

PURPOSE/APPLICATION

Canadian Plains Energy Services (CPES) does not complete Horizontal Directional Drilling (HDD) but the company does support subcontractors completing this type of work on our behalf. This SWP is intended to provide guidance to CPES employees supporting or working adjacent to HDD subcontractors. HDD subcontractors will have their own safe work practices and procedures, these should be reviewed along with this document prior to undertaking a project that includes an HDD scope.

PPE

- CPES minimum requirements

TRAINING

- New Worker Orientation

HAZARDS & CONCERNS

- Injury (cuts, lacerations)
- Repetitive strain
- Rotating equipment
- Flying debris
- Entanglement
- Gravity, slip and fall
- Noise
- Crush/Pinch injuries



PRECAUTIONS

General

- Pre-job meeting must be conducted to establish communication protocols between CPES workers and HDD subcontractor workers.
- Review applicable CPES and HDD Subcontractor SWP/SJPs, ground disturbance documentation, hazard assessments and client procedures prior to beginning work.
- Conduct site hazard assessment and follow HIAC process to ensure adequate controls are in place.
- Walk bore path and ensure all underground facilities have been identified and daylighted.
- Establish bore entry and exit areas and determine size of exclusion zones.
- Stage HDD equipment to allow efficient flow of work while considering equipment swing zones, worker access and vehicle access.
- Signage and barriers must be set up around drill stem to keep workers away from rotating equipment.
- Inspect all equipment prior to use.
- Inspect excavations to ensure they meet standards for sloping and access/egress prior to workers entering.
- Inspect all rigging prior to use.

THE DO's

- DO** Provide workers access to operator's manual for power equipment.
- DO** Understand the controls and safe operation of the equipment prior to use.
- DO** Review applicable SWPs prior to undertaking tasks.
- DO** Keep the cabs of powered mobile equipment free of objects that could interfere with the operation.
- DO** Establish a protocols for clear communication between CPES and HDD subcontractor and between entry and exit side of HDD.
- DO** Have only workers deemed competent by the supervisor operate the mobile equipment.
- DO** Ensure operator does not leave the controls unless the equipment is secured/locked out against unintentional movement.

- DO** Maintain full control of the equipment at all times and operate the equipment in a safe manner.
- DO** Conduct frac walks and have spill control readily available in case of frac to surface.
- DO** Use tag lines for suspended loads above knee level.
- DO** Have a designated spotter in place to give direction to equipment operators.
- DO** Reduce foot traffic in areas where mobile equipment is working, equipment to be given the right of way by workers.
- DO** Establish designated travel routes, parking areas, and distinguish from work areas.
 - Where you have heavy traffic a signal person or traffic spotter should be designated to control traffic movement at the site.
 - Workers on foot should also be trained to recognize driver blind spots and avoid entering these areas, this would include the arc of a swinging load for a part of a unit of powered mobile equipment.
- DO** Ensure all workers are out of the line of fire before beginning rotation of tooling.
- DO** Maintain a five-meter exclusion zone when exiting to surface.
- DO** Have traffic control in place if locator is working on roadway.
- DO** Assign and utilize a spotter when backing or moving equipment in congested areas as per CPES' spotting SWP.
- DO** Use three-point contact when climbing in and out of equipment.
- DO** Designate one spotter, typically the foreman, to give instructions to equipment operators during pipe pull.
- DO** Establish communication protocol between driller and exit side during pipe pull.
- DO** Keep non-essential workers out of the area during the pipe pull.
- DO** Inspect all rigging prior to pipe pull.

THE DON'Ts

- DON'T** Enter worksite without permission from supervisor and reviewing hazards and controls.
- DON'T** Enter an exclusion zone without confirmation of equipment lockout from Driller.
- DON'T** Use equipment for any use other than intended.
- DON'T** Modify, adjust, or tamper with equipment or attachments outside of manufacturer's specifications.
- DON'T** Enter an excavation while equipment is rotating.
- DON'T** Leave the seat of a piece equipment while a load is suspended.
- DON'T** Stand under a suspended load of any kind.
- DON'T** Lift material which may exceed the capacity of the equipment, if you think the load may exceed the capacity of the equipment or are not sure check with your supervisor.
- DON'T** Lift on uneven or unstable ground, make sure loose loads are secured against falling or rolling.
- DON'T** Leave equipment running unattended.
- DON'T** Enter excavation while pipe pull is underway.

Tail String Use

The use of tail string during horizontal directional drilling operations creates additional hazards on the exit side of the bore that require additional controls. The HDD subcontractor will review their tail string practices and procedures with the entire crew before tail string is attached.

- When tail string is in place, proper warning signage must be in place and safety zones must be established.
- A track hoe must be used to pull tail string.
- HDD subcontractor will inspect all swivels prior to use.
- HDD subcontractor will have an exit side spotter in place with direct communication with driller and track hoe operator pulling the tail string to maintain pressure on the tail string and keep it straight.
- Exit side spotter is not to step away from work area while drill is pushing or pulling.



THE DO's

- DO** Clearly identify danger zone on exit side when tail string is present.
- DO** Maintain a minimum five-meter exclusion zone around tail string.
- DO** Only conduct an operation once communication is clearly established ex: Driller pushing now.
- DO** Treat all tail string as live, if a swivel fails, tail string can spin at any time.
- DO** Verify driller has locked out drill before approaching tail string.
- DO** Maintain pull pressure on tail string with track hoe to prevent tail string from bowing or snaking off of straight line.

THE DON'Ts

- DON'T** Enter exit side when tail string is present without permission from supervisor.
- DON'T** Enter an exclusion zone without confirmation of equipment lockout from Driller.
- DON'T** Conduct an operation if communication is not clear.
- DON'T** Modify, adjust, or tamper with equipment or attachments outside of manufacturer's specifications.

REFERENCES / ADDITIONAL INFORMATION

- Lock Out Tag Out – COP 05
- Ground Disturbance – COP 07
- Manufactures / Operators Manual

REGULATIONS

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