

PRE-FABRICATED SERVICE PIT INSTALLATION PROCEDURE

Fabricated in Australia to endure our harsh environmental conditions while meeting the demands of our mining and transport industry. Workshop pits allow for better access, efficiency and operator safety.

- ✓ Australian Made
- ✓ Customisable design
- ✓ Improve workplace efficiency
- ✓ Reduce workplace hazards
- ✓ Easy installation
- ✓ AS/NZ Compliant



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PRE-FABRICATED SERVICE PIT INSTALLATION PROCEDURE

Pre-Fabricated Service Pit Installation Procedure

Pre-Fabricated Service Pits supplied by HLS Equipment are fabricated and fully assembled prior to arriving on site. They are constructed in mild steel (coated with 2 pack epoxy) and can come fully equipped with provision for lighting, jacking beams, oil drainers, fluid supply, compressed air, ventilation, drainage points, access stairs/ladders and pit covers.

The Service Pit is then suspended in an excavated hole using support beams supplied by HLS Equipment and cast in the ground. Earth work and inground requirements and details can be found in the 'General Installation Process' section of this document. Multiple conduits are needed for electrical, services and ventilation lines.

All required design layouts/drawings and specifications are site specific and need to be reviewed in detail by site engineer's and signed off on. Any discrepancies, variations or queries need to be brought up with HLS Equipment staff prior to fabrication commencing. HLS Equipment will not accept liability for design errors after sign off.



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General installation process (by Builder):

1. RETROFIT: If the service pit is to be installed on an existing site, concrete cutting to accommodate the Prefabricated Service Pit is mandatory. This must be completed prior to the arrival of the pit on site and as per the site-specific drawings. This work and appropriate disposal of the cut concrete is the responsibility of the customer.

Note: For New Installation proceed from Step 2.

2. NEW INSTALLATION: Excavate the required excavation (final excavation size should take into consideration local ground conditions and soil densities) as per the supplied drawings and specifications. HLS Equipment recommends that while conducting excavation for the service pit, that all provisions and trenches are made for electrical, ventilation and service conduits. We advise against conducting this excavation work post installation.



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RETROFIT AND NEW INSTALLATION CONTINUED..

3. Provide provisional power for the service pit. Power required for the service pit includes, but not limited to, pit lighting, sump pump floats, exhaust extraction, general power outlets etc.



4. Once the Service Pit arrives on site it will need to be unloaded with a suitable lift and carry crane (25ton Franna or similar). Utilise the crane to install the Pit Support Beams. The Pit support beams are used to suspend the Service Pit inside the excavated hole. If the Service Pit exceeds 16m in length, it will be broken up into 2 halves. The two half pits shall be joined in the centre using the supplied fasteners before lifting into position. The jacking beam rail needs to remain as straight as possible ($\pm 5mm$).



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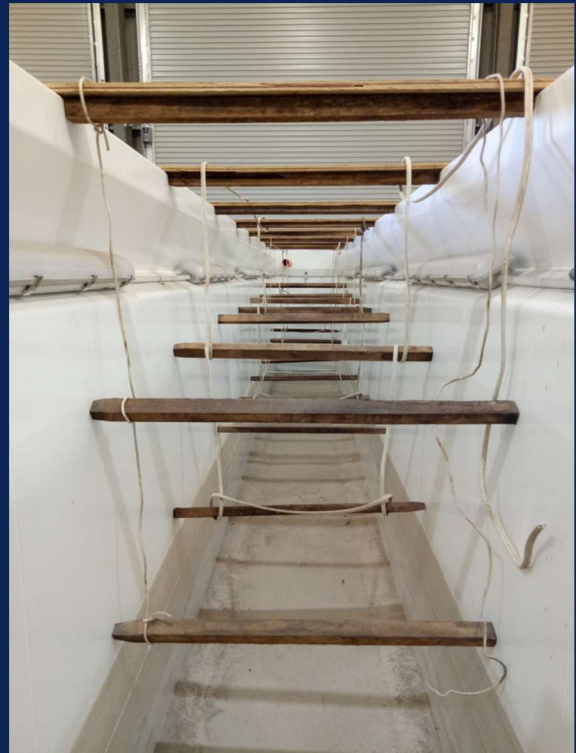
5. Crane the Service Pit into position and suspend it inside the excavated hole. Use besser blocks (or equivalent) and plastic shims (or equivalent) to level the Service Pit to the appropriate height (refer to the supplied specifications and drawings). Fine tune levelling to be conducted under the supervision of competent personnel. Equipment required during this process includes a laser level (dumpy), bubble level and automotive bottle jack.



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6. Propping the pit box; in order to reinforce the structure and to maintain straight and parallel rails, propping is recommended for all pits and is mandatory where a movable platform is intended to be installed.

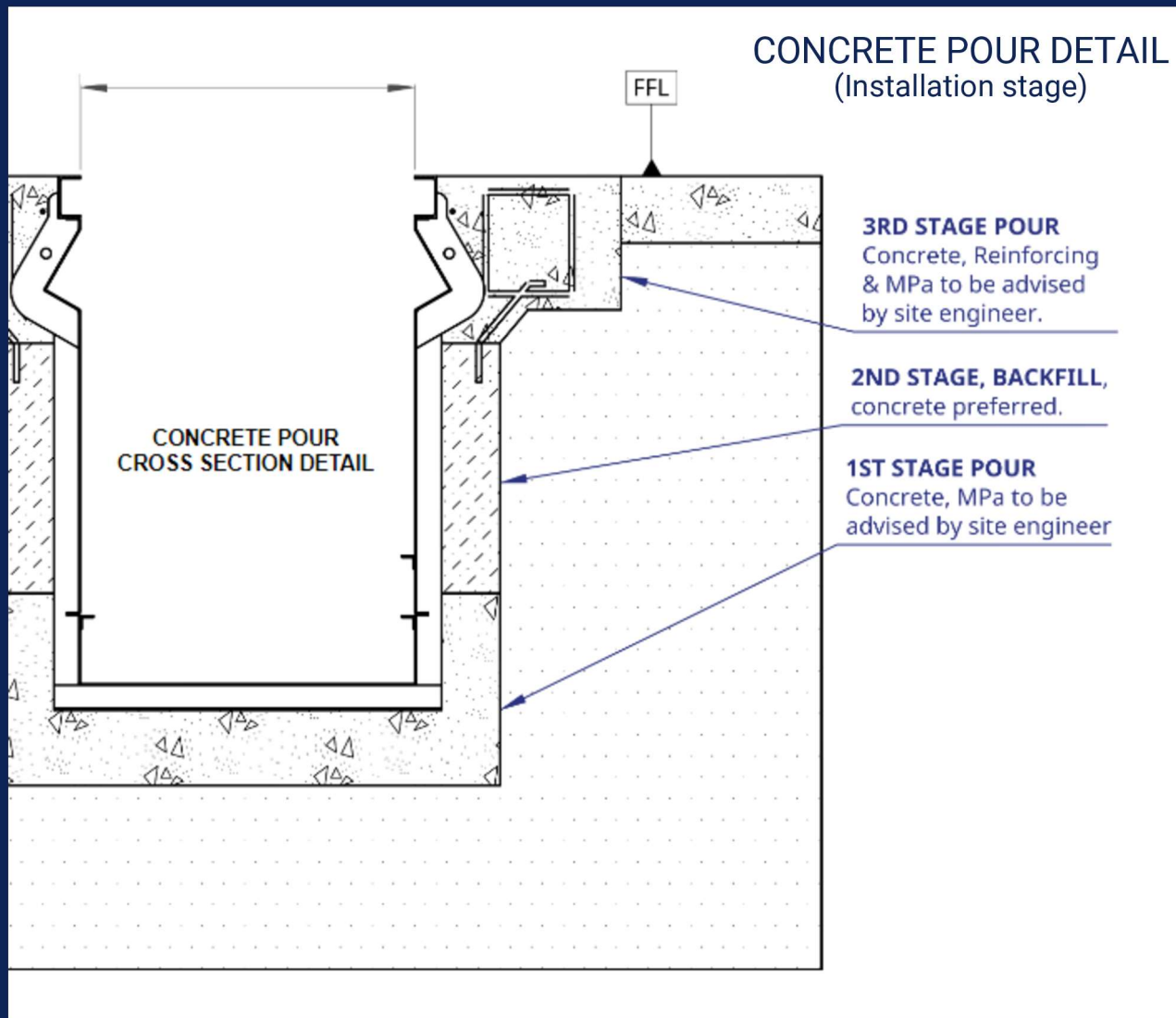


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7. Conduct Stage 1 of the concrete pouring process (refer to the supplied specifications and drawings). A concrete pump is highly recommended during all pouring stages.

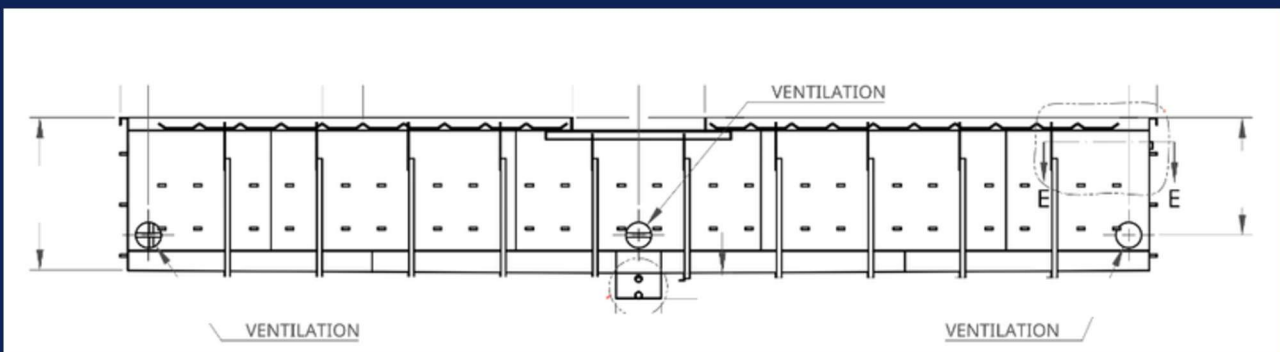
Pour a high slump mix of concrete under and around the Service Pit Steel Base (MPa, MSA as per site engineers). It is imperative that during installation all air pockets underneath the Service Pit floor are removed, a concrete vibrator will need to be used. Failure to do this sufficiently may result in the base buckling. The thickness of the base slab under the Service Pit is approximately 250mm - confirmation required by site engineers.



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8. Once the Service Pit has been locked into position (after the first stage pour has set), all in ground services can be installed. All pipe elbows shall be long sweep bends or 2x 45-degree elbows, special care needs to be taken to ensure joints are glued to prevent earth and or concrete entering the piping.
9. Install in-ground services for the ventilation/fume extraction system (refer to specifications for pipe sizing.)
10. Install in-ground services for electrical cable to power equipment positioned inside the pit.
11. Install in-ground services for the trade waste line (refer to specifications for pipe sizing.)
12. Install in-ground conduit for pit services (e.g. compressed air, oil, waste oil, etc.). Refer to specifications for pipe sizing.



Note: Images and drawings within this document are for illustrative purposes and to be used as a guide only, please refer to your project specific drawings and in consultation with your site engineer.



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13. Once all inground services have been installed, conduct Stage 2 of the concrete pour/back fill (pit walls). Stage 2 shall be either a suitable concrete mix or compacted material. Pea gravel or crushed stone can be used as a substitute. Concrete isn't mandatory but recommended. Back fill only to the height shown on drawings.

14. Builder to remove the Pit Support Beams and place in storage on site until handover.

15. Lay steel reinforcement and dowel into surrounding concrete tying the Service Pit back into the finish floor concrete slab. Refer to the site specific drawings for concrete tie in detail. Reinforcing and dowelling shall be sufficient to prevent flooring separating and / or dropping causing trips hazards.

16. Conduct Stage 3 of the concrete pour (refer to the supplied specifications and drawings). Pour concrete to FFL around the Service Pit to adjoining slab. 32 MPa is required for this stage of the installation. Once the concrete has set, remove pit opening support angles.

17. Install Fan Control Unit, above ground ventilation duct and inline fan unit (by HLS Equipment.)

18. Client electrician to complete electrical work including final connections for all equipment supplied by HLS Equipment (refer to supplied drawings and datasheets for electrical specifications).

Note: The Builder/Construction Manager is responsible for all civil, concrete, electrical, inground service works and overall installation of the Pre-Fabricated Service Pit.



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Supplied by HLS Equipment:

- Prefabricated pit
- "Supply of Installation arms and hangers

Installation Requirements by customer:

- Supply of dumpy level.
- Supply of small basic shims and packers.
- Technician/s to oversee crange and level to FFL
- Technician/s and site engineers to supervise first stage of concrete pour. First stage pour must be conducted on either day one or day two of installation.
- Removal of large installation arms and hangers offsite during handover.
- Removal of installation arms and hangers off service pit.
- Supply of large packers (besser block or timber.)
- Electrical connections.
- Hole penetrations/sealing if required.
- Crane hire.
- Civil works.
- Concrete vibrators.



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Disclaimers:

- Installation should be carried out by trained and professional operators in conjunction with a site engineer.
- Safety precautions and industry best practices should be observed and adhered to.
- Ground testing or civil engineering remains the responsibility of the client/builder.
- Consideration should be taken for ground water levels.
- Excavation or pit may be considered a confined space, suitable precautions are to be taken.
- The Service Pit has been epoxy coated. Failure to fully insert concrete under the base may create an atmosphere containing moisture, create air pockets and buckling and void warranty.
- Concrete tie-in detail is an example only. Final design should be reviewed by the onsite engineer.

