 5.9 Grit Blowers and Decants have site glasses on the gearboxes
- 5.10 Sludge pumps and Bar screen motor have oil level plugs fitted.
- 5.11 Effluent pumps packing glands to be checked and adjusted when greasing
(Information on oil levels and checks can be found in Operational Manuals)

6. QUALITY CONTROL

Unique Document Number: SWP WWH051	Document Name: Grease and Oil	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/206
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 2 of 3

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH051	Document Name: Grease and Oil	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/206
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 3 of 3

HOSING/ SCRUBBING AND CHECKING INLET WORKS

1. PURPOSE

- 1.1. To instruct in the hosing and checking of Inlet Works in a safe manner. This is done on a daily basis.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure

5. DESCRIPTION

HOSING

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Have on appropriate PPE gear including safety goggles.
- 5.4. Do a visual inspection of the entire Inlet Works.
- 5.5. Use the hose supplied, hose all the walls and channel bottoms of the Inlet Works, removing fat build up and slime that may be present.

BROOM SCRUBBING

- 5.6. Have on appropriate PPE gear including safety goggles
- 5.7. Do a visual Inspection of the entire Inlet works
- 5.8. Ensure that the flow to the section of the Inlet works to be worked in, has been either diverted using diversion boards or all the pumps and or pumping stations supplying flow to the Inlet works have been isolated & tagged out for the duration of the works.

NOTE

Make sure that all isolated pumps or pumping stations are visually monitored or monitored by the Telemetry system for the time that they are isolated to ensure that there are no overflows. If for any reason flow has to be returned to the inlet works before the task is completed all staff must leave the inlet works channel until the flow has ceased & diversions or pump isolations and Isolation tags are put back in place.

- 5.9. Ensure that there is safe entry to & exit from the Inlet works via a strategically placed ladder, if one is not supplied as part of the Inlet works.
- 5.10. After scrubbing the inlet works with a channel brush, exit the Inlet works & hose the entire area scrubbed.

Unique Document Number: SWP WWH052	Document Name: Hosing and Checking Inlet Works	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/186
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 2 of 3

5.11. When task is complete return flow to the entire Inlet works, either by removing the flow diversion boards or removing all tags from isolated pumps and returning them to normal operation.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH052	Document Name: Hosing and Checking Inlet Works	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/186
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 3 of 3

CLEANING AERATORS AND DECANTS

1. PURPOSE

- 1.1. To instruct in Cleaning Aerators and Decants in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Tag out & Isolate all Aerators / Decanters in switch room Isolate Aerators / Decanters at local power switch .
- 5.4. Using on-site hose wash all deposits off Aerator splash plates, pontoons and walkways (at no time should personnel venture outside safety rails located on Aerators).
- 5.5. Decants should be cleaned using hoses located on walkway.
- 5.6. Any weeds growing on decants should be hosed off or poisoned (chlorine).

NOTE: Refer to Corporate OH&S Manual; S2 OHS 13 Sodium Hypochlorite Safe Work Procedures.

- 5.7. If algae build-up on Decants cannot be removed by hosing, a weak solution of chlorine can be used (see SWMS WWH 032 Cleaning of Concrete Decant Pits and Concrete Channels with Sodium Hypochlorite Solution).

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

Unique Document Number: SWP WWH053	Document Name: Cleaning Aerators and Decants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/187
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 5 Page 2 of 3



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9.1. The Norther, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH053	Document Name: Cleaning Aerators and Decants	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/187
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 5 Page 3 of 3

OPERATION AND MAINTENANCE OF THE GRIT REMOVAL SYSTEM ON THE AERATION BASIN AT NOWRA STP

1. PURPOSE

- 1.1. To instruct in the operation and maintenance of the grit removal system on the aeration basin at Nowra STP in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
STP	Sewerage Treatment Plant

Unique Document Number: SWP WWH054	Document Name: Operation and Maintenance of the Grit Removal System on the Aeration Basin at Nowra STP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/199
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 1 of 3



5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.

OPERATING THE GRIT REMOVAL SYSTEM

- 5.3. Place Stop Boards in the correct position to retain grit saturated water.
- 5.4. Check to see if the 100mm ball valve is in the correct (OPEN) position before operating the system.
- 5.5. Then by turning the button clearly marked 'Blower' clockwise and pulling the red button towards you the 'Blower' system will engage and function. This will then force the air into the bottom of the grit system, which lifts air and water through the piping system to the outlet point.
- 5.6. To lift the heavier type grits you must activate the 'Water Pump' system, which is also clearly marked and is situated to the right of the 'Blower' system.
- 5.7. Both the 'Blower' and 'Water' systems have to be activated so the system can run effectively.
- 5.8. After a few moments whilst the machine is running the liquid will start to come through clear. To draw more grit from the tank shut the 100mm ball valve for three seconds then re-open the ball valve to allow more grit to come through. Repeat this process until there is no evidence of grit coming through the system.
- 5.9. To shut down the system you must push the two ('Blower and Water Pump') switches back to their original position (OFF).

MAINTAINING THE GRIT REMOVAL SYSTEM

- 5.10. There are four grease nipples on this system.
 - a. Two grease nipples located on the grit system itself. These grease nipples must be GREASED DAILY. Six pumps of grease into the top grease nipple and three into the bottom grease nipple.
 - b. The other two grease nipples are located on the systems 'Blower' these must be greased fortnightly three to six pumps of grease into both nipples.

Unique Document Number: SWP WWH054	Document Name: Operation and Maintenance of the Grit Removal System on the Aeration Basin at Nowra STP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/199
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 2 of 3

5.11. This system also needs to be painted once a year and treated for rust wherever rust is likely to occur.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Central Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH054	Document Name: Operation and Maintenance of the Grit Removal System on the Aeration Basin at Nowra STP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/199	
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6	Page 3 of 3

PLANT INSPECTION

1. PURPOSE

- 1.1 To instruct in plant inspection.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1 Report to Operator or Coordinator before commencing.
- 5.2 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.3 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change
- 5.4 Looking for problems with machinery or process.
- 5.5 Take note of excessive noise, unusual smells, stopped machinery or any other problems.
- 5.6 Check Alarm lights in Switchrooms (usually a black or yellow button).
- 5.7 All decant mechanisms should be checked for correct operation over one complete decant cycle each day looking for excessive carry-over etc.
- 5.8 Report any discrepancies to Operator or Coordinator.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

Unique Document Number: SWP WWH055	Document Name: Plant Inspection	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/207
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 2 of 3



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10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH055	Document Name: Plant Inspection	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/207
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 3 of 3

MAINTAINING CLARIFIER AND HUMUS TANKS

1. PURPOSE

- 1.1. To instruct in operating and maintaining Clarifier and Humus Tanks in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
VMP	Vehicle Movement Plan

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Read ChemWatch Safety Data Sheet for liquid pool chlorine/sodium hypochlorite.
- 5.4. Adhere to safe manual handling procedures.
- 5.5. Select and wear correct PPE including rubber boots, rubber gloves, overalls and face shield.
- 5.6. Isolate and tag out.
- 5.7. Half fill watering can with liquid chlorine and fill up with water.
- 5.8. Carefully pour the solution around Clarifier and Humus Tank channels where algae is present.
- 5.9. Allow 15 minutes detention time to kill algae.
- 5.10. Hose down pits and surrounding concrete area.
- 5.11. Thoroughly wash out watering can with clean water.
- 5.12. Remove PPE and wash in soapy water.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

Unique Document Number: WWH056	Document Name: Maintaining Clarifier and Humus Tanks	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/200
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 2 of 3

8.1 The **Operationss Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: WWH056	Document Name: Maintaining Clarifier and Humus Tanks	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/200
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 3 of 3

MAINTENANCE OF CONTROL VALVE (R.E.M.S. DAM)

1. PURPOSE

- 1.1 This safe work procedure (SWP) provides details of safety considerations to instruct in the maintenance of the control valve (R.E.M.S.) in a safe manner.

2. SCOPE

- 2.1 This SWP provides guidance on general safety considerations for the maintenance of control valve.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1 WH&S Act 2011
- 3.2 WH&S Regulation 2011
- 3.3 Shoalhaven City Council Policies and Procedures
- 3.4 Corporate WH&S Policies and Procedures
- 3.5 Shoalhaven Water WH&S Policies and Procedures
- 3.6 WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

Unique Document Number: SWP WWH057	Document Name: maintenance of control valve (R.E.M.S. dam)	Responsible Section:	TRIM Reference: 18446E PRD12/32
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version:4 Page 1 of 3

5. DESCRIPTION

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Wear appropriate P.P.E. – boots, gloves and goggles if indicated.
- 4.4 Comply with Manual Handling Procedure.
- 4.5 Be aware that snakes may be present in or around pits.
- 4.6 Isolate valve at the main interconnection.
- 4.7 Dismantle filter housing and remove filters.
- 4.8 Flush filters with water to clean.
- 4.9 Reassemble filter housing.
- 4.10 Check automatic switch on and off by lowering and raising ball float. If there are any problems, adjust needle and seat on top of valve.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

- 7.1 Nil

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

Unique Document Number: SWP WWH057	Document Name: maintenance of control valve (R.E.M.S. dam)	Responsible Section:	TRIM Reference: 18446E PRD12/32
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version:4 Page 2 of 3



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9. PROCEDURE OWNER

- 9.1. The Central Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH057	Document Name: maintenance of control valve (R.E.M.S. dam)	Responsible Section:	TRIM Reference: 18446E PRD12/32
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 3 of 3

CLEARING PUMP CHOKES

1. PURPOSE

1.1 To instruct in clearing pump chokes in a safe manner.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. This task can be carried out the same as for cleaning wells. Isolate and Tag out the pump before removal. Refer to the Corporate OH&S Procedure S2 OHS 15 Energy Isolation.
- 5.4. Lift the pump to just below the top of the pump station, and thoroughly wash the pump before removing it from the wet well.
- 5.5. Traverse the pump onto a clear solid area where it can be worked on in safety.
- 5.6. Dismantle the pump to the extent necessary.
- 5.7. Clear the choke.
- 5.8. Reassemble the pump.
- 5.9. Return the pump to its guide rails and slowly lower the pump back on to its pedestal.
- 5.10. Before removing the lifting cable from the pump, start the pump momentarily to determine that it has seated correctly and operates normally, then remove the lifting cable and secure the station.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

Unique Document Number: SWP WWH058	Document Name: Clearing Pump Chokes	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/194
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 2 of 3



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8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH058	Document Name: Clearing Pump Chokes	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/194
Adopted: 02/06/2005	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 3 of 3

BACKWASHING SPS WITH TREATED EFFLUENT CULBURRA PUMP STATION 12

1. PURPOSE

- 1.1. To instruct in the backwashing of SPS No12 in a safe manner.

2. SCOPE

- 2.1. This SWP provides guidance on general safety considerations to eliminate or reduce the potential for injury to employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1 OHS Act 2000
- 3.2 OHS Regulation 2001
- 3.3 Shoalhaven City Council Policies and Procedures
- 3.4 Corporate OHS Policies and Procedures
- 3.5 Shoalhaven Water OHS Policies and Procedures
- 3.6 WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

5. DESCRIPTION

Unique Document Number: SWP WWH062	Document Name: Backwashing SPS With Treated Effluent, Culburra Pump Station 12	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/219
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 1 of 3

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2 The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3 Put on harnesses and connect up to a fall arrestor or retractable lanyard attached to a crane or other rated safety anchor point, if safety grates are not in place
- 5.4 At Plant
 - 5.4.1 Point isolate Pump Fault alarms on Telemetry computer
- 5.5 At Pump Station
 - 5.5.1 Use valve extension located in switchroom and open flushing valve 4 to 5 full turns (valve located in manhole with the aluminium lid, S/SW direction from well).
 - 5.5.2 Open well lids
 - 5.5.3 Switch duty pump to manual mode and pump well dry (rag build-up should be flushed through holes in baffle wall).
 - 5.5.4 When well is empty switch pump off and allow well to fill up again.
 - 5.5.5 Repeat steps 3 and 4 until all rags are gone.
 - 5.5.6 Switch duty pump back to auto mode and allow to run with flushing valve still open for 2 full auto pump downs.
 - 5.5.7 Close flushing valve and return valve extension to switchroom.
 - 5.5.8 Check pumps are both on auto mode and all lids and doors are secured.
- 5.6 At Plant
 - 5.6.1 Remove isolates from Telemetry computer.

Unique Document Number: SWP WWH062	Document Name: Backwashing SPS With Treated Effluent, Culburra Pump Station 12	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/219
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4 Page 2 of 3

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

- 7.1 Nil

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH062	Document Name: Backwashing SPS With Treated Effluent, Culburra Pump Station 12	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/219
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 4
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Loading/Transporting 20 Litre Drums of Aluminium Sulphate

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To explain the safest method of Loading / Transporting & Unloading 20 Litre drums of Aluminium Sulphate.
- 2.2. Use appropriate PPE

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety
 3.4. Alum: Aluminium Sulphate
 3.5. TCP: Traffic Control Plan

4. PROCEDURE

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. Trailer / Truck Preparation
- 4.2.1. Attach trailer to truck if used and secure safety chain and plug trailer electrical connection (lights) into truck socket.
- 4.2.2. Check all trailer lights for correct operation
- 4.2.3. Check that the correct hazardous chemical signs are attached to the Liquid Aluminium Sulphate containers.
- 4.2.4. Check trailer brakes for correct operation and tyre pressure

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- 4.2.5. Ensure that two (2), twenty (20) litre drums of water are carried on the trailer at all times during transportation.
 - 4.2.6. Ensure that two (2), ten (10) litre buckets of sand are carried on the trailer at all times during transportation.
 - 4.2.7. After loading the full 20 litre drums of Aluminium Sulphate into the truck or trailer ensure that the lids are secure.
 - 4.2.8. Thoroughly hose down the loading area.
 - 4.2.9. Ensure that all relevant Material Safety Data Sheets are kept in the vehicle at all times.
 - 4.2.10. Check that the two (2) way radio and mobile phones in all vehicles are functional.
 - 4.2.11. Ensure all vehicles have complete first aid kits in them.
- 4.3. Loading Liquid Aluminium Sulphate From Storage Tank Into 20 Litre Containers (Refer To SWMS WWH034)
- 4.3.1. Ensure that all emergency eyewash and shower systems function correctly.
 - 4.3.2. Operators must wear disposable overalls, elbow length gloves and a full face shield, while any transferring of materials operations are taking place.
 - 4.3.3. Make sure all fittings are secured correctly, before transferring liquid aluminium sulphate.
 - 4.3.4. No smoking during any transferring of material operation.
- 4.4. Transporting Liquid Aluminium Sulphate
- 4.4.1. Check in rear view mirrors for any signs of spillage
 - 4.4.2. Approximately half to one kilometre from loading site, stop vehicle and check load security.
 - 4.4.3. If any spillage during transport occurs, advise Coordinator and apply clean up procedures required in MSDS.
- 4.5. Transferring 20 Litre Containers Of Liquid Aluminium Sulphate From Truck / Trailer To Dosing Areas.
- 4.5.1. Place truck / trailer into correct unloading area
 - 4.5.2. Place 20 litre containers into position using crane truck crane and appropriate lifting device if dosing area is above shoulder or requires containers to be carried up stairs or ladders.
 - 4.5.3. Hose down the truck tray and or trailer with water after any Liquid Aluminium Sulphate Loading and or transportation operations.
 - 4.5.4. In the event of Liquid Aluminium Sulphate coming into contact with exposed skin or a spillage over clothing or person, immediately wash off with copious quantities of water from the emergency shower or eyewash system or the nearest source of potable water.
 - 4.5.5. Emergency procedures are as per relevant Material Safety Data Sheets (MSDS).
 - 4.5.6. Wash hands.
 - 4.5.7. Report any defects with equipment during this process, to the Coordinator ASAP.

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Crane Truck (Crane 3 Tonne Capacity or larger)
- 5.3. Truck and Box Trailer Combination

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Hazardous Substances/Users
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

Document Number: WWH063	Document Name: Loading/Transporting 20 Litre Drums of Aluminium Sulphate	Responsible Group: Shoalhaven Water	Reference: SWMS1143
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- 7.1. WHS Act 2000
- 7.2. WHS Regulation 2001
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2. Manual Task Guideline
 - 7.4.3. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

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9. HAZARD ASSESSMENT

9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemical - Aluminium Sulphate	Irritating to eyes and respiratory system	<ul style="list-style-type: none"> - Avoid exposure, read MSDS and follow safety precautions - Wear PPE – gloves, goggles and appropriate breathing apparatus - Immediately remove contaminated clothing - In case of contact with eyes, rinse with plenty of water and contact doctor or Poisons Information Centre - All drums must have labels - Wash down the surface directly under the pallet and hose fittings
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-‘3’ point technique – back out while exiting, check for uneven ground
1. Traffic - Moving traffic or plant	Death or serious injury	<ul style="list-style-type: none"> - Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer’s recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer’s recommendations

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Transferring Sewer Conditioning Agent (SCA) From Bulk Storage Tank Into 1000 Litre Mobile Bulky Containers

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct in the handling, transfer and storage of Sewer Conditioning Agent from the bulk storage tank into 1000 litre mobile bulky containers in a safe manner.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. SCA: Sewer Conditioning Agent
- 3.5. MSDS: Material Safety Data Sheet
- 3.6. TCP: Traffic Control Plan

4. PROCEDURE

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. All SCA facilities shall be approved Sites
- 4.4. Employees who are involved in the handling of SCA Solution, or work in areas where SCA is used, shall have read and familiarised themselves with the current MSDS for the SCA.

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- 4.5. Prior to connecting or disconnecting SCA transfer hoses the following conditions must be met:
 - 4.5.1. Two trained personnel must be present at all times.
 - 4.5.2. Open building door if applicable and ensure that the ventilation fan is operating if fitted. Use doorstops to prevent door slamming closed.
- 4.6. Ensure that all staff involved in the transfer operation is using appropriate PPE – safety goggles, gloves, disposable overalls & Gum Boots.
- 4.7. Ensure that the information from the MSDS listed below is available to all Staff
 - Description of Main Properties
 - Description of Product & Packaging
- 4.8. Ensure that all emergency showers and eye wash facilities are operational before any work begins.
- 4.9. Ensure that all fire extinguishers are serviceable.
- 4.10. Ensure that wash down hose is serviceable.
- 4.11. Position truck with bulky containers as close as possible to the on-site storage tank.
- 4.12. Connect the transfer hose from truck mounted 1,000 Litre Mobile Bulky container to Bulk Storage tank Pump.
- 4.13. Open all appropriate valves and turn on the electric transfer pump
- 4.14. Transfer the appropriate amount of SCA solution from the bulk Storage Tank into the 1000 Litre Mobile Bulky Container. Keep a close watch on the rate of filling & cease filling operations when the Mobile Bulky Container has the required amount of SCA solution in it.
- 4.15. After the required amount of SCA Solution has been transferred into the 1,000 Litre Mobile Bulky Container, turn off the electric transfer pump & shut the hose in line valves.
- 4.16. Disconnect the transfer hose from the Bulk Storage Tank first and open the hose inline valve closest to the tank and allow any residual SCA solution to empty into the drain age pit.
- 4.17. Connect the kamlock cap to the mobile bulk container outlet valve and flush the delivery hose with water from the wash down hose ensuring that all contaminated water is directed into the drainage pit.
- 4.18. Ensure that all equipment inside the area is washed down with the wash down hose and that all contaminated water is hosed into the drainage pit to allow for appropriate disposal.

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- 4.19. Load all hoses and equipment onto truck.
- 4.20. In the event of Sewer Conditioning Agent coming into contact with exposed skin or a spillage over clothing or person, immediately wash off with copious quantities of potable water from an emergency shower / eye system or potable water hose.
- 4.21. After the site has been cleaned up & secured, all staff can remove PPE worn during the transferring operation. All disposable PPE must be disposed of in the appropriate manner.
- 4.22. Ensure that the 1,000 Litre Mobile Bulky Container is securely fastened to the truck in the appropriate manner.

SEWER CONDITIONING AGENT LEAK PROCEDURE

- 4.23. All spills are to be handled in accordance with the Shoalhaven Waters EMERGENCY RESPONSE PLAN.
- 4.24. Two trained personnel must be present at all times in order to isolate an SCA Solution leak. At least one of these should not become involved in the operation and should remain on-site as the safety observer.
- 4.25. If the SCA leak is outside the bunded area and is of a minor nature appropriate action must be taken to contain the spill.
- 4.26. If the spill is of a substantial nature then the Coordinator will contact the appropriate emergency services unit via the triple O phone number.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment - safety goggles, gloves, disposable overalls & Gum Boots
- 5.2. Truck with mounted 1,000 Litre Mobile Bulky Container
- 5.3. Transfer hoses
- 5.4. Emergency showers/eyewash stations
- 5.5. Fire extinguisher
- 5.6. Wash down hose

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Hazardous Substances/Users

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- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.8. Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2. Manual Task Guideline
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

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- 8.4. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Sewer Conditioning Agent/Ferrous Chloride	Harmful if swallowed Risk of serious damage to eyes	- All SCA facilities shall be approved sites - Read MSDS and follow safety precautions - Open building door and/or ensure that the ventilation fan is operating - Ensure that all emergency showers and eye wash facilities are operational before any work begins - Remove all PPE and clean or dispose of properly
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- ‘3’ point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Wastewater Treatment Works Process Testing

1. PURPOSE

1.1. To instruct in the safe procedure for STP Process Testing.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

Unique Document Number: SWP WWH066	Document Name: Wastewater Treatment Works Process Testing	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/208
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. All testing and sampling to be carried out using the appropriate P.P.E. gear.
- 5.4. MLSS Test
 - 5.4.1. Meter to be calibrated weekly (instruction in filing cabinet).
 - 5.4.2. Meter to be turned on before leaving Laboratory.
 - 5.4.3. Test to be carried out in Aeration Basin during Aeration Phase.
 - 5.4.4. Probe to be lowered into basin so that the first red mark is below top water level (approx. 1 metre).
 - 5.4.5. Meter indicator is to be on g/l.
 - 5.4.6. Probe is to remain in basin for 2 minutes to allow meter to level out.
 - 5.4.7. Reading is to be registered in Log Book as mg/l (e.g. 3.12 becomes 3 120 mg/l)
- 5.5. Sludge Settlement Test
 - 5.5.1. Mixed Liquor sample to be taken from Basin discharge pit or after 10 minutes of complete aeration, from the Aeration basin
 - 5.5.2. Plastic bucket outside Lab is used to take sample (approx. 3 litres).
 - 5.5.3. Sample is taken back to Lab and stirred before filling Stirred Cylinder up to the 50 mark.
 - 5.5.4. Cylinder is turned on and timer is set for 60 minutes.
 - 5.5.5. At the end of the 60 minutes a reading is taken and recorded in Log Book.
 - 5.5.6. If performing a straight Settled Solids Test (Non Stirred Cylinder 1000mls) readings are taken at 10,20,30 & 60 minute intervals & recorded in the Log book
- 5.6. Decanted Effluent Testing
 - 5.6.1. Sample to be taken from appropriate discharge points & used to for the following tests
 - Alkalinity Test, Low Range, (Refer to Hach Spectrophotometer Handbook).
 - Nitrate Test, Medium Range, Cadmium Reduction Method (Refer to Hach Spectrophotometer Handbook).

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- Ammonia Nitrogen (Nessler Method) (Refer to Hach Spectrophotometer Handbook).
 - Ph.
 - Temperature.
- 5.6.2. Sampling from a Copasac Filtering System
Remove one copasac Screen from its slide and place a sample collection bucket in its place to catch the treated effluent from the second or later decant of the day of testing; making sure a rope is tied to the handle of the sampling bucket to prevent it from being washed away.
- 5.6.3. Sampling from an Aeration Basin.
Sample is to be taken after at least 2 minutes into the second or later decanting phase on the day of testing. The sample can be taken from a decant pit or by lowering a bucket with a rope securely attached to it into the decanting effluent stream inside the decant trough.
- 5.6.4. Sampling from a Clarifier
Sample is to be taken from the clarifier outlet channel no earlier than 10.00am on the day of sampling.
- 5.7. Sludge Blanket Test
- 5.7.1. Test to be carried out in all Aeration Basins / Clarifiers.
 - 5.7.2. Meter indicator is to be on LEVEL.
 - 5.7.3. MLSS Meter to be turned on and allowed to zero out before proceeding
 - 5.7.4. Probe to be lowered slowly into Aeration Basins (prior to Decanting) / Clarifiers until reading begins to increase rapidly.
 - 5.7.5. Taped marks are to be checked to find out depth (red = 1m intervals, white = 200mm intervals e.g. 2 whites past second red = 2400mm)
 - 5.7.6. Readings to be recorded in Log Book in millimetres.
- 5.8. PH & Temperature of Mixed Liquor, Effluent and Influent.
- 5.8.1. Meter to be Calibrated weekly (instructions in filing cabinet).
 - 5.8.2. Mixed Liquor Ph to be taken during Aeration
 - 5.8.3. Effluent and influent Ph to be taken from collected samples.
 - 5.8.4. Turn on Ph meter and remove moisture cap.
 - 5.8.5. Place both probes into sample and allow approximately 2 minutes before taking reading.
 - 5.8.6. While probe is still in sample press range button & record Temperature of the sample.

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- 5.9. Free Chlorine Testing (CL₂).
 - 5.9.1. Logon to Citec Computer & manually start Effluent Pumps.
 - 5.9.2. Let pumps run for approximately 5 minutes or until flow has been passing the sampling point for at least 2 minutes before taking sample to be tested.
 - 5.9.3. Sample is to be taken from the sampling point marked final effluent sampling point.
 - 5.9.4. Refer to Hach Spectrophotometer handbook for testing procedure.

- 5.10. Dissolved Oxygen Testing (Portable meter only)
 - 5.10.1. Test to be carried at least 10 minutes into a full aeration cycle.
 - 5.10.2. From the Aeration Basin Bridge / walkway turn on the meter and lower the probe into the mixed liquor.
 - 5.10.3. Allow the probe to remain in the mixed liquor for at least 2 minutes before taking the reading.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's share assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Manual Backwash of Effluent Sand Filter System and Chlorine Injector Unit Operation at Sussex Inlet WWTP

1. PURPOSE

- 1.1. To explain the safest method of Manual Backwash of Effluent Sand Filter System and Chlorine Injector Unit Operation at Sussex Inlet Wastewater Treatment Plant.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
BA	Breathing Apparatus
000	Emergency Contact Number

Unique Document Number: SWP WWH068	Document Name: Manual Backwash of Effluent Sand Filter System and Chlorine Injector Unit Operation at Sussex Inlet WWTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/213
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Safety Equipment
 - 5.3.1. B.A. Gear is correctly stored in Sussex Inlet Workshop/Store Area
 - 5.3.2. First aid kit is located in Sussex Inlet Office/Lab. Mobile Kit Available
 - 5.3.3. Plant phone to be carried at all times.
- 5.4. Pre-Operational Check
 - 5.4.1. Before commencing backwash sequence, ensure there is sufficient effluent contained in 24 hour ponds.
 - 5.4.2. Open Effluent pumping station switch cabinet , check all warning lights and instruments are functioning.
- 5.5. Backwash Sequence
 - 5.5.1. Turn Pump No 2 or Pump No 3 to 'On' position on Control Panel
 - 5.5.2. Check Operating Pump seal water discharge line is working
 - 5.5.3. Make your way to Sand Filter Switch Cabinet adjacent to Sand Filters. Open Cabinet, Check Circuit Breakers are all in 'On' position.
 - 5.5.4. Check that switches to Air Blower, Filters No's 1,2,3 are in "Auto" position. Check that switches to Inlet Valve and Outlet Valve are in "Open" position. Check that switches to Washout Valve and Air Scour are in "Closed" position. Check Lamp Test by pressing "Lamp Test" button to check all globes. Replace any globes not functioning.
 - 5.5.5. To initiate Manual Backwash, push button marked "Auto Backwash" once only. Close switch cabinet.
- 5.6. Observe Backwash Sequence
 - 5.6.1. Filter No.1 discharge valve will open and drain excess water. Proceed to inlet side to Sand Filter No 1 and observe Auto Inlet Valve and auto outlet valve are in the closed position.
 - 5.6.2. Standby approximately 60 secs to observe Air scour valve open. Air Blower will then start and run for approximately 90 seconds.

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- 5.6.3. Once the blower has stopped and the air scour valve has closed, there is a delay of about two minutes to allow for the air to escape the media, after which the filter outlet valve will open and act as the backwash inlet valve
- 5.6.4. Proceed to Filter No 1 Discharge Pit and open lids to observe water pump out of Sand Filter No 1. You should notice effluent quality gradually improve as accumulated solids are washed out of the filter.
- 5.7. Backwash Sequence Continued.
 - 5.7.1. After a set period (which can be adjusted by turning the backwash run time dial in the filter control cabinet) the discharge valve will close, the filter inlet valve will open and the filter will resume normal operation. If any valve fails to operate as described, notify the electricians that a fault exists.
 - 5.7.2. Filter No.2 will begin backwash sequence, and when complete Filter No.3 will follow suit. Follow steps 5.6 through 5.7.1
- 5.8. Chlorine Operation
 - 5.8.1. Proceed to Chlorine Room and open dosing room door and latch open. Allow at least two minutes before entering.
 - 5.8.2. Check Injector Unit is operating. The Rotameter can be observed through the sight glass and should not be adjusted. Unit is pre-set.
 - 5.8.3. Check Chlorine Bottle Storage Area to ensure chlorine gas cylinders on line are full or discharging. Change over any empty bottles. Follow "Orica" Chlorine Cylinder Vacuum System Changeover Instruction.
 - 5.8.4. Close the chlorine building door and return to the Effluent Pumping Station control cabinet and switch the effluent pump back to the auto position. Close effluent pumping station cabinet door and replace discharge pit covers

NOTE: Individual filters can now be backwashed by starting one of the pumps and selecting the "filter backwash" button for the desired filter, located in the filter control cabinet, and follow steps 5.4 through 5.7.1.,

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A Group of Shoalhaven City Council

Safe Work Procedure

WWH068
PRD12/213
Manual Backwash of Effluent Sand Filter System and Chlorine Injector Unit Operation at Sussex Inlet WWTP
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6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Managers Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Southern Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH068	Document Name: Manual Backwash of Effluent Sand Filter System and Chlorine Injector Unit Operation at Sussex Inlet WWTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/213
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TRANSFERRING 920 KILOGRAM DRUMS FROM BULK ROAD TRANSPORT DELIVERY POINT TO ONSITE CHLORINATION ROOM

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct in the Handling/Transferring of 920 kg chlorine drums in a safe manner.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan

4. PROCEDURE

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. All chlorine storage facilities shall be approved sites.
- 4.4. Employees who are involved in the handling of chlorine, or work in areas where chlorine is used, shall have access to a copy of the current MSDS Sheet for chlorine so they may read and familiarise themselves with the information and procedures for emergency purposes.

Document Number: WWH069	Document Name: TRANSFERRING 920 KILOGRAM DRUMS FROM BULK ROAD TRANSPORT DELIVERY POINT TO ONSITE CHLORINATION ROOM	Responsible Group: Shoalhaven Water	Reference: SWMS1162
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- 4.5. Prior to loading or unloading 920 kg chlorine drums to gantry crane the following conditions must be met.
 - 4.5.1. Two trained personnel must be present at all times.
 - 4.5.2. Open building door & ensure that ventilation fan is operating if fitted. Use doorstops to prevent doors slamming closed.
- 4.6. Ensure that all staff involved in the loading/unloading operation is using appropriate PPE. Breathing apparatus must be conveniently positioned, tested and ready to use if required.
- 4.7. Ensure that the information from the MSDS listed below is available to all staff
 - Description of Main Properties
 - Description of Product & Packaging
- 4.8. Ensure that all emergency showers and eye wash facilities are operational before any work begins.
- 4.9. Ensure that all fire extinguishers are serviceable.
- 4.10. Ensure that wash down hose is serviceable.
- 4.11. Position bulk delivery transport truck as close as possible to the doorway of the chlorine drum room in preparation for unloading of the drums.
- 4.12. Truck driver unloads the full drum from the truck using the forklift to a position in readiness for gantry crane hook-up and positioning in the chlorinator.
- 4.13. The first empty drum is connected to the gantry crane (The STP Operator or person in charge is to ensure that the Chlorine gas delivery line is disconnected from the empty drum before any attempt is made to lift the drum) and lifted over the full drum / drums and out of the chlorinator; the hooks are then disconnected from empty drum.
- 4.14. Attach the hooks to the full drum and then position it in place of empty drum.
- 4.15. Steps 4.12 through 4.14 are repeated for the subsequent removal and replacement of the further 920 kg drums of chlorine.
- 4.16. After the site has been secured, all staff can remove PPE worn during the transferring operation and breathing apparatus is then returned to its appropriate storage.

CHLORINE LEAK PROCEDURE

Document Number: WWH069	Document Name: TRANSFERRING 920 KILOGRAM DRUMS FROM BULK ROAD TRANSPORT DELIVERY POINT TO ONSITE CHLORINATION ROOM	Responsible Group: Shoalhaven Water	Reference: SWMS1162
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- 4.17. All spills are to be handled in accordance with the Shoalhaven Water's EMERGENCY RESPONSE PLAN.
- 4.18. Two trained personnel must be present at all times in order to isolate a chlorine leak. At least one of these should not become involved in the operation and should remain on site as the safety observer.
- 4.19. If chlorine leak is of a minor nature, appropriate action must be taken to contain the leak.
- 4.20. If the leak is of a substantial nature then the Coordinator will contact the appropriate emergency services unit via the triple O phone number.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Bulk Road Transporter
- 5.3. Forklift (supplied and operated by transporter)

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Hazardous Substances/Users
 - 6.1.5. Safe Handling of Chlorine Procedure
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.

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- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - First Aid Certificate
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes
- 7.7. Shoalhaven Water Emergency Response Plan

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

Document Number: WWH069	Document Name: TRANSFERRING 920 KILOGRAM DRUMS FROM BULK ROAD TRANSPORT DELIVERY POINT TO ONSITE CHLORINATION ROOM	Responsible Group: Shoalhaven Water	Reference: SWMS1162
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9. HAZARD ASSESSMENT

9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Chlorine	Harmful if inhaled Risk of serious respiratory problems or death	- All chlorine facilities shall be approved sites - Read MSDS and follow safety precautions - Open building door and/or ensure that the ventilation fan is operating - Ensure that all emergency showers and eye wash facilities are operational before any work begins - Remove all PPE and clean or dispose of properly
2. Manual Handling	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access.
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

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<p>3. Heat - Excessive exposure to UV</p>	<p>Sunburn Skin cancer Heat exhaustion</p>	<p>- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)</p>
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<p>Document Number: WWH069</p>	<p>Document Name: TRANSFERRING 920 KILOGRAM DRUMS FROM BULK ROAD TRANSPORT DELIVERY POINT TO ONSITE CHLORINATION ROOM</p>	<p>Responsible Group: Shoalhaven Water</p>	<p>Reference: SWMS1162</p>
<p>Adopted: 06.02.06</p>	<p>Last Amended: 21/08/2013</p>	<p>Review Date: 21/08/2016</p>	<p>Version: 3 Page 6 of 6</p>

Operation / Maintenance of REMS Mains Scour Valves

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct in the operation / maintenance of the REMS scour valves in a safe manner.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012 (which can be found in the back of the Shoalhaven Waters SWMS manual).
- 4.2. Wear appropriate PPE – Boots, gloves and goggles if indicated.
- 4.3. Comply with manual handling procedures.
- 4.4. Be aware that snakes & spiders may be present in or around scour valves & pits.
- 4.5. Using an approved lifting device remove the manhole lid.
- 4.6. If the pit / pits have water in them, then a tanker must be used to empty them.
- 4.7. Attach an appropriate valve key to the head of the scour valve, open the scour valve & allow the pit fill to within 100mm of the top of the pit, close the scour valve & again pump the water into the tanker. This procedure is to be repeated until the required amount of water is removed from the pit / main.
- 4.8. Any maintenance work on scour valves must be carried out in accordance with the manufacturer’s instructions.
- 4.9. If entering any scour pit, all confined spaces regulations must be adhered to.

Document Number: WWH072	Document Name: Operation / Maintenance of REMS Mains Scour Valves	Responsible Group: Shoalhaven Water	Reference: SWMS1140
Adopted: 14/04/2010	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 2 Page 1 of 4

4.10 Once all operations have been completed, leave all pits empty & replace manhole lids, leave all sites clean & tidy.

5. PLANT AND EQUIPMENT REQUIRED

5.1. Personal Protective Equipment

6. QUALIFICATIONS AND TRAINING

6.1. All permanent employees on site shall have completed the following training:

- 6.1.1. WHS Construction (and General) Induction
- 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
- 6.1.3. Manual Handling
- 6.1.4. Confined Space Work

6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.

6.5. Any employee operating plant or using equipment shall have had the appropriate training.

6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

- Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

6.9. Training details are located in TRAAD System and/or Supervisor Training Plans.

Document Number: WWH072	Document Name: Operation / Maintenance of REMS Mains Scour Valves	Responsible Group: Shoalhaven Water	Reference: SWMS1140
Adopted: 14/04/2010	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 2 Page 2 of 4

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground

1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCPs as per SOP012. - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)
19. Snake / Spider bites	Serious Injury / Death	- Wear appropriate PPE & carefully open all pits & thoroughly inspect them before entering or reaching into pits, keep all grass neatly cut for a distance of at least 1.0m around all pits. Always carry a snake bit kit in the service vehicle.

Maintenance of Activated Carbon Installations (Sheds & Pits)

1. PURPOSE

- 1.1. To instruct in the maintenance of Activated Carbon Installations in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

Unique Document Number: SWP WWH073	Document Name: Maintenance of Activated Carbon Installations (Sheds & Pits)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/201
Adopted: 11/10/2006	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 3 Page 1 of 3

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. Turn Gas detector on & check for gas levels around doors & pit lids before opening them.
- 5.3. Enter Building & or Pit (if confined Space conform to all requirements for working in a confined space) & again check for gas levels.
- 5.4. Remove the plugs from the bottom of the primary drums to check for moisture & drain any found.
- 5.5. If no odours or water are present exit building or pit, closing & locking all doors & lids.
- 5.6. If odour or data logger (data loggers are periodically used to gauge carbon efficiency) indicates that the primary drum / drums require changing, remove the primary drum / drums completely from the system & then move the secondary drum / drums into the primary position & install a fresh drum / drums into the secondary drum / drums position.
- 5.7. If a large amount of water comes out of either primary drums & there is offensive odours they will need to be replaced as per 4.6.
- 5.8. After all work is completed exit buildings / Pits & lock all doors & lids

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

Unique Document Number: SWP WWH073	Document Name: Maintenance of Activated Carbon Installations (Sheds & Pits)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/201
Adopted: 11/10/2006	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 3 Page 2 of 3

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH073	Document Name: Maintenance of Activated Carbon Installations (Sheds & Pits)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/201
Adopted: 11/10/2006	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 3 Page 3 of 3

Maintenance of REMS & Wastewater Distribution Air / Gas Release Valves

1. PURPOSE

- 1.1. To instruct in the maintenance & repairs to all Air / Gas release Valves in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
VMP	Vehicle Movement Plan

Unique Document Number: SWP WWH074	Document Name: Maintenance of REMS & Wastewater Distribution Air / Gas Release Valves	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/202
Adopted: 14/04/2010	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 2 Page 1 of 3

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. Wear appropriate P.P.E. – boots, gloves and goggles if indicated.
- 5.3. Comply with Manual Handling Procedure.
- 5.4. Be aware that snakes may be present in or around pits.
- 5.5. Isolate the main connecting valve, between the valve and the main.(if the isolating valve is located in a pit points 5.6 & 5.7 & 5.8 must be carried out first).
- 5.6. Confined Spaces requirements must be implemented as required. Unlock and open lid to pit, lay flat to ground or lock into the open position if appropriate.
- 5.7. If Pit / Pits have water in them a tanker must be used to empty them.
- 5.8. If a Tanker is used to empty pit, a Traffic Control Plan may be required in conjunction with your site specific risk assessment.
- 5.9. All Maintenance is to be carried out as per the valve manufacturers instructions
- 5.10. After all maintenance / repairs are complete open the main connecting valve.
- 5.11. Check that the valve does not leak under pressure.
- 5.12. Close pit lid & lock if applicable & make area tidy.
- 5.13. Check the valve again the next day to ensure that it is not leaking.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

Unique Document Number: SWP WWH074	Document Name: Maintenance of REMS & Wastewater Distribution Air / Gas Release Valves	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/202
Adopted: 14/04/2010	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 2 Page 2 of 3



8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH074	Document Name: Maintenance of REMS & Wastewater Distribution Air / Gas Release Valves	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/202	
Adopted: 14/04/2010	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 2	Page 3 of 3

Clearing R.A.S. Pump Chokes at STP's with Hand Winching Facilities

1. PURPOSE

1.1 To instruct in clearing pump chokes in a safe manner.

2. SCOPE

2.1 This safe work procedure (SWP) complies with the requirements of the "WH&S Act 2011" to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.2. Isolate and Tag out the pump before removal. Refer to the Corporate OH&S Procedure S2 OHS 15 Energy Isolation procedure.
- 5.3. Inspect hand winch assembly and cable for damage or corrosion, and ensure the cable is seated correctly in the overhead guides.
- 5.4. Using the hand winch assembly, lift the pump to just below the top of the walk way, and thoroughly wash the pump before removing it from the tank.
- 5.5. Traverse the pump using the hand winch onto a clear solid area where it can be worked on in safety.
- 5.6. Dismantle the pump to the extent necessary.
- 5.7. Clear the choke.
- 5.8. Reassemble the pump.
- 5.9. Return the pump to its guide rails using the hand winch assembly again and slowly lower the pump back on to its pedestal.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

Unique Document Number: SWP WWH075	Document Name: Clearing R.A.S. Pump Chokes at STP's	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/195
Adopted: 09/04/2008	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 2 Page 2 of 3



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Safe Work Procedure

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 PRD12/195
 Clearing R.A.S. Pump Chokes at
 STP's with Hand Winching
 Facilities
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9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's share assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH075	Document Name: Clearing R.A.S. Pump Chokes at STP's	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/195
Adopted: 09/04/2008	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 2 Page 3 of 3

General Wastewater Pumping Station Maintenance

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct staff to safely carry out General Maintenance of Wastewater Pumping Stations.(Mowing / whipper snipping, changing Pump Duty ,Warning lamp Testing & cleaning of Cabinets / Buildings inside and out)

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified, control measures taken and sites attended. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. Deactivate the intruder alarm on the Pumping Station cabinets / buildings if applicable. Refer to WWH012 Intruder Alarms for guidelines.
- 4.3. Open all doors, latch them open & ensure that all exhaust fans (if applicable) are operating.
- 4.4. Locate Pump Duty selector switch & select appropriate duty control.
- 4.5. Test all warning lamps by depressing the appropriate test buttons & replace defective lamps.
- 4.6. Remove any spider webs dirt & debris from inside cabinets / buildings and under floor spaces(care must be taken when accessing under floor spaces for the possibility of live snakes) by using a vacuum cleaner or broom then spay with a residual insecticide surface spray (do not spray unprotected electrical equipment).

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4.7. After completion of internal cleaning operations close cabinet / building doors & hose down outside of cabinets / buildings to remove spider webs & dirt.

4.8. For other maintenance task that may require the use of the following equipment refer to the relevant SWMS for that Task.

- WWW022 Operate Whipper Snipper
- WWW023 Operating Self Propelled Victa Mower
- WWW024 Operating Electrical Pressure Washer
- WWW028 Operating Electrical Valve Turner
- WWH067 Operate and Maintain Ride-On Mowers
- WWH044 Operate Flex-Drive Pump
- WWW021 Use of 240 Volt Extension Lead
- WWW020 Operation of Power Drill
- WWW019 Operation of an Angle Grinder

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. As defined by applicable SWMS.

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. OHS Construction (and General) Induction
 - 6.1.2. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.8. Training details are located in TRAAD System and/or Supervisor Training Plans.

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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate OHS Procedures
 - 7.4.1. Manual Task Guideline
 - 7.4.2. Machinery Guarding Procedure
- 7.5. Shoalhaven Water OHS Policies and Procedures
 - WWW012 Intruder Alarms
 - WWW022 Operate Whipper Snipper
 - WWW023 Operating Self Propelled Victa Mower
 - WWW024 Operating Electrical Pressure Washer
 - WWW028 Operating Electrical Valve Turner
 - S3 OHS 308 Operate and Maintain Ride on Mower / Tractor (30.9 Kb PDF file)
 - WWH044 Operate Flex-Drive Pump
 - WWW021 Use of 240 Volt Extension Lead
 - WWW020 Operation of Power Drill
 - WWW019 Operation of an Angle Grinder
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

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9. HAZARD ASSESSMENT

9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCPs as per SOP012. - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
7. Chemicals - Insect spray	Illness	- Follow manufacturer's safe handling recommendations as found on the container and in the safety data sheet.
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

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11. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
5. Contact with Electricity -Electric Shock	Serious burns or Electrocutation	Administer appropriate first Aid & seek Urgent medical assistance
13. Biological Hazards -Spider or Snake bite	Serious Injury or death	-Inspect work area for snakes or spiders, Apply appropriate first aid & seek medical help urgently if bitten
16. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-'3' point technique – back out while exiting, check for uneven ground

Manually Operating Inlet and Reflux Valve Pit Stop Valves

1. PURPOSE

- 1.1 This safe work procedure (SWP) address the manual operation of inlet and stop valves in reflux valve pits at STP's.

2. SCOPE

- 2.1. This SWP provides guidance on general safety considerations to eliminate or reduce the potential for injury to employees when manually operating inlet and stop valves in reflux valve pits.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WH&S Act 2011
- 3.2. WH&S Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WH&S Policies and Procedures
 - Confined Space Work
 - Energy Isolation
- 3.5. Shoalhaven Water WH&S Policies and Procedures
 - WWH005 Working Around Open Wastewater Pumping Station Wet Wells and Pits
 - WWH008 Wet/Dry Well Pumping Station Cleaning
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

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Adopted: 12/12/07	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 2 Page 1 of 4

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Prior to carrying out this task the SWMS for WWH005 *Working Around Open Wastewater Pumping Station Wet Wells and Pits* and WWH008 *Wet/Dry Well Pumping Station Cleaning* should be consulted and procedures appropriate to this specific task adopted.
- 5.4. Corporate OH&S procedures S2 WHS 7 Confined Space Work and S2 WHS 15 Energy Isolation Procedure should be consulted.
- 5.5. Depending on which valves are to be operated, open either the wet well or valve shaft cover to access the inlet valve or open valve pit lids and lay them flat on the ground or secure them in place to prevent the wind blowing them shut.
- 5.6. All vehicle engines should be switched off while vehicles are in close proximity to open valve pits.
- 5.7. Ascertain whether the conditions in the pit and the subsequent work environment renders the work area a confined space and, if so, ensure that the Confined Space Permit to Enter has been completed and all appropriate control measures taken per S2 WHS 7 “Confined Space Work”, located in Section 2 of the Corporate WH&S Manual.
- 5.8. Make sure Pump Station alarms are isolated, open pump station control cabinet and isolate and tag out all pumps before commencing work.
- 5.9. Fit valve key onto inlet valve spindle or reflux valve pit stop valves extensions if fitted. If valve extensions are not fitted, operate stop valves with valve handles.

Unique Document Number: SWP WWH077	Document Name: Manually operating inlet and reflux valve pit stop valves	Responsible Section:	TRIM Reference: 18446E PRD12/221
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- 5.10. If this is the first operation time, count the number of turns for the opening and closure of the inlet valve and record that information by marking the cabinet door with the number of turns.
- 5.11. Close the appropriate inlet or stop valves to ensure smooth operation.
- 5.12. If the valve shows signs of sticking, grease the spindle and, if working on the inlet valve, hose out the gate guide, repeating the opening and closing operation until free.
- 5.13. Make sure that all valves are then left in the open position.
- 5.14. Look and Listen
- 5.15. If used, remove the valve key and, as appropriate, either replace valve spindle cover or close wet well lid over the inlet spindle or close the lids to the valve pit.
- 5.16. Remove isolation tags and turn pumps back on.
- 5.17. When satisfied that everything is operational secure the pump station.
- 5.18. Prior to leaving, check that the work site is left in a safe condition. Prior to leaving, check that the work site is left in a safe condition.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

- 7.1 Nil

Unique Document Number: SWP WWH077	Document Name: Manually operating inlet and reflux valve pit stop valves	Responsible Section:	TRIM Reference: 18446E PRD12/221
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8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. All Wastewater Co-ordinators are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH077	Document Name: Manually operating inlet and reflux valve pit stop valves	Responsible Section:	TRIM Reference: 18446E PRD12/221	
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Clearing Reflux Chokes

1. PURPOSE

- 1.1. To instruct in clearing reflux chokes in a safe manner..

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

5. DESCRIPTION

- 5.1. All employees together on-site must complete the 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment' including documenting hazards identified and control measures taken.
- 5.2. The 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment' is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Prior to carrying out this task the SWMS for WWH005 *Working Around Open Wastewater Pumping Station Wet Wells and Pits* and WWH008 *Wet/Dry Well Pumping Station Cleaning* should be consulted and procedures appropriate to this specific task adopted.
- 5.4. Open valve pit lids and lay them flat on the ground or secure them in place to prevent the wind blowing them shut.
- 5.5. All vehicle engines should be switched off while vehicles are in close proximity to open valve pits.
- 5.6. Ascertain whether the conditions in the pit and the subsequent work environment renders the work area a confined space and, if so, ensure that the Confined Space Permit to Enter has been completed and all appropriate control measures taken.
- 5.7. Isolate and Tag out all pumps before commencing work per the Corporate Energy Isolation Procedure.
- 5.8. Close the stop valve to the reflux valve suspected of being choked.
- 5.9. Loosen bolts from lid of reflux valve and remove all but two bolts, leaving them in place and then prise lid upwards to reduce pressure inside and to ensure that the stop valve has shut off any backward flow from the rising main.

Unique Document Number: SWP WWH078	Document Name: Clearing Reflux Chokes	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/196
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- 5.10. Remove remaining bolts and lid to reflux valve and dismantle reflux to the extent necessary.
- 5.11. Clear the choke.
- 5.12. Reassemble the reflux valve, lightly greasing components as they are reinstalled, and ensure that all components are in place and all bolts are tightened.
- 5.13. Open the stop valve and check for any sign of leaks and listen for any leaking air inside the reflux.
- 5.14. Remove isolation tags and start pump to check operation and the integrity of the seal.
- 5.15. When satisfied that everything is operational secure the pump station.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES Nil

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

Unique Document Number: SWP WWH078	Document Name: Clearing Reflux Chokes	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/196
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10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Operation of a Vehicle Mounted Crane to Remove or Place a Pump into a Pump Station (No Dogman Ticket)

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees and can only be used when the following conditions are met.
- The crane operator must be C2 trained.
 - The weight of the pump to be lifted is known and does not exceed the lifting capacity of the crane.
 - Rated lifting equipment is to be used.
 - No slinging techniques are used.
 - Line of sight must be maintained by the crane operator with the pump at all times during lifting / lowering procedures.
 - If any of the above cannot be complied with then a WorkCover certified dogman must supervise / control the lifting / lowering procedure.

2. OBJECTIVE

- 2.1. To ensure that crane Operations are carried out in a safe manner.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety
 3.4. TCP: Traffic Control Plan
 3.5. VMP: Vehicle Movement Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the activity with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Work must not proceed if weather conditions are not suitable (i.e. electrical storm, heavy rain, strong winds) and all work must cease or be suspended until conditions improve.

Document Number: WWH079	Document Name: Operation of a Vehicle Mounted Crane to Remove or Place a Pump into a Pump Station (No Dogman Ticket)	Responsible Group: Shoalhaven Water	Reference: SWMS1004
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- 4.4. Inspect the work area before work commences for appropriate foot placement and vehicle access. Don't walk where you can't see a firm surface and don't drive onto soft or slippery surfaces or fresh excavations.
- 4.5. Prior to crane set up, underground services are to be identified and ground condition checked, i.e. recent excavations.
- 4.6. Be aware of any overhead obstructions and take care to avoid them and use an observer if necessary.
- 4.7. When working in proximity to overhead power lines, the appropriate distances off must be adhered to, i.e. 3m from up to 132kV, 6m from 132-330kV and 8m from lines over 330kV. In special circumstances, distances less than those listed above may apply. The lesser distances may be applied only when the special requirements are met. That is, when a crane operator has the appropriate training, a trained observer is present, and the owner of the power lines has been contacted.
- 4.8. Before any lifting operations take place a crane pre operation check must be completed and the crane pre-operation inspection checklist / Log book shall be completed to determine if any defects have been reported and / or repairs carried out. Report / repair any defects found.
- 4.9. The vehicle loading crane is to be positioned and set up on stable ground, or use pig sty packing if necessary. The crane is to be positioned as close as possible to the pumping station. Where possible keep the load on the uphill side and always apply the hand brake.
- 4.10. Set up the crane for lifting, stabilisers are to be fully extended and switch on rotating warning light. The crane operator is in control during any lifting lowering operations. The ignition key and isolation switch (if electrically powered) to the truck are to be carried by the crane operator when he leaves the vehicle.
- 4.11. When any load shifting is to take place, no person shall be attached to the crane, on the load, or beneath the load.
- 4.12. A test lift of approximately 100mm with the pump connected to the crane should be carried out to ensure the integrity of all equipment being used.
 - 4.12.1. If during the test lift any of the following problems are encountered, i.e. sinking of stabilisers, instability of truck or excessive load movement, the load should be immediately lowered and corrective action to overcome the problem by chock and pigsty or relocate the truck if the stabilisers are sinking.
 - 4.12.2. This requirement should also be continually checked during the lift.
- 4.13. If working at night, make sure the work area has sufficient lighting, no work should proceed if the area lighting is insufficient.

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- 4.14. The certified C2 crane operator shall ascertain the weight of the pump being lifted and refer to the lifting gear chart.
- 4.15. The certified C2 crane operator must check the equipment prior to use and record the condition. When checking the equipment condition, consideration shall be given to the environmental conditions and previous use.
- 4.16. Under no circumstances should the outrigger (stabiliser) legs be used to lift a load.
- 4.17. Under no circumstances should the crane be used to drag a pump across the ground.
- 4.18. On the completion of work all equipment is to be correctly stowed in the vehicle.
- 4.19. Any defects / problems with the equipment or work environment are to be reported to the supervisor promptly.
- 4.20. Council's workshop is to carry out repairs and scheduled maintenance required for the crane.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Vehicle Mounted Crane

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have C2 Crane certification.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.

Document Number: WWH079	Document Name: Operation of a Vehicle Mounted Crane to Remove or Place a Pump into a Pump Station (No Dogman Ticket)	Responsible Group: Shoalhaven Water	Reference: SWMS1004
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- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Operating Vehicle Mounted Crane
 - 7.4.2. Traffic Control: Set Up Maintenance and Removal
 - 7.4.3. Manual Task Guideline
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes
 - AS 2550 cranes, Powerlines

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.5. Pump lifting work can only be undertaken by a certified C2 operator.

9. HAZARD ASSESSMENT

Document Number: WWH079	Document Name: Operation of a Vehicle Mounted Crane to Remove or Place a Pump into a Pump Station (No Dogman Ticket)	Responsible Group: Shoalhaven Water	Reference: SWMS1004
Adopted: 12/12/2007	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 2
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9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
6. Site Area: Overhead obstructions Power lines , trees & overhanging structures	Electrocution Death or serious injury	- Be aware of obstructions take care to avoid them. - Use an observer if necessary - When working in proximity to overhead powerlines, the appropriate distances must be adhered to. See step 4.7.
6. Site Area: Unstable ground leading to unstable footing of crane	Injury	- Identify underground services and ground condition checked, i.e. recent excavations - Use pig sty packing if necessary
Weather Conditions -Electrical storms -heavy rain -strong winds	Electrocution Death or serious injury	- Stop work until conditions improve - Reassess site before re-commencing work.
13. Biological hazards	Infection or illness from direct contact with raw wastewater	- Adhere to strict personal hygiene at all times and use appropriate PPE whilst handling pumps/chains and cables that have been in contact with raw wastewater.
10. Fall from heights	Death or serious injury Cuts and abrasions	- All staff working closer than one metre from any open well must wear a full rescue harness that is attached to a suitable anchorage point.
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-‘3’ point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCPs as per SOP012. - If necessary, implement VMP - Use only trained traffic controllers

Document Number: WWH079	Document Name: Operation of a Vehicle Mounted Crane to Remove or Place a Pump into a Pump Station (No Dogman Ticket)	Responsible Group: Shoalhaven Water	Reference: SWMS1004
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2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Document Number: WWH079	Document Name: Operation of a Vehicle Mounted Crane to Remove or Place a Pump into a Pump Station (No Dogman Ticket)	Responsible Group: Shoalhaven Water	Reference: SWMS1004
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Northern and Central Wastewater Headworks After Hours On Call Work

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct in the Safe operations of the after hours on call work

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. The On Call mobile phone should be kept turned on at all times outside of working hours.
- 4.4. The On Call Operator must have the mobile phone at his side 24 hours a day as there are a number of alarms that are not connected to the after hours dial out system that are sent direct to the On Call mobile phone as a text message.
- 4.5. The mobile phone is to be connected to the 240-volt battery charger every night to ensure that it remains fully charged at all times.
- 4.6. If the On Call Operator has any problems with either the lap top computer or the mobile phone, he should report the problems to the duty Coordinator ASAP.
- 4.7. The mobile phone should be checked regularly for messages and any alarms actioned as required.
- 4.8. When the On Call Operator leaves home for any reason when they are duty On Call, they must take the mobile phone with them and ensure that it is fully charged and ready for use.

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- 4.9. When contacted by Council's alarm surveillance company (Securenet) the On Call Operator is to attend to the alarm immediately. This will involve but not be limited to an assessment of the information provided by Securenet, checking the report via the lap top computer or attending the STP from where the alarm was generated.
- 4.10. When attending to the site of an alarm, the On Call Operator will first determine if the task requires two people before requesting assistance. If assistance is required then the distribution On Call operator is to be contacted. If that person is not available then the duty coordinator is to be contacted to request assistance.
- 4.11. If the On Call Operator is unsure about any aspect of the task he should contact the duty Coordinator as soon as possible.
- 4.12. The On Call Operator may pick up or meet another employee on the job as required, having regard for the time taken to get to the job and the nature of the job.
- 4.13. The On Call Operator is to ensure that his mobile phone is ON and in close proximity to him at all times when on a job. He must also ensure that his truck's two-way radio is on whenever he is on a job.
- 4.14. Employees who are required to be on call are not required to remain at their usual place of residence or other place appointed by Council. However the On Call Operator must be able to be contacted and be able to respond in accordance with Shoalhaven Water's "Levels of Service" document or the criticality of a job.
- 4.15. The Council vehicle may be used to travel short distances, for family or local sport reasons, but he must be able to respond when he receives an alarm or call from Securenet.
- 4.16. The vehicle cannot be used for shopping etc.
- 4.17. No other person may travel in the vehicle due to insurance reasons, except in extenuating circumstances & with prior approval of the duty Coordinator.
- 4.18. Employees shall not work in remote areas unless special safety arrangements are made between the Coordinator and the employee.
- 4.19. The On Call Operator will not work more than 5 hours continuous without contacting the duty Coordinator before the 5 hours is up.
- 4.20. The On Call Operator will not have more than 2 jobs on at any one time.
- 4.21. If Securenet continues to ring through with alarms to be attended to, the On Call Operator will contact the Duty Coordinator who will take over the receiving & issuing of jobs until the On Call Operator has caught up & has no work to attend to, at which time he will contact the Duty Coordinator and advise him of his availability.
- 4.22. The taking of a mandatory 10-hour break between shifts if appropriate will require the On Call Operator to contact **Councils Call Centre (44213100)** at the completion

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of the last job that entitles him to a mandatory 10 hour break and request that **Councils Call Centre Operator** notify the Duty Coordinator at 6.00am the next morning that he will be taking the mandatory 10 hour break and where the keys to his truck can be found if the truck is needed that day. He will also advise of his time of return to work.

- 4.23. **On Call staff shall at all times wear their Shoalhaven Water uniform and carry their ID card as identification when working after hours.**

RESPONSE TO ALARMS FROM S.T.W. SITES. Reported by alarm surveillance centre (Securenet).

- 4.24. **Wastewater Treatment Plant Burglar Alarms: Zones 1 through 6 and Zones 9 through 16.** If any staff member needs to enter any areas after hours that are protected by an intruder alarm they must before entering that area contact **Securenet** and advise the operator who they are, what site they are entering and the expected time that they will be on the premises. When they rearm the alarm they must check with the **Securenet operator** before leaving the site to ensure that the alarm has armed.
- 4.25. **If any staff member activates an Intruder / Burglar alarm after hours.** They must immediately turn off the alarm if possible and contact **Securenet (1300731251)** and report on the cause of the alarm.
- 4.26. **During Normal Working Hours.** If an Intruder/Burglar alarm is received, the Securenet Console Operator will phone the Treatment Plant from where the alarm was generated in an attempt to speak to staff. If no contact is made then the duty after hours Coordinator will be contacted who will take the appropriate action.
- 4.27. **Outside Normal Working Hours.** If an Intruder/Burglar alarm is activated & restores within **FIVE minutes** and there are no other zones being activated at the site it will not be necessary to take any action.
- 4.28. If there is a second activation from the same sensor, or no restore after **five minutes**, then Securenet will contact the nominated security firm for that area to attend the site. The On Call Operator will also be contacted to attend the site with the security patrolman to investigate the problem.
- 4.29. If there has been a burglary then the Oncall Operator will immediately notify the Duty Coordinator.
- 4.30. **Any single door reed alarm or multiple PIR zone alarms must be treated as a Burglary and responded to urgently.**
- 4.31. GENERAL ALARMS:
- 4.32. Zone 7 Pump Station Alarms and Zone 8 Treatment Plant Alarms.

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- 4.33. Zone 7 will be reported by Securenet as a Pumping Station Alarm from the scheme that generated the alarm.
- 4.34. The Securenet will give any alarm FIVE minutes to see if it resets before contacting the On Call Operator. The On Call Operator once contacted should then ASAP use the laptop computer to dial in to check the cause of the alarm and isolate it. If dialling in is unsuccessful the On Call Operator will attend the Treatment Plant that generated the alarm, in order to isolate any alarm that may continue to dial out between the time received and dealt with.
- 4.35. Zone 8 will be reported by Securenet as a Treatment Plant Alarm from the scheme that generated the alarm. Securenet will contact the On Call Operator, who should ASAP use the laptop computer to dial in to check the cause of the alarm & isolate it. If dialling in is unsuccessful the On Call Operator will attend the Treatment Plant that generated the alarm, in order to isolate any alarm that may continue to dial out between the time received and dealt with.
- 4.36. Securenet will report to the On Call Operator each alarm that they receive regardless of how many times they receive the alarm until it has been dealt with and the alarm no longer dials out. The On Call Operator will be informed of the scheme and zone that the alarm was generated from.
- 4.37. The only time the Securenet will not report a continuously reporting alarm is in the case of an alarm requiring a Telemetry (Process Control) Technician to isolate it and one is not available. In that case and by agreement with the Duty Coordinator or standby Coordinator, and only after the alarm has been investigated by the On Call Operator, can it be ignored until such time that it can be dealt with.
- 4.38. If the On Call operator receives an alarm at an STP & he is the STP Operator for that plant he may make any minor adjustments to the plant until the next day. All major adjustments must be authorised by the duty coordinator.
- 4.39. At no time will any On Call Operator make any adjustments at an STP that he is not the STP Operator at (acknowledging & resetting alarms is allowed), The Duty Coordinator will decide on the most appropriate course of action to be taken if acknowledging & or resetting does not clear the problem..

Securenet Site Identification Numbers (1 300 731 251)

Berry STP	113917	Callala STP	113919
Shoalhaven Heads STP	113922	Vincentia STP	113925
Bomaderry STP	113918	St. Georges Basin STP	113923
Nowra STP	113921	Sussex Inlet STP	113924
Culburra STP	113920	Callala REMS Buildings	113929

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5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Mobile phone
- 5.3. Lap Top Computer

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - WWD006 Motorised Sewerage Choke Clearing Machines
 - WWD002 SECA High Pressure Sewer Clearing Machine
 - WWD010 Operation of the Harben High Pressure Sewer Clearing Machine
- 6.8. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures

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- 7.4. Corporate WHS Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Confined Space Procedure
 - 7.4.3. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
 - WWD006 Motorised Sewerage Choke Clearing Machines
 - WWD002 SECA High Pressure Sewer Clearing Machine
 - WWD010 Operation of the Harben High Pressure Sewer Clearing Machine
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

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<p>12. Machine Operation - Equipment Malfunction or misuse</p>	<p>Muscle sprain (limbs or torso) Cuts and abrasions Entrapment</p>	<p>- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures</p>
<p>3. Heat - Excessive exposure to UV</p>	<p>Sunburn Skin cancer Heat exhaustion</p>	<p>- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets)</p>

Cleaning Out the Grit Separator Chambers at Culburra & Callala STP's

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning out the Grit Separator chambers at Culburra and Callala STP's.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the "WH&S Act 2011" to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
VMP	Vehicle Movement Plan
TCP	Traffic Control Plan

Unique Document Number: SWP WWH081	Document Name: Cleaning Out The Grit Separator Chambers At Culburra & Callala STP's	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/214
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Turn the Air Lift Blower, Aeration Blower & Grit Classifier main & local control switches **OFF**.
- 5.4. Use appropriate lock-out & tag-out procedures as specified in the "Energy Isolation Procedure" in Section 2 of the OH&S Manual.
- 5.5. Divert all inflows around the Grit chamber for duration of works.
- 5.6. Remove walkway decking as required to access grit chamber.
- 5.7. All working at heights regulations must be adhered to for the duration of this work.
- 5.8. Using appropriate pump out tanker or pump, empty grit chamber
- 5.9. If entry into the grit chamber is required for any aspect of this work, then compliance with all working in Confined Spaces regulations must be adhered to.
- 5.10. When all maintenance work is complete replace all walkway decking & return grit removal system to normal operation.
- 5.11. Remove all Isolation Tags from main Switch room control panel & return all control switches to Automatic operation.

Return all Air Lift Blower, Aeration Blower & Grit Separator local isolating switches to on & observe one complete cycle.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

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8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Transferring Aluminium Sulphate From Bulk Storage Tank Into 1000 Litre Mobile Bulky Containers

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct in the handling, transfer and storage of Sewer Conditioning Agent from the bulk storage tank into 1000 litre mobile bulky containers in a safe manner.
- 2.2.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety
 3.4. TCP: Traffic Control Plan

4. PROCEDURE

WARNING: This chemical may be considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the activity with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.

Note: This is a two man operation

- 4.3. Employees who are involved in the handling of Aluminium Sulphate, or work in areas where it is used, shall have read and familiarised themselves with the current safety data sheet.
- 4.4. Ensure that the information from the MSDS listed below is available to all Staff
- Description of Main Properties

Document Number: WWH082	Document Name: Transferring Aluminium Sulphate From Bulk Storage Tank Into 1000 Litre Mobile Bulky Containers	Responsible Group: Shoalhaven Water	Reference: SWMS1142
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- Description of Product & Packaging

- 4.5. Prior to connecting or disconnecting Aluminium Sulphate transfer hoses the following conditions must be met:
 - 4.5.1. Two trained personnel must be present at all times.
 - 4.5.2. Open building door if applicable and ensure that the ventilation fan is operating if fitted. Use doorstops to prevent door slamming closed.
- 4.6. Ensure that all staff involved in the transfer operation is using appropriate PPE – safety goggles, gloves, disposable overalls & Gum Boots.
- 4.7. Ensure that the information from the MSDS listed below is available to all Staff
 - Description of Main Properties
 - Description of Product & Packaging
- 4.8. Ensure that all emergency showers and eye wash facilities are operational before any work begins.
- 4.9. Ensure that all fire extinguishers are serviceable.
- 4.10. Ensure that wash down hose is serviceable.
- 4.11. Check that the bulk site containers have enough Aluminium Sulphate stored for the transfer to the Bulky Boxes.
- 4.12. Position the truck carrying the Bulky Boxes on the driveway in front of the site bulk Aluminium sulphate and close to the hose transfer connection point.
- 4.13. Make sure all power switches within the Bung wall are in the off position.
- 4.14. Turn the power back up switch on. (The switch is situated in the Dosing room on the wall closest the Site containers)
- 4.15. Connect the hose to the hose connection transfer point (making sure that the hose valves are in the off position).
- 4.16. The other end is taken to the Bulky Boxes (carried on the back of the truck).
- 4.17. The Bulky Box lid is then unscrewed and the hose is held into the opening.
- 4.18. The hose valves are then opened.
- 4.19. The transfer pump situated inside the bung wall is then turned to the on position.
- 4.20. The valve feeding the connection filling point is then opened.

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- 4.21. The switch situated on the spigot closest the hose connection transfer point is then turned on and the transfer begins.
- 4.22. The person on the truck holding the hose that is filling the Bulky Boxes will indicate when the container is reaching its filling point. This procedure should be repeated if there are other Bulky Boxes on board the truck that require filling at this point.
- 4.23. When the Boxes have been filled the hose valves are then closed.
- 4.24. The hose is then disconnected at the filling connection point.
- 4.25. The hose has two valves and the remainder of the liquid should be stored within the hose. The hose is then drained back into the Bulky Boxes to clear the hose of liquid.
- 4.26. The power is all turned off.
- 4.27. The site Tank feed valve is then turned off.
- 4.28. The water hose is then connected to the water hose connection attached to the Site Bulk Aluminium Sulphate pipe work.
- 4.29. The transfer hose is then reconnected and the transfer hose valves along with the connection valve are opened within the bung wall surrounds. This can only be carried out if water service is connected to a brake tank, RPZ or backflow prevention device.
- 4.30. The water service is then turned on and the lines flushed within the bung wall surrounds. The wash off water can be drained back into the Aeration tanks
- 4.31. Disconnect the water hose.
- 4.32. Shut off all valves.
- 4.33. Open the site tank feed line.
- 4.34. Store the hoses.
- 4.35. Make sure all power is turned off and all operational valves are in the correct position for normal operations.
- 4.36. Position truck with bulky containers as close as possible to the on-site storage tank.
- 4.37. Connect the transfer hose from truck mounted 1,000 Litre Mobile Bulky container to Bulk Storage tank Pump.
- 4.38. Open all appropriate valves and turn on the electric transfer pump

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- 4.39. Transfer the appropriate amount of Aluminium Sulphate solution from the bulk Storage Tank into the 1000 Litre Mobile Bulky Container. Keep a close watch on the rate of filling & cease filling operations when the Mobile Bulky Container has the required amount of Aluminium Sulphate solution in it.
- 4.40. After the required amount of Aluminium Sulphate Solution has been transferred into the 1,000 Litre Mobile Bulky Container, turn off the electric transfer pump & shut the hose in line valves.
- 4.41. Disconnect the transfer hose from the Bulk Storage Tank first and open the hose inline valve closest to the tank and allow any residual Aluminium Sulphate solution to empty into the drain age pit.
- 4.42. Connect the kamlock cap to the mobile bulk container outlet valve and flush the delivery hose with water from the wash down hose ensuring that all contaminated water is directed into the drainage pit.
- 4.43. Ensure that all equipment inside the area is washed down with the wash down hose and that all contaminated water is hosed into the drainage pit to allow for appropriate disposal.
- 4.44. Load all hoses and equipment onto truck.
- 4.45. In the event of Sewer Conditioning Agent coming into contact with exposed skin or a spillage over clothing or person, immediately wash off with copious quantities of potable water from an emergency shower / eye system or potable water hose.
- 4.46. After the site has been cleaned up & secured, all staff can remove PPE worn during the transferring operation. All disposable PPE must be disposed of in the appropriate manner.
- 4.47. Ensure that the 1,000 Litre Mobile Bulky Container is securely fastened to the truck in the appropriate manner.

SEWER CONDITIONING AGENT LEAK PROCEDURE

- 4.48. All spills are to be handled in accordance with the Shoalhaven Waters EMERGENCY RESPONSE PLAN.
- 4.49. Two trained personnel must be present at all times in order to isolate an Aluminium Sulphate Solution leak. At least one of these should not become involved in the operation and should remain on-site as the safety observer.
- 4.50. If the Aluminium Sulphate leak is outside the bunded area and is of a minor nature appropriate action must be taken to contain the spill.
- 4.51. If the spill is of a substantial nature then the Coordinator will contact the appropriate emergency services unit via the triple O phone number.

Document Number: WWH082	Document Name: Transferring Aluminium Sulphate From Bulk Storage Tank Into 1000 Litre Mobile Bulky Containers	Responsible Group: Shoalhaven Water	Reference: SWMS1142
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5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
Bulk Site Containers
- 5.3. Hose Transfer Connection Point
- 5.4. Transfer Pump

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Work Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans.

Document Number: WWH082	Document Name: Transferring Aluminium Sulphate From Bulk Storage Tank Into 1000 Litre Mobile Bulky Containers	Responsible Group: Shoalhaven Water	Reference: SWMS1142
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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2. Manual Task Guideline
 - 7.4.3. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Aluminium Sulphate	Irritating to eyes and respiratory system	- Avoid exposure – gloves, eye protection, clothing protection and respiratory equipment - Immediately remove contaminated clothing - In case of contact with eyes, rinse with plenty of water and contact doctor or Poisons Information Centre
		- Make sure all power switches within the Bung wall are in the off position

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17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCPs as per SUPP012. - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Preparation of Callala STP Aeration Basin for the Changing of the Decant Mechanism Bellows

1. PURPOSE

- 1.1. To Ensure the health & safety of Shoalhaven Water Staff & associated workers when preparing the Callala Bay STP Aeration Basin for the decant bellows to be replaced.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
VMP	Vehicle Movement Plan
TCP	Traffic Control Plan

Unique Document Number: SWP WWH085	Document Name: Preparation of Callala STP Aeration Basin for the Changing of the Decant Mechanism Bellows	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/215
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the task with subsequent risk assessments completed if the work activity and or the method used, conditions or staff change.
- 5.3. Have the Shoalhaven Waters or the City Services punt delivered & lowered into the Aeration Basin, making sure that it is securely fastened to the access ladder.
- 5.4. Open bypass valve (A) to wet weather pond (next to Equalisation Pond).
- 5.5. Shut valve (B) into Equalisation pond (valve closest to the basin / next to valve (A).
- 5.6. Shut both inlet knifegate valves at the inlet works, preventing flow from going into the Aeration Basin, bypassing all influent into wet weather pond.
- 5.7. Unhook chains linking walkways & ramps on all four aerators (this allows the pontoons to drop with the level in the aeration pond as it is lowered).
- 5.8. Isolate and tag out all four Aerators in the main switch room.
- 5.9. Isolate and tag out the wet Weather pond return pumps in main switch room.
- 5.10. Isolate and tag out the decant trough drive motor (in the raised position) in the main switch room and on bridge control panel.
- 5.11. Set up the 150mm Sykes transfer pump on the roadway next to the aeration basin (Northern side) with the outlet hose draining into decant / alum dosing pit, which will drain into the wet weather pond.
- 5.12. Run the Sykes pump for approximately 10-12 hours (lowering the level in the aeration basin past the bottom of the decant bellows).
- 5.13. The optimum working height for the mechanical services staff to work out of the punt is 1.8 metres from the bottom of the decant trough to the water level
- 5.14. Turn off the Sykes pump when the working level is reached.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

Unique Document Number: SWP WWH085	Document Name: Preparation of Callala STP Aeration Basin for the Changing of the Decant Mechanism Bellows	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/215
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8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinator's are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Emptying, Cleaning and Inspection of Aeration Tanks at Bendalong and Lake Conjola STPs

1. PURPOSE

- 1.1. To empty, clean and inspect aeration tanks and components at Bendalong and Lake Conjola STPs in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
EAT	Extended Aeration Tank
RPD	Rope Positioning Device

Unique Document Number: SWP WWH086	Document Name: Emptying, Cleaning and Inspection of Aeration Tanks at Bendalong and Lake Conjola STPs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD14/81
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The 'Site Specific Risk Assessment, Pre-Excavation Risk Assessment and Traffic Control Risk Assessment' is to be completed at the start of the Task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Prior to carrying out this task the SWMS for WWH018 *Use of Forced Air Ventilation (Air Blower) for Entry Into Confined Spaces* and WWH026 *Use of Gas Detectors* should be consulted and procedures appropriate to this specific task adopted. If a crane is used as the personnel attachment point, WWH006 *Use of Cranes as Personnel Attachment Points for Confined Space Entry* should also be consulted and procedures appropriate to this specific task adopted.
- 5.4. Prior to commencing the pumping down of the designated EAT, the tank should be taken out of service. This is done through the Citect system by going to the appropriate status screen and taking the appropriate sludge pump, blowers, decanter and chemical dosing out of service. The No Decant Cycle Toggle should also be activated and stop boards are to be placed into the inlet works flow splitter to direct flow away from the EAT to be emptied. Operation of sludge pump and blowers during the emptying process may be performed but particular attention to these operations should always be observed.
- 5.5. The level of the EAT should be dropped until the diffusers have approximately 100 mm covering them and then the aeration blowers switched on to ascertain which diffusers may need to be replaced or adjusted.
- 5.6. While the blowers are running, a check of the atmosphere in the EAT for any potentially harmful gas levels should be made to ensure that the work area does not pose any significant risk to personnel entering the EAT.
- 5.7. Once the atmosphere has been proven to be safe to enter and if fixed ladders are not available, a ladder should be placed in position and secured in such a manner as to allow access from the centre walkway and the appropriate personnel attachment device utilised. If a crane fitted with a personnel attachment point is to be used the

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truck should then be positioned to allow the crane to be extended so that the personnel attachment point is in close proximity to the ladder. If other personnel attachment devices are to be utilised (e.g. davit arm) then it should be fitted according to manufacturers' recommendations and in a manner in which the personnel attachment point on the davit arm positioned above the ladder.

- 5.8. Prior to commencing any further work a careful examination of the tank layout should be made to identify any hidden hazards that may be encountered utilising the engineering drawings available.
- 5.9. Once all prior checks have been made, as well as those specified in SWMS WWWW006 *Use of Cranes as Personnel Attachment Points for Confined Space Entry* if a crane is to be used, the person accessing the tank can be harnessed up, attached to a RPD and, wearing PPE appropriate to the task, access can then be made from the central walkway into the tank using the secured ladder and all appropriate fall arresting equipment.
- 5.10. On reaching the floor of the tank and secure footing is established any required diffuser adjustment can then proceed.
- 5.11. Diffusers should be adjusted to achieve a uniform air distribution and any that are damaged should have their position carefully noted and then left until the tank is completely emptied, at which time they can be replaced.
- 5.12. After adjustments have been made and faulty diffusers noted the tank can then be completely emptied and all walls, the diffusers and other surfaces are to be pressure cleaned leaving the floor until last.
- 5.13. Any remaining sludge and detritus is to be hosed into the central sump and pumped out.
- 5.14. After all surfaces have been cleaned any faulty diffuser can then be replaced prior to the tank being refilled.
- 5.15. Refilling of the tank should be performed as soon as possible after emptying to minimise UV and heat damage to the diffusers. Once the water level is 100 mm above the diffuser assembly, the aeration blowers should be turned on to check for uniform air distribution across the surface of all diffusers and the integrity of the whole diffuser assembly.
- 5.16. After the diffuser operation and integrity has been confirmed all equipment is to be removed and the Permit to Enter can be signed off.

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5.17. The EAT can then be refilled as per the manufacturers recommendations.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The Operations Manager is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Southern Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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BURNING SCREENINGS OFF METAL SCREENS AT NOWRA STP

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. To empty, clean and inspect aeration tanks and components at Bendalong and Lake Conjola STP's in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the "WH&S Act 2011" to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure



5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Remove metal Screens that are to have the screenings burned off them and replace them with a spare set.
- 5.4. Allow the removed screens to dry for at least two days.
- 5.5. When the screens have dried sufficiently, put on fire retardant gauntlets, safety goggles & an appropriate respirator.
- 5.6. Ensure that all work associated with the burning off and cleaning of the screens is performed upwind of the screen.
- 5.7. Ignite the gas burner with a flint gun or the like & proceed to burn the screenings.
- 5.8. Once as much as possible of the screenings have been burned off and the screens have cooled ,clean the remaining screenings off using a wire brush, making sure that the gauntlets are replaced with leather gloves while using the wire brush.
- 5.9. Once the screens are completely clean, store them in a safe place until required for use.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

Unique Document Number: SWP WWH087	Document Name: Burning Screenings off Metal Screens	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/189
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Safe Work Procedure

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Nowra STP
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9. PROCEDURE OWNER

- 9.1. The Northern Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WWH087	Document Name: Burning Screenings off Metal Screens	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/189
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BY-PASSING OF THE GRAVITY FILTERS TO THE STORM DETENTION POND (CULBURRA STP)

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. To instruct in the By – Passing of the Gravity filters to the Storm Pond in a safe manner.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

Unique Document Number: SWP WWH088	Document Name: By-Passing of Gravity Filters to Storm detention pond(Culburra STP)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed before starting the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. **BY – PASSING FILTERS**
 - 5.3.1. Log onto the Citec Computer
 - 5.3.2. Select Filter No1 from the main menu page.
 - 5.3.3. Select the manual control for the effluent valve and close the valve.(Filter will show as FILTER OUT OF SERVICE)
 - 5.3.4. Select manual control for both the Filter inlet and the Filter drain valve and open both valves.(This will drain the Filter to the toOp of the Trough).
 - 5.3.5. Select Filter No2 from the main menu page and repeat steps 4.3.3 and 4.3.4
 - 5.3.6. Select the Filter feed pumps from the main menu.
 - 5.3.7. Select the hand symbol on the PID controller on the top left hand side of the screen, this will place the filter feed pumps in manual mode. (A hand symbol will be shown in the box below the 50% indicator).
 - 5.3.8. Place the computer mouse arrow on the blue marker above the hand symbol, left click and hold down. Then drag the blue marker to the right until 44% is shown on OP.
 - 5.3.9. Select manual control on the Filter Feed pumps No1 and No2, and then manually activate the pumps by selecting run. **(WARNING care must be taken as the level controller will not turn the pumps off, so when the level gets below the FILTER FEED WELL BWL SETPOINT, the pumps must be turned off manually on the Citec manual controller, to prevent them running dry).**
- 5.4. Returning Filters to Automatic mode
 - 5.4.1. Log onto Citec Computer
 - 5.4.2. Select the Filter Feed pumps from the main menu page.
 - 5.4.3. Select the auto symbol on the PID controller, on the top left hand side of the screen; this will place the Filter Feed pumps into automatic mode (A rotating arrow symbol will be showing in the box below the 50% indicator).
 - 5.4.4. Return the Filter Feed pumps to automatic mode, by selecting the manual controller for each pump and returning it to the automatic mode.
 - 5.4.5. Select Filter No1 from the main menu page.
 - 5.4.6. Select the manual control for the Effluent valve and return it to the automatic mode.
 - 5.4.7. Select the manual control for both the Filter inlet and drain valves and return them to the automatic mode (The filter will show **FILTER RUNNING**).
 - 5.4.8. Select Filter No2 from the main menu page and repeat steps 4.4.6 and 4.4.7).
 - 5.4.9. Check that the Filter Feed pumps have started in automatic mode (the level in the Filter Feed Well must be above the filter Feed well **TWL** set point before the pumps will start).

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Note: THE FILTER FEED PUMPS HAVE A TIME DELAY BEFORE STARTING.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Central Wastewater Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Sand Dune Inspection at Exfiltration System - Lake Conjola

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To inspect, in a safe manner, Lake Conjola sand dunes and the surrounding area at the Exfiltration trench site for effluent discharge and carry out trench rotation on a weekly basis.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety
 3.4. TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 Complete Operating Checklist for Gator All Terrain Vehicle. (Appendix A).
- 4.2 All employees involved in the procedure to complete a Site Specific Risk Assessment for the operation of the Gator All Terrain Vehicle.
- 4.3 Drive thru STP to back gate. Unlock gate for access to exfiltration system.
- 4.4 Complete site specific risk assessment to be completed before driving gator onto sand dune track.
- 4.5 CAUTION WATCH FOR SNAKES.
- 4.6 Drive along track in 2wd or 4wd adjacent to trenches. Check for any surface water & any defects. All defects to be noted in diary & reported to Coordinator ASAP.
- 4.7 Drive to caged area (1000mts), this is inlet from Bendalong (reclaimed water) plus an overflow pit. Check for any signs of an overflow. Report to Coordinator
- 4.8 Open gate, unlock lid & check pit for rocks & roots etc. Check condition of high level alarm. **Monthly, tilt float a test alarm.**
- 4.9 Check cage/fence structure for any evidence of damage. Report to Coordinator.
- 4.10 Lock lid & gate.

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4.11 There are ten valves starting from here (No1&2) back to STP (No9&10).Before driving back towards STP check valve status sheet. Open & close valves according to sheet.

4.12 Enter STP lock gate. Wash Gator, then garage.

5. PLANT AND EQUIPMENT REQUIRED

5.1. Personal Protective Equipment

5.2. Gator A.T.V.

5.3. Valve Key and turn bar.

6. QUALIFICATIONS AND TRAINING

6.1. All permanent employees on site shall have completed the following training:

6.1.1. OHS Construction (and General) Induction

6.1.2. Work Activity OHS and Introduction to Site Specific Occupational Health and Safety

6.1.3. Manual Handling

6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

6.4. Any employee operating plant or using equipment shall have had the appropriate training.

6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

6.8. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

7.1. WHS Act 2011

7.2. WHS Regulation 2011

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- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
Driving on Sand	Bogged Turn over vehicle	- Engage 4WD by flicking switch on dashboard. - If sand is soft and the vehicles struggles, or vehicle is bogged, engage the differential lock and put gear lever into low range
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground

1. Traffic - Moving traffic or plant	Death or serious injury	<ul style="list-style-type: none"> - Implement approved or modified TCP - Record TCPs as per SUPP012. - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	<ul style="list-style-type: none"> - Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	<ul style="list-style-type: none"> - Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

APPENDIX A

DAILY OPERATING CHECKLIST FOR GATOR ATV

- TEST SAFETY SYSTEM (see below)
- CHECK TIRE PRESSURE. (DANGER: over inflation can cause explosive separation of tire from rim)
- CHECK FUEL LEVEL
- CHECK ENGINE OIL LEVEL
- REMOVE GRASS AND DEBRIS FROM ENGINE COMPARTMENT, MUFFLER AREA, AND FRONT GRILL BEFORE AND AFTER OPERATION.
- CHECK AREA BELOW MACHINE FOR LEAKS
- CHECK BRAKES AND PARK BRAKE OPERATION
- INSPECT DRIVELINE CV BOOTS FOR TEARS OR PUNCTURES
- CHECK COOLANT LEVELS
- CHECK BRAKE FLUID LEVEL
- CHECK AIR RESTRICTION INDICATOR
- TIGHTEN ANY LOOSE HARDWARE
- CHECK SEAT BELT FUNCTION

TESTING THE SAFETY START SYSTEM

- SIT ON THE OPERATORS SEAT
- PUT KEY SWITCH IN OFF POSITION
- LOCK PARK BRAKE
- MOVE TRANSAXLE SHIFT LEVER FORWARD TO THE HIGH RANGE POSITION
- TURN KEY SWITCH TO START POSITION. ENGINE SHOULD NOT CRANK. TURN KEY SWITCH OFF.
- MOVE TRANSAXLE SHIFT LEVER TO REVERSE POSITION
- TURN KEY SWITCH TO START POSITION. ENGINE SHOULD NOT CRANK. TURN SWITCH KEY OFF.

CHECK HEADLIGHTS, BRAKELIGHTS AND BLINKERS PRIOR TO ROAD USE. REMEMBER TO TURN LIGHTS OFF TO PREVENT DRAINING THE BATTERY WHEN ENGINE NOT RUNNING.

NOTES: A RISK ASSESSMENT IS TO BE CARRIED OUT EACH TIME THE GATOR IS USED TO ACCESS THE BEACH EXFILTRATION SYSTEM, AND AT THE BEGINNING OF EACH DAY FOR USE AT THE STP, OR IF CONDITIONS CHANGE.

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DO NOT LIFT REAR TRAY WHEN LOADED. TRAY TILT FUNCTION IS NOT FOR TIPPING LOADS, BUT IS FOR ACCESSING DRIVE MECHANISM.
SEAT BELTS ARE TO BE WORN AT ALL TIMES WHEN TRAVELLING IN VEHICLE.
PASSENGER MUST USE TWO OF THE FOUR HAND HOLDS AT ALL TIMES WHILE THE VEHICLE IS MOVING.

SIGNATURE:

STAFF No.

DATE:

TIME:

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Connection & Disconnection of Generators to Pumping Stations & Treatment Plants

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To instruct staff in the safe Connection & Disconnection of Generators to Pumping stations & Treatment Plants so as to eliminate or reduce the potential for injury or death.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. Basic Safety Rules
 - 4.2.1. Always wear the correct PPE which shall include but not be limited to the following (Safetyboots, eyewear, gloves, hearing protection, safety vests)
 - 4.2.2. Always ensure all equipment is in good working condition
 - 4.2.3. Always ensure that the Generator Handbrake is fully engaged.
 - 4.2.4. Always make sure that the Generator is level.
 - 4.2.5. Always make sure that the Generator stabilizers are fully deployed..
 - 4.2.6. Always make sure that the Generator Wheels are chocked to prevent movement.
 - 4.2.7. Always make sure that the Generator draw bar is locked to prevent theft.
 - 4.2.8. Hearing protection to be worn whenever machine is operating
- 4.3. Check oil and fuel.
- 4.4. Before attempting to connect a generator the mode of connection needs to be established, (i.e. hard wired to site or plug in connection).

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- 4.5. If hard wiring is required then connection and disconnection must be carried out by Shoalhaven Water Electrical section or supply authority personnel.
- 4.6. If the site is equipped with a plug connection, then connection can proceed using the cable provided.
- 4.7. Plug socket into connection inlet plug, in or attached to, generator changeover connection box (usually on side of pump station panel or building)
 - 4.7.1. Confirm power to site is not available. Turn the auto controls for pumps to the “Off” position and then turn the main switch to the “Off” position.
 - 4.7.2. Turn the Generator Changeover Connection switch from “Mains” to “Off”. (The switch will be in the connection box or in pump panel on meter board marked to indicate position status, “Generator”, “Off”, “Mains”)
 - 4.7.3. Start the Generator according to the Manufacturer’s instructions, a copy of which should be with the Generator.
 - 4.7.4. Once the Generator has reached operating condition, turn the generator main switch “On” and the Generator changeover connection switch from “Off” to the “Generator” position.
 - 4.7.5. Turn the main switch for the site back “On” return all controls to the “Auto” position & observe that the pumps etc operate correctly (i.e. correct rotation).
- 4.8. When the supply authority mains power is restored the process needs to be reversed starting with turning pumps to “Off”, main switch “Off”, Generator changeover connection switch to “Off” .The Generator changeover connection switch can be returned to the “Mains” position and pump panel main switch to “on” and the pumps back to “auto”, checking correct operation.
- 4.9. Turn off Generator Main switch and Generator can then be shut down according to the manufacturer’s instructions. Unplug cable and stow in equipment box.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment – boots, eyewear, gloves, safety vests
- 5.2. Generator.
- 5.3. Generator connection leads with suitable plugs.
- 5.4. Generator connection leads of the correct load rating & length.

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6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WH&S Construction (and General) Induction
 - 6.1.2. Work Activity WH&S and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WHS Policies and Procedures
 - 7.4.1. S2 OHS 32 - Manual Task Guidelines

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- 7.4.2. S2 OHS 21 - Hearing Conservation Program
- 7.4.3. S2 OHS 31 - Machinery Guarding Procedure

- 7.5. Shoalhaven Water WHS Policies and Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.5. It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
11. Machine Operation	Soft tissue injury Electrical Burns Death	- Always wear the correct PPE (boots, eyewear, gloves, safety vests) - Always follow Manufacturers instructions when working with Generators.
4. Exposure to noise	Hearing loss	- Hearing protection to be worn whenever machine is operating
16. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
11. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment Death	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Sickness	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations Keep fluid intake up (water + salt tablets if required)

Water Distribution

WD

Strong Road Water Pipeline Access

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while accessing the Strongs Rd pipeline for the purposes of repairing and maintenance to the water main and dam pipe head weir.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

Reference should be made to Council’s “Working in Isolation ” procedure, located in Section 2 of the OH&S Manual.

5.2. Dry Weather Conditions

- 5.2.1. The crew should drive to the end of the vehicle access track if possible.
5.2.2. A minimum of two staff members is required for any work on the trunk main/pipeline.
5.2.3. As a minimum, the crew should carry a first aid kit, mobile phone and necessary tools.
5.2.4. If extra material is needed then additional personnel may be required eg. Gibault joints, pipes etc.
5.2.5. They must notify their co-ordinator of both their departure and return to the truck as soon as possible.
5.2.6. Proceed on foot via the access track, to the pipe head dam to evaluate and repair any damage to the water main or dam outlet works.

5.3. Wet Weather Conditions

- 5.3.1. The crew should leave the truck at Bingles reservoir and proceed on foot unless a 4WD is available.
5.3.2. They should then follow the same requirements of dry weather conditions as per section 4.2.2 to 4.2.6.

5.4. Night Work

- 5.4.1. All work beyond the end of the vehicle access track is to cease outside daylight hours.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

Unique Document Number: SWP WD002	Document Name: Strong Road Water Pipeline Access	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/229
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8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Water Treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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On Call Procedure

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while carrying out on-call procedures.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan

4. PROCEDURE

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the activity/day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. When called by the Council’s after hours call centre, the On-call operator is to himself establish the need to attend the complaint immediately or defer the response until the next morning or the next workday depending on the circumstances of the complaint. This will involve an assessment of the information provided by the after hours Call Centre and whenever possible, a return phone call to the person from whom the report was taken.
The information provided will also determine whether the problem is Shoalhaven Water’s responsibility, the owner’s responsibility (after the meter) or relates to a council building or toilet. If the complaint does relate to a council building or toilet block, the after hours service should be reminded to refer the matter to the relevant section of Council as follows:
- 1. Northern Council buildings - North Parks & Reserves Supervisor - Kevin Flanagan
 - 2. Central Council buildings – Central Parks & Reserves Supervisor - Ian Robinson
 - 3. Council toilet blocks - City Services Building Supervisor - Ken Wills
- 4.4. The On-Call operator will also determine if the repair will definitely require two employees. Except where the information supplied by the after hours service and the customer indicates the obvious need for a second person, the On-call operator will inspect and assess the task before arranging assistance. **This is to be**

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arranged by contacting the on call coordinator for approval.

- 4.5. As a general rule of thumb:
- 4.5.1 Reticulation main repairs, other than simple broken backs, any work involving traffic control and or roadwork, will involve a second person as well as a machine.
- 4.5.2 Service repairs such as a meter-cock replacement, damaged meters, cracked fittings, many run over services and leaking stop valve glands, hydrants and air valves, can generally be carried out without assistance.
- Note: If difficult work conditions (see section 7) dictate the need, the On-call operator may still need assistance.
- 4.5.3 Trunk main repairs will always require the Coordinator's input as repairs may have a considerable impact on the water supply system.
- 4.5.4 If the On-call operator is at all unsure about any aspect of the task he should contact the Coordinator as soon as possible.
- 4.6 The On-call Operator will pick up or meet another employee on the job if required.
- 4.7 The On-call Operator is to ensure that his mobile phone is ON and in close proximity to him at all times. He must also ensure that his truck's two-way radio is ON whenever he is on a job particularly if the mobile coverage is poor.
- 4.8 The On-call Operator is to keep Council's after hours call centre up to date with the status of the work, particularly when isolations are required for repairs purposes and if he is on the job for an extended period.
- 4.9 Employees who are required to be on-call are not required to remain at their usual place of residence or other place appointed by Council. However, the On-call Operator must be able to be contacted and be able to respond in accordance with Shoalhaven Water's "Levels of Service" document.
- 4.9.1 The Council vehicle may be used to travel short distances, for family or local sport reasons, but the employee must be ready when he receives a call-out.
- 4.9.2 The vehicle cannot be used for shopping or hotel bars. No other person may travel in the vehicle due to insurance reasons, except in extenuating circumstances with prior approval of the Coordinator.
- 4.10 Employees shall not work in remote areas unless special safety arrangements are made between the Coordinator and the employee. For example: Hourly radio or phone contact between Coordinator and employee. The practicality of this arrangement is the responsibility of the Coordinator.
- 4.10.1 The following shall be taken into account:
- Areas to be worked in
 - Type of work eg. Chainsaw, climbing reservoirs.
- 4.11 The following areas are designated as areas where employees shall not work alone.
- 4.11.1 Strongs Road pipeline after dark
- 4.11.2 Undesirable areas
- 4.11.3 Trunk mains remote from the road
- 4.11.4 Other areas as has been agreed between Coordinator, employee and the WHS Committee of Shoalhaven Water's Operations Section.

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4.12 The taking of a 10 hour break between shifts will require the approval of the Coordinator.

4.13 On-call Operators have access to material storage containers/sheds with the new water master key as follows:

- St Georges Basin Treatment Works
- Sussex Inlet Reservoir
- Coonemia Reservoir
- Nugents Crk. Chlorinator Shed

4.14 On-call staff shall wear their Shoalhaven Water clothing and carry their ID Card as proof of identification for dealing with the public after hours.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment – boots, other as indicated by task
- 5.2. Mobile phone
- 5.3. Two-way radio
- 5.4. Shoalhaven Water clothing
- 5.5. Shoalhaven Water ID Card.

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. OHS Construction (and General) Induction
 - 6.1.2. Work Activity OHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Asbestos Awareness

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- First Aid Certificate
- Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

6.8. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Corporate WHS Procedures
 - 7.3.1. Manual Tasks Guideline
 - 7.3.2. Working in Isolation
 - 7.3.3. Machinery Guarding Procedure
- 7.4. Shoalhaven Water WHS Procedures
 - 7.4.1. SOP012 Traffic Control Plans - Guidelines
- 7.5. WorkCover regulations and codes
- 7.6. SOP009 Response Times to System Failure

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

Unique Document Number: WD003	Document Name: On Call Procedure	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1215
Adopted: 02/08/2005	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 6 Page 4 of 5

9. HAZARD ASSESSMENT

9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
19. Other - Remote areas	Injury with delay in assistance	- Employee shall not work alone in areas designated in 4.10 and 4.11 - Employees shall not work alone in other areas unless special safety arrangements are made between the Coordinator and the employee
17. General Issues - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Water & Salt Tablets as required)

ACCESSING ELEVATED RESERVOIRS

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while accessing high level Reservoirs (particularly Pitt St. High Level Reservoir) for the purposes of repairing and routine maintenance inspections.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan

5. DESCRIPTION

5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SUPP012.

Reference should be made to the “Working at Heights” and “Confined Space ” procedures, located in Section 2 of the Corporate OH&S Manual.

5.2 Access to the roofs of Elevated Reservoirs shall be via their associated ladders and or access shaft, as is the case of Pitt St High Level Reservoir.

NOTE: The access shaft in Pitt St High Level Reservoir has been specifically padlocked to prevent access without the prior knowledge of the co-ordinator.

5.3 Where required a crane should be used to handle material/equipment (all persons involved in the operation of the crane and any associated load security shall carry appropriate WorkCover certification).

5.4 The minimum number of personnel required to carry out work on the roofs of Elevated Reservoirs shall be:

5.4.1 Two persons on uppermost level

5.4.2 One ground assistant if a crane is used to handle materials or equipment

5.4.3 A crane operator

5.5 Where required, Personal Protective Equipment must be worn at all times.

5.6 As a minimum, the crew should carry a mobile phone, necessary tools and have a first aid kit available if required.

5.7 The work crew must notify their Coordinator of both their departure and return to the truck as soon as possible.

NOTE: Any work on the roof of a high level reservoir should be carried out without delay.

5.8 Workers aloft must:

5.8.1 Be First Aid trained

Unique Document Number: SWP WD005	Document Name: Accessing Elevated Reservoirs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/232
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- 5.8.2 Be Confined Space trained
- 5.8.3 Have no medical constraints.
- 4.8.4 Be comfortable working at heights

5.9 Work performed inside a reservoir must conform to Confined Space legislation.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Water Treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WD005	Document Name: Accessing Elevated Reservoirs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/232
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 3 of 3

Replacing Water Meters in the Field

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the WHS Act 2011 to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while replacing water meters or disconnecting water services.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Work Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. GPS: Geographical Positioning System

4. PROCEDURE

- 4.1 A request has been received to repair or replace stopped, damaged or difficult to read water meters. Additional information may include relevant information regarding location, last reading, size and consumption can be obtained via the GIS system.
- 4.2 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.3 On arrival to site inform the customer (if available) that the water meter operation is being checked.
- 4.3.1 If it has been reported as a stopped meter, test the operation by turning on a tap and observing the meter. (The meter will have read no consumption if connected to a vacant block or an empty house).
 - 4.3.2 If reported as a difficult to read meter, check and note the reading if possible.

Unique Document Number: WD006	Document Name: Replacing Water Meters in the Field	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1295
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- 4.4 If it is then still considered necessary to replace the meter, inform the customer and indicate to them that the process will take 15-30 minutes all going well.
NOTE: Under no circumstances are painted blue meters to be changed without the prior agreement of the customer, as these meters are connected to kidney dialysis machines.
- 4.5 If it is not convenient to change the water meter to the customer at that time, arrange an alternative suitable time. In particular schools, hospitals, factories, shops and other businesses need to have a time scheduled to suit both parties.
- 4.6 Check that the meter cock shuts off completely. If not, replace with new jumper valve, stuffing box or new ball valve (see section 4.9).

NOTE: Under some fault conditions an electrical current can flow in the water pipe (supply) system. If this occurs Council staff and contractors are at **serious risk of fatal electric shock** if they cut through or break connections in the water pipes or remove fixtures such as water meters etc. Particular attention should be paid to any areas which contain substantial lengths of metallic water mains.

To minimise the risk of electric shock persons carrying out work on metallic plumbing systems at Council's and private properties must adhere to the following:

- 4.7 In addition to the below, also see the **Electrical Safety Procedures for Changing Water Meters** (SOP027/PRD14/194) which is provided within the appendix.
 - 4.7.1 Safety footwear to be worn at all times.
 - 4.7.2 Complete a continuity test on the Plumb Guard (voltage meter). Also check the wiring, clamps and connections to ensure all are in good repair.
 - 4.7.3 Inspect bridging conductor and check the safety inspection tags to ensure all in good repair.
 - 4.7.4 Inspect and pressure test LV Gloves (to ensure no holes). LV Gloves to be worn at all times when there is a potential for touching metallic pipes.
 - 4.7.5 Attach the Plumb Guard clamps either side of the water meter or the section of the pipe to be removed and install the earthing cable from the Plumb Guard. Turn on the Plumb Guard and press test. Continue to monitor for electrical current while work is being carried out.
 - 4.7.6 If no electrical current is detected see Section 4.7.9. If an electrical current is detected **STOP WORK IMMEDIANTLY** and see 4.7.7.

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- 4.7.7 Remove Plumb Guard and tag the water meter with tagging system indicating fault detected. Call your supervisor. If you have received an electrical shock you need to see a doctor to have your heart rate checked.
- 4.7.8 Supervisor to contact electricity provider (E.g. Endeavour Energy) to confirm that an electrical fault has been detected on the plumbing system.
- 4.7.9 As no electric current has been detected work can continue. While wearing LV gloves remove any dirt, paint or corrosion from the pipe where the bridging conductor clamps are to be attached in order to make a good contact with the metal pipes (use metallic sandpaper to do this).
- 4.7.10 Attach bridging conductor to either side of the water meter or the section of the pipe to be removed. Connect bridging conductor to water main side first, then house side. Safely remove water meter by using 2 large shifting spanners or wrenches.
- 4.7.11 Clean out the meter unions or replace if necessary. If meter cock doesn't shut off completely (see section 4.6), then replace with ball valve after isolating maincock or carrying out under pressure.
- 4.7.12 Replace with new meter 20mm. (32mm and above meters may be able to be replaced with reconditioned meters when available).
- 4.7.13 Check new water meter and fittings for leaks. Check reading on new meter (usually zero).
- 4.7.14 Bridging conductor can now be removed. To remove bridging conductor, take off house side first followed by water main side. Plum Guard can now also be removed and switched off.
- 4.7.15 Record new and old meter numbers and readings with location details onto meter change sheet. Make sure the surrounding area is left in the same state as it was found.
- 4.7.16 Inform the customer either verbally or by leaving a note, that the new water meter has been installed. Advise the customer that it might be in their best interest to record the meter reading on a regular basis in order to help them control costs by identifying leaks in their system.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment (Safety Boots, Plumb Guard voltage meter, LV Gloves).
- 5.2 Bridging Conductor
- 5.3 Replacement parts
- 5.4 Hand tools

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6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4 Replacing Water Meters in the field SWMS1295

- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

- 6.4. Any employee operating plant or using equipment shall have had the appropriate training.

- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

- 6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

- 6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

- 6.8. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WH&S Procedures
 - 7.4.1. Manual Task Guidelines

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- 7.4.2. Machine Guarding Procedure
- 7.4.3. Electrical Items Safety Procedure
- 7.4.4. Energy Isolation Procedure
- 7.5. Shoalhaven Water WH&S Procedures
 - 7.5.1. SOP012 Traffic Control Plans - Guidelines
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.


POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
5. Contact with Electricity - Electrocutation	- Fatal electric shock if cut through or break connections in the water pipes or remove fixtures such as water meters etc.	- Safety footwear to be worn when using a Bridging Conductor. - Use LV Gloves at all times when changing water meter. Use the Plumb Guard voltage meter at all times when changing water meter. - Check the equipment wiring, clamps and connections to ensure all are in good repair with no loose or broken cables etc. These checks ensure the equipment will function correctly. - If electrical shock is received then contact your supervisor ASAP and also go to Doctor to have your heart rate checked.
19. Other - Kidney dialysis failure	Death or serious injury	- Under no circumstances are painted blue meters to be changed without the prior agreement of the customer, as these meters are connected to kidney dialysis machines.
17. General Issues - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-‘3’ point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer’s recommendations and other safety procedures

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Water & Salt Tablets as required)

10. APPENDIX

10.1 Electrical Safety Procedures for Changing Water Meters (SOP027)



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Shoalhaven Water


Standard Operating Procedure

PRD14/194
SOP027
Electrical Safety Procedures for
Changing Water Meters
Page 1 of 2


STEP 1 - Complete risk assessment prior to commencing work.

Check all equipment prior to commencing work


STEP 2 - Conduct continuity test on Plumb Guard voltage meter.




STEP 3 - Inspect bridging conductor and check safety inspection tags.



STEP 4 – Inspect and pressure test LV Gloves (to ensure no holes are present).





All metallic pipes to be considered electrified!!

Unique Document Number: SOP027	Document Name: Electrical Safety Procedures for Changing Water Meters SOP	Responsible Section: [Click & Type Section name]	TRIM Reference: PRD14/194 18446E
Adopted: 13/08/2014	Last Amended:	Review Date: 13/08/2017	Version: 1 Page 1 of 2

STEP 5 – LV Gloves to be worn when there is the potential for touching metallic pipe.



STEP 6 - Use Plumb Guard to test pipes for electrical current (including adjacent water services) before touching them and continue to monitor while work is being carried out.



STEP 7 – All pipework and bridging conductor clamps to be cleaned to ensure a good electrical connection prior to attaching to metallic pipes.



STEP 8 - Attach bridging conductor to either side of the water meter or the section of the pipe to be removed. Connect bridging conductor to water main side first, then house side.



STEP 9 - To remove bridging conductor, take off house side first then water main.

If evidence of electricity is detected – STOP WORK immediately and call your supervisor!

Unique Document Number: SOP027	Document Name: Electrical Safety Procedures for Changing Water Meters SOP	Responsible Section: [Click & Type Section name]	TRIM Reference: PRD14/194 18446E
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Tapping and Repairs to High Pressure UPVC Mains (Pressure Greater Than 85 Metres)

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while excavating around high pressure water mains.
- 1.2. To ensure work teams are familiar with operational requirements and have resources and training for excavating around high pressure water mains.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
TCP	Traffic Control Plan
PRV	Pressure Reducing Valve

Unique Document Number: SWP WD016	Document Name: Tapping and Repairs to High Pressure UPVC Mains (Pressure Greater Than 85 Metres)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/230
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5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. There shall be at least two Shoalhaven Water personnel on site for the tapping or repair work process to take place.
- 5.3. If the operator is unsure of the pressure then a pressure test must be carried out at the nearest house tap to determine the pressure in the main.
- 5.4. Before starting excavation the pressure in the main must be reduced to 85 Metres Head or less. This is achieved by affixing a standpipe to the nearest hydrant to the proposed tapping or leak. The standpipe is to be fully opened. The stop valves that control the flow in the section of main are to be throttled to reduce the potential flow in that section of main.
- 5.5. Excavation must be kept to a minimum.
 - 5.5.1. For a main repair only expose enough UPVC pipe to identify the approximate location of the leak.
 - 5.5.2. For a main tapping only expose enough UPVC main to be assured of its location.
- 5.6. Before fully exposing the PVC pipe:
 - 5.6.1. For a main repair the water main must be isolated and depressurised. This is achieved by completely shutting off the valves to isolate the section of main and leaving the standpipe fully open to drain the water out of the isolated section of the main.
 - 5.6.2. For a main tapping the water pressure needs only to be maintained below 85 Metres Head.
- 5.7. Complete the appropriate excavations around the water main.
- 5.8. Carry out main repair works as required or main tapping by using a hole saw supplied by Rapi tap (or equivalent) to the required tapping diameter.
- 5.9. The uncovered section of the main must be backfilled before it is re-charged.
- 5.10. The standpipe is to be left open until the main is fully charged and water is clear.

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5.11. Examples of areas within Shoalhaven City Council that **may** have UPVC water mains with pressure greater than 85 Metres are:

- Hyams Beach
- BerraraErowal Bay
- Swanhaven
- Wrights Beach
- Cudmirrah
- Old Erowal Bay
- Tomerong
- Sanctuary Point
- Wandandian
- St. Georges Basin
- Bewong
- Basin View.

NOTE: Many of these areas now have a PRV in place to reduce static pressure.

This procedure is to coincide with all other procedures that are relevant when carrying out this type of work.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Water treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

Unique Document Number: SWP WD016	Document Name: Tapping and Repairs to High Pressure UPVC Mains (Pressure Greater Than 85 Metres)	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/230
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Safe Work Procedure

WD016
PRD12/230
Tapping and Repairs to High Pressure UPVC Mains (Pressure Greater Than 85 Metres)
Page 4 of 4

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Installation of Water Services

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while in the process of installing water services.
- 2.2 This work procedure has been prepared in accordance with the WHS Regulation 2011 and the Water Directorate’s Cutting, Handling and Disposal of Asbestos Cement (AC) pipe guidelines (March 2008).

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety
 3.4. TCP: Traffic Control Plan
 3.5. AC: Asbestos cement

4. PROCEDURE

- 4.1 Obtain a copy of the water service application with confirmation of the blue peg positioning and cable location plans (i.e. Dial Before You Dig – 1100), from the Coordinator.
- 4.2 Aim to complete the installation of the water service within the 15 day Levels of Customer Service Plan where possible.
- 4.3 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

NOTE: At a minimum, the truck’s ‘Workmen Ahead’ sign, flashing lights and PPE must be used. If at all possible, the truck should be parked off the road reserve.

- 4.4 If there is any foreseen difficulty with the use of a generic TCP, the operator should consult with the co-ordinator to design a specific TCP for the job.

Unique Document Number: WD034	Document Name: Installation of Water Services	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1219
Adopted: 02/06/05	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 7 Page 1 of 6

- 4.5 Refer to the “Unloading and Loading of Kubota from Service Truck or Trailer” procedure in the Shoalhaven Water SWMS WWW011.

- 4.6 Locate any power, Telstra cables, gas, water and other utilities using cable locator and marker locations by applying potholing techniques before commencing backhoe excavations.

- 4.7 Refer to the WorkCover “Excavation Work” Code of Practice, Publication No. 312 (31/3/00) before commencing the following excavations:
 - 4.7.1 For a Short Service: Excavate a trench 0.45m deep between the main and up to 1 metre inside the owner’s boundary, at or as near as possible to the owner’s blue marker peg.
 - 4.7.2 For a Long Service (i.e. road crossing): Excavate a trench 0.45 metres deep between the road crossing conduit and up to 1 metre inside the owner’s boundary as well as a trench between the main and the other side of the road crossing conduit on whichever side the crossing has been supplied by the developer.
 - 4.7.3 For an Underbore: Excavate a trench 0.45 metre deep between road and 1 metre inside owner’s boundary. Also excavate a trench on the main side of the road at a size to allow for the underbore and main tapping procedures. Note: If the underbore is to be completed at a later time and the depth of the excavations are less than 1.5 metres, the trenches can be secured using star pickets and a well strained, sound, Para webbing. However, if the excavation is greater than 1.5 metres deep, the trenches need to be boarded over and Para webbed as per <1.5 m trenches or Construction type fencing used. In either case a length of poly is to be left in the trench for the road underboring contractor to feed through the underbore. When feeding the poly pipe through the underbore hole, the pipe preferably should be pulled using a machine, or if not possible, manually, without using a twisting action, which could cause injury.

Note: To facilitate the safe ingress and egress of the excavation ramps, steps and ladders must be considered.

- 4.8 Refer to Shoalhaven Water SWMS WD016 ‘Tapping and Repairs to High Pressure UPVC Mains’.

- 4.9 If tapping an Asbestos cement (AC) pipe, clean the area thoroughly with water prior to placing the tapping band into position. The tapping kit must have a positive purge or “blow off” feature.

Note: The tool’s pressure chamber protects against water leakage and catches AC debris, making this a virtually dust-free operation.

- 4.10 Tap the main to the required service size as specified on the water service application. If tapping an AC pipe, it is then essential to flush out the pressure chamber using the “blow off” valve to purge out all AC particles to waste.

- 4.11 Assemble the service as per standard water service drawings (i.e. 21755 number series).

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- 4.12 Before completing the meter and standpipe installation, flush the service back to the metercock to make sure there are no blockages (i.e. The flow rate is as expected.)
- 4.13 Fill in excavations and compact using shovel and an appropriate machine for the job.
- 4.14 Restore excavations as near as possible to the original condition (Topsoil, seed and/or turf if required.)
- 4.15 Complete the details of the type of service (i.e. short, long, underbore), location on block (i.e. left, right, centre), meter number, date, and name of operator who carried out the work in the bottom of the water service application and return to the Coordinator for further processing.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment
- 5.2 Kubota backhoe
- 5.3 Shovel and other hand tools
- 5.4 Parts as required

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WH&S Construction (and General) Induction
 - 6.1.2 Work Activity WH&S and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Erosion Protection Workshop
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training. For example: welding.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

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- Confined Space Work
- Cutquik Operation
- Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Asbestos Management Procedure
 - 7.4.2. Excavation Work Guidelines
 - 7.4.3. Manual Task Guidelines
 - 7.4.4. Traffic Control - Set Up, Maintenance and Removal
 - 7.4.5. Concrete Cutting Chain Saw (Hydraulic/Motorised) SWMS
- 7.5. Shoalhaven Water WHS Procedures
 - 7.5.1. Unloading and Loading of Kubota from Service Truck or Trailer
 - 7.5.2. Welding – Electric and Gas
- 7.6. WorkCover “Excavation Work” Code of Practice

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

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9. HAZARD ASSESSMENT

9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
1. Traffic - Working in close proximity to roads	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers - - At a minimum, the truck's 'Workmen Ahead' sign, flashing lights and PPE must be used. If at all possible, the truck should be parked off the road reserve.
12. Machine Operation - Welding	Burns Electric shock Eye injury Lung irritation Explosion Radiated heat	- Refer to WHS Procedure, Section 2 – Welding – Electric and Gas and follow safety precautions described - No matter how small the job, wear all protective clothing required for welding – Safety footwear, Welding gloves, Eye protection, Flame resistant clothing - Inspect all equipment and gas cylinders before beginning the job
13. Asbestos - Exposure to asbestos	Asbestosis	- If tapping an AC pipe, it is essential to flush out the pressure chamber using the "blow off" valve to purge out all AC particles to waste.
17. General Issues - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
11. Excavation/ Trenching - falling earth or rock - instability - water seepage or inrush - unplanned contact with utility services - falls - heavy plant affecting the excavation - vehicle movement - excessive noise - underground, above ground and overhead services - rescue	Permanent Disability Injury	- Refer to OH&S Procedure, Section 2 – Excavation Work Guidelines, and WWW009 Trenching and Ground Support Guidelines - Any Trench over 1.5 metres in depth and over 2.4 metres in length requires approved shoring, benching, or battering. - All pre-excavated material (from old services/trenches etc) to be removed from trench walls - If unable to removal all pre-excavated material trenches to be excavated so that they are twice as wide as they are deep, plus pipe O/D (eg, 240mm pipe, 1.0 metre deep = 2.240 metre wide trench). - Pipe to be centrally located in trench. - Observer on-site at all times - Keep heavy plant and vibrating equipment from edge of trench to avoid stress on trench walls. - Excavated material should be placed at a minimum of 1000mm from the edge of any trench. - Shoring should be used in WATER CHARGED ground at all times
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and use salt tablets if required)

Water Headworks

WH

Entering Bamarang Raw & Clear WPSs Following Carbon Dioxide Discharge

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “OHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others following the discharge of carbon dioxide gas for fire fighting purposes at the Bamarang Raw & Clear water pump stations.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Occupational Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. WPS: Water Pump Station

4. PROCEDURE

WARNING: This Chemical is an asphyxiant and is considered a hazardous substance. Before carrying out the following procedure the operators should be familiar with the relevant MSDS and follow all safety precautions listed on the data sheet prior to any potential contact with the chemical.

NOTE: This procedure is designed as a precaution only. The supplier has confirmed that discharging a full carbon dioxide cylinder would only result in a 0.6% reduction in oxygen concentration in the Bamarang Clear Water Pump Station.

- 4.1 Any alarm condition will be detected via the telemetry system which will alert the Coordinator to the problem. The Coordinator will then initiate the following procedure:
- 4.2 Two staff members are to attend any such incident, usually the on call operator and a Coordinator. An electrician will be required to investigate, repair and restore power.
- 4.3 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

Unique Document Number: WH010	Document Name: Entering Bamarang Raw & Clear WPSs Following Carbon Dioxide Discharge	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1151
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- 4.4 The operator is to conduct a Gas Detector Sensitivity Test, which confirms the gas detector is in good working order (results should be recorded in the log book).
- 4.5 The gas detector should then be attached to the operator's belt before attempting to enter the pump station.
- 4.6 One hour should be allowed to pass prior to allowing the operator to enter the pump station. The second person is to act as an observer from adjacent to the entrance door.
- 4.7 The operator is to first open all roller doors to help ventilate the area before disabling the fire alarm siren & intruder alarm.
- 4.8 If at any time the gas detector alarm sounds (Indicating a low oxygen level ie. Equivalent to less than 19.5%), the operator should immediately evacuate to fresh air.
- 4.9 Once the operator has established the atmosphere is safe the second person may enter the pump station. However, Carbon Dioxide is heavier than air and will tend to concentrate in low lying areas. Therefore prior to allowing entry to the Clear Water pump well the operator should test the atmosphere by lowering the gas detector into the well via a rope.
- 4.10 All electrical cabinets need to be opened and allowed to ventilate for a short period prior to commencement of any work.
- 4.11 Once all work has been completed close all electrical cabinets, reset the intruder alarm and secure the doors.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Gas Detector

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
 - 6.1.5. Hazardous Substances/Users
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

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- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment.
- 6.8. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Confined Space Procedure
 - 7.4.2. Manual Task Guideliness
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

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9. HAZARD ASSESSMENT

9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
8. Confined Space	Death or serious illness Loss of consciousness	<ul style="list-style-type: none"> - Reference should be made to the “Confined Space Work” procedures, located in Section 2 of the Corporate OH&S Manual - Use gas testing equipment - No equipment capable of generating noxious gas in the work area - Ventilate confined space - Wear safety harness and fall arrestor - One hour should be allowed to pass prior to allowing the operator to enter the pump station. The second person is to act as an observer from adjacent to the entrance door
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-‘3’ point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	<ul style="list-style-type: none"> - Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water & take salt tables as required)

Replenishing Sodium Hydroxide & Polyaluminium Chlorhydrate Storage Tanks at Bendeela WTP

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while transferring Caustic & PAC-AC into the storage tanks at Bendeela WTP.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 RCD: Residual Current Device
- 3.5 MSDS: Material Safety Data Sheet
- 3.6 WTP: Water Treatment Plant
- 3.7 GPO: General Power Outlet
- 3.8 TCP: Traffic Control Plan

4. PROCEDURE

WARNING: While Caustic is considered a hazardous substance and may be a dangerous goods, PACAC is considered non-hazardous; however both should be treated with the same respect. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SUPP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Before commencing the transfer process for the CAUSTIC/PACAC chemicals, the operator must ensure the safety shower and eye wash facilities are in working order. He must also be familiar with their operation.

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- 4.4 Also prior to commencing the transfer process the operator must ensure the drum pump, extension lead & portable residual current device (RCD) have had a safety inspection, testing & tagging procedure completed for that months use.
- 4.6 Appropriate PPE should be worn, i.e. goggles or full face shield, plastic apron, rubber gauntlets & gumboots.
- 4.7 Maneuver the vehicle carrying the 200 Litre drums of chemical as close as possible to the chemical stores.
- 4.8 Remove the lid on the chemical tank.
- 4.9 Check and record the chemical in stock prior to carrying out the transfer procedure.
- 4.10 Remove the drum cap and place the drum pump stem into the chemical ready to transfer the drum contents into the storage tank.
- 4.11 Place the drum pump discharge hose into the storage tank.
- 4.12 Connect the drum pump lead via an extension lead & RCD to the nearest GPO.
- 4.13 Switch on the power at the GPO and pump head to commence the transfer process.
- 4.14 Run the pump until the drum is empty.
- 4.15 Turn the pump off at the GPO & pump head.
- 4.16 Carefully lift the pump to allow the chemical to drain back to the drum prior to removing the pump from the drum.
- 4.17 Repeat steps 4.10 to 4.16 for any further drums.
- 4.18 Replace tank lid & drum caps.
- 4.19 Thoroughly wash & flush drum pump.
- 4.20 Thoroughly hose down any spillage.
- 4.21 Remove, clean & store PPE.
- 4.22 Record litres of CAUSTIC/PACAC added to the storage tank.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment – goggles or full face shield, plastic apron, rubber gauntlets, gumboots
- 5.3 RCD

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- 5.4 Extension Lead
- 5.5 Drum Pump

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity OH&S and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Hazardous Substances/Users
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.8 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Hazardous Substances and Dangerous Goods Procedure
 - 7.4.3. Manual Tasks Guideline

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- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Caustic	Causes burns Risk of serious damage to eyes	<ul style="list-style-type: none"> - Read MSDS and follow safety precautions - Ensure the safety shower and eye wash facilities are in working order and be familiar with their operation - Wear eye/face protection (goggles or full face shield) - Wear PPE (plastic apron, rubber gauntlets & gumboots. - Use only in well ventilated areas - Keep container in a well ventilated place - Thoroughly hose down any spillage
7. Chemicals - PAC-AC (Polyaluminium Chlorhydrate)	May produce discomfort of the eyes, respiratory tract and skin	<ul style="list-style-type: none"> - Avoid contact with skin (gloves) - Wear eye/face protection (goggles or full face shield)

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
5. Contact with electricity	Death or serious injury through electrocution	- Prior to commencing the transfer process the operator must ensure the drum pump, extension lead & portable residual current device (RCD) have had a safety inspection, testing & tagging procedure completed for that months use
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water & take salt tablets as required)

OPERATING CONJOLA WTP SODIUM HYPOCHLORITE DOSING SYSTEM

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1 To eliminate or reduce the potential for injury to employees and others while operating Bendeela WTP’s Sodium Hypochlorite dosing plant.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Work Health and Safety
- 3.4 WTP: Water Treatment Plant
- 3.5 MSDS: Material Safety Data Sheet
- 3.6 TCP: Traffic Control Plan

4. PROCEDURE

WARNING: This Chemical is considered a hazardous substance as well as dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SUPP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Before entering the Sodium Hypochlorite dosing plant the operator must ensure the safety shower and eye wash facilities are in working order. He must also be familiar with their operation. No safety shower or eyewash at Conjola
- 4.4 On entering the Sodium Hypochlorite dosing plant the operator must turn the exhaust fan to manual. No exhaust fan at Conjola
- 4.5 Put on appropriate PPE, ie. goggles, plastic apron & rubber gauntlets.

Document Number: WH012	Document Name: Operating Bendeela WTP Sodium Hypochlorite Dosing System	Responsible Group: Shoalhaven Water	Reference: SWMS1145
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- 4.6 Note the current level of chemical in the day tank.
- 4.7 Record the water meter figure and calculate the consumption.
- 4.8 Remove the lid on the day tank.
- 4.9 After checking that the correct chemical is on site, ie. Labelled SODIUM HYPOCHLORITE and should be in light blue fifteen litre containers, remove the lid of a container.
- 4.10 Carefully decant into the day tank.
- 4.11 Place empty containers to the side away from the day tank.
- 4.12 Repeat 4.9 and 4.10 until the desired level is reached.
- 4.13 Replace lid of the day tank.
- 4.14 Hose down any spillage. Water service to chlorinator required
- 4.15 Remove & store PPE.
- 4.16 Calculate the chlorine dosage for the week & record as mg/l chlorine.
- 4.17 Turn the exhaust fan to auto. No exhaust fan at Conjola
- 4.18 Secure the sodium hypochlorite plant.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment – goggles, plastic apron, rubber gauntlets

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
 - 6.1.4 Hazardous Substances/Users
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.

Document Number: WH012	Document Name: Operating Bendeela WTP Sodium Hypochlorite Dosing System	Responsible Group: Shoalhaven Water	Reference: SWMS1145
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- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Policies and Procedures
- 7.3 Corporate WHS Procedures
 - 7.3.2 Hazardous Substances and Dangerous Goods Procedure
 - 7.3.2 Manual Task Guideline
 - 7.3.3 Machinery Guard
- 7.4 Shoalhaven Water WHS Procedures
- 7.5 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

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9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Sodium Hypochlorite	Contact with combustible material may cause fire Contact with acids liberates toxic gas Causes burns Risk of serious damage to eyes	- Read MSDS and follow safety precautions - Ensure the safety shower and eye wash facilities are in working order and be familiar with their operation - Turn the exhaust fan to manual - Put on appropriate PPE, ie. goggles, plastic apron & rubber gauntlets - Keep locked up - Keep away from combustible material
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-‘3’ point technique – back out while exiting, check for uneven ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SOP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer’s recommendations and other safety procedures

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated and take salt tablets as required.

Adding Hydrochloric Acid to Sludge Lagoons at Bendeela WTP

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while dosing HYDROCHLORIC ACID to the sludge lagoons during the CIP cleaning process at Bendeela WTP.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
 3.2. PPE: Personal Protective Equipment
 3.3. WHS: Work Health and Safety

4. PROCEDURE

WARNING: This chemical is considered a hazardous substance as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical. Particular care should be taken with this chemical, as its fumes are an irritant.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting all hazards identified and control measures taken. Subsequent risk assessments are to be completed if the work activity and/or the method used, conditions or staff change.
- 4.2 Before commencing the process of dosing Hydrochloric Acid to a sludge lagoon, the operator must ensure the safety shower and eye wash facilities are in working order. He must also be familiar with their operation.
- 4.3 Appropriate PPE should be worn, i.e. goggles or full face shield, plastic apron, rubber gauntlets & gumboots. (As an option a full-face mask could be used)
- 4.4 Remove Hydrochloric Acid to an open area so that fumes are readily dispersed to atmosphere. The operator should take particular care to keep his head clear of the fumes by pouring the chemical from an upwind position to the drum.
- 4.5 Carefully add 10 litres of HYDROCHLORIC ACID to the operating sludge lagoon by decanting the contents of a drum into a bucket in approximately 5 litre portions. This process should be carried out immediately after the soak stage of the CIP cycle.

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- 4.6 Thoroughly rinse any empty drums & return to store.
- 4.7 Replace drum cap on any partially full drum & return to storage area in main plant room.
- 4.8 Thoroughly hose down any spillage.
- 4.9 Remove, clean & store PPE.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment - goggles or full-face shield, plastic apron, rubber gauntlets & gumboots. (As an option a full-face mask could be used)
- 5.2 Bucket

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.7. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

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- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at:<http://bugsy/irm/Authorised/RiskManagement/RiskHome.aspx>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Hydrochloric Acid	Harmful if swallowed. Toxic by inhalation. Causes burns. Risk of serious damage to eyes.	- Read MSDS and follow safety precautions. - Do not breathe gas/fumes/vapour/spray. Use only in well ventilated area. - Avoid contact with skin (vinyl gauntlets, PVC apron) - Wear eye/face protection (goggles) - Keep container in well ventilated place.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations

Batching the CIP Tank at Bendeela WTP

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while batching Sodium Hypochlorite or Citric Acid at Bendeela WTP.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Occupational Health and Safety
- 3.4. WTP: Water Treatment Plant
- 3.5. MSDS: Material Safety Data Sheet
- 3.6. HYPO: Sodium Hypochlorite

4. PROCEDURE

WARNING: These Chemicals are considered hazardous substances. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Before commencing the batching process for the HYPO or CITRIC ACID solution, the operator must ensure the safety shower and eye wash facilities are in working order. He must also be familiar with their operation.
- 4.4 Appropriate PPE should be worn, ie. goggles or full face shield, plastic apron, rubber gauntlets & gumboots.
- 4.5 Change over to the off-line sludge lagoon and ensure that the duty lagoon valve is closed.
- 4.6 Check that the CIP tank is empty and that the drain valve is closed.
- 4.7 Flush out the CIP tank:

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- i. Select the plant control switch to 'Recirculation' and press the 'CIP Tank Fill' push button
- ii. When the CIP tank is full, open the drain valve to drain the CIP tank to the lagoon
- iii. Close the drain valve
- iv. Repeat three times.

4.8 Open the ball valve on the discharge hose from the chemical pump.

4.9 Place the pump suction hose into the cleaning chemical and start the pump to add the cleaning chemical into the CIP tank:

- i. For a chlorine hypochlorite clean, rinse 2 x 50 litre bins to remove contaminants, decant 10 litres* of hypo into one of the bins and dilute with fresh water. Use the other bin to rinse the pump after the transfer.
- ii. For a citric acid clean, rinse 2 x 50 litre bins to remove contaminants, add 48 litres of hot water to each bin and then add 1 x boiled kettle to each bin to make up to 50 litres. Mix 1 x bag of Citric Acid into bin No.1 and stir thoroughly. Repeat for bin No.2. Stir after 5 minutes to make sure it is thoroughly mixed.

NOTE: Cleaning chemical quantities may vary due to changing water quality, and in the case of the hypo, due to the chemical quality.

4.10 Once the cleaning chemical has been pumped in to the CIP tank add sufficient amounts of feed water to the bin or bucket and pump into the CIP tank to ensure all chemical has been transferred and that the pump is adequately flushed out.

4.11 Turn off the chemical pump and close the ball valve.

4.12 Check that both CIP pump valves are open.

4.13 Select the plant control switch to 'Recirculation' (if not already selected).

4.14 Press the 'CIP Fill' button.

4.15 When the CIP tank is full check the cleaning solution strength by taking a sample from the top of the tank:

- i. For chlorine strength dip a HACH high-range chlorine test strip into the sample and read the free chlorine after waiting 30 seconds for the colour to develop. Should be between 200 and 400 mg/L (never exceed 700 mg/L).
- ii. For citric acid measure the solution pH. Should be between 2 and 4 pH, preferably about 2.3pH (never go below 2pH).

4.16 After testing the solution add more chemical if necessary. However if the citric acid solution is below 2pH or the hypo solution exceeds 700 mg/L then waste the solution and start again (otherwise serious damage can occur to the membranes).

4.17 Press the 'Cleaning Cycle' push button to initiate the CIP.

4.18 Select plant control back to 'Filtration'.

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- 4.19 Observe the clean sequences:
 - i. Initial backwash and shell drain, etc, about 8min.
 - ii. First recirculation phase (AV11 open) 30min.
 - iii. Second recirculation (AV11 closed) 30min.
 - iv. Soak 60min.
 - v. Rinse cycles (2 of) about 23min. Total time: 2hrs 31min.
- 4.20 Check the cleaning solution strength towards the end of the first recirculation phase by taking a sample from the sample tape located above the CIP pump volute and measure as above. Add more chemical if necessary (unlikely).
- 4.21 When the CIP is complete (as indicated by the 'Clean Cycle' indicator flashing) take a sample from the CIP tank drain and carry out a final test to ensure that the chlorine strength remained above 200 mg/L, if this was to occur then another clean would have to be carried out (it is not necessary to check the pH following a citric clean as it is not likely to change significantly).
- 4.22 Open the CIP tank drain valve and drain the cleaning solution into the off-line sludge lagoon.
- 4.23 Close the drain valve.
- 4.24 Change back to the duty lagoon, ensuring that the off-line lagoon valve is closed.
- 4.25 Press the 'Reset' button to restart the plant (hold for about 10 seconds if the clean fail alarm is active).
- 4.26 Once the plant is running and the plant flow has stabilised, ie. about 3 to 5 minutes after the CIP, check the TMP and compare it with the pre-clean TMP to determine the efficiency of the clean. Also another comparison of the TMP before and after the second backwash could be helpful to determine whether another clean is needed (that is a citric clean to follow after the initial hypo clean).

NOTE: It is recommended not to leave the plant control switch in 'Recirculation' mode for any longer than 30 minutes. After 30 minutes in recirculation the process will halt and you will not be able to proceed in the 'Filtration' mode. It will then be necessary to turn the plant power off and back on again to reset this condition.

- 4.27 Thoroughly hose down any spillage.
- 4.28 Remove, clean & store PPE.
- 4.29 Record Litres of HYPO and or Kilograms of Citric Acid used in Bendeela's flows & stocks file.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment - goggles or full face shield, plastic apron, rubber gauntlets & gumboots.

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- 5.2 Bucket & 60 Litre rubbish bin
- 5.3 Weighing Scales
- 5.4 pH Meter and HACH Chlorine residual test kit

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. OHS Construction (and General) Induction
 - 6.1.2. Work Activity OHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.7. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
 - 7.3.1. Manual Task Guidelines
 - 7.3.2. Machinery Guarding Procedure
- 7.4. Corporate WHS Procedures
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

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- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Sodium Hypochlorite & Citric Acid	Causes severe burns Risk of serious damage to eyes	<ul style="list-style-type: none"> - Read MSDS and follow safety precautions - Ensure the safety shower and eye wash facilities are in working order and be familiar with their operation - Do not breath gas/fumes/vapour/spray - Wear eye/face protection (Goggles or full face shield) - Immediately remove, clean and store all contaminated clothing (plastic apron & rubber gauntlets & gumboots) - In case of contact with eyes, rinse with plenty of water and contact doctor or Poisons Information Centre - Thoroughly rinse empty drums & discard - Thoroughly hose down any spillage
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep Hydrated (Drink water and take salt tablets as required)

CONFINED SPACE & EMERGENCY RESPONSE FOR PORTERS CREEK DAM TUNNEL

1. INTRODUCTION

1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To eliminate or reduce the potential for injury to employees while entering the Porters Creek Dam Tunnel.
- 2.2 This SWMS has been prepared to formalise the work methods which are used at Porters Creek Dam when entering the tunnel for operational, maintenance and construction purposes.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
- 3.2 PPE: Personal Protective Equipment
- 3.3 WHS: Occupational Health and Safety
- 3.4 BA: Breathing Apparatus
- 3.5 RPD: Rope Positioning Device
- 3.6 TCP: Traffic Control Plan

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.3 Set up for confined spaces procedure:
 - 4.3.1 The work area is to be secured to prevent unauthorised entry
 - 4.3.2 No smoking is permitted while doing this class of work
- 4.4 Check calibration of gas detector
- 4.5 Complete confined space entry permit
- 4.6 Put on appropriate PPE (gloves, gum boots, overalls or other protective clothing, hard hats, safety glasses)
- 4.7 Operators kit up with full body harness, a RPD and a shock absorber to be placed in line with the RPD.

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- 4.8 Erect railing barrier around vertical shaft of Porters Creek Dam Tunnel.
- 4.9 Remove the access grate to the vertical shaft of the Porters Creek Dam Tunnel. This requires the use of a vehicle-mounted crane.
- 4.10 Erect tripod over tunnel with winch/fall arrester. Lower the winch to the bottom of the vertical shaft.
- 4.11 Ensure a set of BA is located at the top of the shaft for immediate use if required.
- 4.12 Lower a gas detector to monitor the air quality in the shaft.
- 4.13 Ensure the 2 way radio system for the tunnel is switched on and the mouthpiece is located at the entrance of the vertical shaft.
- 4.14 Each operator required to enter the tunnel should put on full body harness and personal 31/100. A gas detector shall also be carried by at least one person.
- 4.15 Access to the tunnel is via the ladders in the Porters Creek Dam inlet tower. Ensure that the lights are turned on before proceeding down the ladders.
- 4.16 At the bottom of the tower stairs establish verbal communication with responsible person using the 2 way radio. Each person entering the tunnel should establish communication before moving on.
- 4.17 The personnel can now continue on down the tunnel to the appropriate point to perform the required maintenance, establishing verbal communication at the other 2 way radio checkpoints.
- 4.18 Tools should be lowered down the shaft, rather than carried by the people entering the tunnel down the tower ladders. Tools can be lowered using a rope and the lockable canvas tool bag available.

EMERGENCY RESPONSE PROCEDURE

- 4.19 Determine the nature of the situation and notify the responsible person located at the top of the shaft. Contact can be made through 2 way radio system located in the tunnel.
- 4.20 Perform first aid as required.
- 4.21 Notify the appropriate authorities as to the nature of the situation. Contact can be made either by:
 - a. The Shoalhaven City Council 2 way radio system fitted to all Council vehicles.
N/A
 - b. Mobile phone (located in the Chemical Treatment Plant building) No longer operational

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c. Using the Panic Button located in the Chemical Treatment Plant building.

4.22 In emergency situations, injured personnel should exit the tunnel through the vertical access shaft by attaching to the winch/fall arrester and being winched to the surface by the responsible person.

4.23 In emergency situations, uninjured personnel should exit the tunnel by the most appropriate means:

- a. Vertical Access Shaft – winched extraction
- b. Inlet Tower Stairs

NOTE: A list of emergency contact phone numbers is located in the Chemical Treatment Plant building.

4.24 A helipad is located adjacent to the Chemical Treatment Plant Site at Grid Reference 8927-2-N Milton 56HKF581949.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment - gloves, gum boots, overalls or other protective clothing, hard hats, safety glasses
- 5.2 BA (Breathing Apparatus)
- 5.3 Full body harness
- 5.4 RPD
- 5.5 Gas Detector
- 5.6 Shock absorber
- 5.7 2 way radio
- 5.8 Railing barrier
- 5.9 Vehicle-mounted crane
- 5.10 Winch/fall arrester
- 5.11 Personal 31/100

6. QUALIFICATIONS AND TRAINING

6.1 All permanent employees on site shall have completed the following training:

- 6.1.1 WHS Construction (and General) Induction
- 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
- 6.1.3 Manual Handling
- 6.1.4 Confined Space Work

6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained. Any staff not trained in confined space work shall not go within 5 meters of the open shaft or inside the railing barrier.

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- 6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9 Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Confined Space Procedure
 - 7.4.2 Manual Task Guideline
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

Document Number: WH015	Document Name: Confined Space & Emergency Response for Porters Creek Dam Tunnel	Responsible Group: Shoalhaven Water	Reference: SWMS1159
Adopted: 02.06.05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 5
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8.4 It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
8. Confined Space Work	Asphyxiation Respiratory Distress	<ul style="list-style-type: none"> - Complete confined space entry permit - Reference should be made to the “Confined Space Work” procedures, located in Section 2 of the Corporate OHS Manual - Use gas testing equipment - No equipment capable of generating noxious gas in the work area - Ventilate confined space N/A - Wear safety harness and fall arrestor - Ensure a set of BA is located at the top of the shaft for immediate use if required - Ensure the 2 way radio system for the tunnel is switched on and the mouthpiece is located at the entrance of the vertical shaft - At the bottom of the tower stairs establish verbal communication with responsible person using the 2 way radio. Each person entering the tunnel should establish communication before moving on - Put on appropriate PPE (gloves, gum boots, overalls or other protective clothing, hard hats, safety glasses)

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Fall from height into confined space	Death Permanent Disability Injury	- Erect railing barrier around vertical shaft of Porters Creek Dam Tunnel - Operators kit up with full body harness, a RPD and a shock absorber to be placed in line with the RPD - Tools should be lowered down the shaft rather than carried by the people entering the tunnel down the tower ladders for shaft. Tools can be lowered using a rope and the lockable canvas tool bag available
17. General Issues - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Batching Polyelectrolyte for Pre and Post Dosing at Bamarang WTP

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while batching Polyelectrolyte at Bamarang WTP.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: WorkHealth and Safety
- 3.4. WTP: Water Treatment Plant

4. PROCEDURE

WARNING: Although this chemical is considered non-hazardous, safety precautions should be taken. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical.

- 4.1. All All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Preferably turn the main “Plant Control” switch to the “OFF” position.
- 4.4. Put on appropriate PPE, i.e. a suitable respirator (minimum), rubber gauntlets and goggles (optional).
- 4.5. Note the current level of chemical in the stock tank of the pre or post dose system to be filled.
- 4.6. Ensure the venturi mixer is not obstructed, clean if necessary.
- 4.7. Accurately measure out 2.5kg of LT20 (Pre-dosing) or LT22 (Post-dosing) Polyelectrolyte chemical (This will produce a 2.5g/L solution based on 1000 litres of water). If starting with an empty batching tank, 3.2kg of chemical will need to be

Unique Document Number: WH017	Document Name: Batching Polyelectrolyte for Pre and Post Dosing at Bamarang WTP	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1220
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used, based on 1270 litres of water.

- 4.8. Open the venturi valve.
- 4.9. Ensure all switches on the panel of the batching system to be used are in the "AUTO" position.
- 4.10. Ensure the timer has reset to the desired position (i.e. to provide 60 minutes of mixing time)
- 4.11. Turn Breaktank pump on.
- 4.12. Push "START" button to initiate the process and start mixer.
- 4.13. Adjust venturi to achieve sufficient suction
- 4.14. Start filling the tank by opening the 50mm service water supply valve.
- 4.15. Place a funnel in the venturi aperture and carefully pour the poly powder into the funnel.
- 4.16. When all chemical is added, turn off the Breaktank pump and close the venturi valve.
- 4.17. Turn off 50mm service water supply valve when tank reaches 1000 litre mark.

NOTE: The transfer process will start automatically when the 60 minute mixing time has elapsed.

- 4.18. Remove, clean and store PPE.
- 4.19. Note the stock tank level after the transfer process is complete.
- 4.20. Return the main "Plant Control" switch to its original position.

Enter batch details into the Plant's diary. At the end of each week use these details for stocktaking purposes in the "Bamarang Flows-Stocks" spreadsheet.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment - a suitable respirator (minimum), rubber gauntlets and goggles (optional).
- 5.2. Scales
- 5.3. Bucket
- 5.4. Funnel

6. QUALIFICATIONS AND TRAINING

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Note: the following points are to be included as applicable to the SWMS. For example, some activities do not required confined space training, this point would therefore be deleted. If there is training other than listed required, this training would be added.

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Hazardous Substances/Users
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Manual Task Guidelines
 - 7.4.2. Machinery Guarding Procedure

Unique Document Number: WH017	Document Name: Batching Polyelectrolyte for Pre and Post Dosing at Bamarang WTP	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1220
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- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Polyelectrolyte	May produce discomfort of the eyes, respiratory tract and skin	- Read MSDS and follow safety precautions - Put on appropriate PPE, ie. A suitable respirator (minimum), rubber gauntlets and goggles (optional).
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

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<p>3. Heat - Excessive exposure to UV</p>	<p>Sunburn Skin cancer Heat Exhaustion</p>	<p>- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take tablets as required.)</p>
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BATCHING POLYELECTROLYTE FOR PRE DOSING AT FLATROCK WTP

1. INTRODUCTION

- 1.1 The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To eliminate or reduce the potential for injury to employees and others while batching Polyelectrolyte at Flatrock WTP.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
3.2 PPE: Personal Protective Equipment
3.3 WHS: Work Health and Safety
3.4 WTP: Water Treatment Plant

4. PROCEDURE

WARNING: Although this chemical is considered non-hazardous, safety precautions should be taken. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Turn the Duty Selector switch to the current operating system, leaving the system to be batched on standby.
- 4.4 Put on appropriate PPE, ie. a suitable respirator (minimum), rubber gauntlets and goggles (optional).
- 4.5 Accurately measure out 5.65kg of LT20 Polyelectrolyte chemical (This will produce a 2.5g/L solution based on 2260 litres of water).
- 4.6 Turn appropriate Tank Batch selector switch (spring loaded) to “**BATCH**”.
- 4.7 Press appropriate Tank Batch start button. This will initiate the filling process.

Document Number: WH018	Document Name: Batching Polyelectrolyte for Pre Dosing at Flatrock WTP	Responsible Group: Shoalhaven Water	Reference: SWMS1146
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- 4.8 After the Tank Mixer starts at approx. 425 litres, slowly pour the poly powder into the funnel of the venturi on top of the tank.
- 4.9 The tank will automatically fill to 2,300 litres. The Tank Mixer will continue to run for 2 hrs to complete the batching process.
- 4.10 Remove, clean and store PPE.
- 4.11 Enter batch details into the Plant’s diary. At the end of each week use these details for stocktaking purposes in the “Flatrock Flows-Stocks” spreadsheet.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment - a suitable respirator (minimum), rubber gauntlets and goggles (optional).
- 5.2 Scale
- 5.3 Funnel
- 5.4 Bucket

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven’t been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
 - Hazardous Substances/Users
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans.

Document Number: WH018	Document Name: Batching Polyelectrolyte for Pre Dosing at Flatrock WTP	Responsible Group: Shoalhaven Water	Reference: SWMS1146
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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2011
- 7.3 Shoalhaven City Council Procedures
- 7.4 Corporate WHS Procedures
 - 7.4.1 Manual Task Guideline
 - 7.4.2 Machinery Guarding Procedure
- 7.5 Shoalhaven Water WHS Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Polyelectrolyte	Non-hazardous but employees should take all care when handling.	- Read MSDS and follow all safety precautions - Put on appropriate PPE, i.e. A suitable respirator (minimum), rubber gauntlets and goggles (optional).
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground

Document Number: WH018	Document Name: Batching Polyelectrolyte for Pre Dosing at Flatrock WTP	Responsible Group: Shoalhaven Water	Reference: SWMS1146
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Document Number: WH018	Document Name: Batching Polyelectrolyte for Pre Dosing at Flatrock WTP	Responsible Group: Shoalhaven Water	Reference: SWMS1146
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Changing Gate Levels and Cleaning Trash Racks at Bamarang Dam Outlet Tower

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while changing the gate levels or cleaning the trash racks on Bamarang Dam Outlet Tower.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
TCP	Traffic Control Plan

Unique Document Number: SWP WH019	Document Name: Changing Gate Levels and Cleaning Trash Racks at Bamarang Dam Outlet Tower	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/169	
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6	Page 1 of 4

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SUPP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Isolate intruder & bird screecher alarm via the telemetry system.
- 5.4. Obtain the key to the crane control switch, the pendant control for the crane, a mobile phone for emergency communications, two safety harnesses, two retractable lanyards and two anchorage devices.
- 5.5. **Refer to and observe all the requirements of the “Working from Boats” procedure in Section 2 of the OH&S Manual, and WWW027 Working on Boats.**
- 5.6. Attach a lanyard to the bow and load the boat with all the above necessary equipment.
- 5.7. Disconnect the trailer lights and remove the boat tie-down straps.
- 5.8. With the boat secured using the lanyard and an observer, launch the boat.
- 5.9. Board the boat and make way to the Outlet Tower.
- 5.10. Secure boat to the Outlet Tower and disembark.
- 5.11. Unload all necessary equipment for the task to be carried out.
- 5.12. Connect crane control pendant and turn on crane power via keyed switch.
- 5.13. Operate the crane in all directions and speeds as an operational test before continuing with the task of changing gate levels or cleaning of the trash racks. If any problems with its operation are experienced, arrange for the electricians to do a check of the crane control panel before continuing.

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- 5.14. **Insert removable anchorage devices and fit harnesses and retractable inertia type lanyards before removing any platform grates.**
- 5.15. Remove grates and stack on their edge against the handrails if possible.
- 5.16. Attach the lifting frame to the crane hook and remove the trash racks or level shutters one by one for cleaning or level adjustment. If cleaning, all trash racks should be cleaned prior to stowage into the storage compartment. If adjusting the draw off level of the Dam, the shutters and shutter spacers should be shuffled between the storage compartment and the platform storage rack.
- 5.17. When either task is completed, store the lifting frame in the trash rack or shutter level compartments and relocate all grates before removing harnesses, lanyards and anchorage devices.
- 5.18. Carry out all steps backwards from 4.13 to 4.3 in a reverse logic order to complete the procedure.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The **Water Treatment Co-ordinator** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

Unique Document Number: SWP WH019	Document Name: Changing Gate Levels and Cleaning Trash Racks at Bamarang Dam Outlet Tower	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/169	
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- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Cleaning the Filter Inspection Weirs at the WTPs

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning filter inspection weirs at Bamarang, Flatrock & Milton WTPs.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
WTP	Water Treatment Plant
RCD	Residual Current Device

5. DESCRIPTION

WARNING: Metal Gleam is a hazardous substance. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to performing this task.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Turn the main “Plant Control” switch to “**OFF**” and tag, remove key & stow in pocket to prevent others starting the plant.
- 5.4. Isolate the filter to be cleaned:
 - 5.4.1. At Bamarang, by placing its Main Control switch in the “**MANUAL**” position and tagging off.
 - 5.4.2. At Flatrock, by placing the Backwash Mode key in the “OFF” position, or by isolating the Backwash/De-sludge processes using the circuit breaker isolator switch behind the Flow indicator panel of the MCP and tagging off
 - 5.4.3. At Milton, by placing the Backwash Mode key in the “Manual” position, removing key and/or tagging off.
- 5.5. Drain the filter inspection weir by
 - 5.5.1. At Bamarang, lower a submersible pump connected to an RCD into the filter inspection weir, being careful not to damage the fragile filter tiles.
 - 5.5.2. At Milton, open the inspection weir drain valve.
- 5.6. Direct the pump outlet hose into the filtered water outlet channel and pump out inspection weir (Bamarang).
- 5.7. Remove the perspex filter weir covers from the top of the weirs (Flatrock & Milton).
- 5.8. Lower the specialty built access ladder into the filter inspection weir (Bamarang).

NOTE: The ladder has been designed to not place undue pressure on the fragile inspection weir tiles.

- 5.9. Put on appropriate PPE, i.e. an apron, rubber gauntlets, gumboots & goggles.

Unique Document Number: SWP WH020	Document Name: Cleaning the Filter Inspection Weirs at the WTPs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/170
Adopted: 02/06/05	Last Amended: 14/02/20013	Review Date: 14/02/2016	Version: 6 Page 2 of 4

- 5.10. Make up a 4:1 solution of Metal Gleam & water by adding the Metal Gleam to half a bucket of water.
- 5.11. Enter the filter inspection weir, being careful not to stand on the ledge nearest to the outlet channel (Bamarang).
- 5.12. Thoroughly clean the filter tiles using the 4:1 Metal Gleam solution & a scrubbing brush or broom.
- 5.13. Exit the filter inspection weir, hose off the top of the weir surrounds and replace the filter weir Perspex covers (Flatrock & Milton).
- 5.14. Return the filters to normal operating mode by:
 - 5.14.1. At Bamarang, by removing the lock out tag and returning its Main Control switch back to “**AUTO**”.
 - 5.14.2. At Flatrock, by removing the lock out tag and returning the Backwash mode key to its original position or returning the Backwash/Desludge circuit breaker switch to its normal position.
 - 5.14.3. At Milton, by removing the lock out tag and returning the Backwash control to “**AUTO**”.
- 5.15. Remove PPE and shower or thoroughly wash all exposed skin
- 5.16. When all filters are completed the main “Plant Control” switch may be reinstated to its original position using the lock out key and removing the lock out tag.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

Unique Document Number: SWP WH020	Document Name: Cleaning the Filter Inspection Weirs at the WTPs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/170
Adopted: 02/06/05	Last Amended: 14/02/20013	Review Date: 14/02/2016	Version: 6 Page 3 of 4



9.1. The **Water Treatment Co-ordinator** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH020	Document Name: Cleaning the Filter Inspection Weirs at the WTPs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/170
Adopted: 02/06/05	Last Amended: 14/02/20013	Review Date: 14/02/2016	Version: 6 Page 4 of 4

Cleaning the Inlet/Outlet Channels at WTPs

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the inlet & outlet channels at Bamarang, Flatrock & Milton WTPs.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
WTP	Water Treatment Plant
SCC	Shoalhaven City Council
TCP	Traffic Control Plan

5. DESCRIPTION

NOTE: The following procedure should be carried out with a minimum of two persons present at the WTP.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Turn the main “Plant Control” switch to “**OFF**” and tag, remove key & stow in pocket to prevent others starting the plant.
- 5.4. Lock out and tag the relevant Rapid Mixers for the channel to be cleaned (Bamarang). As an extra precaution it would also be advisable to push in the stop button on the manual stop/start station located adjacent to the Rapid Mixers.
- 5.5. Drain the channel to be cleaned.
 - 5.5.1. At Bamarang & Milton, by operating the relevant Channel Scour Valve.
 - 5.5.2. At Flatrock, by removing the drain plug in the No.1 Filter Inlet Box with the Filter Outlet Valve switch in the “level control” position.
- 5.6. Remove the walkway grate to gain access into the channel. The walkway should then be roped off to prevent access while the grate is open.
- 5.7. Connect and lower a suitable hose & nozzle into the channel.
- 5.8. Put on appropriate PPE, i.e. gumboots or waders.
- 5.9. Enter the channel using an SCC registered ladder.
- 5.10. Thoroughly hose out the channel to drain.
- 5.11. Carry out all steps backwards from 4.9 to 4.3 in a reverse logic order to complete the procedure.
- 5.12. At Flatrock the No.1 Filter should then be backwashed manually prior to restarting the WTP.

Unique Document Number: SWP WH021	Document Name: Cleaning the Inlet/Outlet Channels at WTPs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/171
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 2 of 3

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The **Water Treatment Co-ordinator** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH021	Document Name: Cleaning the Inlet/Outlet Channels at WTPs	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/171
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 3 of 3

Cleaning the 2.3 MI Concrete Reservoir at Flatrock WTP

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the 2.3 MI Concrete Reservoir at Flatrock WTP.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
WTP	Water Treatment Plant
SV	Supply Valve
SC	Scour Valve
Hypo	Sodium Hypochlorite
TCP	Traffic Control Plan

Unique Document Number: SWP WH022	Document Name: Cleaning the 2.3 MI Concrete Reservoir at Flatrock WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 1 of 5

5. DESCRIPTION

NOTES: See attached Plan Layout of Reservoirs with Index and materials/equipment requirements.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Organise a pump out truck to be flushed and sterilised with hypo ready for use on the day the cleaning is to occur if the WTP lagoon is to be used. If the sludge/residue is to be taken to the Wastewater Treatment Plant, no sterilisation is required.
- 5.4. **Use appropriate lock-out & tag-out procedures as specified in the “Energy Isolation Procedure” in Section 2 of the OH&S Manual.**
- 5.5. Turn the main “Plant Control” switch to “**OFF**”, remove the key & stow in pocket to prevent others starting the plant.
- 5.6. Turn off and lock-out the Bamarang WTP Supply Valve (SV8) in the closed position.
- 5.7. Open the normally closed 2.3 MI Reservoir Outlet Penstock (SV5) and Plug Valve (SV9) and close the 2.3 MI Reservoir Inlet Penstock (SV1).
- 5.8. Close the 4.5 MI Reservoir Outlet Penstock (SV6).
- 5.9. Allow the 2.3 MI Reservoir to drain into town until it reaches approx. 25% of its capacity.
- 5.10. Simultaneously open the 4.5 MI Reservoir Outlet Penstock (SV6) and close the 2.3 MI Reservoir Outlet Penstock (SV5).

NOTE: The Plant can now be enabled to run if necessary to fill the 4.5 MI Reservoir while the 2.3 MI Reservoir is out of service. While the 2.3 MI Reservoir is out of service the Clear Water pumps will not function in AUTO mode to fill the Standpipe Reservoir. Hence the Standpipe Reservoir level should be monitored to determine whether a manual run on the pump may be necessary.

Unique Document Number: SWP WH022	Document Name: Cleaning the 2.3 MI Concrete Reservoir at Flatrock WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
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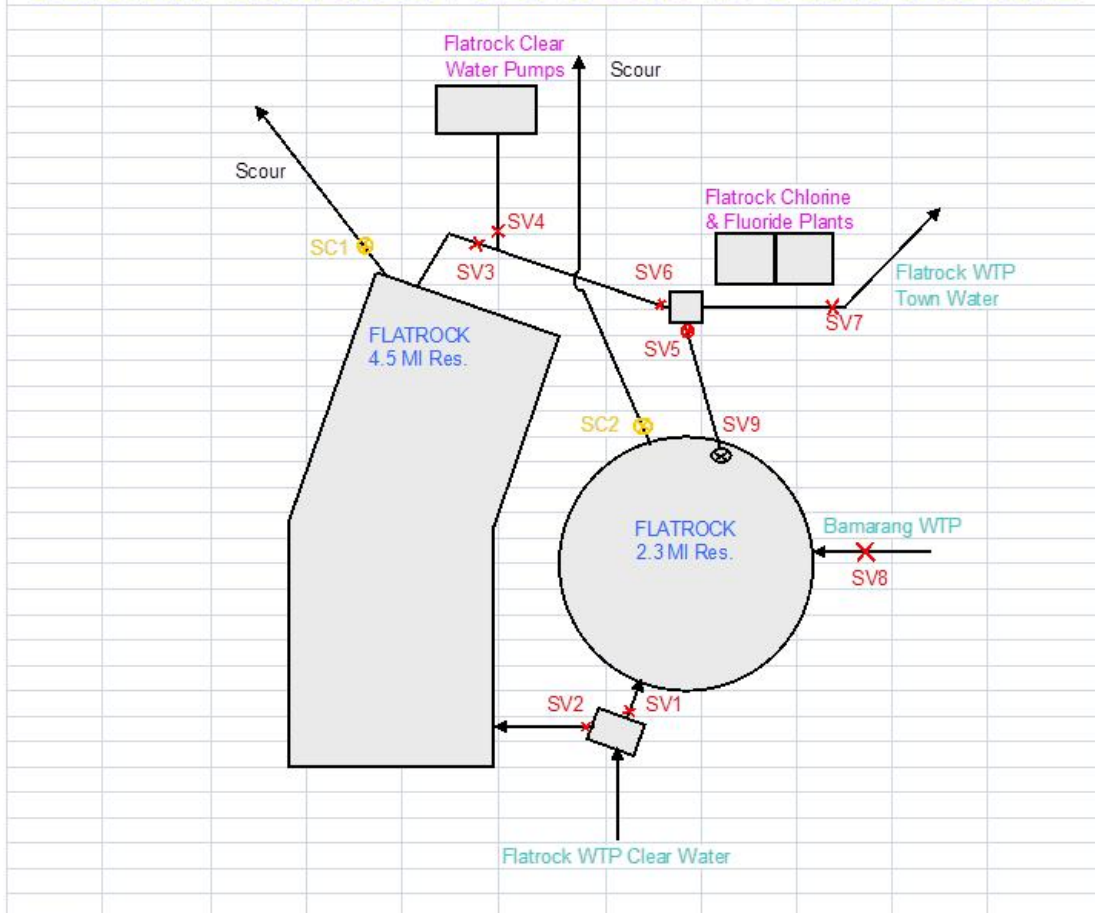
- 5.11. Scour the remainder of the 2.3 MI Reservoir contents to drain through a hay bail screen.
- 5.12. Prior to commencing the cleaning operation close the 2.3 MI Reservoir Scour Valve (SC2).
- 5.13. Lower the suction hose of pump out truck into the 2.3 MI Reservoir Scour Channel through the adjacent access cover. The truck should be parked on the road adjacent to the 2.3 MI Reservoir.

NOTE: Use only water section suction hoses unless they are disinfected prior to use.

- 5.14. Using the “Confined Space Work” procedure (Section 2 of the OHS Manual), clean the reservoir floor using hoses and squeegees etc.
- 5.15. Arrange pump out truck to dump sludge/residue in the most recently isolated lagoon if transferring into the WTP lagoons.
- 5.16. When cleaning has been completed and with the main “Plant Control” switch in the “**AUTO**” position, open the 2.3 MI Reservoir Inlet Penstock (SV1) and allow the reservoirs to equalize.
- 5.17. Re-enable the Bamarang WTP Supply Valve (SV8) and allow it to open to help replenish the reservoir levels ASAP.
- 5.18. Close the 2.3 MI Reservoir Plug Valve (SV9) to return system back to original state.

Unique Document Number: SWP WH022	Document Name: Cleaning the 2.3 MI Concrete Reservoir at Flatrock WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
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FLATROCK RESERVOIR CLEANING PROCEDURE



INDEX		EQUIPMENT REQUIRED FOR RESERVOIR CLEANING
NAME	DESCRIPTION	
SV1	2.3 MI Res. Inlet Penstock	20m x 38mm x 4 Layflat hoses 2 x Lengths of Dairy Hose Nylon Rope Squeegees Confined Spaces Bag Gas Detector & Sensitivity Test Kit 15 litre x 2 Hypo Drums
SV2	4.5 MI Res. Inlet Penstock	
SV3	4.5 MI Res. Outlet Valve	
SV4	CW Pump Isolation Valve	
SV5	2.3 MI Res. Outlet Penstock	
SV6	4.5 MI Res. Outlet Penstock	
SV7	TW Main Isolation Valve	
SV8	Bamarang Inlet Valve	
SV9	2.3 MI Res. Outlet Plug Valve	
SC1	4.5 MI Res. Scour Valve	
SC2	2.3 MI Res. Scour Valve	

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The Operations Manager is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Water Treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH022	Document Name: Cleaning the 2.3 MI Concrete Reservoir at Flatrock WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32	
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6	Page 5 of 5

Cleaning the 4.5 ML Lined Reservoir at Flatrock WTP

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while cleaning the 4.5 ML Lined Reservoir at Flatrock WTP.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: WorkHealth and Safety
- 3.4. WTP: Water Treatment Plant
- 3.5. Hypo: Sodium Hypochlorite
- 3.6. SV: Supply Valve
- 3.7. SC: Scour Valve
- 3.8. TCP: Traffic Control Plan
- 3.9. C: Scour Valve
- 3.10. TCP: Traffic Control Plan
- 3.11.

4. PROCEDURE

DAY 1

NOTES: See attached Plan Layout of Reservoirs with Index and materials/equipment requirements.

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Organise a pump out truck to be flushed and sterilised with hypo ready for use on Day 2 if the WTP lagoon is to be used. If the sludge/residue is to be taken to the Wastewater Treatment Plant, no sterilisation is required.
- 4.4. Use appropriate lock-out & tag-out procedures as specified in the “Energy Isolation Procedure” in Section 2 of the OHS Manual

Unique Document Number: WH023	Document Name: Cleaning the 4.5 ML Lined Reservoir at Flatrock WTP	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1221
Adopted: 02/06/2005	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version:6 Page 1 of 5

- 4.5. Turn the main “Plant Control” switch to “OFF”, remove the key & stow in pocket to prevent others starting the plant.
- 4.6. 5 MI Reservoir Inlet Penstock (SV14) and open the normally closed 2.3 MI Reservoir Outlet Penstock (SV17). This assumes that the 2.3 MI Reservoir Outlet Plug Valve (SV16) is closed as normal.
- 4.7. Allow the 4.5 MI Reservoir to drain into town until it reaches approx. 25% of its capacity.
- 4.8. Simultaneously open the normally closed 2.3 MI Reservoir Plug Valve (SV16) and close the 4.5 MI Reservoir Outlet Valve (SV19).
- 4.9. NOTE: The Plant can now be enabled to run if necessary to fill the 2.3 MI Reservoir while the 4.5 MI Reservoir is out of service. While the 4.5 MI Reservoir is out of service the Clear Water pumps will be able to fill the Standpipe Reservoir as normal, provided that SV19 is used to isolate the 4.5 MI Reservoir and not SV18.
- 4.10. Lower the suction hose of pump out truck into the 4.5 MI Reservoir Scour Pit through the adjacent access cover. The pump out truck should be parked in the chlorine plant delivery bay.

NOTE: Use only water section suction hoses unless they are sterilised prior to use.

- 4.11. **Using the “Confined Space Work” procedure (Section 2 of the OHS Manual)**, clean the reservoir floor using hoses and squeegees etc.
- 4.12. Arrange pump out truck to dump sludge/residue in the most recently isolated lagoon if transferring into the WTP lagoons.
- 4.13. When cleaning has been completed and with the main “Plant Control” switch in the “**AUTO**” position, open the 4.5 MI Reservoir Inlet Penstock (SV14) and allow the reservoirs to equalize.
- 4.14. Open the 4.5 MI Reservoir Outlet Valve (SV19).
- 4.15. Close the 2.3 MI Reservoir Plug Valve (SV16) and Outlet Penstock (SV17) to return system back to original state.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Pump Out Truck

Unique Document Number: WH023	Document Name: Cleaning the 4.5 ML Lined Reservoir at Flatrock WTP	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1221
Adopted: 02/06/2005	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version:6 Page 2 of 5

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. OH&S Construction (and General) Induction
 - 6.1.2. Work Activity OH&S and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Confined Space Work
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle
- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Asbestos Awareness
 NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Confine Space Procedure
 - 7.4.2. Manual Task Guideline
 - 7.4.3. Machinery Guarding Procedure

Unique Document Number: WH023	Document Name: Cleaning the 4.5 ML Lined Reservoir at Flatrock WTP	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1221
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- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
Inundation with water	Drowning	<ul style="list-style-type: none"> - Use appropriate lock-out & tag-out procedures as specified in the "Energy Isolation Procedure" in Section 3-99 of the OHS Manual. - Turn the main "Plant Control" switch to "OFF", remove the key & stow in pocket to prevent others starting the plant
8. Confined Space - Asphyxiation	Death Loss of consciousness	<ul style="list-style-type: none"> - Complete confined space entry permit - Reference should be made to the "Confined Space Work" procedures, located in Section 2 of the Corporate OHS Manual - Use gas testing equipment - No equipment capable of generating noxious gas in the work area - Ventilate confined space - Wear safety harness and fall arrestor

Unique Document Number: WH023	Document Name: Cleaning the 4.5 ML Lined Reservoir at Flatrock WTP	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1221
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Cleaning the 5 MI Reservoir at Bamarang WTP

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the 4.5 MI Lined Reservoir at Flatrock WTP.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
3.2. WHS Regulation 2011
3.3. Shoalhaven City Council Policies and Procedures
3.4. Corporate WHS Policies and Procedures
3.5. Shoalhaven Water WHS Policies and Procedures
3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
SV	Supply Valve
SC	Scour Valve
TCP	Traffic Control Plan

5. DESCRIPTION

DAY 1

NOTES:

See attached Plan Layout of Reservoirs with Index and materials/equipment requirements.

This procedure is carried out over a minimum of 2 workdays.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Lower the control setpoints of Pitt St Reservoir on the main telemetry system computer, to 75-80%. This will allow capacity for the 5 MI Reservoir to be drained.
- 5.4. Organise the Sykes pump to be available for pumping the lime sludge into the sludge lagoons or drying beds. Pump out trucks can be used in-lieu of the Sykes pump if it is unavailable. However, it must be flushed and sterilized with hypo (sodium hypochlorite) ready for use on day 2.

DAY 2:

- 5.5. Turn the main "Plant Control" switch to "**OFF**", remove the key & stow in pocket to prevent others starting the plant.
- 5.6. Use appropriate lock-out & tag-out procedures as specified in the "Energy Isolation Procedure" in Section 2 of the OHS Manual.
- 5.7. Close the 16 MI Reservoir Inlet Valve (SV4).

Unique Document Number: SWP WH024	Document Name: Cleaning the 5 MI Reservoir at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/173
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- 5.8. Simultaneously close the 16 MI Reservoir Outlet Valve (SV5) and open the 16 MI Reservoir Bypass Valve (SV6). This should be carried out with no major reservoirs filling at the time.
- 5.9. From the main telemetry computer open the Pitt St. Reservoir Inlet Valve and drain the 5 MI Reservoir to approx. 25% of capacity.
- 5.10. From the main telemetry computer close the Pitt St. Reservoir Inlet Valve.
- 5.11. Close the 5 MI Reservoir Inlet Valve (SV1).
- 5.12. Simultaneously open the 16 MI Reservoir Outlet Valve (SV5) and close the 5 MI Reservoir Outlet Valve (SV2).
- 5.13. Open the 16 MI Reservoir Inlet Valve (SV4) and close the 16 MI Reservoir Bypass Valve (SV6).

NOTE: Providing the 5 MI Reservoir Bypass Valve (SV3) is left in the open position, the Plant can be enabled to run if necessary to fill the 16 MI Reservoir. However, backwashing will need to be inhibited until the 5 MI Reservoir is back in service unless the new 16MI supply is used by reversing the positions of valves SV8 & SV9.

- 5.14. Scour the remainder of the 5 MI Reservoir contents to drain through a hay bail screen.
- 5.15. Prior to commencing the cleaning operation close the 5 MI Reservoir Scour Valve (SC1).
- 5.16. Connect suction hose of Sykes pump or pump out truck to the 5 MI Reservoir Scour Valve Pit 75mm Kamlok connector (SC3).
- 5.17. **Using the “Confined Space Work” procedure (Section 2 of the OHS Manual)** with a minimum of 6 staff, clean the reservoir floor using hoses and squeegees etc.

Unique Document Number: SWP WH024	Document Name: Cleaning the 5 MI Reservoir at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/173
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In addition the following specific essential safety requirements must be observed:

- 5.17.1. Make sure that all roof hatches are open to aid ventilation and vision.
- 5.17.2. Use ventilation fan through davit hatch.
- 5.17.3. Have available an RPD with attached harness at all times.
- 5.17.4. In addition to normal air monitoring via a gas detector located at working height in the reservoir, use a second gas detector on a person who is working inside the reservoir.
- 5.17.5. Any hoses which are dragged between two people are to be less than 8 metres in length.
- 5.17.6. In order to share the workload, rotate the use of the squeegees, hoses and in particular limit the use of the squeegee hose to less than half an hour at a time maximum.

- 5.18. If a pumpout truck is used, arrange to dump sludge in the most recently isolated lagoon.

- 5.19. When cleaning has been completed, with the 5 MI Reservoir Bypass Valve already open, open the 5 MI Reservoir Inlet (SV1) and Outlet Valves (SV2).

- 5.20. Allow the reservoirs to equalize.

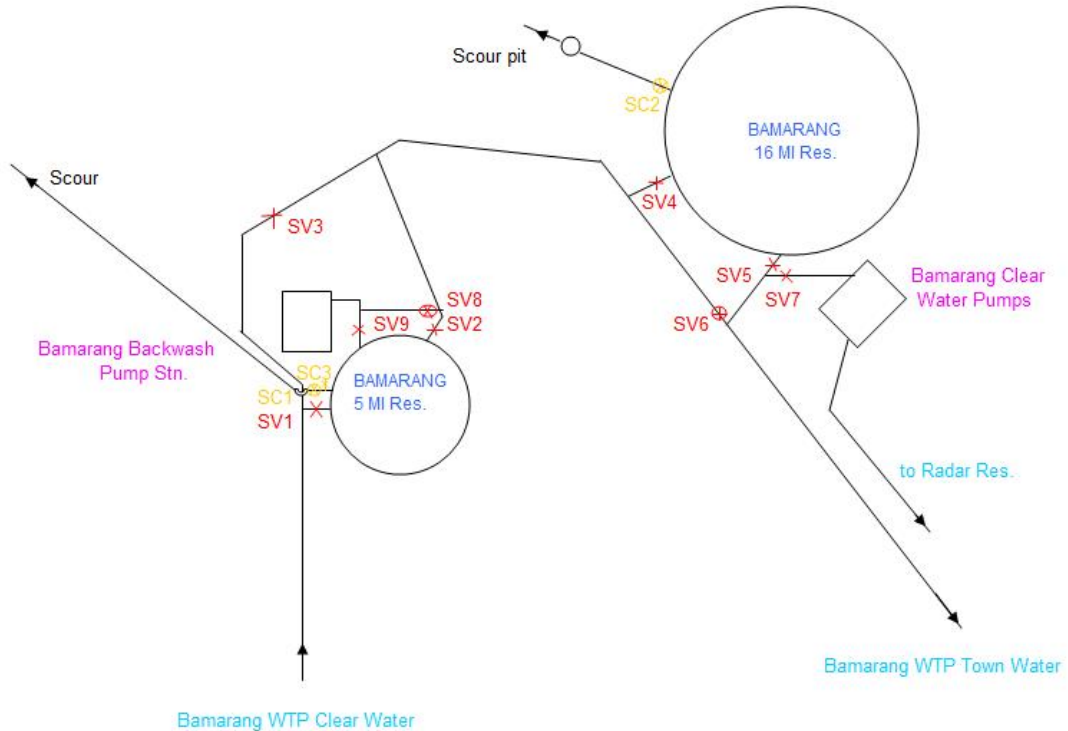
- 5.21. Bleed the 5 MI Reservoir Level Transmitter located inside the Backwash Pump Stn.

- 5.22. Turn the main “Plant Control” switch to the “AUTO” position in order to refill the reservoirs.

- 5.23. The main “Plant Control” switch can now be returned to the “TARIFF” position.

Unique Document Number: SWP WH024	Document Name: Cleaning the 5 MI Reservoir at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/173
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BAMARANG RESERVOIR CLEANING PROCEDURE



INDEX		EQUIPMENT REQUIRED FOR RESERVOIR CLEANING
NAME	DESCRIPTION	
SV1	5 MI Inlet Valve	Standpipe x 1 20m x 38mm x 4 Layflat hoses with Plugs 2 x Lengths of Dairy Hose Nylon Rope Squeegees 2 x Confined Spaces Bags Gas Detector & Sensitivity Test Kit 15 litre x 2 Hypo Drums Electric Valve Opener & generator (Sewer)
SV2	5 MI Outlet Valve	
SV3	5 MI Bypass Valve	
SV4	16 MI Inlet Valve	
SV5	16 MI Outlet Valve	
SV6	16 MI Bypass Valve	
SV7	CW Pump Isolation Valve	
SV8	16 MI Backwash Supply Valve	
SV9	5 MI Backwash Supply Valve	
SC1	5 MI Scour Valve	
SC2	16 MI Scour Valve	
SC3	5 MI Scour Valve 75mm Kamlok	

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Water Treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH024	Document Name: Cleaning the 5 MI Reservoir at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/173
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date:14/02/2016	Version: 6 Page 6 of 6

Cleaning the 16 ML Reservoir at Bamarang WTP

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the 16 ML Reservoir at Bamarang WTP.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
SV	Supply Valve
SC	Scour Valve
TCP	Traffic Control Plan
WTP	Water Treatment Plant

Unique Document Number: SWP WH025	Document Name: Cleaning the 16 ML Reservoir at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/175
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5. DESCRIPTION

DAY 1

NOTES: a) See attached *Plan Layout of Reservoirs with Index and materials/equipment requirements*.

b) This procedure is carried out over a minimum of 3 workdays.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including a risk assessment of all hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SUPP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week and subsequent Risk Assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Lower the control set points of Pitt St & Coonemia Reservoirs on the main telemetry system computer, to 75-80%. This will allow capacity for the 16 MI Reservoir to be drained.
- 5.4. Organise the Sykes pump to be available for pumping the lime sludge into the sludge lagoons or drying beds. Pump out trucks can be used in-lieu of the Sykes pump if it is unavailable. However, it must be flushed and sterilized with hypo (sodium hypochlorite) ready for use on day 3.

DAY 2

- 5.5. Turn the main "Plant Control" switch to "**OFF**".
- 5.6. Use appropriate lock-out & tag-out procedures as specified in the "Energy Isolation Procedure" in Section 2 of the OHS Manual.
- 5.7. Isolate the 16 MI Reservoir by shutting off the 16 MI Reservoir Inlet Valve (SV4).

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- 5.8. From the main telemetry computer open the Pitt St., Coonemia or Flatrock Inlet Valves and drain the 16 MI Reservoir to approx. 15% of capacity.
- 5.9. From the main telemetry computer close the relevant Reservoir Valves.
- 5.10. Close the 5 MI Reservoir Bypass Valve (SV3).
- 5.11. Simultaneously close the 16 MI Reservoir Outlet Valve (SV5) and open the 16 MI Reservoir Bypass Valve (SV6). This will totally isolate the 16 MI Reservoir from the system and allow the plant to run on the 5 MI Reservoir until cleaning of the 16 MI Reservoir is completed.
- 5.12. The main “Plant Control” switch should now be set to the “**AUTO**” position for the duration of the cleaning process. The yellow Auto timer in the back room will also need to be disabled to allow plant operation at any time.
- 5.13. Scour the remainder of the 16 MI Reservoir contents to drain through a hay bail screen.

NOTE: While the 16 MI Reservoir is empty the Bamarang Clear Water pumps will be inhibited from filling Radar Reservoir. If necessary the pump can be operated via the 5 MI Reservoir by disabling the “Local Control” output on the Bamarang Clear Water Pumps telemetry site listings and placing the “Local/Telemetry” switch on the Pump Stn. Control panel to the Telemetry position.

DAY 3

- 5.14. Locate suction hose of Sykes pump or pump out truck in 16 MI Reservoir Scour Pit.
- 5.15. **Using the “Confined Space Work” procedure (Section 2 of the OHS Manual)** with a minimum of 8 staff, clean the reservoir floor using hoses and squeegees etc.

In addition the following specific essential safety requirements must be observed:

- 5.15.1. Make sure that all roof hatches are open to aid ventilation and vision.

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- 5.15.2. Use ventilation fan through davit hatch.
- 5.15.3. Have available an RPD with attached harness at all times.
- 5.15.4. In addition to normal air monitoring via a gas detector located at working height in the reservoir, use a second gas detector on a person who is working inside the reservoir.
- 5.15.5. Any hoses which are dragged between two people are to be less than 8 metres in length.

In order to share the workload, rotate the use of the squeegees, hoses and in particular limit the use of the squeegee hose to less than half an hour at a time maximum.

- 5.16. If a pump out truck is used, arrange to dump sludge in the most recently isolated lagoon.
- 5.17. When cleaning has been completed, and with the “Main Control” switch in the “**AUTO**” position, open the 16 MI Reservoir Inlet Valve (SV4) in order to refill the reservoir.
- 5.18. When the 16 MI Reservoir has reached a minimum of 20 % capacity open the 16 MI Reservoir Outlet Valve (SV5), close the 16 MI Reservoir Bypass Valve (SV6) and open the 5 MI Reservoir Bypass Valve (SV3).

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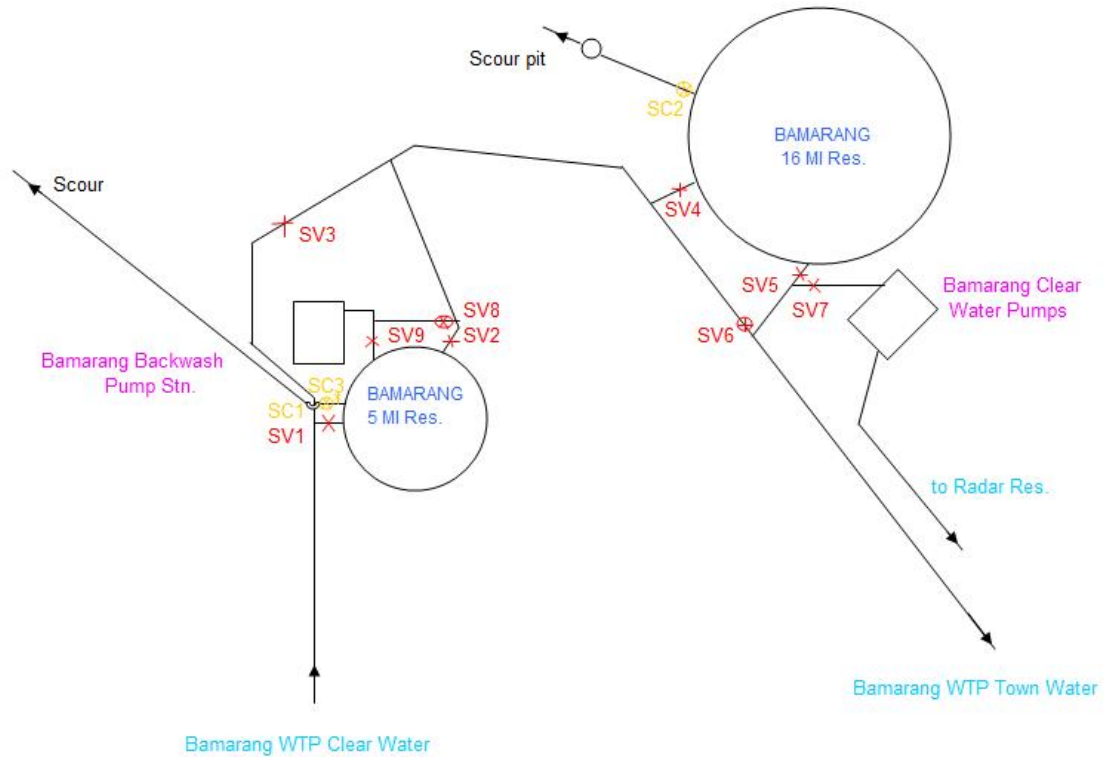
Safe Work Procedure

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5.19. The main “Plant Control” switch can now be returned to the “**TARIFF**” position.

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BAMARANG RESERVOIR CLEANING PROCEDURE



INDEX		EQUIPMENT REQUIRED FOR RESERVOIR CLEANING
NAME	DESCRIPTION	
SV1	5 MI Inlet Valve	Standpipe x 1 20m x 38mm x 4 Layflat hoses with Plugs 2 x Lengths of Dairy Hose Nylon Rope Squeeges 2 x Confined Spaces Bags Gas Detector & Sensitivity Test Kit 15 litre x 2 Hypo Drums Electric Valve Opener & generator (Sewer)
SV2	5 MI Outlet Valve	
SV3	5 MI Bypass Valve	
SV4	16 MI Inlet Valve	
SV5	16 MI Outlet Valve	
SV6	16 MI Bypass Valve	
SV7	CW Pump Isolation Valve	
SV8	16 MI Backwash Supply Valve	
SV9	5 MI Backwash Supply Valve	
SC1	5 MI Scour Valve	
SC2	16 MI Scour Valve	
SC3	5 MI Scour Valve 75mm Kamlok	

Unique Document Number: SWP WH025	Document Name: Cleaning the 16 MI Reservoir at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/175
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6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Water Treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH025	Document Name: Cleaning the 16 MI Reservoir at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/175	
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Cleaning the Clarifier Inlet/Outlet Weirs at Bamarang WTP

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the Clarifier Inlet/Outlet Weirs at Bamarang WTP.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWMS	Safe Work Method Statement
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
WTP	Water Treatment Plant
RCD	Residual Current Device
TCP	Traffic Control Plan

Unique Document Number: SWP WH026	Document Name: Cleaning the Clarifier Inlet/Outlet Weirs at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/174
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 1 of 3

5. DESCRIPTION

NOTE: The following procedure should be carried out with a minimum of two persons present at the WTP.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Turn the main “Plant Control” switch to “**OFF**”, remove the key & stow in pocket to prevent others starting the plant.
- 5.4. If the Clarifier is to be cleaned continue on to step 4.5 otherwise go to step 4.9
- 5.5. Isolate the Clarifier to be cleaned by installing slide gates into the inlet channel.
- 5.6. Adjust the plant flow to 600 L/s using the Raw Water PID Controller.
- 5.7. Adjust all chemical feeder rates to compensate for the reduced flow rate.
- 5.8. The “Plant Control” switch can now be returned to its original position.
- 5.9. Drain the Clarifier via the Flocculator drain valve. If only cleaning the inlet/outlet weirs the clarifier need only be lowered approx. 100mm.
- 5.10. If cleaning the Outlet Weir, position the sludge rake bridge over the western end of the weirs & lock out.
- 5.11. Position a pressure cleaner with an RCD unit connected on the sludge rake bridge for Outlet Weir cleaning or on the Raw Water Channel Walkway for the Inlet Channel cleaning.
- 5.12. Put on appropriate PPE, i.e. gumboots or waders & sun protection.
- 5.13. Thoroughly clean the weirs from either the walkway or the Sludge Rake bridge.

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- 5.14. Move the sludge rake bridge as necessary to work towards the outlet channel. If it is necessary to enter the outlet channel weir a harness & retractable lanyard must be worn.
- 5.15. When the weirs are clean, remove the pressure cleaner, turn Sludge Rake bridge back to Auto and reinstate the main “Plant Control” switch to its original position, unless continuing with the Clarifier cleaning process, as per the **“WH027 Cleaning the Clarifiers at Bamarang WTP”** procedure.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The **Water Treatment Co-ordinator** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH026	Document Name: Cleaning the Clarifier Inlet/Outlet Weirs at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/174
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Cleaning the Clarifiers at Bamarang WTP

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the Clarifier Inlet/Outlet Weirs at Bamarang WTP.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
SCC	Shoalhaven City Council
TCP	Traffic Control Plan

5. DESCRIPTION

NOTE: The following procedure should be carried out with a minimum of two persons present at the WTP.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Turn the main “Plant Control” switch to “**OFF**”.
- 5.4. Lock out and tag the relevant Flocculators for the Clarifier to be cleaned. As an extra precaution it would also be advisable to push in the stop button on the manual stop/start station located adjacent to the Flocculators.
- 5.5. Isolate the Clarifier to be cleaned by installing slide gates into the inlet channel.
- 5.6. Adjust the plant flow to 600 L/s using the Raw Water PID Controller.
- 5.7. Adjust all chemical feeder rates to compensate for the reduced flow rate.
- 5.8. The “Plant Control” switch can now be returned to its original position.
- 5.9. Drain the Clarifier via the Flocculator drain valve, at a rate that doesn’t overflow the separating wall in the desludge valve channel.
- 5.10. Connect and lower a suitable hose & nozzle into the Clarifier/Flocculators.

Unique Document Number: SWP WH027	Document Name: Cleaning the Clarifiers at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/176
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- 5.11. Put on appropriate PPE, i.e. gumboots or waders, sunscreen.
- 5.12. Enter the Clarifier/Flocculators using the fixed ladder or an SCC registered ladder.
- 5.13. Thoroughly hose out the Clarifier to drain.
- 5.14. Carry out all steps backwards from 4.12 to 4.3 in a reverse logic order to complete the procedure.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The **Water Treatment Co-ordinator** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH027	Document Name: Cleaning the Clarifiers at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/176
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 3 of 3

Cleaning the Grit Separator at Burrier Pump Station

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the Grit Separator at Burrier Water Pump Station.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
TCP	Traffic Control Plan

Unique Document Number: SWP WH028	Document Name: Cleaning the Grit Separator at Burrier Pump Station	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/177
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 6 Page 1 of 4

5. DESCRIPTION

NOTE: Allow 2-3 days for the completion of this procedure.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Turn the main “Pump Control” switch to “**OFF**”, remove the key & stow in pocket to prevent others starting the pump.
- 5.4. **Use appropriate lock-out & tag-out procedures as specified in the “Energy Isolation Procedure” in Section 2 of the OHS Manual.**
- 5.5. Isolate the Pump Motorised Valves via the adjacent isolation switch or manually shut both of the pump’s Inlet or Outlet Valves.
- 5.6. Isolate the river supply via the Penstock Valve located in the Inlet Structure. The valve may have to be partially reopened and closed a number of times to clear the penstock of all rocks and debris.
- 5.7. Activate the Ventilation system for the dry well for at least 15 minutes prior to entering the confined space.
- 5.8. **Using the “Confined Space Work” procedure (Section 2 of the OHS Manual)** change the supply valves around on the sump pump i.e. Shut off the sump suction valve and open the cone suction valve.
- 5.9. Shut off the Backwash Valve located on the second landing of the Grit Separator dry well to prevent the possibility of back-siphoning of the river.

Unique Document Number: SWP WH028	Document Name: Cleaning the Grit Separator at Burrier Pump Station	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/177
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- 5.10. Start up sump pump via the control panel located on the first landing of the Grit Separator.
- 5.11. Pump the Grit Separator as low as possible and open the sump pump suction valve to allow any water from the cone to enter the sump in order for the pump to operate automatically via the float switches.
- 5.12. Using a crane truck remove the Grit Separator checker plate covers and gatic lid access hatch to aid ventilation and lighting.
- 5.13. Low voltage lighting may be used to aid visibility in the well, provided it has been checked and tagged by the electricians prior to use.
- 5.14. **Using the “Confined Space Work” procedure (Section 2 of the OHS Manual)** with 2-3 staff, enter the Grit Separator in order to clean and inspect the Grit Separator.
- 5.15. Cleaning may be carried out using shovels, a crane truck and kibble or by manipulating the backwash system valves in order to create a suction effect at the venturi to remove the debris as it is shovelled into the cone.

NOTE: There should be enough staff present to man all controls whilst performing this procedure.

- 5.16. When all cleaning or inspection work has been completed return all sump pump and backwash valves to their original positions.
- 5.17. Reposition the checker plate and gatic lid access covers on top of the Grit Separator.
- 5.18. Refill the Grit Separator by opening the inlet Penstock valve.
- 5.19. Re-open the pump manual valves or de-isolate the motorized valves, whichever was done at the start of the procedure.

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5.20. Bleed off all remaining air from both pump's pipework.

5.21. Return the main "Pump Control" switch to the "**AUTO**" position.

6. QUALITY CONTROL

6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Water Treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH028	Document Name: Cleaning the Grit Separator at Burrier Pump Station	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/177
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Replacing and Cleaning the CO₂ Spargers at Bamarang WTP

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while removing and replacing the CO₂ spargers at Bamarang WTP.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
TCP	Traffic Control Plan
MCP	Main Control Panel
WTP	Water Treatment Plant

5. DESCRIPTION

WARNING: Carbon dioxide is a hazardous substance as it is an asphyxiant as well as a dangerous goods. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to performing this task.

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3. Select the plant control switch, located on the plant MCP, to 'off,' lock off and tag.
- 5.4. Select the CO₂ plant control switch, located on the CO₂ plant control panel, to 'off', lock cabinet and tag.
- 5.5. The CO₂ sparger pit is a confined space (category 'C'), therefore all entries into the pit must be carried out in accordance with the OHS Manual, Confined Spaces Procedure, Section 2.
- 5.6. Unlock and open the pit lids and extend the pit ladder extensions
- 5.7. Enter the pit and close off the main CO₂ valve.
- 5.8. Unbolt the sparger flange and disconnect the pipe union. Remove the sparger and pipe work assembly from the main.
- 5.9. Unscrew the fouled spargers and replace with clean serviceable spargers.

Unique Document Number: SWP WH029	Document Name: Replacing and Cleaning the CO ₂ Spargers at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/178
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 7 Page 2 of 3

- 5.10. Reinstall the spargers and pipe work assemblies, ensuring that all unions and flange bolts are sufficiently tight.
- 5.11. Re-open the main CO₂ valve.
- 5.12. Select both the CO₂ control switch and the plant control switch back to Auto.
- 5.13. Run CO₂ plant in conjunction with the WTP to ensure that there are no CO₂ or water leaks from the sparger assemblies.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The Water Treatment Co-ordinator is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH029	Document Name: Replacing and Cleaning the CO ₂ Spargers at Bamarang WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/178
Adopted: 02/06/05	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 7 Page 3 of 3

Fluoride Deliveries at Bamarang WTP

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while taking delivery of Sodium Silicofluoride at Bamarang WTP.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Occupational Health and Safety
- 3.4. WTP: Water Treatment Plant
- 3.5. TCP: Traffic Control Plan
- 3.6. Fluoride: Sodium Silicofluoride

4. PROCEDURE

WARNING: Sodium Silicofluoride is a hazardous substance as it is toxic. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to performing this task.

NOTE: The following procedure should be carried out by a minimum of two persons.

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Arrange for the delivery of only that amount of Sodium Silicofluoride required to take the total number of pallets to 11 at any one time.
- 4.4 Operate the crane in all directions and speeds as an operational test prior to delivery. If any problems are experienced arrange for the electricians to do a check on the crane control panel before continuing.
- 4.5 Rearrange the fluoride still remaining in stock to the eastern most end of the storage platform.

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- 4.6 To prevent the possibility of falling from a substantial height, position the retractable Safety Handrail across the delivery door opening prior to opening the doors.
- 4.7 With the doors open fully, position the doorstops on the hinges of both doors to prevent them swinging around in the wind and creating a hazard during the transfer process.
- 4.8 A qualified crane operator should control the crane from the Fluoride room and an assistant help to maneuver the crane fork into place on the back of the delivery truck or from ground level.
- 4.9 The pallets should be unloaded one at a time and stacked on the storage platform two high to allow for a maximum of 11 pallets. This allows for only a single pallet to be stored at the extreme western end of the storage platform to reduce the risk of manual handling issues associated with reaching above shoulder height.
- 4.10 When the transfer process is complete the doorstops should be removed and the doors closed with the Safety Handrail still in place.
- 4.11 Record the amount of stock delivered into the “Flows & Stocks” spreadsheet.
- 4.12 The same basic process should be observed when arranging the transfer of stock between Treatment Plants.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Pallets
- 5.3. Retractable Safety Handrail
- 5.4. Crane

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Work Hazardous Substances/Users
 - 6.1.5. Fluoridation Plant Operator’s Certificate
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven’t been trained.
- 6.3. Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

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- 6.4. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.5. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.6. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.7. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.8. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.9. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 201
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

Unique Document Number: WH030	Document Name: Fluoride Deliveries at Bamarang WTP	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1153
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- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at: <http://intranet/hr/ohs/HSDGRA.htm>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
10. Working at height - Fall	Death or serious injury	<ul style="list-style-type: none"> - The following procedure should be carried out by a minimum of two persons. - Position the retractable Safety Handrail across the delivery door opening prior to opening the doors - When the transfer process is complete the doorstops should be removed and the doors closed with the Safety Handrail still in place
7. Chemicals - Sodium Silicofluoride	Poisoning Death Irritating to eyes May produce discomfort of the respiratory system and skin	<ul style="list-style-type: none"> - Read MSDS and follow safety precautions - Do not breathe dust (Suitable respirator) - Avoid contact with skin (apron, rubber gauntlets and gumboots) - Wear eye/face protection (respirator and goggles) - Thoroughly wash hands and face when finished task - Use only in well ventilated areas - Keep container in well ventilated areas
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	-‘3’ point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	<ul style="list-style-type: none"> - Inspect work area for appropriate foot placement and vehicle access. Don’t walk where can’t see firm surface e.g. long grass - Don’t drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	<ul style="list-style-type: none"> - Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	<ul style="list-style-type: none"> - Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment Broken bones Soft tissue damage	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures - The pallets should be unloaded one at a time and stacked on the storage platform two high to allow for a maximum of 11 pallets - With the doors open fully, position the doorstops on the hinges of both doors to prevent them swinging around in the wind and creating a hazard during the transfer process
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations

Loading the Fluoride Hoppers at WTPs

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while loading Sodium Silicofluoride into chemical hoppers at Bamarang, Flatrock & Milton WTPs.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Occupational Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. WTP: Water Treatment Plant

4. PROCEDURE

WARNING: Sodium Silicofluoride is a hazardous substance as it is toxic as well as a dangerous goods.. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to performing this task.

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. Note the current number of kilograms in the Fluoride hopper via the loss of weight recorder.
- 4.4. Put on appropriate PPE, i.e. a suitable respirator, apron, rubber gauntlets and gumboots.
- 4.5. Open the bag loader hopper door.
 - 4.5.1 At Bamarang & Milton, this will automatically initiate the start-up of the dust extractor. Then turn on the bag loader screen vibrator valve, located behind the bag loader (Bamarang only).
 - 4.5.2 At Flatrock, the Dust Extractor/Vibrator is activated manually from the LCP.

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- 4.6 Using correct manual handling techniques transfer a 25 kg bag of Sodium Silicofluoride from the stock platform to the open hopper door.
- 4.6.1 At Bamarang, remove bags from the single pallet at the extreme western end of the platform only (This is designed to reduce the risk of manual handling issues associated with reaching above shoulder height). Once that pallet is empty, lower the next top pallet down by crane and into position at the extreme western end of the platform. Continue this process until all top pallets have been emptied.
- 4.6.2 At Milton, transfer a 25 kg bag to the hydraulic lifter and elevate until level with top handrail on upper platform, then transfer to bag loader. Do not carry full bags up the steps to the upper platform.
- 4.7 Pierce the end of the bag with the bag loader spear (Bamarang & Milton) or spikes (Flatrock) and cut open the other end of the bag, being careful not to allow any bag remnants to fall into the hopper.
- 4.8 Close the bag loader door and allow the contents of the bag to flow into the hopper.
- 4.8.1 At Bamarang, allow enough time for the full contents of the bag loader hopper to be transferred up the screw elevator and into the main storage hopper.
- 4.9 Repeat steps 4.5 to 4.8 until desired capacity is reached. i.e. Hopper is full or adequate for number of days operation required.
- 4.10 With the bag loader door shut:
- 4.10.1 At Bamarang, turn off the bag loader screen vibrator and manually initiate the dust extractor sock filter shaker.
- 4.10.2 At Flatrock & Milton, the dust extractor system automatically activates the sock filter shaker.
- 4.11 Taking final reading of Sodium Silicofluoride hopper contents.
- 4.11.1 At Bamarang, wait for screw elevator and dust extractor systems to stop and take final reading of Sodium Silicofluoride hopper contents.
- 4.11.2 At Flatrock, return the Dust Extractor/Vibrator to "AUTO", then take final reading of Sodium Silicofluoride hopper contents.
- 4.11.3 At Milton, wait for the Dust Extractor & Vibrator to stop automatically, then take final reading of Sodium Silicofluoride hopper contents.
- 4.12 Remove, clean & stow PPE ready for future use.
- 4.13 Thoroughly wash hands and face.
- 4.14 Deduct start weight from finish weight and add the difference to the day's start figure.
- 4.15 Record the total in the "After addition" column, as well as completing the "Chemical added to hopper since last reading", "Bulk stock after addition to Hopper" & "Spillage or Weight variations" columns of the relevant plant's Fluoride Log spreadsheet. At the end of each week the total kgs of Fluoride used is recorded in the Fluoride section of the "Flows-Stocks" spreadsheet.
- 4.16 All significant spillages should be hosed out immediately.

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NOTE: Carry out all routine maintenance in accordance with the relevant plant's maintenance schedule.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment - a suitable respirator, apron, rubber gauntlets and gumboots
- 5.2. Fluoride Hopper
- 5.3. Bag Loader Spear (Bamarang & Milton) Or Spikes (Flatrock)
- 5.4. Dust Extractor/Vibrator

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Hazardous Substances/Users
 - 6.1.5. Fluoridation Plant Operator's Certificate
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3. Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.
- 6.4. Any employee operating plant or using equipment shall have had the appropriate training.
- 6.5. All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.6. All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.7. Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.8. Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Hazardous Substances and Dangerous Good Procedure
 - 7.4.2. Manual Task Guidelines
 - 7.4.3. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at:
<http://bugsy/irm/Authorised/RiskManagement/RiskHome.aspx> . The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Sodium Silicofluoride	Irritating to eyes May produce discomfort of the respiratory system and skin Death Poisoning	- Read MSDS and follow safety precautions - Do not breathe dust (Suitable respirator) - Avoid contact with skin (apron, rubber gauntlets and gumboots) - Wear eye/face protection (respirator and goggles) - Thoroughly wash hands and face when finished task - Use only in well ventilated areas - Keep container in well ventilated areas - All significant spillages should be hosed out immediately
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling - Lifting 25 kg bag	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations

1.

Cleaning the Lime Plant Solution Tanks and Pipe Work at Flatrock WTP

1. INTRODUCTION

1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the "WHS Act 2011" to ensure the health, safety and welfare of employees.

2. OBJECTIVE

2.1. To eliminate or reduce the potential for injury to employees and others while cleaning the lime plant solution tanks and pipe work at Flatrock WTP.

3. DEFINITIONS

- 3.1. SWMS: Safe Work Method Statement
- 3.2. PPE: Personal Protective Equipment
- 3.3. WHS: Occupational Health and Safety
- 3.4. TCP: Traffic Control Plan
- 3.5. VMP: Vehicle Movement Plan

4. PROCEDURE

WARNING: Hydrated lime (Calcium hydroxide) is a hazardous substance as it is a caustic substance. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to performing this task.

WARNING: Hydrochloric Acid is a hazardous substance as it is corrosive to human tissue and will cause severe burns to any exposed areas and will cause irritation if the fumes are inhaled. Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to performing this task.

4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.

4.2. The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.

4.3. Turn off the mixer of the lime system to be cleaned by pushing in the emergency stop button.

4.4. Isolate the water flow to the solution tank.

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- 4.5. Open the tank drain-valve and empty the tank.
- 4.6. Close the tank drain valve.
- 4.7. Isolate tank overflow valve.
- 4.8. Dismantle the discharge pipework from the layflat hose at the lime mixing pit. Dismantle the valve section from the bend and immerse both parts in the Hydrochloric Acid contained in the Sulo bin located in the lime plant.
- 4.9. After those fittings are cleaned remove from the bin and hose off with water then dismantle the solid hose that connects the venturi to the layflat hose and soak the ends one at a time in the acid by kinking the hose so that the fittings are facing upward.
- 4.10. After those fittings are cleaned remove from the bin and hose off with water and reassemble all of the discharge pipework and fittings.
- 4.11. Dismantle venturi from Automatic valve between Venturi and the tank and soak in Hydrochloric Acid contained in the sulo bin. When these fittings are clean hose off with water and reassembled.
- 4.12. Open the water supply valve to the solution tank and fill the tank to the ball cock valve level.
- 4.13. Put on PPE, including gum boots, vinyl gauntlets, PVC apron, safety goggles and a suitable respirator.
- 4.14. Manually decant 30 litres of Hydrochloric acid for to the solution tank. While carrying out this operation observe the following:
- 4.15. allow water to run across the floor where the acid is being handled to prevent corrosion of the concrete floor when acid is spilt,
- 4.16. hose down all nearby structures to prevent corrosion from splashed acid,
- 4.17. Using a hose top-up the solution tank fully and turn mixer back on.
- 4.18. Remove, clean and store PPE.
- 4.19. Leave the acid solution stirring in the solution tank for at least four hours or even over night to adequately dissolve all the adhering lime.
- 4.20. Isolate the water supply flow to the solution tank.
- 4.21. Open the Automatic valve between Venturi and the tank by turning the screw in the solenoid to Automatic valve. Open the Service Water Venturi Solonoid bypass valve to allow the acid solution to flow through the pipe-work. When the tank is empty, close Venturi Solonoid bypass valve - open the water supply valve to fill the tank and repeat the process.
- 4.22. Remove, clean and store PPE.
- 4.23. Re-open tank overflow valve
- 4.24. Re-open the water supply valve and re-fill to normal operating level.
- 4.25. Carry out a final check to ensure that the cleaned lime system is correctly back on line
- 4.26. Complete the "Lime Plant M&R Checks" in the plant's "Flows & Stocks" spreadsheet for that particular year.

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5.PLANT AND EQUIPMENT REQUIRED

- 5.1 Personal Protective Equipment - gum boots, vinyl gauntlets, PVC apron, safety goggles and a suitable respirator.
- 5.2 Lime System
- 5.3 Hose

6.QUALIFICATIONS AND TRAINING

6.1 All permanent employees on site shall have completed the following training:

- 6.1.1 WHS Construction (and General) Induction
- 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and
- 6.1.3 Safety
- 6.1.4 Manual Handling
- 6.1.5 Confined Space Work

6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.

6.3 Any employee operating a truck/vehicle shall have a Drivers Licence as applicable to the vehicle

6.4 Any employee operating a crane shall have the appropriate licensing/certification for the specific crane class.

6.5 Any employee operating plant or using equipment shall have had the appropriate training.

6.6 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

6.7 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.

6.8 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:

- Confined Space Work
- Asbestos Awareness

NOTE: Although wet asbestos has been shown to be low risk, care should be taken by employees when working with AC pipes.

6.9 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

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7 RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1WHS Act 201
- 7.2WHS Regulation 2011
- 7.3Shoalhaven City Council Procedures
- 7.4Corporate WHSProcedures
 - 7.4.1 Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2 Manual Task Guidelines
 - 7.4.3 Machinery Guarding Procedure
- 7.5Shoalhaven Water WH&S Procedures
- 7.6WorkCover regulations and codes

8 ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9 HAZARD ASSESSMENT

9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the “Hazardous Substances Dangerous Goods Risk Assessment Register” located on the SCC intranet at:
<http://bugsy/irm/Authorised/RiskManagement/RiskHome.aspx>. The results of this assessment shall be documented on the Site Specific Risk Assessment.

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Hydrated lime (Calcium hydroxide)	Irritating to eyes, respiratory system and skin	- Read MSDS and follow safety precautions. - Do not breath dust (suitable respirator) - Avoid contact with skin (vinyl gauntlets, PVC apron) - Wear eye/face protection (goggles) - In case of contact with eyes, rinse with plenty of water and contact doctor or Poisons Information Centre
7. Chemicals - Hydrochloric Acid	Harmful if swallowed. Toxic by inhalation. Causes burns. Risk of serious damage to eyes.	- Read MSDS and follow safety precautions. - Do not breathe gas/fumes/vapour/spray (suitable respirator) - Avoid contact with skin (vinyl gauntlets, PVC apron) - Wear eye/face protection (goggles) - Use only in well ventilated area. - Keep container in well ventilated place.
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures

1.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tables as required)

Pigging the Burrier Trunk Main

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while pigging the trunk main between Burrier Pump Stn. and the Bamarang Off-stream Storage Dam.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety
SV	Stop Valve
SC	Scour Valve
AV	Air Valve
TCP	Traffic Control Plan

5. DESCRIPTION

NOTES: See attached Plan Layout of the Burrier Reservoir and the Burrier Pump Station pipe work with Index and materials/equipment requirements.

- 5.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
 - 5.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
 - 5.3 Plan to carry out the procedure in the cool of the morning, to prevent expansion of the main. Inform all customers feeding off the raw water main to not use any water during the expected mains cleaning procedure time frame. See attached contact list.
 - 5.4 Use appropriate lock-out & tag-out procedures as specified in the “Energy Isolation Procedure” in Section 2 of the Corporate OHS Manual.
 - 5.5 Turn the main “Pump Control” switch to “OFF”, remove the key & stow in pocket to prevent others starting the pumps.
 - 5.6 Close the Burrier Reservoir Outlet Valve (SV3) and the Inlet Bypass Valve (SV2). This assumes that the main Reservoir Inlet Valve (SV1) and the original main Bypass Valve (SV5) are closed as normal and the 750mm Bypass Valve (SV4) is open as normal.
 - 5.7 Scour the main out using the 50mm Scour (SC3) adjacent to the launcher, the 150mm Scour (SC2) adjacent to the meter pit and the Backwash Valve (SV6) if necessary to speed up the process.
 - 5.8 Open the Air Valve (AV4) to aid in the scouring and refilling processes.
- NOTE: The emptying of the main should take between 30-45 minutes.
- 5.9 Put on appropriate PPE, i.e. safety glasses & earmuffs.
 - 5.10 Loosen the bolts on the dismantling joints using the compressor and impact wrench.

Unique Document Number: SWP WH033	Document Name: Pigging the Burrier Trunk Main	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
Adopted: 02/06/06	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 7 Page 2 of 4

- 5.11 Using chain blocks attach the truck mounted crane to the Pig Launcher in readiness to take the weight of the launcher when completely unbolted.
- 5.12 Remove all dismantling joint bolts and remove Launcher.
- 5.13 Install appropriately named pig into launcher. Reposition and reattach via the dismantling joints and bolts.
- 5.14 Re-tension the bolts using compressor, flogging spanners and lump hammer.
- 5.15 Re-open the Burrier Reservoir Outlet Valve (SV3) and the Inlet Bypass Valve (SV2). This will recharge main back to the Pump Station.
- 5.16 Close the Scours (SC3 & SC2) and or Backwash Valve (SV6) when water arrives at Burrier Pump Station. This may take around 20 minutes to occur.
- 5.17 Close the Air Valve (AV4) adjacent to the pump station.
- 5.18 Allow 10 –15 minutes for the main to fully recharge before starting the Burrier Pump. The pump’s tariff timer may have to be operated manually to enable the pump to run during the day.

NOTE: The pig will take around 80 minutes to travel to Bamarang Dam Inlet Pit.

- 5.19 Stow all equipment back into original storage location.
- 5.20 Remove pig from Bamarang Dam Inlet Pit and allow to dry before stowing in the Old Burrier Pump Station for future reuse if still in a satisfactory condition.
- 5.21 If the pump’s tariff timer has been operated manually, return it to its normal position.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

Unique Document Number: SWP WH033	Document Name: Pigging the Burrier Trunk Main	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
Adopted: 02/06/06	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 7 Page 3 of 4



A Group of Shoalhaven City Council

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The **Water Treatment Co-ordinator** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH033	Document Name: Pigging the Burrier Trunk Main	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/32
Adopted: 02/06/06	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 7 Page 4 of 4

Cleaning the Clarifiers at Flatrock WTP

1. PURPOSE

- 1.1. To eliminate or reduce the potential for injury to employees and others while cleaning the Clarifiers at Flatrock WTP.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

PPE	Personal Protective Equipment
WHS	Work Health and Safety
SWP	Safe Work Procedure
SCC	Shoalhaven City Council

5. DESCRIPTION

- 5.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 5.2. The Site Specific Risk Assessment is to be completed at the start of the activity with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 5.3.
 - 5.3.1. If No.1 Clarifier is to be cleaned, turn the main “Plant Control” switch to “OFF”, remove the key & stow in safe place to prevent others starting the plant.
 - 5.3.2. If No.2 Clarifier is to be cleaned, turn the main “Plant Control” switch to “OFF”.
- 5.4. Drain No.1 Clarifier by pumping the remaining water into one of the filters. Go to step 5.9
 - 5.4.1. Isolate and drain No.2 Clarifier by installing the slide gate in the outlet channel, closing the inlet valve and draining the water through the scour valve at a rate that doesn’t overflow the operating lagoon.
- 5.5. Adjust the plant flow to 180 L/s using the Raw Water PID Controller.
- 5.6. Adjust the Alum, Poly, Fluoride, Carbon Dioxide and Chlorine chemical feeder rates to compensate for the reduced flow rate.
- 5.7. The “Plant Control” switch can now be returned to its original position to allow the plant to run at 180 L/s through No.1 Clarifier only.
- 5.8. With the Clarifier between full and just below the weir level, hose the channels with a suitable hose and nozzle.
- 5.9. Lock out and tag the relevant Flocculators for the Clarifier to be cleaned. As an extra precaution it would also be advisable to push in the stop button on the manual stop/start station located adjacent to the Flocculators.
- 5.10. Lower the hose & nozzle into the Clarifier/Flocculators.
- 5.11. Put on appropriate PPE, i.e. gumboots or waders, sunscreen.

Unique Document Number: SWP WH034	Document Name: Cleaning the Clarifiers at Flatrock WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/179
Adopted: 11/10/06	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 3 Page 2 of 3

- 5.12. Enter the Clarifier/Flocculators via the fixed ladder or an SCC registered ladder using techniques as set out in the OHS&R Manual's "Ladders – Use & Maintenance Procedure".
- 5.13. Thoroughly hose out the Clarifier to drain.
- 5.14. Carry out all steps backwards from 4.12 to 4.3 in a reverse logic order to complete the procedure.
- 5.15. When refilling a clarifier, open the scour valve for a short time to make sure the pipework is clear of any sludge.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

- 8.1 The **Operation Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

- 9.1. The **Water Treatment Co-ordinator** is assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

- 10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

Unique Document Number: SWP WH034	Document Name: Cleaning the Clarifiers at Flatrock WTP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/179
Adopted: 11/10/06	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 3 Page 3 of 3

Operating Conjola Sodium Hypochlorite Dosing System

1. INTRODUCTION

- 1.1. The following Safe Work Method Statement has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1. To eliminate or reduce the potential for injury to employees and others while operating Conjola WTP’s Sodium Hypochlorite dosing plant.

3. DEFINITIONS

SWMS: Safe Work Method Statement

3.2 PPE: Personal Protective Equipment

3.3 WHS: WorkHealth and Safety

3.4 WTP: Water Treatment Plant

3.5 MSDS: Material Safety Data Sheet

3.6 TCP: Traffic Control Plan

4. PROCEDURE

WARNING: This Chemical is considered a hazardous substance as well as a dangerous goods. . Before carrying out the following procedure the operator should familiarise himself with the relevant MSDS and follow all safety precautions listed on the data sheet prior to handling the chemical.

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the week with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 Before entering the Sodium Hypochlorite dosing plant the operator must ensure the safety shower and eye wash facilities are in working order. He must also be familiar with their operation. [No safety shower or eyewash at Conjola](#)
- 4.4 On entering the Sodium Hypochlorite dosing plant the operator must turn the exhaust fan to manual. [No exhaust fan at Conjola](#)
- 4.5 Put on appropriate PPE, ie. goggles, plastic apron & rubber gauntlets.
- 4.6 Note the current level of chemical in the day tank.

Unique Document Number: WH035	Document Name: Operating Conjola Sodium Hypochlorite Dosing System	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1235
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- 4.7 Record the water meter figure and calculate the consumption.
- 4.8 Remove the lid on the day tank.
- 4.9 After checking that the correct chemical is on site, ie. Labelled SODIUM HYPOCHLORITE and should be in light blue fifteen litre containers, remove the lid of a container.
- 4.10 Carefully decant into the day tank.
- 4.11 Place empty containers to the side away from the day tank.
- 4.12 Repeat 4.9 and 4.10 until the desired level is reached.
- 4.13 Replace lid of the day tank.
- 4.14 Hose down any spillage .[Water service to chlorinator required](#)
- 4.15 Remove & store PPE.
- 4.16 Calculate the chlorine dosage for the week & record as mg/l chlorine.
- 4.17 Turn the exhaust fan to auto. [No exhaust fan at Conjola](#)
- 4.18 Secure the sodium hypochlorite plant.

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment – goggles, plastic apron, rubber gauntlets.

6. QUALIFICATIONS AND TRAINING

- 6.1. All permanent employees on site shall have completed the following training:
 - 6.1.1. WHS Construction (and General) Induction
 - 6.1.2. Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3. Manual Handling
 - 6.1.4. Hazardous Substances/Users
- 6.2. New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee operating plant or using equipment shall have had the appropriate training.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.

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- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.7 Work Training details are located in TRAAD System and/or Supervisor Training Plans.

7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1. WHS Act 2011
- 7.2. WHS Regulation 2011
- 7.3. Shoalhaven City Council Policies and Procedures
- 7.4. Corporate WHS Procedures
 - 7.4.1. Hazardous Substances and Dangerous Goods Procedure
 - 7.4.2. Manual Task Guidelines
 - 7.4.3. Machinery Guarding Procedure
- 7.5. Shoalhaven Water WHS Policies and Procedures
- 7.6. WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1. Managers are to ensure there is a safe system of work.
- 8.2. Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3. It is the responsibility of the operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.
- 8.4. Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.

9. HAZARD ASSESSMENT

- 9.1. Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. Check for additional control measures to be considered for this particular site by searching the "Hazardous Substances Dangerous Goods Risk Assessment Register" located on the SCC intranet at: <http://bugsy/irm/Authorised/RiskManagement/RiskHome.aspx> The results of this assessment shall be documented on the Site Specific Risk Assessment.

Unique Document Number: WH035	Document Name: Operating Conjola Sodium Hypochlorite Dosing System	Responsible Group: Shoalhaven Water	TRIM Reference: 18446E SWMS1235
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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
7. Chemicals - Sodium Hypochlorite	Contact with combustible material may cause fire Contact with acids liberates toxic gas Causes burns Risk of serious damage to eyes	- Read MSDS and follow safety precautions - Ensure the safety shower and eye wash facilities are in working order and be familiar with their operation - Turn the exhaust fan to manual - Put on appropriate PPE, ie. goggles, plastic apron & rubber gauntlets - Keep locked up - Keep away from combustible material
17. General - Persons entering/exiting vehicles	Muscle sprain (limbs or torso) Broken ankle	- '3' point technique – back out while exiting, check for uneven ground
1. Traffic - Moving traffic or plant	Death or serious injury	- Implement approved or modified TCP - Record TCP as per SUPP012 - If necessary, implement VMP - Use only trained traffic controllers
2. Manual Handling - Uneven or slippery ground	Muscle sprain (limbs or torso) Broken bones Cuts and abrasions	- Inspect work area for appropriate foot placement and vehicle access. Don't walk where can't see firm surface e.g. long grass - Don't drive onto soft or slippery ground
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Machine Operation - Equipment Malfunction or misuse	Muscle sprain (limbs or torso) Cuts and abrasions Entrapment	- Undertake pre-use checks, all operations and maintenance in accordance with manufacturer's recommendations and other safety procedures
3. Heat - Excessive exposure to UV	Sunburn Skin cancer Heat Exhaustion	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations. Keep hydrated (Drink water and take salt tablets as required)

Standard Operation Procedures

SOP

WHS Manual

Created by: Suanne Burk

1. PURPOSE

1.1. To ensure all employees are able to access the Work Health, Safety Manual.

2. RELATED DOCUMENTS

2.1. WHS Manual

3. RESOURCES REQUIRED

3.1. Shoalhaven City Council Intranet

4. DESCRIPTION

4.1. Each employee should have access to a WHS Manual. If you do not have access to a manual, you should notify your supervisor.

4.2. The WHS Manual can also be accessed via Council's Intranet page by clicking on the following options:

4.2.1. <http://whs/SWMS.aspx>

4.2.2. WHS Manual

4.2.3. Scroll down, and select the policy, procedure or SWMS you would like to see.

4.3. The following is a copy of the WHS Manual Index as of August 2014 Rel 28. To see the most current index refer to an updated manual or to the Intranet link referenced above.

Section 1 – Policies and Strategies

S1WHS01	Audit Policy - WHS
S1WHS03	Design Control Policy
S1WHS06	Inspection Testing and Monitoring Policy
S1WHS13	Issue Resolution Policy - WHS
S1WHS08	Occupational Rehabilitation Policy
S1WHS16	Process Control Policy
S1 WHS17	Records Policy - WHS
S1 WHS15	Safety Management Plan 2011/12
S1 WHS22	Volunteer Programs Safety Policy

S1 WHS10	WHS Authorities/Responsibilities/Accountabilities Managers/Supervisors/Employees
S1 WHS14	WHS Management System Policy
S1 WHS07	Work Health and Safety Policy

Section 2 – Procedures/Programs

S2 WHS 01	Asbestos Management Procedure
S2 WHS 02	Auditing - Internal WHS Audit Procedure
S2 WHS 06	Compressed Air Equipment
S2 WHS 07	Confined Space Procedure
S2 WHS 65	Consultation Arrangements - WHS
S2 WHS 10	Documentation Procedure - WHS
S2 WHS 12	Dust Control Procedure
S2 WHS 13	Electrical Safety Procedure for Crane & Plant
S2WHS14	Electrical Items Safety Procedure
S2 WHS 15	Energy Isolation Procedure
S2 WHS 17	Excavation Work Guidelines
S2 WHS 63	Exchange of WHS Information
S2 WHS 18	Fatigue Management Guidelines
S2 WHS 19	First Aid Procedure
S2 WHS 09	Hazardous Substances and Dangerous Goods Procedure
S2 WHS 21	Hearing Conservation Procedure
S2 OHS 22	Hepatitis Immunisation Procedure
S2 WHS 48	Hot Works Procedure
S2 WHS 23	Incident Reporting & Investigation Procedure
S2 WHS 25	Injury Management Program
S2 WHS 64	Inspection Testing & Monitoring Procedure
S2 WHS 66	Legislative Compliance Procedure
S2 WHS 26	Ladders - Use & Maintenance
S2 WHS27	Laser Operation Procedure
S2 WHS 30	Load Restraint Procedure
S2 WHS 57	Load Restraint and lifting Gear Inspection Procedure
S2 WHS 31	Machinery Guarding Procedure
S2 OHS 32	Manual Task Guidelines
S2 OHS 56	Permit to Work Procedure
S2 WHS 34	Personal Protective Equipment and Clothing Purchasing Procedure
S2 WHS 35	Plant & Equipment Safety Procedure
S2 OHS 62	Restricted Access Procedure

S2 WHS 38	Return to Work Program
S2 WHS 39	Risk Management Procedure - WHS
S2 WHS 40	Safe Handling Procedure-Hypodermic Needle & Syringe
S2 OHS 61	Safety Signage Procedure
S2 WHS 24	Storage, Transport and Handling of Gas Cylinders
S2 OHS 45	Towing Trailers Safely
S2 OHS 47	Training Procedure - OH&S
82 WHS 67	Waste Disposal Procedure
82 WHS 20	Work Facilities Environment Guidelines
S2 WHS 49	Worker's Compensation Claim Lodgement Procedure
S2 WHS 50	Working at Heights
82 WH8 59	Working at Potentially Contaminated Sites
82 WH8 51	Working from Boats Procedure
82 WH8 52	Working in Isolation
82 WH8 55	Workplace inspection Procedure

Section 3 – Corporate Safe Work Method Statements

S3 WHS402	Asset Inspection
S3 WHS 309	Chainsaw and High Limb (Pole) Chainsaw
S3 WHS 303	Concrete Cutting Chain Saw (Hydraulic/Motorised)
S3 OHS 304	Cutguik High Speed Cutting Tools
S3 WHS 308	Operate and Maintain Ride on Mower/Tractor
S3 WHS 306	Operation of Vehicle Mounted Crane SWMS
S3 WHS 404	River and Lakes Opening
S3 WHS 401	Traffic Control; Set up, Maintenance and Removal of on Worksites
S3 WHS 403	Tree Removal and Pruning
S3 OHS 001	Working With Bonded Asbestos SWMS

Section 4 – Emergency Procedures

S4 WHS 09	Backhoe and Other Excavation Operation SWP
S4 WHS 10	Cutting and Welding Electric and Gas SWP
S4 WHS 05	Elevated Work Platform - SWP
S4 WHS 03	Filing - Use of Trolleys and Compactus - SWP
S4 WHS 04	Forklift Operation SWP
S4 WHS 06	High Pressure Cleaner - SWP
S4 WHS 01	Loading and Unloading Ride-on Mowers from Trailer Safe Work Procedure
S4 WHS 07	Measuring Clearance to Overhead Power Lines Safe Work Procedure



Standard Operating Procedure

S4 WHS 02	Site Inspections - SWP
S4 WHS 08	UV/Sun Safety SWP

Request for Change or New Process

Created by: Suanne Burk

1. PURPOSE

- 1.1. To present the form required to initiate changes to SWMS, SWP or SOP and to create new SWMS, SWP or SOP.

2. RELATED DOCUMENTS

- 2.1. SOP017 Developing a SWMS, SWP or SOP from a Risk Assessment
- 2.2. Corporate OH&S Procedure: Safe Work Method Procedure

3. RESOURCES REQUIRED

- 3.1. SWMS Document Administrator
- 3.2. Request for Change form attached
- 3.3. Personnel completing the activity involved

4. DESCRIPTION

- 4.1. This Request for Change must be filled out when:
 - 4.1.1. Creating a new SWMS, SWP or SOP
 - 4.1.2. Proposing changes to an existing SWMS, SWP or SOP
 - 4.1.3. To document the review of a SWMS, SWP or SOP
- 4.2. For information on the place of this form in the processes of creating and changing SWMS, SWP and SOPS, see SOP017 Developing a SWMS, SWP or SOP from a Risk Assessment

Document Number: PRD10/178	Document Name: Request for Change or New Process	Responsible Section: Shoalhaven Water	Reference: 18446-02
Activity Code: SOP002	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date: 21/08/2016
Version: 7		Page 1 of 2	



REQUEST FOR CHANGE OR NEW PROCESS

NOTE: To action a change, photocopy this form prior to completion and leave the original in the SWMS manual.

Requested by:.....Date:.....

Document Name (Title):.....

.....

SWMS/SOP: SWMS SWP SOP

New or Revision: New Revision Review

Document Number (SWMS Number / Activity Code):

File Reference (Record Number or TRIM Version):

New Document Number: New File Reference:

Section and Page/s Number/s:.....

Description of Change Required or New Process Requested:

.....
.....
.....
.....

Reason for change:
.....
.....

Direct to Chairman, Shoalhaven Water Operations OH&S Committee

Shoalhaven Water Operation OH&S Committee Comments:
.....
.....

Change Request Outcome: Rejected Accepted

OH&S Coordinator: Rejected Accepted

Direct to SWMS Co-ordinator:

Request Investigated by:.....Date:.....

New or Revised Document Issue Release Date:.....

Closed by SWMS Co-ordinator:.....Date:.....

Document Number: PRD10/178	Document Name: Request for Change or New Process	Responsible Section: Shoalhaven Water	Reference: 18446-02
Activity Code: SOP002	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date: 21/08/2016
		Version: 7	Page 2 of 2

Emergency Response Plan for Sewerage Overflows/Bypass Incidents

Created by: Phil Critchley

1. PURPOSE

- 1.1. To ensure all employees are able to access the Emergency Response Plan for Sewerage Overflows/Bypass Incidents

2. RELATED DOCUMENTS

- 2.1. Emergency Response Plan for Sewerage Overflows/Bypass Incidents

3. RESOURCES REQUIRED

- 3.1. Supervisor or Intranet

4. DESCRIPTION

- 4.1. Shoalhaven Water's Emergency Response Plan for Sewerage Overflows / Bypass Incidents is a separate document which is regularly reviewed and updated by Shoalhaven Water Engineers.
- 4.2. If you would like to peruse a copy of the plan please request your supervisor to make their copy of the plan available to you. Additional copies are located at Waste Water Treatment Plants.
 - The Emergency Response Plan is also available in TRIM under record number 5.5.6.

Document Number: PRD11/198	Document Name: Emergency Response Plan for Sewerage Overflows/Bypass Incidents SOP	Responsible Section: Shoalhaven Water		Reference: 18446E	
Activity Code: SOP004	Adopted: 09/09/2008	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 6	Page 1 of 1

Re-installing Memory into V.S.C. (D) Controllers

Created by: Suanne Burk

1. PURPOSE

- 1.1. To instruct in re-installing memory into V.S.C. (D) Controllers.
- 1.2. **NOTE: This task should only be carried out by a qualified technician. Call Electrical Services**

2. RELATED DOCUMENTS

- 2.1. None

3. RESOURCES REQUIRED

- 3.1. Pen
- 3.2. V.S.C. (D) Controllers

4. DESCRIPTION

- 4.1. Using the back of a biro or like object, press Setup.
- 4.2. Press “Quick Setup”.
- 4.3. Press “Minimum Speed” (use up or down arrow key if minimum speed is not displayed).
- 4.4. Using numerical key in minimum speed set a couple of Hz below the reading when the pump was running in auto.(35)
- 4.5. Press “Minimum Frequency” to save the change.
- 4.6. To check that the change was entered press “Minimum Frequency” again and the saved value should be displayed.
- 4.7. Press “Exit” to return to the main page.
- 4.8. Switch pump 1 off and let pump 2 start then follow the same procedure.

NOTE: YOU MAY NEED TO PRESS DISPLAY SEVERAL TIMES TO FIND THE SWEET SPOT ON THE DISPLAY.

Document Number: PRD11/14	Document Name: Re-installing Memory into V.S.C. (D) Controllers	Responsible Section: Shoalhaven Water	Reference: 12039E
Activity Code: SOP005	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date: 21/08/2016
		Version: 6	Page 1 of 1

Grit/Screenings Transportation and Spillage Management Plan

1. PURPOSE

- 1.1. This Management Plan is to advise you of your responsibilities when you are engaged in the transportation of Grit / Screenings from Shoalhaven Waters Wastewater Treatment Plants to Councils waste depot.

2. SCOPE

- 2.1 This safe work procedure (SWP) complies with the requirements of the “WH&S Act 2011” to ensure the health, safety and welfare of employees.

3. REFERENCE AND ASSOCIATED DOCUMENTS

- 3.1. WHS Act 2011
- 3.2. WHS Regulation 2011
- 3.3. Shoalhaven City Council Policies and Procedures
- 3.4. Corporate WHS Policies and Procedures
- 3.5. Shoalhaven Water WHS Policies and Procedures
- 3.6. WorkCover regulations and codes

4. DEFINITIONS

SWP	Safe Work Procedure
PPE	Personal Protective Equipment
WHS	Work Health and Safety

Unique Document Number: SWP SOP006	Document Name: Grit/Screenings Transportation and Spillage Management Plan	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/209
Adopted: : 09/04/2008	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 5 Page 1 of 3

5. DESCRIPTION

- 5.1. Councils Waste Depot must be notified at least 24 hours prior to transportation of grit/screenings for disposal (STP Operator will action this point).
- 5.2. The trucks must have a watertight seal tailgate.
- 5.3. The trucks must be fitted with a grain lock on the tailgate or similar mechanism
- 5.4. The trucks must have a full tarpaulin cover over the grit/screenings.
- 5.5. The trucks must be hosed down before leaving the Treatment Plant to prevent the depositing of grit/screenings onto public streets.
- 5.6. The trucks should be hosed off before leaving the approved tipping site to prevent the depositing of grit/screenings onto public streets.
- 5.7. While you are transporting grit/screenings you must adhere to strict personnel hygiene at all times, by way of wearing gloves while operating the tailgate mechanism and hosing the truck down of any grit/screenings that may have been spilt onto the vehicle during loading or be caught in the tread of the tyres.
- 5.8. It is essential that you wash your hands before eating or smoking.
- 5.9. The grit/screenings being transported must not be taken to any other location than the approved disposal site.

6. QUALITY CONTROL

- 6.1. The implementation of this procedure shall be audited through workplace inspections and desk top audits.

7. APPENDICES

Unique Document Number: SWP SOP006	Document Name: Grit/Screenings Transportation and Spillage Management Plan	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD12/209
Adopted: : 09/04/2008	Last Amended: 14/02/2013	Review Date: 14/02/2016	Version: 5 Page 2 of 3



NIL

8. RESPONSIBILITY FOR IMPLEMENTATION

8.1 The **Operations Manager** is allocated overall responsibility for the implementation of this procedure into the WHS Management System.

9. PROCEDURE OWNER

9.1. The Northern, Central, and Southern Wastewater Co-ordinators are assigned ownership to ensure the policy is maintained and updated.

10. REVIEW OF DOCUMENT

10.1. This procedure shall be reviewed every three years or earlier. Early review of this procedure shall occur in response to changes in Legislation, Australian Standards, Codes of Practice and/or WH&S System Management.

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Nowra Treatment Plant and Walsh Crescent Surcharge Mains, Motorised Valves Replacement for Fail-Open Operation on Power Fault Condition

Created by: Stephen Glennan

1. PURPOSE

1.1. The surcharge mains valves at Walsh Crescent and Nowra STW are fully operational utilizing the hydraulic actuated valves and PLC Control. The system has been configured for operation utilizing the operational philosophy as previously existed with the electrically operated valves. However with the addition of PLC Controls it has been possible to provide a platform of interface between the sites to make the system far more reliable with improved operation sequence generally described as in this SOP.

2. RELATED DOCUMENTS

2.1. None

3. RESOURCES REQUIRED

3.1. Motorised valves

4. DESCRIPTION

4.1. The operational pressures have been maintained as previously set for both sites:

4.1.1. Walsh Crescent: Opens at 60kPa and alarms at 90kPa;

4.1.2. Nowra STW Valve 1 Walsh Cres North Nowra Line Opens at 180kPa and alarms at 210Kpa;

4.1.3. Nowra STW Valve 2 South Nowra Line Opens at 140kPa and alarms at 180kPa.

4.2. The operating delay of 20 seconds from reaching the opening pressure to open command has been retained.

Document Number: PRD11/12	Document Name: Nowra Treatment Plant and Walsh Crescent Surcharge Mains, Motorised Valves Replacement for Fail-Open Operation on Power Fault Condition	Responsible Section: Shoalhaven Water	Reference: 12039E		
Activity Code: SOP007	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date 21/08/2016	Version: 5	Page 1 of 4

- 4.3. A second set of alarm points have been introduced which act on the controls to open the valve under priority operation these settings are in between the opening set points and the alarm set points as follows:
 - 4.3.1. Walsh Crescent 80kPa;
 - 4.3.2. Nowra STW Valve 1 Walsh Cres North Nowra Line 195kPa; and
 - 4.3.3. Nowra STW Valve 2 South Nowra Line 160kPa.

4.4. The controls are set as follows, which is generally as previous, however as mentioned above, various other features have been included.

4.5. Walsh Crescent

- 4.5.1. With the valve in the closed position, as the pressure increases due to the banking up of the water in the pipeline, on reaching the open pressure of 60kPa a command is initiated to set a valve open sequence after 20 seconds to allow for any minor surge in pressure due to wave action.
- 4.5.2. On initiation a signal is transmitted to Nowra STW to open the valve to the inlet for Walsh Cres North Nowra, this signal is processed at the Nowra STW causing the valve to be driven open.
- 4.5.3. On opening the Nowra STW valve confirms its open position to Walsh Crescent which then times for 10 minutes to allow the line to clear then Walsh Crescent opens. Should the pressure however increase to the second stage due to high flow, ie 80kPa, and this pressure be present for 20 seconds, then the valve proceeds to open, cancelling the 10 minute time out.
- 4.5.4. If the valve for any reason does not open within 30 seconds of the pressure increasing to 80 kPa the force to open signal is initiated and the valve is forced open by the hydraulic pressure stored in the accumulator, an alarm is sent by telemetry and the valve locked out on fault until reinstated, its fault cleared and reset.
- 4.5.5. Should the above operation fail, a telemetry critical alarm is triggered to alert the operator of a major malfunction which requires immediate action. This alarm is dispatched when the line pressure reaches 90kPa.
- 4.5.6. The valve remains open for 30 minutes to allow the line to flush and clear prior to closing and resetting to repeat the automatic cycle.
- 4.5.7. The valve can also be operated manually by electric operated controls located on the control panel as previous. Should power not be available at the site the valve can be also operated manually by the use of a hydraulic hand pump located on the valve hydraulic power unit.
- 4.5.8. On failure of the electrical power the valve is automatically opened by the accumulator and locked in the fully open position until power is re-**

Document Number: PRD11/12	Document Name: Nowra Treatment Plant and Walsh Crescent Surcharge Mains, Motorised Valves Replacement for Fail-Open Operation on Power Fault Condition	Responsible Section: Shoalhaven Water	Reference: 12039E
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established. The valve is self resetting after own diagnostic of operation and hydraulic pressure checks.

4.6. Nowra STW North & South Valves

4.6.1. On this installation the valves share the common hydraulic plant however operate individually in response to individual pressure signals. However some alarms and operational conditions are common to both valves generally as described hereunder:

4.7. South Nowra, Valve 2:

- 4.7.1. This valve opens and closes on pressure demand generally as described above. Opening pressure set at 140kPa.
- 4.7.2. If the valve fails to open a priority open signal is sent in which after 30 seconds the accumulator will force the valve open, should this fail a critical telemetry alarm is transmitted for operator assistance.
- 4.7.3. The valve can also be operated manually by electric operated controls located on the control panel as previous. Should power not be available at the site the valve can be also operated manually by the use of a hydraulic hand pump located on the valve hydraulic power unit.

4.8. North Nowra Valve 1

- 4.8.1. This valve is controlled by pipeline pressure set at 180kPa or a priority open signal from Walsh Crescent.
- 4.8.2. If the valve fails to open a priority open signal is sent in which after 30 seconds the accumulator will force the valve open, should this fail a critical telemetry alarm is transmitted for operator assistance.
- 4.8.3. The valve can also be operated manually by electric operated controls located on the control panel as previous. Should power not be available at the site the valve can be also operated manually by the use of a hydraulic hand pump located on the valve hydraulic power unit.
- 4.8.4. **On failure of the electrical power, both valves are automatically opened by the accumulator and locked in the fully open position until power is re-established. The valves are self resetting after own diagnostic of operation and hydraulic pressure checks.**

4.9. Other faults as hydraulic pump fail, valve travel fault and accumulator failure, operate the valves to the open position. These faults are displayed on the electrical control panel as individual faults and transmitted to the telemetry as common failure alarms. At

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Standard Operating Procedure

PRD11/12
SOP007
Nowra Treatment Plant and Walsh
Crescent Surcharge Mains,
Motorised Valves Replacement for
Fail-Open Operation on Power
Fault Condition
Page 4 of 4

Nowra STW if a fault occurs, both valves will be positioned to the fail safe open position.

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Activity Code: SOP007	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date 21/08/2016	Version: 5	Page 4 of 4

Response Times to System Failure

Created by: Kabindra Adhikary

1. PURPOSE

1.1. To define and communicate the minimum times to respond to system failures.

2. RELATED DOCUMENTS

2.1. SWMS, SWP and SOPs as applicable to the failure

3. RESOURCES REQUIRED

3.1. As defined by SWMS, SWP and SOPs

4. DESCRIPTION

4.1. The following table describes the minimum response times to respond to system failures of varying priority.

Document Number: PRD11/16	Document Name: Response Times to System Failure	Responsible Section: Shoalhaven Water	Reference: 12039E		
Activity Code: SOP009	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date: 21/08/2016	Version: 5	Page 1 of 2

Priority	Nature of Failure	Response Time
1	<p>Failure to maintain continuity or quality of supply, to a large number of customers or to a critical user at a critical time.</p> <p><u>Typical cause:</u></p> <ul style="list-style-type: none"> • Pump station failure • Water treatment plant malfunction • Valve failure <p><u>Typical effects:</u></p> <ul style="list-style-type: none"> • Major property damage • Large volume of wasted water • Personal injury or risk to public health • Significant depletion of service reservoir • Major environmental impact • Reduce raw water flow to APPM 	<p>1 hr (working hours)</p> <p>2 hrs (after hours)</p>
2	<p>Failure to maintain continuity or quality of supply to a small number of customers or to a critical user at non-critical time.</p> <p><u>Typical cause:</u></p> <ul style="list-style-type: none"> • Minor main break • Leaking connection • Telemetry failure • Partial valve failure <p><u>Typical effects:</u></p> <ul style="list-style-type: none"> • Minor property damage • Minor environmental impact 	<p>2 hrs (working hours)</p> <p>3 hrs (after working hours)</p>
3	<p>Failure to maintain continuity or quality of supply to a single customer</p> <p><u>Typical causes:</u></p> <ul style="list-style-type: none"> • Leak from water main • Leak from hydrant • Inadequate maintenance • Partial failure of connection 	<p>1 working day</p>
4	<p>Minor problem or complaint which can be dealt with at a time convenient to the customer and Council</p>	<p>3 days</p>

Testing Shoalhaven Water Depot Fire Alarm

Created by: Stephen Glennan

1. PURPOSE

- 1.1. To instruct in Testing Shoalhaven Water Depot Fire Alarm in an appropriate manner. This task is currently completed by contractors.

2. RELATED DOCUMENTS

- 2.1. None

3. RESOURCES REQUIRED

- 3.1. Fire Alarm System
- 3.2. Telephone

4. DESCRIPTION

- 4.1. **Before commencing with the Fire Alarm Test you must ring central Ph: 4429 3111 to inform them that you will be conducting a Fire Alarm Test.**

- 4.2. When the Fire alarm Panel cabinet door is first opened the **ACF & Bell Isolate** lights come on, Press **Bell Isolate** before continuing with the test.

- 4.3. Alert all people in the building via the Public Address system that you are about to perform a Fire Alarm Test (Attention, Attention a fire alarm test is about to commence).

4.4. Fire Alarm Test

- 4.4.1. To Activate an Alarm, Press Alarm Test (Zone 2) then Enter or whichever Zone you like.
- 4.4.2. To Reset Alarm, Press Applicable Zone then Enter or Reset All then Enter.
- 4.4.3. To Reset the Evacuation Siren, Enter your Entry Code (PIN Number) and Press OK into the building alarm panel next to the Fire Panel.

4.5. Indicator Light Test

- 4.5.1. Press Auto Test

4.6. Fault Test

- 4.6.1. Remove a cover from one of the fire sensors in one of the front officers and check panel to ensure indicating the correct sector.
- 4.6.2. Press Buzzer Isolate to reset.
- 4.6.3. Repeat the above test for another sector.

Document Number: PRD11/15	Document Name: Testing Shoalhaven Water Depot Fire Alarm	Responsible Section: Shoalhaven Water	Reference: 12039E
Activity Code: SOP008	Adopted:09/04/2008	Last Amended: 20/08/2013	Review Date: 21/08/2016
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Standard Operating Procedure

- 4.7. **Resetting Blue Strobe Light** (Norfolk Ave Entrance)
 - 4.7.1. Enter your code into the Intruder Alarm Panel.
 - 4.7.2. Select the FIRE ZONE SECTOR.
 - 4.7.3. Select OFF.
 - 4.7.4. Select the FIRE ZONE SECTOR.
 - 4.7.5. Select ON.
 - 4.7.6. The Blue Light should now be off.

Document Number: PRD11/15	Document Name: Testing Shoalhaven Water Depot Fire Alarm	Responsible Section: Shoalhaven Water	Reference: 12039E		
Activity Code: SOP008	Adopted:09/04/2008	Last Amended: 20/08/2013	Review Date: 21/08/2016	Version: 6	Page 2 of 2



Response Times to System Failure

Created by: Kabindra Adhikary

1. PURPOSE

1.1. To define and communicate the minimum times to respond to system failures.

2. RELATED DOCUMENTS

2.1. SWMS and SOPs as applicable to the failure

3. RESOURCES REQUIRED

3.1. As defined by SWMS and SOPs

4. DESCRIPTION

4.1. The following table describes the minimum response times to respond to system failures of varying priority.

Document Number: PRD08/311	Document Name: Response Times to System Failure	Responsible Section: Shoalhaven Water	Reference: 18446E		
Activity Code: SOP009	Adopted: 09/04/2008	Last Amended: 07/04/2008	Review Date: 09/04/2011	Version: 4	Page 1 of 2

Priority	Nature of Failure	Response Time
1	<p>Failure to maintain continuity or quality of supply, to a large number of customers or to a critical user at a critical time.</p> <p><u>Typical cause:</u></p> <ul style="list-style-type: none"> • Pump station failure • Water treatment plant malfunction • Valve failure <p><u>Typical effects:</u></p> <ul style="list-style-type: none"> • Major property damage • Large volume of wasted water • Personal injury or risk to public health • Significant depletion of service reservoir • Major environmental impact • Reduce raw water flow to APPM 	<p>1 hr (working hours)</p> <p>2 hrs (after hours)</p>
2	<p>Failure to maintain continuity or quality of supply to a small number of customers or to a critical user at non-critical time.</p> <p><u>Typical cause:</u></p> <ul style="list-style-type: none"> • Minor main break • Leaking connection • Telemetry failure • Partial valve failure <p><u>Typical effects:</u></p> <ul style="list-style-type: none"> • Minor property damage • Minor environmental impact 	<p>2 hrs (working hours)</p> <p>3 hrs (after working hours)</p>
3	<p>Failure to maintain continuity or quality of supply to a single customer</p> <p><u>Typical causes:</u></p> <ul style="list-style-type: none"> • Leak from water main • Leak from hydrant • Inadequate maintenance • Partial failure of connection 	<p>1 working day</p>
4	<p>Minor problem or complaint which can be dealt with at a time convenient to the customer and Council</p>	<p>3 days</p>

Standard Marking for Water Mains

1. PURPOSE

To instruct in the use of markings when conducting water main construction or maintenance.

2. RELATED DOCUMENTS

SWMS relevant to maintenance task.

3. DESCRIPTION

3.1. Blue Cats Eye Markers

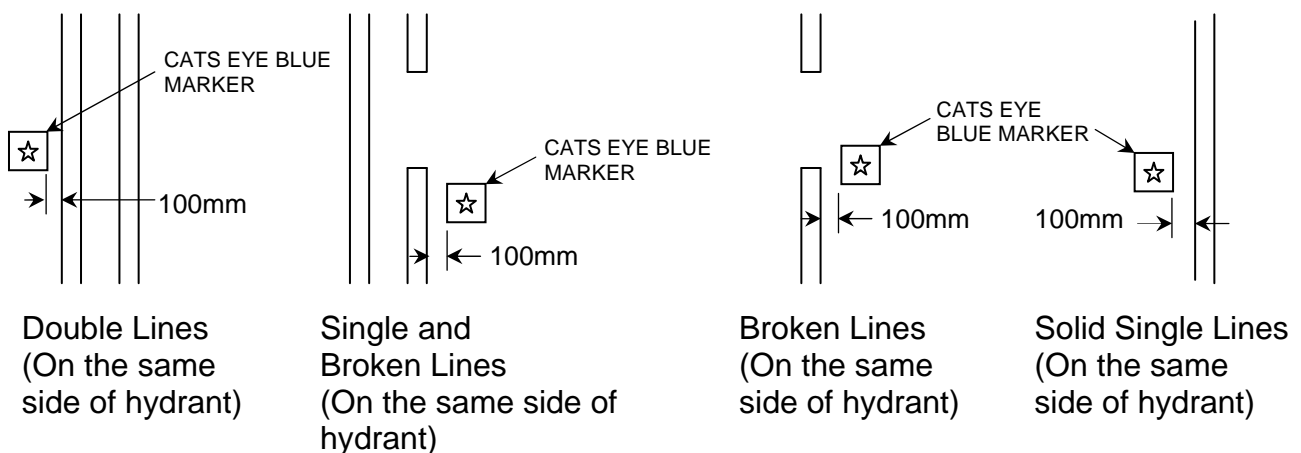
There are two methods of applying cats eye markers.

3.1.1. Bitumen Pads – bitumen pads are ‘melted’ onto the road or surface using a propane gas torch. When used on concrete or other non-bitumen surfaces, care must be taken to melt completely to assure adhesion.

3.1.2. Two-part epoxy glue – used when it is necessary to apply the markers quickly, such as in a high traffic area.

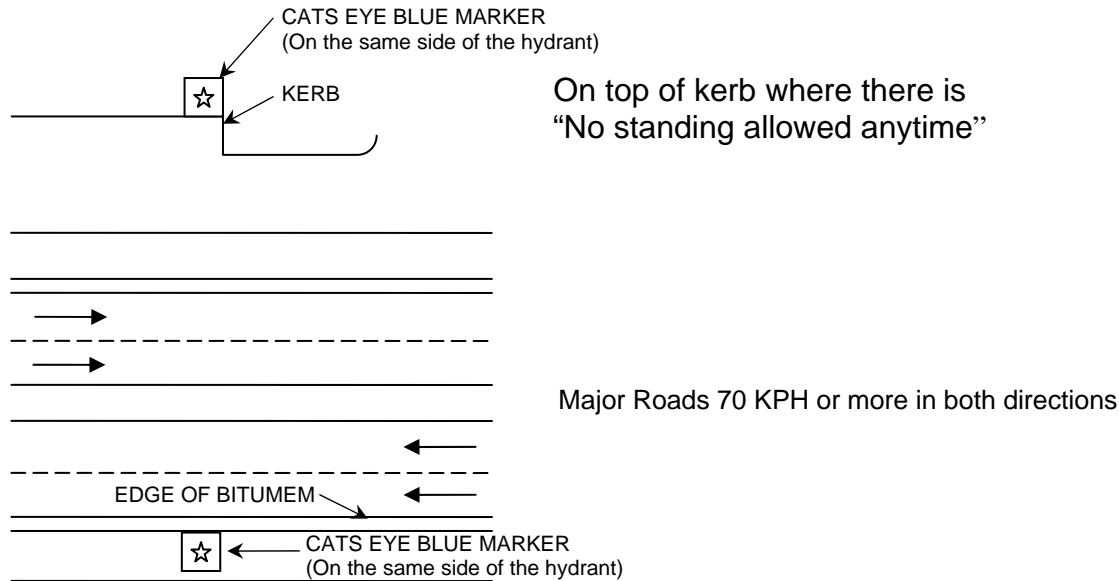
3.1.3. The following diagrams indicate the standard positioning of the blue cats eye markers.

Figure 1: Standard Positions for Reticulation Fire Hydrants



Document Number: SOP010	Document Name: Standard Marking for Water Mains	Responsible Group: Shoalhaven Water	Reference: PRD13/183
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Figure 1: (Continued)



3.2. Reticulation Main Marking (Urban developed areas)

3.2.1. Hydrant

- (a) Cat's Eye Blue Marker placed on the road as shown in Figure 1. (See item 3.1 above)
- (b) Groove or stamp the letter "H" on the top of the kerb.
- (c) Hydrant cover shall be painted approved road marking yellow.

3.2.2. Valves

- (a) Groove or stamp into wet concrete the letter "V".
- (b) Valve cover shall be painted approved road marking yellow.
- (c) Anti-Clockwise closing valve cover shall be painted red.
- (d) Areas with dialysis patients shall have the valve cover and water meter painted blue.
- (e) Valve covers shall be painted green to indicate a closed valve.

3.2.3. Scour Valves

- (a) Groove or stamp into wet concrete the letter "S".
- (b) Scour valve covers shall be painted approved road marking yellow.

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3.2.4. Air Valves

- (a) Groove or stamp into wet concrete the letters “AV”.
- (b) Air valve covers shall be painted approved road marking yellow.

3.3. Trunk Main Marking (Non-Urban areas)

3.3.1. Marker Post (Typical for Hydrants, Scour Valves, Stop Valves, Air Valves, Service Main Cocks, Double Air Valves and at every 100m length of Trunk Mains and at each Change of Direction of Trunk Mains. Except in urban developed areas)

- (a) Shall be made of Plastic tube 110mm x Tapered 50mm bottom to 30mm top x 1m long.
- (b) Posts are fitted with a 330mm star picket which is to be driven into the ground.
- (c) All Shoalhaven Water Trunk Main Valve lids and Marker post Shall be painted Shoalhaven Water Blue.

All off takes on Trunk Mains to reticulation Mains shall be painted Shoalhaven Water Blue on the concrete or plastic surround and road markings to be Yellow on the steel inner stop valve lid.

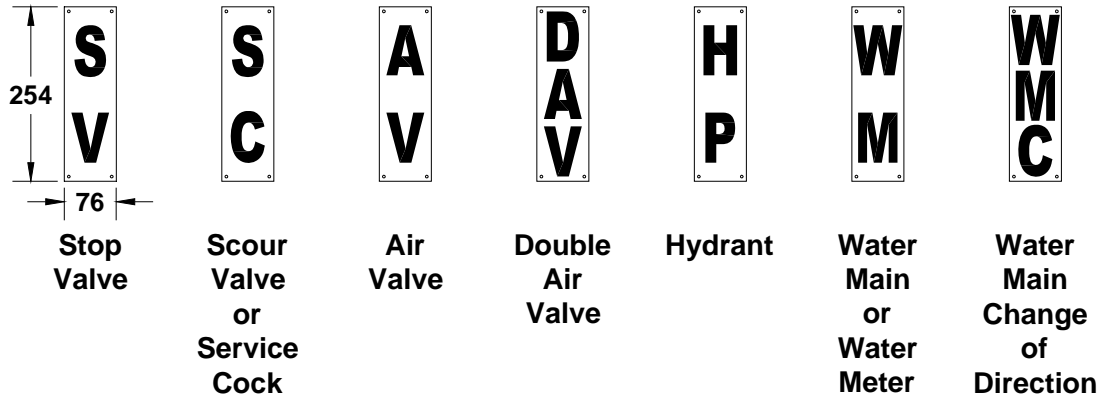
All Anti clockwise stop valves lids on the trunk main shall be painted Shoalhaven Water Blue on the concrete or plastic surround and Red on the Steel inner Stop valve lid.

All closed stop valves on the trunk main shall be painted Shoalhaven Water Blue on the concrete or plastic surround and Green on the steel inner stop valve lid.

Document Number: SOP010	Document Name: Standard Marking for Water Mains	Responsible Group: Shoalhaven Water	Reference: PRD13/183
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3.3.2. Marker Plates

- (a) Plate shall be made of GI 254mm x 76mm x 1mm thick.
- (b) Shall be painted white (enamel finish) with reflective red stenciled letters 50mm high.
- (c) Lettering shall be read vertically with each subsequent letter placed one under the other as shown:



- (d) Marker plates shall be placed 10mm below the top of the post and fixed to the post by galvanized cleat

Traffic Control Guidelines

Created by: Suanne Burk

1. PURPOSE

- 1.1. The following document outlines requirements for the documentation of Traffic Control Plans at work sites. It does not provide information on which Traffic Control Plans should be used. These guidelines apply when a Site Specific Risk Assessment indicates that a Traffic Control Plan is required.
- 1.2. To ensure all Shoalhaven Water employees are aware of documentation requirements and ensure that a hard copy of the Traffic Control Plan used is always available at work sites.

2. RELATED DOCUMENTS

- 2.1. Traffic Control at Work Sites (TCAWS) manual

3. RESOURCES REQUIRED

- 3.1. It is recommended that copies of the most commonly used TCPs (Traffic Control Plans) be available to the operators on site to allow modifications to be sketched directly onto them.

4. DESCRIPTION

WHEN TO USE STANDARD, MODIFIED OR NEW TRAFFIC CONTROL PLANS

- 4.1. A standard TCP is a numbered TCP from the Traffic Control at Work Sites (TCAWS) manual, or a site specific TCP which has been designed and approved by a qualified person.
- 4.2. Minor modifications may be made to standard TCPs in accordance with Section 4.4 of the TCAWS manual. To select or make minor modifications to a TCP, an operator must have the Select/Modify Traffic Control Plans Certificate.
- 4.3. Where standard TCPs cannot be modified to suit site conditions, major modifications and/or new TCPs will be required. Only persons who have attained the Design and Audit Traffic Control Plans Certificate are able to design new TCPs or make major modifications to standard TCPs.

Document Number: PRD11/18	Document Name: Traffic Control Guidelines	Responsible Section: Shoalhaven Water	Reference: 12039E
Activity Code: SOP012	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date: 21/08/2016
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RECORDING OF TRAFFIC CONTROL PLANS

- 4.4. A record must be made of all TCPs used at each work site. This record must be available at the work site for verification and/or auditing and must include a hard copy of any standard TCPs used.
- 4.5. If no modifications or changes are made to a standard TCP, then its **number only** may be recorded on site specific documentation as evidence of the actual arrangement of traffic control devices. **Note that a hard copy of the standard TCP must be available at the work site.**
- 4.6. Where any standard TCP is modified for a site, the modifications or changes to the TCP must be recorded **diagrammatically** by the operator in charge on site before work commences on the site. There are three ways in which this can be achieved:
 - A copy of the standard TCP can be marked and attached to the Site Specific Traffic Control Risk Assessment.
 - The modifications to the standard TCP can be sketched on the back of the Site Specific Traffic Control Risk Assessment if links to the standard TCP are clearly indicated. That is, the modifications must be related to the TCP by location, distance, or other reference point.
 - The complete modified TCP can be sketched on the back of the Site Specific Traffic Control Risk Assessment.

QUALIFICATIONS AND TRAINING

- 4.7. For major modifications or new designs:
 - Design and Audit Traffic Control Plans Certificate
- 7.2 To select or make minor modifications to TCPs.
 - Select/Modify Traffic Control Plans Certificate

Document Number: PRD11/18	Document Name: Traffic Control Guidelines	Responsible Section: Shoalhaven Water	Reference: 12039E
Activity Code: SOP012	Adopted: 09/04/2008	Last Amended: 21/08/2013	Review Date: 21/08/2016
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Sampling and Resampling of Reticulated Water for the Purpose of Microbiological or Chemical Analysis

1. PURPOSE

- 1.1. To outline the proper process of the collection of reticulated water to ensure that the sample is received by the laboratory in its original state and is free of contamination.
- 1.2. To minimise or eliminate the potential for injury to employees and contractors assign the task of the collection water samples as well as eliminating possible danger to passer-by's or home owners.
- 1.3. To minimise or eliminate the potential for damage to council or private property.

2. RELATED DOCUMENTS

- 2.1. Water Testing Register

3. RESOURCES REQUIRED

- 3.1. Personal Protective Equipment: First Aid Kit, Goggles must be worn while using a torch for the sterilisation of the water supply tap.
- 3.2. Required equipment for Field Testing (minimum):
 - 3.2.1. Chlorine meter (Including both "Free" and "Total" Chlorine Reagent foil pillows)
 - 3.2.2. LPG Torch
 - 3.2.3. Cigarette Lighter or Striker (for Ignition of LPG Torch).
 - 3.2.4. Turbidity meter
 - 3.2.5. pH Meter
 - 3.2.6. Contact Thermomter
- 3.3. Sample bottles and jars
- 3.4. Ice bricks and insulated shipping container or 'Esky'

Document Number: PRD11/19	Document Name: Sampling and Resampling of Reticulated Water for the Purpose of Microbiological or Chemical Analysis	Responsible Section: Shoalhaven Water	Reference: 12039E
Activity Code: SOP013	Adopted: 09/04/2008	Last Amended: 14/02/2013	Review Date: 14/02/2016
		Version: 3	Page 1 of 9

4. DESCRIPTION

WATER TESTING REGISTER

4.1. The required test(s) are indicated on the Water Testing Register. The legend below is found on the register and indicates to which laboratory a required test should be sent and what size, type of bottle and preservative should be used.

REQUIRED TEST(S)			*250ml Micro - Thio (68mm Ø x 80mm)	*2 high-density polyethylene screw-capped bottles (1) 250ml & (1) 1L
Test	Barcode Sticker	Send to:		
M	Allocated Micro	FASS	X	
CD	Allocated Chemical	FASS		X
CE	Additional Chemical	SW Lab		X
MR	Repeat Micro	SW Lab	X	X
CR	Repeat Chemical	SW Lab		X
MA	Additional Micro	SW Lab	X	
D	Disinfection By-Product	FASS	*200 mL amber round glass bottle, white wadded cap to fit	
P	Pesticides	FASS	*1 Ltr amber round glass with screw cap	
R	Radiological	Ansto	HDPE bottles	

4.2. The Water Testing Register is both a register and your weekly sampling schedule. This schedule is generated weekly by SCC and outlines which of the registered allocated and additional sample sites are to be sampled during a given week. The System, Township and Address and type of test(s) required for each site are identified on the Water Testing Register.

Water Testing Register 24 June 2013 Samplers Name: _____

REQUIRED TEST(S)

Test	Barcode Sticker	Send to:	*250ml Micro - Thio (68mm Ø x 80mm)	*2 high-density polyethylene screw-capped bottles (1) 250ml & (1) 1L
M	Allocated Micro	FASS	X	
CD	Allocated Chemical	FASS		X
CE	Additional Chemical	SW Lab		X
MR	Repeat Micro	SW Lab	X	X
CR	Repeat Chemical	SW Lab		X
MA	Additional Micro	SW Lab	X	
D	Disinfection By-Product	FASS	*200 mL amber round glass bottle, white wadded cap to fit	
P	Pesticides	FASS	*1 Ltr amber round glass with screw cap	
R	Radiological	Ansto	HDPE bottles	

Note: Sampling and transporting of samples are to follow: Guide for Submitting Water Samples to Division of Analytical Laboratories for Analysis (Now FASS) which can be found at: http://www.health.nsw.gov.au/environment/water/Documents/dal_analysis.pdf

Note: Site's indicated with a "T" are in close proximity to dialysis units and need to be reported immediately to the coordinator if they return Free Chlorine residual of 1.74mg/L or more.

Site	Safe To Access	Comments	Dog(s) or Animal(s)	Time	Free Cl ₂	pH	Turbidity	Temp °C	Bar Codes	Tests	Priority	System	Township	Address
137	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Berry	Mark Radium Park Victoria St (tap near toilets)
164	Yes/No	Yes/No							Micro Chemical	M CE 8		Bamarang	Huskisson/Vincennes	Plantation Point (tap across the Rd from Sailing Club)
172	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Cambewarra	17 Nooramunga Street (Front yard)
174	Yes/No	Yes/No							Micro Chemical	M 8		Bamarang	Nowra/Bomaderry	8 Leaney Street (Front Yard)
186	Yes/No	Yes/No							Micro Chemical	M 4		Kangaroo Valley	Kangaroo Valley	Hampden Bridge Caravan Park (Right side of driveway)
188	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Sussex Inlet	14 Pacificana Drive (Front yard)
284	Yes/No	Yes/No							Micro Chemical	M 4		Southern Shoalhaven	Milton/Ulladulla District	Council Building, Deering Street (Before entry to Council)
289	Yes/No	Yes/No							Micro Chemical	M 4		Southern Shoalhaven	Burrill Lake	McDonald Parade (Council Toilets - mens)
475	Yes/No	Yes/No							Micro Chemical	M 5		Bamarang	St Georges Basin District	39 Tibbles Ave (tap in front yard)
480	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Manyana/Cunjuro	Amenities Block, Sunset Strip (Near metre in front)
531	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Hyams Beach	Amenities Block, Near boat Ramp (Between toilets)
568	Yes/No	Yes/No							Micro Chemical	M CE 5		Flatrock	Nowra/Bomaderry (F)	Flatrock creek treatment Plant, Tap near pit (Mark Jennings)
639	Yes/No	Yes/No							Micro Chemical	M M		Southern Shoalhaven	Kings Point	Kings Point Ski Club (Back of Lodge)
644	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Callala Bay	Callala Bay community centre, Emmett St (East side of bldg)
647	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Currarong	Amenities Block, Warrain Road (Near shower)
648	Yes/No	Yes/No							Micro Chemical	M M		Bamarang	Fishermans Paradise	13 Alma Ave (Front yard)

- 4.3. Repeat samples are the result of reported exceptions to the previous week’s samples tests and may arrive to the coordinator with little advance notice. Therefore due to the need to expedite the notification of the Council employee or contractor conducting water sampling the initial notification may be by way of a phone call. The coordinator will provide whoever the sampler is decided to be with the results of the excepted test along with the site number, location as well as any other pertinent information related to the sample point. An addendum to the previously supplied Water Testing Register will follow.
- 4.4. Blank Water Testing Registers will be provided for the sampler to record the repeat sample sites results of the day as they may be in the field an unable to return for the updated Water Testing Register.

SAMPLE BOTTLE PREPARATION

- 4.5. Review the Water Testing Register for the required amount of Microbiological and Chemical sample jars required for a given day, plus an additional 3 jars of each type to ensure you have jars for resample’s that may be called in to you during the day.
- 4.6. Check that all jars are free of damage and place the days required allotment of jars into an insulated shipping container(s) or “Esky(s)” along with a sealed “Ice Brick” (At Least one per container or Esky - Do not use ice in plastic bags) to ensure that the samples are chilled when they arrive at the testing laboratory.
- 4.7. Bar Coded Stickers are provided by NSW Health and are identified by type of sample and supply system: Northern Shoalhaven (Bamarang), Flat Rock, Southern System, and Kangaroo Valley. Take care that the appropriate sticker for the type of test required and for the system is used.

4.7.1. Allocated Microbiological Sample

The image shows a bar-coded sticker with the following fields and labels:

- System:** Northern Shoalhaven (Bamarang)
- Site No:** SH 01
- Type:** Allocated Microbiology
- Is the system chlorinated? Y / N:** (checkbox)
- Test Results Table:**

Free Chlorine
Total Chlorine
pH
Turbidity
- Date:** _____ **Time:** _____ AM/PM
- Barcode:** 113SH0101691

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4.7.2. Microbiological or Chemical Additional Sample

Drinking Water Monitoring Program Additional Sample
 Shoalhaven City Council

System → **Northern Shoalhaven (Bamarang)**

SH 01 **Additional**

Is the system chlorinated: Y/N

Is the system fluoridated: Y/N

813SH0100050

Date: _____ Time: _____

4.7.3. Microbiological or Chemical Repeat Sample

Drinking Water Monitoring Program Repeat Sample
 Shoalhaven City Council

Site No → **Kangaroo Valley** ← System Type

SH 02 **Repeat**

Is the system chlorinated: Y/N

Is the system fluoridated: Y/N

613SH0200043

Date: _____ Time: _____

4.7.4. Aboriginal Communities Disinfection By-Product

NSW HEALTH **Jan**
Aboriginal Communities Program-Project

Type → Community Name: **Orient Point Village** Supply system code: **SH01** ← System

Analysis Type: **Disinfection By-Product** Sample: **6** ← Site No

Sample Type: **Reticulated Water** Site: **688**

Sampled by: _____ Date: _____

Contact Ph: _____ Time: _____

Organisation: _____

← System

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4.7.5. Aboriginal Communities Pesticides

Jan

NSW HEALTH
Aboriginal Communities Program-Project

Community Name: **Orient Point** Supply system code: **SH01**

Type → Analysis Type: **Pesticides** Sample: **6** ← Site No

Sample Type: **Water** Site: **688**

Sampled by: _____ Date: _____

Contact Ph: _____ Time: _____

Organisation: _____

SAMPLE SITE LOCATIONS:

- 4.8. The sites selected for the purpose of water sampling have taps located on either council or private property. Any site on private property must have a signed **Retic Water Sample Site Authorisation Form** with the resident’s name, address, contact information, and signature authorising access prior to using that location as a sample point. Any request made by a property resident to relocate a sample site off their property is to be accepted without question. If a request to relocate a site has been made by a resident the sampler is to contact the coordinator for direction as to which neighbouring properties would be the best replacement site or sites and approach the property residents for permission to sample from their property. If permission is granted make a note on the sampling register so the coordinator can have the site address changed. If no permission is granted notify the coordinator so alternate arrangements can be made.
- 4.9. A site specific risk assessment is to be undertaken and the finding are to be entered on the “Water Testing Register” in the spaces provided:
- 4.9.1. Access: Survey the area to determine that it is safe to access the location (Yes/No). If the site is unsafe contact the coordinator and shift the site to the next adjacent property (with permission if available) for that day or have the site officially relocated. Note your action on the “Water Testing Register”.
- 4.9.2. Dog(s) or other animals on site: (Yes/No). If dog(s) or any animal are found on site and are determined to be a risk to the sampler the site is to be considered unsafe.

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Contact the coordinator and shift the site for that day or have the site officially relocated. Note your action on the “Water Testing Register”.

4.9.3. If there are trees, plants, bushes, or other flammable items located near the tap, contact the coordinator and shift the site for that day or have the site officially relocated. Note your action on the “Water Testing Register”.

4.10. Insure that no hose is attached to the tap and open the tap to a fully open position allowing the water to run for approximately 1 minute and then close the tap.

4.11. Put on your safety goggles.

4.12. Ensuring the LPG Torch is pointing away from your face and body as well as anything that could be set alight and ignite the LPG Torch.

4.13. Apply the flame to the external threads and the inside of the tap for 5-10 seconds and then turn off the LPG torch.

4.14. Reopen the tap to a fully open position and allow the water to run for approximately 1-2 minutes depending upon the taps flow rate, during which time douse the LPG torches nozzle under the water to prevent the possibility of a burn injury.

4.15. Reduce the water flow so that when the sample is taken no water will overflow the sample container, possibly spilling the preservative or contaminating the sample.

4.16. Microbiological sampling: (Scheduled weekly sampling)

4.16.1. Fill a sterile 250ml Microbiological Water Sample jar containing thiosulphate within 5mm of the rim taking care not to overfill or overflow and replace the lid, ensuring that the lid is not cross threaded and sealed properly.

Note: The sample may become contaminated if the jar is not sealed properly as well as the loss of the sample itself. If the amount of sample is inadequate for the tests required that site will have to be re-sampled.

4.16.2. Field test the “Free” Chlorine level using a Chlorine meter per its operation manual. If the residual level is $\geq 1.74\text{mg/L}$ ring the coordinator to advise dialysis units in the area of and excessive result.

4.16.3. Field test the pH level using a pH meter per its operation manual.

4.16.4. Field test the Turbidity level using a turbidity meter per its operation manual.

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- 4.16.5. Label the Microbiological Water Sample jar with the Site number, “Free” Chlorine level, pH level, Turbidity level, Temperature, Date and Time.
- 4.16.6. Record the “Free” Chlorine level, pH level, Turbidity level, Temperature, Date and Time in the “Water Testing Register” on the spaces provided for the site.
- 4.16.7. Store the sample in the transport container or Esky containing ice bricks.

4.17. Microbiological Resampling: (A repeat sample is required due to a reported failure of any given site)

- 4.17.1. Fill a sterile 250ml Microbiological Water Sample jar containing thiosulphate within 5mm of the rim taking care not to overfill or overflow and replace the lid, ensuring that the lid is not cross threaded and sealed properly.

Note: The sample may become contaminated if the jar is not sealed properly as well as the loss of the sample itself. If the amount of sample is inadequate for the tests required that site will have to be re-sampled.

- 4.17.2. Field test for “Free” and “Total” Chlorine level using a Chlorine meter per its operation manual. If the residual level is $\geq 1.74\text{mg/L}$ ring the coordinator to advise dialysis units in the area of and excessive result.
- 4.17.3. Field test the pH level using a pH meter per #sits operation manual.
- 4.17.4. Field test the Turbidity level using a turbidity meter per #sits operation manual.
- 4.17.5. Label the Microbiological Water Sample jar with the Site number, “Free” and “Total” Chlorine levels, pH level, Turbidity level, ~~Temperature~~, Temperature, Date and Time.
- 4.17.6. Record the “Free” and “Total” Chlorine levels, pH level, Turbidity level, Temperature, Date and Time in the “Water Testing Register” on the spaces provided for the site.
- 4.17.7. Fill a clean and previously unused 250ml jar not less than 5mm of the rim and replace the lid, ensuring that the lid is not cross threaded. Label the jar “pH and Turbidity” including the Date and Time.
- 4.17.8. Store the sample in the transport container or Esky containing ice bricks.

Note: Insure that the lid to the jar is sealed to prevent leakage. If the amount of

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sample is inadequate for the tests required that site will have to be re-sampled.

4.18. Chemical samples:

4.18.1. Fill a clean and unused 250ml and a 1 Liter jar not less than 5mm of the rim and replace the lids, ensuring that the lid are not cross threaded.

Note: Insure that the lid to the jar is sealed to prevent leakage. If the amount of sample is inadequate for the tests required that site will have to be resampled.

4.18.2. Record the Site number, “Free” Chlorine level, Date and Time onto the label of the Chemical Water Sample jar and the “Water Testing Register”.

4.19. Turn off the tap after the sample(s) have been taken and all chlorine testing has been completed.

4.20. Return the site to its original condition prior to leaving.

4.21. Ensure any door or gate used to gain access to the property has returned to the same position it was in upon your arrival.

PACKAGING WATER SAMPLES FOR SHIPMENT OR DELIVERY

4.22. NSW Forensic & Analytical Science Service (NSW FASS):

4.22.1. Insure that the appropriate barcode sticker is placed onto each bottle or jar.

4.22.2. Record Site Number, Date, Time, Free Cl₂ and Total Cl₂ (if applicable) onto each bottle or jar.

4.22.3. Fit as many bottles and/or jars as possible into an insulated shipping container or “Esky” in direct contact with a frozen sealed “Ice Brick” as well as to prevent excessive movement within the container.

Note: It is vital for microbiological samples to be transported cold to avoid (or reduce) the multiplication of microorganisms that might be in the sample in order to get a true result that reflects the concentration of microbes at the sampling site. For example if the sample contains one bacterium at the time of sample and it is transported over night without enough ice bricks, the lab result might be in excess of 20 bacteria.

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4.22.4. Place the lid onto the container and tape the lid to the container in such a manner as to effectively seal the seam between the lid and the container.

4.23. Place a "TNT" Domestic Consignment Note to the top of the container filled out as shown below:

DOMESTIC CONSIGNMENT NOTE

RECEIVERS COPY

ILL 482044 W/312
 LL 482044 W/312
 LL 482044 W/ Product No. 2853900 502
 C/C 395812 FN 2853900
 TNT Express - A division of TNT Australia Pty Limited ABN 41 000 495 269
 AT004089

AUSTRALIA WIDE PICK UPS
13 11 50
 or visit www.tnt.com.au
 Booking reference No

Con Note No **250751103**

Sender: **SHOALHAVEN CITY COUNCIL**
 Address: **BRIDGE STREET**
 Town/City: **NOWRA** State: **NSW** Postcode: **2541**

Receiver: **NSW Forensic & Analytical Science Service**
 Address: **JOSEPH STREET**
 Town/City: **LIDCOMBE** State: **NSW** Postcode: **2141**

Freight Charges to be paid by?
 By sending these goods you as the sender are accepting ultimate responsibility to pay the freight charges incurred.
 Sender Receiver Third Party

Account Number to be charged: **TNT 21116240**

Year Ref No	Description of Packaging (eg, box, pallet, satellite)	Nbr of Items	Declared Weight Kg	Declared Cube (cm) L x W x H	Qty
18740.25682	Water Testing Water Samples	1		X X X	
				X X	
				X X	

EXTENDED WARRANTY:
 Automatic Transit Warranty (ATW)
 Unless you have previously advised us not to have ATW with TNT, an ATW charge of \$10 is added to the freight charge, and we agree to deliver the goods purchased in direct transit to your destination (as per receipt). The maximum value for ATW is \$150K.
 TNT Extended Warranty (TEW)
 If you require TEW please tick the box required and the date in the space below (the date is optional). Request for TEW in excess of \$10000 requires prior written approval from TNT. The maximum value for which we will extend the warranty is \$40000. Call 13 11 50 for details.
 Class: Tick required

DANGEROUS GOODS:
 Refer to clause 5 overleaf. If applicable complete sender's declaration for Dangerous Goods which is available on request.
 Dangerous Goods enclosed Yes No

Agreement: We submit the goods described above for carriage and agree that the Standard Terms and Conditions of Contract overleaf and TNT's Rate Agreement (if applicable) apply to the carriage of these goods.

Sender's Signature: *[Signature]* Date: **9/9/06**

Run Number: **X** Number: **X**

Terms of Trade:
14 Days from Invoice Date

WE ARE NOT COMMON CARRIERS. The Standard Terms and Conditions of Contract on the back govern this Contract. TNT Express, a division of TNT Australia Pty Limited ABN 41 000 495 269

2507511

4.23.1. Arrange for a pick-up by TNT Express delivery service by calling 131150 or drop the package(s) at the TNT Express depot located at 9 Investigator St in South Nowra (Flinders Estates).

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SOP015
Site Specific Risk
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Site Specific Risk assessment / Induction Risk Assessment and Traffic Control Risk assessment SOP

1. PURPOSE

- 1.1. To outline the process for the Completion of a Site Specific Risk Assessment / Induction Risk Assessment and Traffic Control Risk Assessment (hereon referred to as Site Specific Risk Assessment or SOP015) and to identify when a new risk assessment must be completed.

2. RELATED DOCUMENTS

- 2.1. Form 380 Specific Risk Assessment / Induction Risk Assessment and Traffic Control Risk Assessment

3. RESOURCES REQUIRED

- 3.1. SOP015 Site Specific Risk Assessment / Induction Risk Assessment and Traffic Control Risk Assessment and Form 380 Specific Risk Assessment / Induction Risk Assessment and Traffic Control Risk Assessment

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4. DESCRIPTION

4.1. Table A below lists the Site Specific Risk Assessment requirements, including frequency, for known sites and activities.

Water and Wastewater Treatment Plants	<ul style="list-style-type: none"> Once per day except if there is a change in circumstances, e.g. failure of a pump/pipe or change in weather conditions, then a new SSRA will be completed. Daily weather conditions to be noted and visitors to site be given site induction
SPS – Top Hosing	<ul style="list-style-type: none"> Once per day, with all sites listed on SOP015, except if there is a change in weather conditions, then a new SSRA will be completed. Daily weather conditions to be noted and visitors to site be given site induction
SPS – Choke Removal	<ul style="list-style-type: none"> One per site, except if there is a change in weather conditions, then a new SSRA will be completed. Daily weather conditions to be noted and visitors to site be given site induction
Hydrant and Stop Valve Maintenance	<ul style="list-style-type: none"> One a day or every change of location (Location can be a street or a group of streets within an area). Note: different locations must have a new SSRA completed
General Maintenance (includes lawn mowing at Reservoirs or Pumping Stations)	<ul style="list-style-type: none"> One per day, with all sites listed on Form 380.
Construction work site	<ul style="list-style-type: none"> One per site
Camera and Jet Washing	<ul style="list-style-type: none"> One per site

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Maintenance and repairs to water or sewer mains	<ul style="list-style-type: none"> One per site
Choke repairs	<ul style="list-style-type: none"> One a day or every change of location (Location can be a street or a group of streets within an area). Note: different locations must have a new SSRA completed.

- 4.2. Daily:
All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken, with subsequent risk assessments completed if the work activity and/or the method use, conditions or staff change. If a TCP is required, both standard and modified TCPs used must be documented per SOP012.
- 4.3. One per site:
The Site Specific Risk Assessment is to be completed once for a given site with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change. The completed Site Specific Risk Assessment is to be retained on site by the site supervisor.
- 4.4. One per day, with all sites listed on Form 380:
The Site Specific Risk Assessment is to be completed at the beginning of the day. At each new site the Site Specific Risk Assessment is to be reviewed, with each site attended recorded on the form.
- 4.5. Work activity:
If the Site Specific Risk Assessment was completed for a particular task, and that task changes or additional tasks are identified, new hazards may be introduced and a new Site Specific Risk Assessment must be completed.
- 4.6. Conditions change:
'Conditions change' could refer, for example, to a change in the amount of traffic in the area, an equipment failure, a group of school children walking past the site or, most commonly, to changes in the weather.
- 4.7. Staff change:
All staff on site must be inducted onto the site through a Site Specific Risk Assessment. If the work crew changes, or additional people are brought in to assist, a new Site Specific Risk Assessment must be completed.

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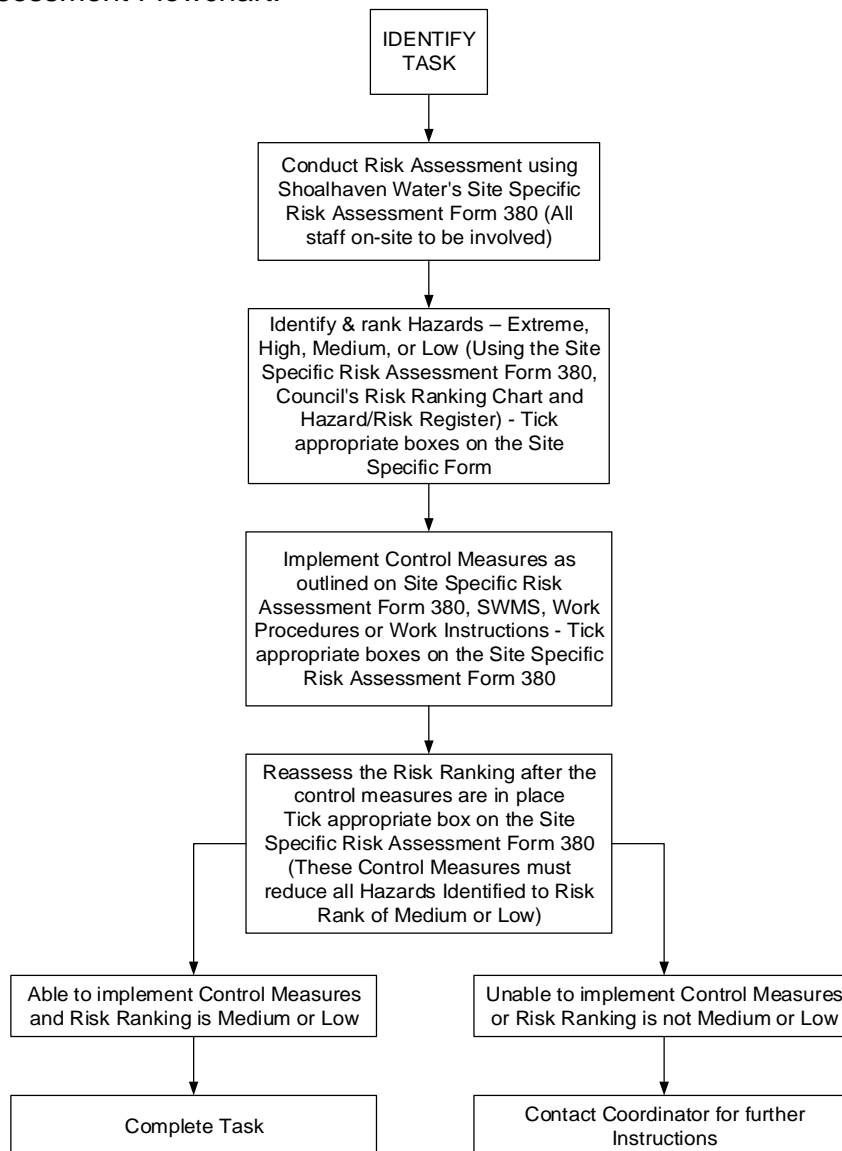
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4.8. Site Induction:
If there is a visitor to the site, the visitor must be inducted onto the site using a Site Specific Risk Assessment.

4.9. Risk Assessment Flowchart:



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5. **Form 380** (Available from the print room in bound sets)

PRE-EXCAVATION CHECKLIST			
UNDERGROUND SERVICE AUTHORITY	LOCATION REQUIRED?	NAME OF AUTHORITY REPRESENTATIVE/ SHOALHAVEN WATER EMPLOYEE LOCATING SERVICE	PRESENT DURING EXCAVATION?
Telstra/Optus	Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>
Gas	Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>
Water	Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>
Sewer	Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>
Electricity	Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>
Other	Y <input type="checkbox"/> N <input type="checkbox"/>		Y <input type="checkbox"/> N <input type="checkbox"/>

Machine Operator (Name)..... Employee Contractor
 Insurances OK? Y N All On-Site personnel briefed? Y N
 Checked by:..... Pay No.:
 Day:..... Date:..... Time:.....

TRAFFIC CONTROL PLAN	
Mobile Traffic Lights Used: Y <input type="checkbox"/> N <input type="checkbox"/>	Traffic Control Plan No.:..... File No.:.....
Variations to the Traffic Control Diagram:	
.....	
Last Sign Erected at:..... am/pm First Sign Removed at:..... am/pm Time of Inspection Drive:..... am/pm	
..... am/pm am/pm	
Signs Covered/Removed Temporarily between	
..... am/pm am/pm	
..... am/pm am/pm	
Notes:.....	
.....	
.....	

T1-16

T1-1 W3-3

T1-18 R6-6

T1-5 T2-16

T3-14 T2-4

T11-3-2 T1-6

T3-9 T5-1(R)

T3-12 T5-1(L)

T3-3 T2-23

On completion, the original of this record should be forwarded to the Supervisor (keep all pages attached)

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Day: Date: Time:

Person in Charge: Co-ordinator:

Location of Work Site: Description of Work:

Morning Weather Conditions: Sunny Partly Cloudy Overcast Showers/Rain Windy
Afternoon Weather Conditions: Sunny Partly Cloudy Overcast Showers/Rain Windy
Nighttime Weather Conditions: Clear Partly Cloudy Overcast Showers/Rain Windy

SITE SPECIFIC CHECKLIST: To be completed for any new site or if conditions change at an existing site

Tick when discussed: Safety Procedures Safe Access/Escapes Communications
 PPE Required First Aid Available Emergency Procedures

All staff have relevant training Y N (If no, consult Coordinator) SWMS Required:

CONTROL HEIRARCHY WHEN NEW HAZARD IS IDENTIFIED – Elimination, Substitution, Isolation, Engineering, Administration, PPE

HAZARD IDENTIFICATION AND RISK CONTROL

Hazard Identified	1. TRAFFIC HAZARD	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
--------------------------	-------------------	---	------------------------------------	--

Control Measures Implemented

- | | |
|--|---|
| <ul style="list-style-type: none"> • Use traffic cones (witches hats) or barriers to concord off section of road..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Use traffic signalman..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Pedestrian access required..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Speed restriction signs displayed..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Use hazard lights..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> | <ul style="list-style-type: none"> • Installation of temporary traffic signals..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Use safety signs..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Close road..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Complete Traffic Control Plan..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Use flashing lights..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> |
|--|---|

Hazard Identified	2. MANUAL HANDLING	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
--------------------------	--------------------	---	------------------------------------	--

Control Measures Implemented

- | | |
|--|---|
| <ul style="list-style-type: none"> • Use lifting aids..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Restrict duration of lifting..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Re-design task..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Beware wet grass/surfaces..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> | <ul style="list-style-type: none"> • Consider whether two man lift..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Use support harness..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Provide mechanical aids..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Beware sloping ground..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> |
|--|---|

Hazard Identified	3. HEAT (hot materials, fire, exposure to sun)	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
--------------------------	--	---	------------------------------------	--

Control Measures Implemented

- | | |
|--|--|
| <ul style="list-style-type: none"> • Provide appropriate PPE..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Reduce, where possible, exposure time to sun..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Keep workplace clear of waste materials..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> | <ul style="list-style-type: none"> • Use sunscreen and wear hat..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Remove flammable materials..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Eliminate ignition sources from flammable atmosphere..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> |
|--|--|

OFFICE USE ONLY

Form Number: 380	Issue Date: 09/2013	Trim Reference: PRD13/207	Adopted: 14/06/2006
Version Number 6	Next Review date: 09/2016	Document Number: SOP015	Responsible Section: Shoalhaven Water

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Hazard Identified 4. EXPOSURE TO NOISE Y N Extreme High Medium Low Alter Control Measures Implemented Medium Low

Control Measures Implemented

- All personnel to wear appropriate PPE (hearing protectors)..... Y N/a
- Regulate employee exposure to noise..... Y N/a
- Appropriate noise suppression equipment fitted to machinery..... Y N/a
- Y N/a

Hazard Identified 5. CONTACT WITH ELECTRICITY Y N Extreme High Medium Low Alter Control Measures Implemented Medium Low

Control Measures Implemented

- Power supply outlets protected by earth leakage devices..... Y N/a
- Plugs not in wet areas..... Y N/a
- Services isolated when working in close proximity..... Y N/a
- Extension lead not more than 30 metres in length..... Y N/a
- Machine/tools on site have guards fitted..... Y N/a
- Leads and plugs in good condition..... Y N/a
- Wear hearing and eye protection..... Y N/a
- Y N/a
- Electrical leads kept elevated and clear of work area..... Y N/a
- All electrical leads kept dry..... Y N/a
- Lockout and equipment tag procedure..... Y N/a
- Location of services to be established..... Y N/a
- Overhead cable to be protected..... Y N/a
- Establish safe clearance distances..... Y N/a
- Tools and leads inspected and tagged..... Y N/a
- Y N/a

Hazard Identified 6. SITE AREA/EXCAVATION Y N Extreme High Medium Low Alter Control Measures Implemented Medium Low

Control Measures Implemented

- Existing services identified before excavation..... Y N/a
- Materials placed or stacked more than 1 metre from edge of excavation..... Y N/a
- Barricades/fences around trenches and open excavations..... Y N/a
- Amenities available..... Y N/a
- Provide safe access by properly affixed ladders..... Y N/a
- Excavations properly shored, benched and battered in accordance with Council's Procedure "Excavation Work Guidelines"..... Y N/a
- Site security fence..... Y N/a
- Shoring and ground conditions to be inspected regularly..... Y N/a
- Y N/a

Hazard Identified 7. CHEMICALS Y N Extreme High Medium Low Alter Control Measures Implemented Medium Low

Control Measures Implemented

- Provide mechanical ventilation..... Y N/a
- Review material safety data sheets and assess risks..... Y N/a
- Provide adequate ventilation when in use (as per MSDS sheets)..... Y N/a
- Y N/a
- Appropriate PPE provided..... Y N/a
- Hazardous substance register on site..... Y N/a
- Chemicals/hazardous substances stored and labelled correctly..... Y N/a
- Y N/a

Hazard Identified 8. CONFINED SPACE Y N Extreme High Medium Low Alter Control Measures Implemented Medium Low

Control Measures Implemented

- Use gas testing equipment..... Y N/a
- Barricade around manholes..... Y N/a
- No equipment capable of generating noxious gas in the work area..... Y N/a
- Y N/a
- Ventilate confined space..... Y N/a
- Wear safety harness and fall arrester..... Y N/a
- Complete Confined Spaces Permit to Enter..... Y N/a
- Y N/a

Hazard Identified 9. PROTRUDING OBJECTS Y N Extreme High Medium Low Alter Control Measures Implemented Medium Low

Control Measures Implemented

- Exercise particular care on worksite (no running on worksite)..... Y N/a
- Protruding object removed or marked..... Y N/a
- Provide appropriate PPE (hardhat, safety boots)..... Y N/a
- Y N/a

Hazard Identified 10. WORKING AT HEIGHT Y N Extreme High Medium Low Alter Control Measures Implemented Medium Low

Control Measures Implemented

- Person wear full fall arrester type harness..... Y N/a
- Ladders to be at least 4.6 metres from live conductors..... Y N/a
- Ensure ladders in good condition (no damaged stiles, rungs, rubber buffers on feet)..... Y N/a
- Safety grates installed and in place..... Y N/a
- All ladders secured to prevent movement..... Y N/a
- Ladders to extend at least 1 metre above landing..... Y N/a
- All tools secured by lanyard..... Y N/a
- Y N/a

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Hazard Identified	11. MACHINE OPERATION	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
Control Measures Implemented				
<ul style="list-style-type: none"> • All safety guards in place on equipment Y <input type="checkbox"/> N/a <input type="checkbox"/> • Personnel to keep clear of operating plant..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Plant in good order (pre operation check) [no oil leaks, hydraulic hoses OK, etc.] Y <input type="checkbox"/> N/a <input type="checkbox"/> • Backhoes/excavators have "Beware of Electrical Hazards" signs affixed..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • High pressure water jetting machines operated as per SWMS..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Load slings properly secured Y <input type="checkbox"/> N/a <input type="checkbox"/> • All personnel to keep clear during crane operation Y <input type="checkbox"/> N/a <input type="checkbox"/> • Truck mounted cranes operate as per SWMS..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Rodding machine and hard/flexible rods operated as per current work procedure Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Hazard Identified	12. ASBESTOS	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
Control Measures Implemented				
<ul style="list-style-type: none"> • Asbestos material identified and labelled..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Asbestos material removed from workplace Y <input type="checkbox"/> N/a <input type="checkbox"/> • Follow safe work procedure Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Hazard Identified	13. BIOLOGICAL HAZARDS	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
Control Measures Implemented				
<ul style="list-style-type: none"> • Follow safe work procedure Y <input type="checkbox"/> N/a <input type="checkbox"/> • Maintain personal hygiene Y <input type="checkbox"/> N/a <input type="checkbox"/> • Provide personnel with appropriate PPE ... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Provide Sharps Kits..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Hazard Identified	14. DUST	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
Control Measures Implemented				
<ul style="list-style-type: none"> • Personnel to wear appropriate PPE and face masks.. Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> • Water down site if appropriate..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Hazard Identified	15. WORKING OVER WATER	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
Control Measures Implemented				
<ul style="list-style-type: none"> • Wear safety harness Y <input type="checkbox"/> N/a <input type="checkbox"/> • If appropriate, wear buoyancy vest..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Beware of wet surfaces Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Hazard Identified	16. GENERAL ISSUES	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
Control Measures Implemented				
<ul style="list-style-type: none"> • Safety helmets being worn Y <input type="checkbox"/> N/a <input type="checkbox"/> • Is there a qualified first aid person on site..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Are mechanical devices available to minimise risk of back injury Y <input type="checkbox"/> N/a <input type="checkbox"/> • Are records being kept of site inductions on site..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • All personnel on site wearing hi-vis vests Y <input type="checkbox"/> N/a <input type="checkbox"/> • Safety boots being worn..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Is a fully stocked first aid kit on site Y <input type="checkbox"/> N/a <input type="checkbox"/> • Work organised so that people do not have to work in awkward or strained positions where possible Y <input type="checkbox"/> N/a <input type="checkbox"/> • Earth leakage device being used across water meter..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Hazard Identified	17. WORKING AT NIGHT	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
Control Measures Implemented				
<ul style="list-style-type: none"> • All personnel to wear high visibility retroreflective clothing for night work Y <input type="checkbox"/> N/a <input type="checkbox"/> • Use appropriate night signs only..... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> • All vehicles involved with night work to be fitted with rotating flashing yellow lights Y <input type="checkbox"/> N/a <input type="checkbox"/> • Use floodlighting to illuminate work area.... Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Hazard Identified	18. OTHER	Y <input type="checkbox"/> N <input type="checkbox"/> Extreme <input type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/>	After Control Measures Implemented	Medium <input type="checkbox"/> Low <input type="checkbox"/>
<ul style="list-style-type: none"> • Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> • Y <input type="checkbox"/> N/a <input type="checkbox"/> 				
Work Team Members/Visitors (person completing checklist is 1st name listed)				
1.				
2. 3. 4.				
5. 6. 7.				

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Developing a SWMS or SOP from a Risk Assessment

1. PURPOSE

- 1.1. To document the process of developing a Safe Work Method Statement or Standard Operating Procedure where identified as necessary.
- 1.2. The attached flow chart is under review by the WHS Unit for future inclusion in the Corporate OHS Manual. This document represents the manner in which Shoalhaven Water implements the process described by the flow chart.

2. RELATED DOCUMENTS

- 2.1. WHS System – Corporate: Safe Work Method Statements Procedure
- 2.2. Risk Activity Register
- 2.3. W Manual History
- 2.4. SOP018 Document Control and Release

3. RESOURCES REQUIRED

- 3.1. SOP002 Request for Change or New Process
- 3.2. Risk Assessment Form

4. DESCRIPTION

- 4.1. Identify need for a risk assessment: The need for a risk assessment may be identified in a number of ways. For example:
 - 4.1.1. Near miss, accident or injury
 - 4.1.2. New equipment
 - 4.1.3. New hazard identified during a Site Specific Risk Assessment or Site Induction
 - 4.1.4. Issue raised at a safety meeting, team brief or other meeting within the group
 - 4.1.5. Continuous improvement activities – through which areas identified as not covered by the existing system of Safe Work Method Statements and Standard Operating Procedures are identified

Note: Any employee may identify the need for a risk assessment.

- 4.2. Group Safety Meeting will assign responsibility to an employee who will be responsible for tracking and coordinating actions and preparing the risk assessment documentation.

Note: If immediate action is required, that is before the next scheduled safety meeting, a management representative will be responsible for these actions.

- 4.3. Complete risk assessment: The risk assessment is to be completed by the assigned employee and other employees who perform the task.

Note: The risk assessment is to be documented using the authorised documentation. (See 3.2).

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4.4. SWMS, SWP or SOP?

4.4.1. All activities that meet the guidelines established by WorkCover must have a Safe Work Method Statement. Others may require a SWMS depending on the level of risk or the specific activity. Refer to the Risk Activity Register (In Container 34169) and the Corporate SWMS Procedure for guidelines. Activities that do not involve risk, or have very low levels of risk, may be covered by a Standard Operating Procedure.

4.5. Group or Corporate?

4.5.1. Activities that are carried out by more than one Group may best be addressed through a Corporate SWMS. Activities that are specific to a group, or that have significant elements specific to a Group, will require group level SWMS.

Note: If a Corporate SWMS, SWP or SOP is required, the OHS Unit will develop the SWMS in consultation with affected employees.

4.6. New or changes to an existing?

4.6.1. Prior to developing a new SWMS, SWP or SOP, the existence of a document which may already address all or part of the activity must be investigated. Multiple documents addressing the same or similar activity can be confusing and actually introduce risk.

4.6.2. Changes to an existing SWMS, SWP or SOP follow the same process as for new documents unless the changes are minor, such as correcting a reference. For minor changes the adoption process is less stringent – refer to the WHS Corporate SWMS procedure for guidelines.

Note: Any changes to the steps taken to complete an activity, or the associated hazards or control measures, can never be considered a minor change.

4.7. A Request for Change or new SWMS form will be completed at this stage specifying what the document will cover and why it is being created. This form is sent to the SWMS document administrator (Don Burk at the time this SOP was developed).

4.8. Safety Committee to assign responsibility to an employee and team

4.8.1. A single employee will be responsible for coordinating the process of developing the document and its documentation.

4.8.2. A group of employees who carry out the activity must be involved in either the development of the SMWS or consulted at a review stage.

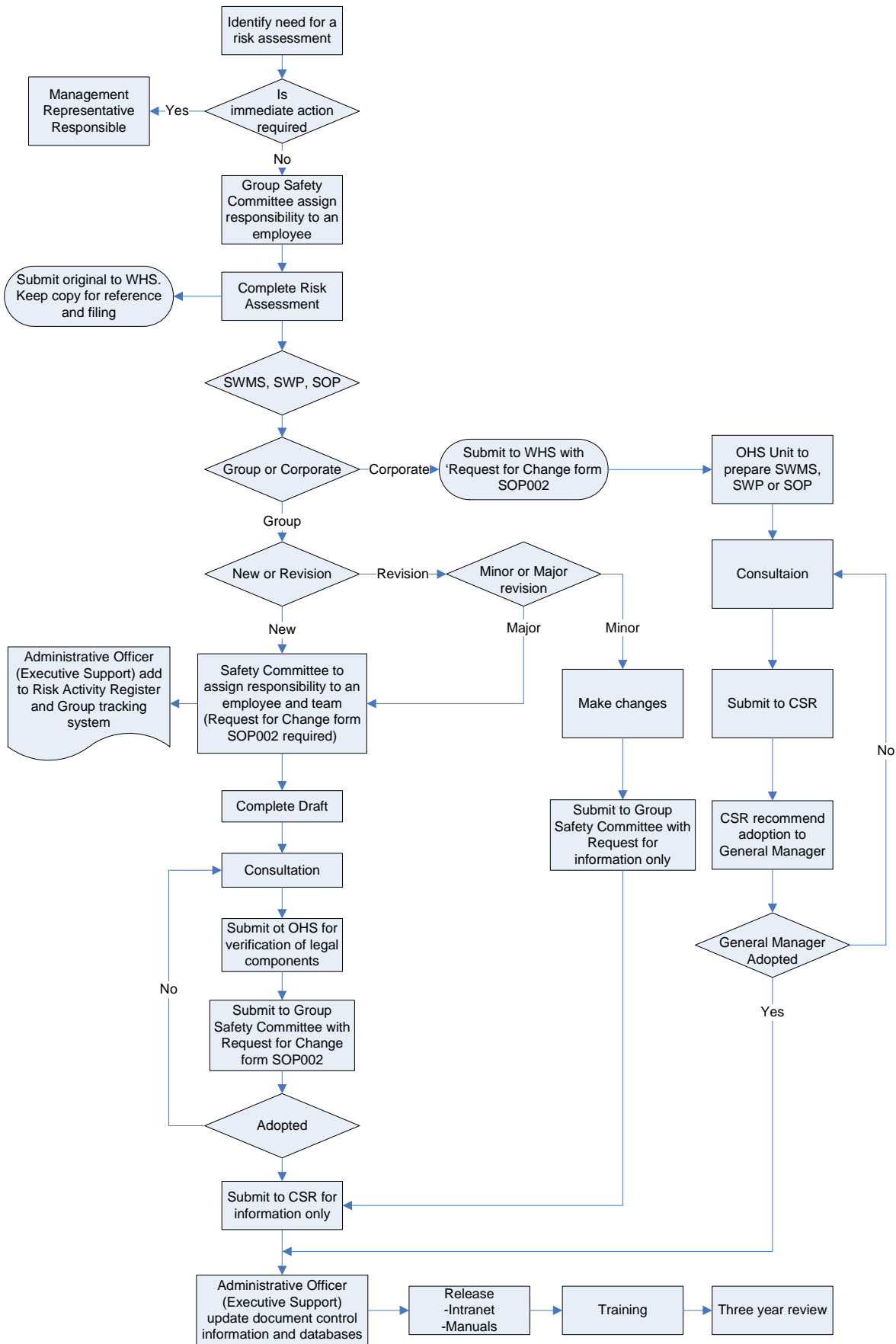
4.9. Complete draft: A draft document is to be developed by the team of employees assigned by the safety committee. The draft will include considerations of hazards and control measures along with the steps involved in the activity as per the Corporate SWMS Procedure.

4.9.1. Document Assembly must be used for publishing and the document must be stored in the appropriate TRIM container. See SOP018 Document Control and Release.

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- 4.10. Consultation
 - 4.10.1. Additional personnel who complete the activity, personnel who may be impacted by the implementation of the SWMS, SWP or SOP, and a Coordinator or Engineer as appropriate will review the SWMS, SWP or SOP for accuracy and completeness.
 - 4.10.2. The SWMS document administrator will review the completed draft for format and document control features. See SOP018 Document Control and Release.
- 4.11. Submit to WHS for verification of legal components.
 - 4.11.1. This includes checking that all appropriate standards, policies and procedures are referenced.
 - 4.11.2. A copy of the Request for Change or New SWMS form must be attached.
- 4.12. Submit to Shoalhaven Water Safety Committee with Request for Change or New SWMS form.
 - 4.12.1. If any issues are raised during the meeting, these must be addressed prior to adoption of the document.
 - 4.12.2. Once the document is adopted, the committee chair will sign the Request for Change or New SWMS form indicating the documents approval.
- 4.13. Submit to CSR for information only.
 - 4.13.1. A copy of the signed Request for Change or New SWMS form must be attached.
- 4.14. SWMS document administrator update document control information and databases.
 - 4.14.1. Risk Activity Register
 - 4.14.2. SW WHS Register
 - 4.14.3. SWMS, SWP, SOP and WHS Manual History tracking document
- 4.15. Release – Intranet, Manuals
 - 4.15.1. The release process is documented in SOP018 Document Control and Release
- 4.16. Training
 - 4.16.1. Personnel required to implement the document must be trained in its contents and this training must be documented. In most cases this training will be completed through team briefs and the training documented on the Yearly Capability Checklist or in TRAAD through the use of attendance forms completed during training. WHS documents reviewed during Team Briefs are documented in the minutes.
 - 4.16.2. Additionally any employee who will be required to complete a task will have been involved in the development of the SWMS, SWP or SOP and will be familiar with its contents.
- 4.17. Three Year Review
 - 4.17.1. All WHS documents must be reviewed at a minimum every three years.

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OH&S Document Control and Release for Shoalhaven Water

1. PURPOSE

- 1.1. To describe the SW WHS document administrators responsibilities as they relate to SWMS, SWP and SOPs for Shoalhaven Water.

2. RELATED DOCUMENTS

- 2.1. WH&S System – Corporate: Safe Work Method Statements Procedure
- 2.2. Shoalhaven Water WHS Manual
- 2.3. Risk Activity Register
- 2.4. SWMS Register
- 2.5. SW WHS Manual History
- 2.6. SOP017 Developing a SWMS, SWP or SOP from a Risk Assessment
- 2.7. Request for Change or New SWMS

3. RESOURCES REQUIRED

- 3.1. TRIM
- 3.2. Document Assembly
- 3.3. Request for Change or New Process
- 3.4. Risk Activity Register
- 3.5. SW WHS Register
- 3.6. Risk Assessment Form

4. DESCRIPTION

- 4.1. Overview: The SW WHS document administrator is notified that a new document is being created. A working document is generated for the employee creating the SWMS, SWP OR SOP and requested supporting information supplied. This is entered into a tracking document which is taken to safety meetings and updated as information becomes available. When the draft document is received the information is entered into the TRIM version of the document and is checked for the presence of absence of required information i.e. the nine sections and the site specific risk assessment. This version is sent to WH&S for verification of legal components, then to the safety meeting for adoption.
- 4.2. The SW WHS document administrator does NOT:
 - 4.2.1. Update the Request for Change form. This is the responsibility of the employee creating the document. Incomplete Request for Change forms will be returned to the originating employee for completion.
 - 4.2.2. Check the accuracy of the content of the document. This is the responsibility of the creator and others carrying out the activity, the safety committee and the WH&S Unit.

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4.3. See the attached flow chart for detail of process.

INTRANET RELEASE

4.4. New versions of existing documents are automatically updated to the intranet overnight.

Note: If the title of a document changes, special arrangements must be made with Records to ensure updates occur.

4.5. For new documents, Records must be notified.

4.6. Check after approximately 3 days that the most current version is available and follow up if necessary.

4.7. Email Shoalhaven Water WHS Manual holders and/or their supervisors that the most current version of the document is now available on the intranet.

4.8. Follow up with hard copy release for Shoalhaven Water SWMS Manuals.

HARD COPY RELEASE FOR SHOALHAVEN WATER WHS MANUALS

4.9. Hard copy release of Shoalhaven Water SWMS Manuals must occur within two weeks of Shoalhaven Water Safety Committee Meetings.

4.10. Assign next release number.

4.11. Check distribution list is up to date.

4.12. Define which documents need to be released and which employees need to have them.

4.12.1. Water Personnel receive documents with prefixes: WWW, WH, WD and SOP

4.12.2. Waste Water Personnel receive documents with prefixes: WWW, WWH, WWD and SOP.

4.12.3. All other Shoalhaven Water WHS Manual holders receive complete copies.

4.13. Update the index to reflect these changes. Note all Shoalhaven Water WHS Manuals receive a copy of the revised index.

4.14. Develop a transmittal letter for Shoalhaven Water SWMS Manual holders with instructions and information along with signature and return requirements.

4.15. Develop a transmittal letter for Coordinators who will be distributing the release to the personnel they supervise with the same information.

4.16. Print the relevant documents and revised Index and make the required number of copies.

4.17. Print the transmittal letters using the mail merge function.

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- 4.18. Package up the documents as appropriate for employees in Water or Waste Water. See 4.12.
- 4.19. Distribute hard copies to Shoalhaven Water WHS Manual holders and/or Coordinators with transmittal letters attached.
- 4.20. File signed transmittal letters as they are returned, checking against the distribution list for outstanding responses.



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Nowra Treatment Works Digester Operation

Created by: Stephen Glennan / Nowra Treatment Plant Personnel

1. PURPOSE

- 1.1. To describe the processes of drawoff and wasting supernatant, and the schedule for these activities.

2. RELATED DOCUMENTS

- 2.1. None

3. RESOURCES REQUIRED

- 3.1. pH tester

4. DESCRIPTION

DRAWOFF (NOWRA DIGESTERS)

- 4.1. Mixing well valve OPEN
- 4.2. Remove chute from mixing well channel. (Ensure all other chutes are in place).
- 4.3. Turn sludge withdrawal pumps from auto to ON (circular, rectangular and Imhoff from electrical cabinet).
- 4.4. Turn ON digester pump.
- 4.5. Add lime if required. (Check signage).
- 4.6. Turn OFF sludge withdrawal pumps when they start to run clear (from RED posts)
- 4.7. Leave for approximately five minutes then run pumps again to get all sludge out of tanks.
- 4.8. Turn OFF sludge withdrawal pumps when level in mixing well reaches pipe work.
- 4.9. Turn switches to AUTO in electrical cabinet. (Ensure switches are in forward position on RED posts).

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- 4.10. Dump contents of mixing well into digester No. 1.
- 4.11. Mix digester No. 1 for predetermined time. (Minimum 1 hour).

WASTING SUPERNATANT (NOWRA DIGESTERS)

- 4.12. Mixing well valve OPEN. (Digester valves 1,2,3 CLOSED)
- 4.13. Sludge to lagoons or beds valve OPEN.
- 4.14. Throttle control valve CLOSED.
- 4.15. Digester No. 2 valve (bottom level) located inside mixing well OPEN.
- 4.16. Digester No. 3 valve (bottom level) located inside pit next to digester No. 3 OPEN.
- 4.17. When mixing well fills up, turn ON digester pump. (Check sludge lagoon for flow).
- 4.18. Reverse steps when wasting of supernatant is completed.

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WEEKLY RUNNING OF NOWRA DIGESTERS

Monday	<ul style="list-style-type: none"> • Drawoff • Mix digester No. 1 after drawoff (1 hour) • Transfer sludge from digester No. 1 to No. 2 and No. 3
Tuesday	<ul style="list-style-type: none"> • Drawoff • Mix digester No. 1 after drawoff (1 hour) • Set up digester No. 1 for auto overnight mix (6 hours)
Wednesday	<ul style="list-style-type: none"> • Drawoff – mix Digester No. 1 after drawoff (1 hour)
Thursday	<ul style="list-style-type: none"> • Drawoff • Mix Digester No. 1 after drawoff (1 hour) • Set up digester No. 1 for auto overnight mix (6 hours)
Friday	<ul style="list-style-type: none"> • Drawoff • Mix Digester No. 1 after drawoff (1 hour) • Waste supernatant • Mix digester No. 3. • Set up digester No. 2 for auto overnight mix (6 hours)
Saturday	<ul style="list-style-type: none"> • Drawoff • Mix Digester No. 1 after drawoff (1 hour) • Set up digester No. 3 for auto overnight mix (6 hours)
Sunday	<ul style="list-style-type: none"> • Drawoff • Mix Digester No. 1 after drawoff (1 hour) • Set up digester No. 1 for auto overnight mix (6 hours)

ATTENTION

- 4.19. If pH in digester No. 1 is below 6.00 and lime does not bring it up, try back seeding from digester No. 3:
- 4.19.1. OPEN digester No. 3 valve, remove chute from digester No. 1 channel (transfer approximately half to one metre depth).
- 4.20. If digester 2 or 3 crust up, mix on Monday or Tuesday then let them settle for 48 hours before wasting super.

Cleaning Fluoride Solution Spillage at K-Valley WTP SOP

1. PURPOSE

- 1.1. To outline the procedure required to prevent uncontrolled release of fluoride solution to the lagoon system at Kangaroo Valley WTP in the event of spillage and/or leakage from the sodium fluoride dosing equipment.

2. RELATED DOCUMENTS

- 2.1. Shoalhaven Water Supply System – Emergency Response Plan

3. RESOURCES REQUIRED

- 3.1. Code of Practice for the fluoridation of public water supplies, NSW Department of Health, Oral Health Branch, August 2002.
- 3.2. Fluoridation of Public Water Supplies Act, NSW State Government, 1957.
- 3.3. Engineering and Administrative Recommendations for Water Fluoridation, US Center for Disease Control & Prevention (CDC), Morbidity and Mortality Weekly Report (MMWR), Sept 29 1995.

4. DESCRIPTION

- 4.1. Turn off the sodium fluoride dosing equipment.
- 4.2. Turn off the Water Treatment Plant at the main switch (As the fluoride room floor waste drain connects to the WTP common drainage line, backwash water etc from the normal treatment process would interfere with the following fluoride wasting procedure).
- 4.3. DO NOT return the WTP to service until confirmation that the fluoride system has been rectified or NSW Public Health Unit has been consulted (so that customers do not unknowingly receive treated water with different levels of fluoride). Note: Reservoir storage is normally adequate to allow 3 days supply of the Kangaroo Valley system.
- 4.4. Isolate the 'operating' lagoon from the WTP common drainage line and divert the drainage line to the 'chemical rinse waste' lagoon.
- 4.5. Unlock and open the 100mm knife gate valve on the fluoride room floor sump drain, which is located in a grated pit just outside.

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- 4.6. Drain the fluoride solution spillage/leakage into the 'chemical rinse waste' lagoon.
- 4.7. Hose clean the fluoride room floor and equipment.
- 4.8. Thoroughly flush clean all drainage lines of fluoride solution.
- 4.9. Close and replace lock on the 100mm knife gate valve on the fluoride room floor sump drain. (Note: the pit surface grating cannot be repositioned until the knife gate valve is in the closed position)
- 4.10. Isolate the 'chemical rinse waste' lagoon from the drainage line and restore the 'operating lagoon'.
- 4.11. Investigate and repair the fluoride equipment fault that caused the spillage and/or leakage.
- 4.12. Restart the WTP and sodium fluoride dosing equipment.
- 4.13. Debrief with Water Coordinator, Water Engineer to determine whether greater control measures need to be implemented to help prevent a further incident of spillage/leakage.

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CLEANING STP INLET WORKS CHANNELS SOP

Position: Wastewater Co-ordinators Created by: Steve Glennan

1. PURPOSE

- 1.1. To instruct in cleaning of STP Inlet Works Channels in a safe manner using either a pressure washer or channel brooms

2. RELATED DOCUMENTS

- 2.1. WHS Act 2011
- 2.2. WHS Regulation 2011
- 2.3. Shoalhaven City Council Policies and Procedures
- 2.4. Corporate WHS Policies and Procedures
- 2.5. Shoalhaven Water WHS Policies and Procedures
- 2.6. WorkCover regulations and codes

3. RESOURCES REQUIRED

- 3.1. Personal Protective Equipment
- 3.2. Hiab Crane (if appropriate)
- 3.3. Metal bucket with rope attached
- 3.4. Gas detector
- 3.5. High Pressure Sewer Clearing Machine

4. DESCRIPTION

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2. The Site Specific Risk Assessment is to be completed before starting the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.

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4.3. Inlet Works Channels

- 4.3.1. Always wear appropriate PPE, which shall include a selection from that which is listed but not be limited to: - wellington boots, waders, disposable coveralls, full face protective shield, goggles, protective mask, and rubber gloves.
- 4.3.2. Two people at a minimum must be involved in the full cleaning of the Inlet Works Channels.
- 4.3.3. A Calibrated & bump tested Gas detector must be hung in the Inlet Works Channel adjacent to the Operator at all times while he / she is in the channel.
- 4.3.4. The inlet works should be cleaned in the afternoon during the lowest flow period.
- 4.3.5. The main inlets works channel as far as practicable should have the flow diverted around it for the duration of the cleaning. If this is not possible then the flow to the inlet works should be stopped until the cleaning is completed, by isolating & tagging out all Pumping Stations that feed directly into the inlet works.
- 4.3.6. If during the cleaning the pumping stations that supply directly to the inlet works need to be emptied then the operator must leave the inlet works until the emptying has taken place & only return when it is safe to do so & only after the pumping stations have been isolated & tagged out & the gas detector readings are within the safe limits.
- 4.3.7. A full clean of the Inlet Works should be undertaken at least every four to six weeks.
- 4.3.8. The operator in the Inlet works channel must at all time wear a confined spaces harness with at least a lanyard attached & controlled by the standby person.
- 4.3.9. If the inlet works does not have an insitu ladder then an appropriate ladder must be used for entering & leaving the inlet works & it must be securely attached to the hand railing to prevent it from slipping.
- 4.3.10. Cleaning should start at the point where the operator enters the Channel & then scrubbed / cleaned away from the operator to prevent slipping.
- 4.3.11. At the completion of cleaning the inlet works should be returned to normal operation, ensuring that all pumping station that were isolated & tagged out are

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returned to normal operation & seen to be running normally.

4.4. **Removal of pockets of grit / sand etc from the inlet works**

- 4.4.1. This Standard Operating Procedure can also be used for the removal of small quantities of grit / sand etc from the inlet works.
- 4.4.2. The grit / sand is to be shoveled into a small bucket with a rope attached & lifted out by the stand by operator & disposed of in the grit screenings trench in the appropriate manner.
- 4.4.3. If there are large deposits of grit / sand in the inlet works channel then the coordinator should be contacted to have it removed by a vacuum truck.

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Wastewater Reticulation System Colours and Markings SOP

Position: Technical Officer - Engineering; Created by: Don Burk

1. PURPOSE

2. To clearly signpost, by Marker Plate and/or Marker Post, Shoalhaven Water's Wastewater reticulation system infrastructure (REMS pipelines, Rising Mains, manholes, scour valves, stop valves, air valves, patch lined and fully re-lined sewers etc) for easier identification in the field.

2.1.

3. RELATED DOCUMENTS

- 3.1. SWMS relevant to maintenance task.

4. DESCRIPTION

4.1. MARKERS

4.1.1. Size

- (a) Valve Pits and Manholes - To be made of 1.5mm thick Aluminium plate 275mm x 75mm, to be fixed to Marker Post or any close permanent structure (fence, building etc)
- (b) Manhole Lids (Heavy Duty) – 1.5mm thick Aluminium plate with the dimensions; 100mm x 100mm to be fixed on manhole lid with construction adhesive
- (c) Pipelines (Rising Mains, Transfer mains, REMS etc) - 1.5mm thick Aluminium plate 275mm x 75mm, to be fixed to Marker Post or any close permanent structure (fence, building etc)
- (d) Pipeline Bends (Rising Mains, Transfer mains, REMS etc) – 1.5mm thick Aluminium plate 275mm x 75mm (see Diagram 1) to be fixed to Marker Post or any close permanent structure (fence, building etc) as well as a precast concrete Besa-block located directly above the bend with the direction of the main etched into it.

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- (e) Relined Sewers - Relined sewers to be marked using 5mm Fluted Polyethylene Sign (see diagram 6) placed under the manhole lid. Sign is 660mm in diameter with a 300mm hole in the centre.

4.1.2. Colour

- (a) Valve Pits and Manholes – White background with Olive Green (G25 to AS 2700) lettering to indicate a manhole (MH) or the type of valve eg. Scour Valve (SCV) or Stop Valve (SV) or Air Valve (AV) – see diagram 1
- (b) Manhole Lids (Heavy Duty) - Orange (X 15 to AS 2700) with Olive Green (G25 to AS 2700) lettering indicating Heavy Duty - HD – see Diagram 7
- (c) Pipelines (except REMS) – White background with Olive Green (G25 to AS 2700) lettering - see Diagram 2
- (d) Pipeline Bends (except REMS) – White background with Olive Green (G25 to AS 2700) lettering to indicate type of main eg. Sewer Rising Main (SRM - see Diagram 3)
- (e) REMS Pipelines – Cyclamen (P 22 to AS 2700) background with black lettering (RWM – see diagram 4)
- (f) REMS Bends - Cyclamen (P 22 to AS 2700) background with black lettering (RWM - see diagram 5)
- (g) Relined Sewers – Fluted sign to be Yellow with Red writing (see diagram 6)

4.1.3. Additional Information

- (a) Stamp additional information as required (off set, depth and angle of bend) on the marker plate using a set of metal punches

4.1.4. Alignment

- (a) Where possible markers should be positioned so as to indicate the true alignment of the main. If this is not possible the marker should be clearly stamped with an accurate offset distance.

4.1.5. Fixing

- (a) To be screwed to posts using 4 x 8g non corrosive screws (or blind rivets) positioned towards the top of the post
- (b) Non corrosive screws or rivets to be used to affix to fences or structures at a minimum height of 1 metre

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4.2. MARKER POSTS

4.2.1. Size/Type

- (a) Posts to be Galvanised RHS Tube 75mm x 75mm
- (b) 1.5 metres in length
- (c) Capped on top

4.2.2. Colour

- (a) Posts (Except Rems) to be painted Olive Green (G25 to AS 2700)
- (b) Rems to be painted Cyclamen (P22 to AS 2700)

4.2.3. Installation

- (a) Posts are to be concreted in place in a hole 150mm in diameter (min) and 600mm in depth
- (b) Posts to have a 100mm layer of concrete underneath them
- (c) Posts should stand 1m above existing surface level (known final RL)

4.2.4. Spacing

- (a) Spacing of marker Posts should be determined by line of sight (meaning that every marker Post should be able to be seen from the one before and also the one after it, especially in the case of Rising Mains)

4.3. NOTES

- 4.3.1. Owners are to be notified before any work is undertaken on private property and all services to be identified before any excavation work takes place.
- 4.3.2. All Manholes, Pipelines, Pits and Rising Main bends to be identified using the GPS system.
- 4.3.3. Any proposed changes to the above will have to be approved by Shoalhaven Water

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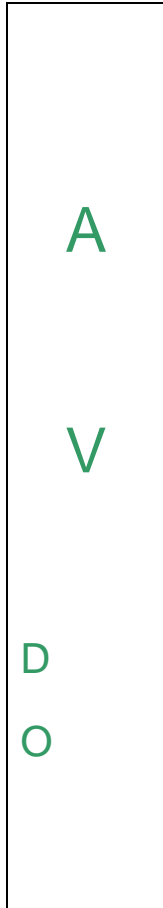


Diagram 1

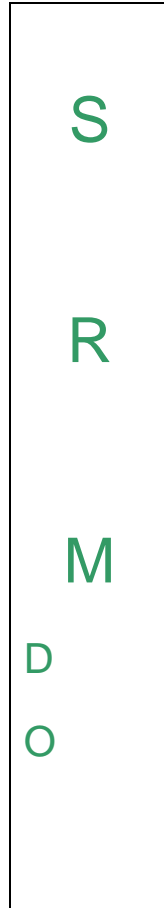


Diagram 2



Diagram 3

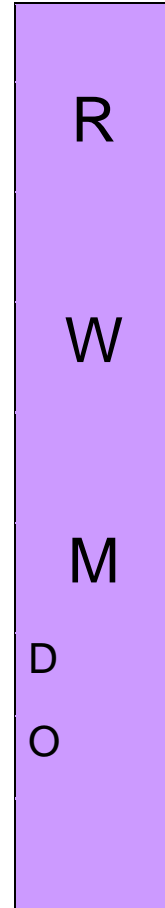


Diagram 4

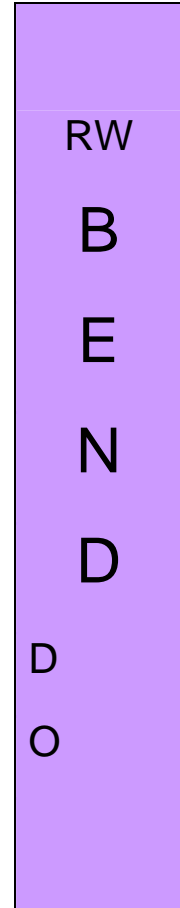


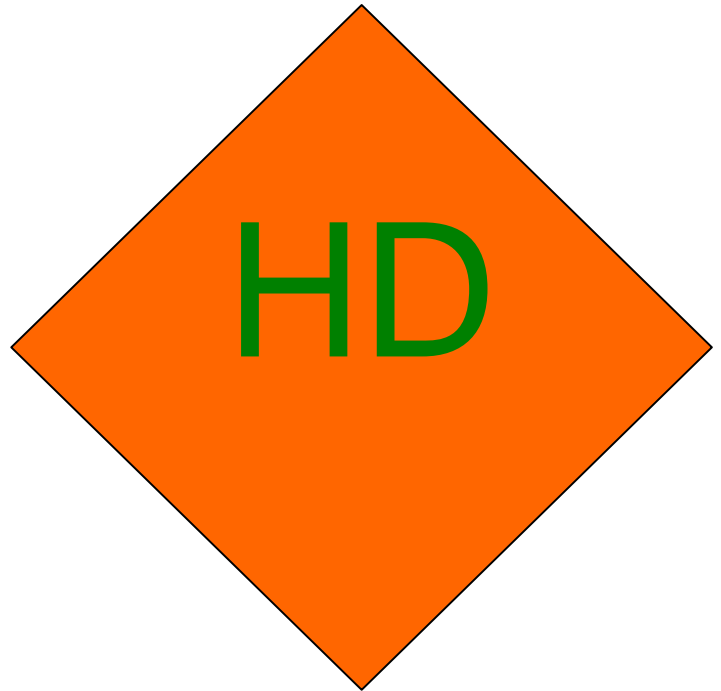
Diagram 5

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Diagram 6



Diagram 7



4.4.

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PREVENT LOSS OF MIXED LIQUOR SUSPENDED SOLIDS (MLSS) FROM EAT'S AT STP'S SOP

Position: Wastewater Co-ordinator's Created by: Steve Glennan

1. PURPOSE

- 1.1. To prevent the loss of Mixed Liquor Suspended Solids (MLSS) from EAT' at Central STP's

2. RELATED DOCUMENTS

- 2.1. WHS Act 2011
- 2.2. WHS Regulation 2011
- 2.3. Shoalhaven City Council Policies and Procedures
- 2.4. Corporate WHS Policies and Procedures
- 2.5. Shoalhaven Water WHS Policies and Procedures
- 2.6. WorkCover regulations and codes

3. RESOURCES REQUIRED

- 3.1. Personal Protective Equipment
- 3.2. Hiab Crane (if appropriate)
- 3.3. Metal bucket with rope attached
- 3.4. Gas detector
- 3.5. High Pressure Sewer Clearing Machine

4. DESCRIPTION

- 4.1. All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.

Unique Document Number: SOP025	Document Name: PREVENT LOSS OF MIXED LIQUOR SUSPENDED SOLIDS (MLSS) FROM EAT'S AT STP'S SOP	Responsible Section: Shoalhaven Water	TRIM Reference: 18446E PRD13/185
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- 4.2. The Site Specific Risk Assessment is to be completed before starting the task with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3. **Trigger Points for implementation of this SOP**
- 4.3.1. Weather forecast predicting heavy rainfall
 - 4.3.2. An unexpected heavy rainfall event.
 - 4.3.3. EAT flood alarm activated
 - 4.3.4. Prolonged maximum inflow into STP in L/s (Citec)
 - 4.3.5. Prolonged greater than design maximum KL/hr (Citec)
 - 4.3.6. Large amounts of MLSS being carried over during decant operation
 - 4.3.7. EAT's reaching flood alarm level in consecutive cycles
- 4.4. .Plant Settings to prevent loss of MLSS from EAT's
- 4.4.1. Divert a portion of the inflow to the storm pond
 - 4.4.2. Divert all inflows to storm pond
 - 4.4.3. As a last resort measure & only after consultation with the Coordinator & or Operations Engineer raise decanters & allow incoming wastewater to overtop the decanters, which should allow MLSS to settle enough to stop or prevent large loss of MLSS into Flow Equalisation Basin (FEB)
 - 4.4.4. When flows drop sufficiently or conditions change that will prevent large losses of MLSS into FEB the plant can be returned to normal operation
- 4.5. **Flow Equalisation Basins contaminated with MLSS**

If a Flow Equalisation Basin becomes contaminated with large amounts of MLSS. There are a number of ways to remove it.

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- 4.5.1. If the STP has gravity filters, the filters can be revalved to allow the filter feed Pumps to pump from the FEB into the backwash channel in the filter allowing Contaminated water to be feed into the storm pond from where it can be Returned to the head of the works at an appropriate time.
- 4.5.2. A Sykes pump may be used to transfer the contaminated FEB contents to the Storm pond.
- 4.5.3. A special vacuum suction truck may be required to removed the settled solids
- 4.5.4. Decanted or all plant inflows may need to be diverted to the storm pond while FEB is being pumped out

5. PLANT AND EQUIPMENT REQUIRED

- 5.1. Personal Protective Equipment
- 5.2. Hiab Crane (if appropriate)
- 5.3. Metal bucket with rope attached
- 5.4. Gas detector
- 5.5. High Pressure Sewer Clearing Machine

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WATER TREATMENT PLANT QUALITY TESTING

1. INTRODUCTION

- 1.1 The following Standard Operating Procedure has been developed to comply with the requirements of the “WHS Act 2011” to ensure the health, safety and welfare of employees.

2. OBJECTIVE

- 2.1 To instruct in the safe procedure for Water Treatment Works Process Testing.

3. DEFINITIONS

- 3.1 SWMS: Safe Work Method Statement
 3.2 PPE: Personal Protective Equipment
 3.3 WHS: Work Health and Safety

4. PROCEDURE

- 4.1 All employees together on-site must complete the Site Specific Risk Assessment including documenting hazards identified and control measures taken.
- 4.2 The Site Specific Risk Assessment is to be completed at the start of the day with subsequent risk assessments completed if the work activity and/or the method used, conditions or staff change.
- 4.3 All testing and sampling to be carried out using the appropriate P.P.E. equipment.
- 4.4 All readings to be recorded in relevant years “Plant Log Sheet” excel spreadsheet.
- 4.5 **Turbidity (NTU) testing – Hach method**
- 4.5.1 The HACH 2100N Turbidity Meter is to be calibrated at least 6 Monthly (Use Manufacturers instructions manual).
- 4.5.2 Meter to be turned off after use as per manual section 2.4.1)
- 4.5.3 For measurement of sample turbidities, follow instructions as laid out in the manufacturer’s manual. Of particular importance is the use of clean, scratch free cells and the removal of all air bubbles from the sample cell to obtain the most accurate result. (Note: Cells should be soaked in Decon 90 – every 6 months)
- 4.5.4 Samples should be left to stabilise for 5-10 minutes before taking final reading.
- 4.5.5 Recover the meter when not in use.
- 4.6 **Colour (Hazen Units) testing – Lovibond method**
- 4.6.1 Colour is measured using a Lovibond 2000 with a Lovibond light unit and Nessler attachment.
- 4.6.2 The CAB & CAA type comparator discs are used with a 250mm sample in a Nessler tube for the ranges 0-30 & 30-70 Hazen Units respectively. Alternately, the NSA & NSB comparator discs can be used with a 50ml sample in a Nessler tube for the ranges 5-70 & 70-250 Hazen Units respectively.

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- 4.6.3 Fill a “blank” comparator tube to the desired level (as prescribed above) with distilled water and place in the left hand side compartment of the Nessler attachment.
- 4.6.4 Fill the other comparator tube to the same desired level with the sample to be measured.
- 4.6.5 Press in the light switch button on the light unit and compare samples to determine the best matching colours and read the measured Hazen Units from the disc window.
- 4.6.6 It is particularly important to use clean, scratch free cells and remove all air bubbles from the sample tube to obtain the most accurate result. (Note: Cells should be soaked in Decon 90 – every 6 months)

4.7 Fluoride (ppm) testing – Specific Ion method.

There are 2 different types of TPS meters being used currently.

4.7.1 Using the TPS Linear Ion Meter Model 1952L.

1. If necessary top up the Thermo Scientific specific ion probe with the Orion ionplus filling solution in accordance with the Thermo Scientific user guide – page5 Section – Electrode Filling Instruction.
2. When not in use the specific ion probe should be lowered into the probe sheath containing 3M KCL & 0.2 mg/litre of Fluoride filling solution.
3. The TPS 1952L Specific Ion Meter should be turned on to warm up for approx. 15 minutes before use.
4. Prepare 1.00 & 0.20ppm standard solutions by decanting 50ml from the supplied standard solution bottles into two individual 100ml beakers and adding 1.0ml of TISAB buffer solution to each. These standards should be prepared a minimum of twice per week and when not in use be covered with a watch glass to prevent evaporation.
5. Turn the Magnetic stirrer on.
6. Lower the electrodes into the 1.00ppm std. approx. 10mm, making sure there are no air bubbles attached to the end of the electrode. Leave for 5 minutes, then adjust the calibration knob to indicate 1.00 ppm.
7. Raise the electrodes and rinse with demin. or distilled water into a separate beaker and wipe down the sides to dry the electrodes. **Do not touch the base of the specific ion electrode. This step should be repeated between all samples and standard measurements.**
8. Lower the electrodes into the 0.20ppm std. approx. 10mm. Leave for 3 minutes, then adjust the slope knob to indicate 0.20ppm. Redo step 6
9. Re-check the 1.00ppm std. as per step 5, however only allow 3 minutes before adjusting the calibration knob.
10. The sample to be tested should be prepared as per standards 1.00 & 0.20ppm in step 3.
11. Lower the electrodes into the sample to be tested approx. 10mm and wait 3 minutes to take a reading in ppm. Redo step 8 and if the instrument does not read 1.00ppm adjust the sample test result to the extent of the discrepancy.
(There is no 10mm immersion depth requirement when using the Thermo Scientific specific ion probe, probably 10mm should be a minimum depth, but it can go deeper)
12. If the sample test results become inconsistent, follow the manufacturer’s recommendations to replenish the reference filling solutions.

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13. When finished all testing, turn the meter and magnetic stirrer off and place specific ion electrode in storage position as per step 2.
14. The online fluoride analyser should be calibrated at least once per week to the measured town water fluoride ion concentration.
15. For high turbidity and coloured samples, the zinc acetate/sodium bicarbonate removal method should be used. This involves the addition of 0.6g of zinc acetate to 500ml of the sample water to be tested. Stir the sample thoroughly and heat to 50degC. Add 0.4g of sodium bicarbonate, stir thoroughly and allow to cool. When the floc that forms has settled, decant through a No.1 filter paper and use the filtered water for the analysis.

4.7.2 Using the TPS SmartCHEM Specific Ion Meter.

1. Repeat 4.7.1 steps 1,4 & 5 and note Step 2.
2. Turn the meter on.
3. Lower the electrodes into the 1.00ppm std. approx. 10mm (same as above), making sure there are no air bubbles attached to the end of the electrode. Leave for 12 to15 minutes.
Press MENU – F1 (Calibrate) – F1 (Ion) – F1 (Primary) – ENTER
4. Wait to allow the reading to stabilise.
5. When this window appears again: -

F1: Primary
F3: Secondary

 Remove the 1.00 ppm standard
7. Raise the electrodes and rinse with demin. or distilled water into a separate beaker and wipe down the sides to dry the electrodes. **Do not touch the base of the specific ion electrode. This step should be repeated between all samples and standard measurements.**
8. Place the electrode into the 0.20 ppm standard.
9. Stir for 3 minutes.
10. Press F3 (Secondary) – then ENTER
11. Wait to allow the reading to stabilise again.
12. Then the window below will appear again.

F1: Primary
F3: Secondary
13. Press MENU three times to return to the Ion concentration screen.
14. Remove the electrode from the 0.20 ppm standard.
15. Place electrode in sample.
16. Stir for 3 minutes and then read Fluoride ion Concentration.
17. It is no longer a essential to recheck the 1.00 ppm std. between samples as with the 1952L model.
18. Note also 4.7.1 steps 12-14.

4.8 pH testing – Hach method

- 4.8.1 The Hach Sension3 pH Meter should be Calibrated daily (follow manufacturers instructions). Note: It may be necessary to repeat the calibration if the analyser response is too slow or when doing a number of pH tests.
- 4.8.2 When meter is not in use, the pH electrode should be stored in reference soln. contained within a storage tube. Note: Use only storage solution HACH Cat.

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27565-49, which has a pH of about 6.3, this is important according to the manufacturers.

4.8.3 For measurement of sample pH, follow instructions as laid out in the manufacturer's manual.

4.8.4 Pre-soak the electrode in a solution similar to the sample in ionic strength and pH for 10-15 minutes.

4.8.5 The online pH analyser accuracy should be checked regularly and calibrated at least once 3 monthly to the measured town & clear water pHs.

4.9 Chlorine Residual testing – Hach method

4.9.1 The Hach DR/3000 Spectrophotometer or DR-890 colorimeter should be turned on and wait until zero is displayed before use.

4.9.2 Refer to Hach DR/3000 Spectrophotometer or DR-890 Colorimeter handbook, procedure C2, for testing procedure.

4.9.3 The Hach DR/6000 spectrophotometer should be turned on, then select test 80 Chlorine F&T PP 0.800mg/L from the Stored Programs or from the Favourite Programs & follow the program's instructions or follow printed instructions USEPA DPD Method 80210.

4.9.4 The online chlorine analyser should be calibrated at least once per week to the measured town water residual chlorine concentration.

4.10 Total Dissolved Solids (ppm) testing – Hach method

4.10.1 The portable Hach Conductivity/TDS meter should be turned off when not in use.

4.10.2 For measurement of sample TDS, follow instructions as laid out in the manufacturers manual.

4.10.3 Temperatures in deg C can also be taken using this instrument for the calculation of the Saturation Index.

4.11 Alkalinity (ppm) testing – Hach method

4.11.1 Using the Hach Alkalinity test kit (Model AL-DT) carry out Alkalinity testing on a sample of the town water as per the Digital Titrator Model 16900 Hach manual. Follow the instructions for a water in the range of 40-160 ppm Alkalinity ie. a 25ml sample is used.

4.11.2 Chemical interferences such as chlorine, may block the colour change at the end point. Use a pH meter and titrate to an endpoint of around 5.1 pH for these samples.

4.12 Hardness (Calcium) testing – Hach Method

4.12.1 Using the Hach Hardness test kit (Model HA-DT) carry out Calcium Hardness testing on a sample of the town water as per the Digital Titrator Model 16900 Hach manual. Follow the instructions for a water in the range of 40-160 ppm Calcium Hardness ie. a 25ml sample is used.

4.13 Aluminium

4.13.1 Using the Hach DR3000 Spectrophotometer or DR-890 Colorimeter carry out the Aluminium analysis following the Procedure Code A.1 (Aluminon Method) on the required water sample.

4.13.2 The HACH DR6000 Spectrophotometer should be turned on, then wait for

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self- test to complete, select test 10 Aluminium Alumin 0.800mg/L from the Stored Programs or from the Favourite Programs & follow the program’s instructions or follow printed instructions Aluminon Method 8012.

4.14 Iron, Total

4.14.1 Using the Hach DR3000 Spectrophotometer or DR-890 Colorimeter carry out the Total Iron analysis following the Procedure Code I.4 (Ferrozine Method) on the required water sample.

4.14.2 The HACH DR/6000 Spectrophotometer should be turned on, then wait for self- test to complete, select test 260 Iron Ferrozine 1.400mg/L from the Stored Programs or from the Favourite Programs & follow the program’s instructions or follow printed instructions Ferrozine Method 8147.

4.15 Manganese

4.15.1 Using the Hach DR3000 Spectrophotometer or DR-890 Colorimeter carry out the Manganese analysis following the Procedure Code M.2 (Low Range PAN Method) on the required water sample.

4.15.2 The HACH DR/6000 Spectrophotometer should be turned on, then wait for self- test to complete, select test 290 Manganese LR PAN 0.700mg/L from the Stored Programs or from the Favourite Programs & follow the program’s instructions or follow printed instructions 1-(2-Pyridylazo)-2-Naphthol PAN Method 8149.

4.16 Jar testing

4.16.1 Jar testing is a simulation of plant operating conditions designed to determine how much and which coagulant to dose to a particular raw water. For a general procedure refer to:

1. “Bamarang WTP Operations Manual”
2. “Practical Guide to the Optimisation of Chemical Dosing, Coagulation, Flocculation and Clarification” (published by the Water Directorate)
3. “Water Treatment Plant Operator training Course Notes” (published by DEUS, DWE or NSW Office of Water)

Note: As a rule of thumb, rapid mixing is for a total of 30 seconds (15 seconds for the coagulant ie Alum and 15 seconds for the coagulant aid ie. Poly) and Flocculation is for 30 minutes.

5. PLANT AND EQUIPMENT REQUIRED

5.1 Personal Protective Equipment

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- 5.2 Bench DR6000, DR3000 Hach Spectrophotometer or Hach DR-890 Colorimeter
- 5.3 Alkalinity Test Kit and chemicals
- 5.4 Hardness test Kit and chemicals
- 5.5 Hach Conductivity/TDS meter
- 5.6 Hach Sension3 pH Meter / Probe and Buffer solutions
- 5.7 TPS 1952L or SmartCHEM Specific Ion Fluoride meter , Magnetic Stirrer and TISAB Buffer
- 5.8 Lovibond 2000 Colorimeter and Std. Discs
- 5.9 HACH 2100N Turbidity Meter
- 5.10 Scissors
- 5.11 Beakers, measuring cylinders and other associated test glassware
- 5.12 Stopwatch
- 5.13 Demin. (Demineralised Water) or Distilled Water
- 5.14 Jar test equipment

6. QUALIFICATIONS AND TRAINING

- 6.1 All permanent employees on site shall have completed the following training:
 - 6.1.1 WHS Construction (and General) Induction
 - 6.1.2 Work Activity WHS and Introduction to Site Specific Occupational Health and Safety
 - 6.1.3 Manual Handling
- 6.2 New employees shall complete on-the-job training and conform to a training plan until all qualifications have been obtained and training has been completed. Coordinator will ensure that any new employees do not work in tasks for which they haven't been trained.
- 6.3 Any employee carrying out process testing must have completed the Water Operator training courses run by the Department of Water & Energy and TAFE (Part 1 – Chemical Dosing, Part 2 – Water treatment Operation and the Fluoridation Plant Operator Certificate) or have had sufficient on the job training so as to demonstrate to the Coordinator that they are competent to carry out the WTP process testing.
- 6.4 All labour hire temporary staff on site shall have completed the minimum training deemed necessary by the Coordinator.
- 6.5 All employees on site shall have completed a Site Induction using the Site Specific Risk Assessment.
- 6.6 Additional qualifications and training requirements may be identified when completing the Site Specific Risk Assessment. For example:
 - Confined Space Work
- 6.7 Training details are located in TRAAD System and/or Supervisor Training Plans. Training records for labour hire temporary staff are held by the labour hire companies.

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7. RELEVANT CODES OF PRACTICE, PROCEDURES, REGULATIONS, AND LEGISLATION

- 7.1 WHS Act 2011
- 7.2 WHS Regulation 2001
- 7.3 Shoalhaven City Council Policies and Procedures
- 7.4 Corporate WHS Policies and Procedures
- 7.5 Shoalhaven Water WHS Policies and Procedures
- 7.6 WorkCover regulations and codes

8. ROLES AND RESPONSIBILITIES

- 8.1 Managers are to ensure there is a safe system of work.
- 8.2 Coordinators and Supervisors are to ensure that affected person(s) are instructed in this Safe Work Method Statement, and any other relevant SWMS identified for work areas or activities.
- 8.3 Person(s) are to comply with this Safe Work Method Statement and notify their Supervisor of any deviation from this SWMS, or if they don't understand this SWMS.
- 8.4 It is the responsibility of the Operator-in-charge on-site to ensure that all safety and operational guidelines and SWMS are followed and the relevant forms and permits are completed before any work commences at the worksite.

9. HAZARD ASSESSMENT

- 9.1 Prior to the implementation of this SWMS the following hazards shall be assessed for level of risk and the associated control measures adhered to during all related activities. The results of this assessment shall be documented on the Site Specific Risk Assessment.

POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
13. Fall, slip or trip into water	Drowning Injury	- Take samples from sample taps and only venture outside the protective hand railings to take samples if wearing a buoyancy vest
2. Manual Handling - Inappropriate Manual Handling	Muscle sprain (limbs or torso)	- Undertake training in proper manual handling techniques - Task rotation, muscle stretching exercises, use correct equipment
12. Exposure to chemicals or reagents	Injury or illness caused by spillage of or vapours from chemical or reagents	- Use appropriate PPE which may include but not be limited to goggles or protective glasses, disposable gloves, boots, and Laboratory Coat or disposable coveralls. - Strict personal hygiene - Strict worksite hygiene

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POTENTIAL HAZARDS	POTENTIAL RISK	CONTROL MEASURES
3. Heat - Excessive exposure to UV	Sunburn Skin cancer	- Wear hats and/or long sleeves and/or long trousers. If not, use sunscreen in accordance with the manufacturer's recommendations

STEP 1 - Complete risk assessment prior to commencing work.

Check all equipment prior to commencing work

STEP 2 - Conduct continuity test on Plumb Guard voltage meter.



STEP 3 - Inspect bridging conductor and check safety inspection tags.



STEP 4 – Inspect and pressure test LV Gloves (to ensure no holes are present).



All metallic pipes to be considered electrified!!

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STEP 5 – LV Gloves to be worn when there is the potential for touching metallic pipe.



STEP 6 - Use Plumb Guard to test pipes for electrical current (including adjacent water services) before touching them and continue to monitor while work is being carried out.



STEP 7 – All pipework and bridging conductor clamps to be cleaned to ensure a good electrical connection prior to attaching to metallic pipes.



STEP 8 - Attach bridging conductor to either side of the water meter or the section of the pipe to be removed. Connect bridging conductor to water main side first, then house side.



STEP 9 - To remove bridging conductor, take off house side first then water main.

If evidence of electricity is detected – STOP WORK immediately and call your supervisor!

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Drafts (For Review)

**SWMS, SWP's &
SOP's**

**No OHS Documents
for review at this
time**

