

Safe Work Instruction - Dosing Sewage System with Hydrated Lime via Manholes, Pump Stations and Inlet Works

DO NOT use this plant* unless you have been inducted in its safe use and operation by an **Authorised Experienced Operator**

This SWI may not cover all possible hazards and risks and should be referred to as a control measure in the risk assessment process. Additional training may be required for high risk plant. Site and task may change required PPE.

PERSONAL PROTECTIVE EQUIPMENT



Eye protection must be worn



Long and loose hair must be contained or covered.



P2 face mask must be worn when airborne dust or fumes are created



Foot protection must be worn



Hand protection must be worn



Half face mask respiratory protection must be worn



Protective body clothing must be worn



High visibility clothing must be worn

POTENTIAL HAZARDS AND RISKS

- Manual Task Injury**
Manual task injury from incorrect manual handling techniques
- Slip, Trips, Falls**
Slip, trip, fall due to uneven or slippery work surfaces
- Explosion**
Explosion of gases, vapours or liquids
- Other**
Exposure to hazardous chemicals/gases
Exposure to UV radiation
Irritation to eyes & respiratory system
Injury due to fall from heights

PRE-OPERATIONAL SAFETY CHECKS

- ✓ Complete site specific risk assessment
- ✓ Complete the appropriate pre-operational plant checklist if applicable
- ✓ Ensure you are familiar with plant operations and controls
- ✓ Ensure all workers have read and understand the current SDS for Hydrated Lime
- ✓ Ensure all workers have read and understand all relevant SWIs, SOPs and Procedures related to Manholes, Sewer Pump Stations and Treatment Plant Inlet Works
- ✓ Ensure all appropriate PPE is available and used. Hydrated lime powder should not be ingested as it can cause breathing difficulties.

Note: Hydrated Lime is considered a hazardous substance and dangerous good.

PROCEDURE FOR DOSING HYDRATED LIME INTO MANHOLES:

- ✓ Establish work area with signs and barricades
- ✓ If applicable implement Confined Space/Working at Heights processes e.g. Permits, Gas Detector, Grate etc
- ✓ Use correct method of lifting manhole lids as per SWI40 and follow correct manual handling techniques when lifting lime bags on and off the vehicle.

- ✓ Fix stand pipe and lay flat hose ready to hydrate the main
- ✓ Mix lime with water in a bucket to form pourable slurry
- ✓ Maintain a gap between the water hose and sewerage in manhole to ensure the hose is not contaminated.
- ✓ With water hose running, pour bucket of slurried lime into manhole in front of water flow. Pour carefully to avoid splashing
- ✓ Continue mixing and pouring of lime into the manhole until all of the required hydrated lime is used.
- ✓ Let water flow for approximately 20-30 minutes after lime application to give time for flushing and mixing.
- ✓ Clean equipment and pack up lime bags while water is flushing the system.
- ✓ When finished, shut off water, remove stand pipe, ensuring ball valve is shut.
- ✓ Put lid back on manhole, roll up hose and pack up equipment.
- ✓ Remove PPE and clean or dispose of upon return to STP/Depot.

PROCEDURE FOR DOSING HYDRATED LIME INTO PUMP STATIONS:

- ✓ Establish work area with signs and barricades
- ✓ Implement Confined Space/Working at Heights processes e.g. Permits, Gas Detector, Grate etc

- ✓ After ensuring that pump station intruder alarms have been disarmed open cabinet/building door and turn off pumps at pump station controls and allow wet well to fill to TWL.
- ✓ Follow correct manual handling techniques when lifting lime bags and associated equipment on and off the vehicle.
- ✓ Fix hose to pump station water supply in readiness for mixing lime slurry.
- ✓ Mix lime with water in a bucket to form pourable slurry
- ✓ Pour slurry into wet well endeavouring to clear pumps, pump rails, ladders and other fixture as much as possible. Pour carefully to avoid splashing.
- ✓ When all lime slurry has been added to contents of wet well, turn pumps back on and allow well to pump down to BWL.
- ✓ 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.
- ✓ 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.
- ✓ Pack up lime bags and return empty bags, bucket, hose and PPE to truck.
- ✓ Check that pump station controls are in automatic operation and secure pump station cabinet/building.
- ✓ Clean or dispose of PPE upon return to treatment plant or depot.

PROCEDURE FOR DOSING HYDRATED LIME INTO INLET WORKS:

- ✓ Establish work area with signs and barricades
- ✓ If applicable implement Confined Space/Working at Heights processes e.g. Permits, Gas Detector, Grate etc
- ✓ Follow correct manual handling techniques when lifting lime bags
- ✓ Mix lime with water in a bucket to form pourable slurry
- ✓ Pour slurry into the start of the Inlet Works endeavouring to clear any fixtures. Pour carefully to avoid splashing. **Note: Best possible time to pour lime slurry is during incoming flow. This may take a few intervals to integrate required lime slurry.**
- ✓ Hose any lime slurry residue, spillage and splashing from any fixtures working from top to bottom
- ✓ Pack up empty lime bags, hose and bucket
- ✓ Remove PPE and clean or dispose of

DO NOT

- ✗ Do not use if plant is faulty. Attach a DO NOT OPERATE tag and report fault to your supervisor
- ✗ Do not breathe in Hydrated Lime(use a respirator)
- ✗ Do not perform this task during windy conditions
- ✗ Do not eat, drink or smoke while handling Hydrated Lime.
- ✗ Do not use mobile phone while operating plant or performing duties

*Plant in this SWI refers to any machinery, equipment, appliance, container, implement and tool.