

**March 22, 2022**

**Setting up Wood Frame Hoarding**

**PURPOSE/APPLICATION**

To provide guidance on the set up and use of wooden frame hoardings in a pipeline excavation. Hoardings allow for effective heating and provides protection to workers from the elements during tie-in welding, inspection and/or coating repairs.

**PPE**

- Strike minimum PPE
- 4-Head Gas monitors

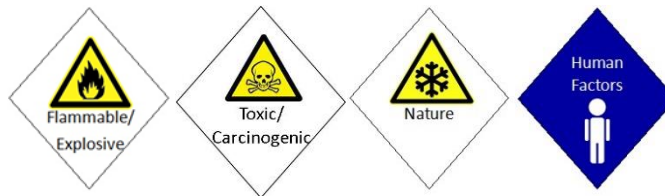
**TRAINING**

- Minimum Strike and Site Requirements
- Confined Space Training (as required)

**HAZARDS & CONCERNS**

- Potential for oxygen deficiency
- Buildup of flammable or toxic vapors
- Potential for work in a confined or restricted space

**HAZARD SOURCES**



**PRIOR ACTIVITIES**

1. Obtain any permits required for the scope of work (e.g., General Construction, Hot Work, etc.).
2. Determine the if the trench meets the definition of a confined space according to provincial or Owner/Prime Contractor policy (see COP-03 for more information). Where required, confirm all relevant training, rescue plan, etc. are in place.
3. Complete a pre-use inspection on all tools and equipment.
4. Complete the tailgate meeting and HIAC prior to starting work. Only essential personnel will be allowed in the excavated area during construction of the hoarding structure.
5. To eliminate dropped object hazards, ensure all materials are at least one meter away from the open excavation and are laying flat on the surface.

#	Job Steps	Hazards	Control Measures
1	Use of power tools, (e.g., saws, drill, etc.)	<ul style="list-style-type: none"> <li>❖ Tools not in proper working condition with proper guards.</li> <li>❖ Debris from wood when being cut.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Inspect tools prior to each use for missing guards, lose pieces (e.g., blades, drill bits, etc.), proper blades and rotation, size, and type.</li> <li>▪ Inspect extension cords for cracks/frays damage to the plug ends and if required, confirm rating for winter temperatures.</li> <li>▪ Wear face shields as required.</li> </ul>
2	Building frame section	<ul style="list-style-type: none"> <li>❖ Wood material not properly supported while assembling, causing injury due to tools or material falling or slipping.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Support wood with clamps or a second person holding the material at a safe distance while cutting.</li> </ul>

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		<ul style="list-style-type: none"> <li>❖ Improper length of screws causing them to stick out of the material.</li> <li>❖ Worker's hands, gloves, lanyards, clothing, etc. getting caught in rotating equipment.</li> <li>❖ Building sections too large to carry.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Build as much of the framing on the ground as possible and carry the material into the excavation.</li> <li>▪ Ensure all clothing and gloves are tight fitting and in good condition to prevent them from getting caught up and pulled into the drill.</li> <li>▪ If required, reflective stripes must be snug fitting (tear away style is preferred)</li> <li>▪ Only build in separate frames. Attach the connecting support once the frames are in the ditch.</li> <li>▪ Use mechanical lifting devices where required.</li> </ul>
3	Connecting frame sections	<ul style="list-style-type: none"> <li>❖ Material not placed properly or supported by another worker allowing the material to fall.</li> <li>❖ Working off ladders with potential of falling.</li> <li>❖ Material falling as being built.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use two people to connect the section. Ensure the material is supported while the workers climb the ladders.</li> <li>▪ Hand tools and material to the worker on the ladder.</li> <li>▪ Keep 3-point contact and have a second person holding the ladder as required. Confirm the ladder is the required height and tied off when possible.</li> <li>▪ Inspect step ladders prior to use for damage/cracks. Confirm that the feet/rungs aren't missing or damaged.</li> <li>▪ Have as many people to support the frame sections as require. Build frames on the ground if possible and stand up into place.</li> <li>▪ Use mechanical lifting devices where required.</li> </ul>
4	Covering framing with plastic poly wrap	<ul style="list-style-type: none"> <li>❖ Wind pulling the poly away from the workers.</li> <li>❖ Material not tight enough to prevent sagging or excessive wind whipping.</li> <li>❖ Puncher and scrapes caused by wire to secure the poly to the piping.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Use a minimum of two people to pull the poly over one section of the frame at a time.</li> <li>▪ Use a third person in the middle to assist as required. This will be based on wind or other conditions.</li> <li>▪ Pull poly as tight as possible to keep material straight.</li> </ul>

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			<ul style="list-style-type: none"> <li>▪ Screw the poly on the best you can to reduce the need for wire.</li> </ul>
5	Using forced air heaters outside of the ditch area	<ul style="list-style-type: none"> <li>❖ Workers being unfamiliar with the potential hazards of the heater.</li> <li>❖ Flammability, explosion burns, fire, inhalation of exhaust.</li> <li>❖ Improper installation of the heater.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Workers involved in the installation of hoarding heaters, must review manufacture's specifications.</li> <li>▪ The foreman will evaluate the workers and determine their competency for safe operation prior to operating and installing the heaters.</li> <li>▪ Keep solid combustibles, (e.g., building materials, paper, or cardboard) a safe distance away from the heater (as recommended by the instructions).</li> <li>▪ Never use the heater in spaces which do, or may contain volatile or airborne combustibles, or products such as gasoline, solvents, paint thinner, dust particles or unknown chemicals.</li> <li>▪ Vents/slots in the hoarding must be in place to provide adequate ventilation. Ensure the flow of supply air to the heater and combustion gases are not obstructed in any way.</li> <li>▪ Heater must always be placed on a flat surface.</li> <li>▪ Visually inspect the hose assembly and ensure that it is protected from traffic, building materials, and contact with hot surfaces. If it is evident that there is excessive abrasion/wear, or the hose is cut/damaged, it must be replaced.</li> </ul>
6	Using forced air heaters inside of the ditch area.	<ul style="list-style-type: none"> <li>❖ Workers being unfamiliar with the potential hazards of the heater.</li> <li>❖ Flammability, explosion burns, fire, inhalation of exhaust.</li> <li>❖ Improper installation of the heater.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Workers involved in the installation of hoarding heaters, must review the manufacture's specifications.</li> <li>▪ The foreman will evaluate the workers and determine their competency for safe operation prior to operating and installing the heaters.</li> <li>▪ Keep solid combustibles, (e.g., building materials, paper or</li> </ul>

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#	Job Steps	Hazards	Control Measures
			<p>cardboard) a safe distance away from the heater (as recommended by the instructions).</p> <ul style="list-style-type: none"> <li>▪ Never use the heater in spaces which do, or may contain volatile or airborne combustibles, or products such as gasoline, solvents, paint thinner, dust particles or unknown chemicals.</li> <li>▪ Vents/slots in the hoarding must be in place to provide adequate ventilation. Ensure the flow of supply air to the heater and combustion gases must not be obstructed in any way.</li> <li>▪ Heater must always be placed on a flat surface.</li> <li>▪ Visually inspect the hose assembly and ensure that it is protected from traffic, building materials, and contact with hot surfaces. If it is evident that there is excessive abrasion/wear, or the hose is cut/damaged, it must be replaced.</li> </ul>
7.	Testing the air quality prior to work commencing	<ul style="list-style-type: none"> <li>❖ Improperly calibrated or bump tested gas monitor.</li> <li>❖ Presence of CO<sub>2</sub>, LEL or H<sub>2</sub>S.</li> <li>❖ Contaminants entering the hoarding through the air intake ducts from the air conditioning unit.</li> <li>❖ Oxygen deficient atmosphere.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Monitors to be bumped and checked for current calibration date.</li> <li>▪ Test the air quality from the open end of the hoarding, do not enter the hoarding.</li> <li>▪ If the monitor is reading 20.9 oxygen and 0 LEL, 0 CO<sub>2</sub> and 0 H<sub>2</sub>S, continue to monitor the rest of the hoarding 2 ft. at a time.</li> <li>▪ The worker will immediately exit the area or not enter if the monitor's alarm initiates.</li> <li>▪ The area will be re-evaluated to confirm where the contaminants are coming from and what corrective actions need to be taken. No one must enter the hoarding until safe levels have been confirmed.</li> </ul>

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#	Job Steps	Hazards	Control Measures
			<ul style="list-style-type: none"> <li>▪ A worker must be stationed at the end of the intake ducts with a gas monitor.</li> <li>▪ Keep all vehicles and equipment a safe distance from the intake ducts.</li> <li>▪ The Foreman must be notified immediately of any changes at the intake ducts.</li> </ul>

**ADDITIONAL PRECAUTIONS**

One end of the hoarding will remain open as required for fresh air movement.

Refer to SJP 29 Tie-In Welding

**REGULATIONS****Alberta OHS Code**

- Part 25 Tools, Equipment and Machinery
- Part 32 Excavating and Tunneling

**British Columbia OHS Regulation**

- Part 12 Tools, Machinery and Equipment
- Part 20 Construction, Excavation and Demolition

**Saskatchewan OHS Regulation**

- Part 10 Machine Safety
- Part 17 Excavations, Trenches, Tunnels and Excavated Shafts

**Manitoba Workplace Safety and Health Act and Regulation**

- Part 16 Machines, Tools and Robots
- Part 26 Excavations and Tunnels General Matters

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