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| **Department:** | **Eng. & Public Works** | **Area:** | **Water** |  |
| **Subject:** | **Paratech Air Shore System Safework Procedure** | | |

**Paratech Air Shore System**

**Purpose:** To protect workers from excavation cave-ins.

**Hazards:**

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| * Cave-ins | * Traffic | * Eye injuries | * Underground utilities |
| * Loose soil-unstable ground | * Air quality | * Noise | * Overhead Hazards |

**PPE Required:**

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| * Hard hat | * Gloves | * Approved safety boots |
| * High vis vest or coveralls | * Safety classes | * Ear protection |

**Training: Worker should be trained by competent operator and operators manual should be available.**

**Pre Set-Up:**

* Hook up shoring trailer to vehicle.
* Make sure hitch is secured and locked on ball.
* Secure safety chain to vehicle from trailer.
* Connect plug for trailer lights; test that lights are operating properly.
* Do a tug test to make sure trailer is on the ball properly and secured
* Check trailer to make sure it has all air shore equipment and tools required.
* Make sure there is air in bottles
* This is a two man operation to install this shoring

**Procedure:**

* Pull trailer up to excavation keeping a safe distance from excavation to avoid a cave in.
* Inspect excavation for stability before inserting panels.
* Make sure edges are stable. if not install plywood around the trench for stability.
* Make sure soil is piled a minimum two feet away from excavation edge.
* Take 4x8 panels one at a time out of trailer, insert them across from one another into ditch upright. There should be no more than two feet from the bottom of the panel to the bottom of the ditch. The panel should extend at least one foot above ground level.
* Take a measurement between the two panels to decide which size strut you will need to use.
* Check air bottles and lines and connections to make sure there are no air leaks and that equipment is clean and ready to use.
* Put base plates on the struts you are going to be using.
* Attach rope with hooks to struts to lower strut into excavation.
* To install safety struts refer to WorkSafe BC trench regulations for spacing of supports or struts.
* There must be a minimum of two struts per set of shoring.
* Ensure pressure regulator is on before adjusting air pressure.
* Make sure air regulator is turned all the way to the left so you have a zero reading on the gauges.
* Hook air hose up to regulator then to dual dead-man controller.
* Hook up air hose from dead-man to struts.
* Make sure that all safety couplers on air hoses are tight.
* Charge air system by turning on air at regulator and setting the pressure between 180psi to 210 psi. System is now charged and ready for strut installation.
* When deciding where to install strut, drop it into hole, line it up with 2x10 wailer. Apply the air with dead-man controller valve. Strut will expand; when fully expanded let finger off controller, strut is now in place.
* By hand, spin the lock device nut into place to secure strut.
* You can undo the air line or leave it hooked up.
* When all struts are in place safely, it is safe to enter trench to work.
* Use ladder to enter and exit the trench.

**Post Procedure/Take Down**

* Starting with bottom strut, apply air to expand it. Loosen off safety spin lock device with supplied tool.
* Use release air button on controller. Strut will retract; lift out of trench.
* Repeat until all struts are removed. Remove shoring panels.
* Ensure struts are cleaned off before returning them to the trailer.
* Return struts and equipment to the trailer.
* Shut air bottles off. Return regulator back to zero.
* Disconnect all air lines.
* Back fill trench.

**Summary:**

* Identify trench size, conditions and correct shoring method to work in trench safely.
* Follow Worksafe procedures relating to trench entries over 1.2 meters.
* Always follow City of Nanaimo Excavation Program policies and procedures when working in or around excavations.
* No worker may conduct this procedure or enter a trench without first going through adequate training which meets or exceeds the City of Nanaimo Training Standard.
* Keep safety on mind at all times.

**Please contact Jason Duchak @250.755.4411, if you have any questions regarding what is expected for the procedure or for clarification**

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| **Revised: May 28, 2010** | **Approved by: John Elliot** |