Ground Disturbance

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Ground Disturbance Procedure

NOTE: CONFIRM CLIENTS REQUIREMENTS FOR GROUND DISTRUBANCE. SOME POLICIES MAY SUPERSEDE (BE MORE STRINGENT) THAN THE OHS CODE

DEFINITION: Ground disturbance is any work, operation, or activity without limitation that results in a disturbance of the earth greater than 30cm (12 inches).

Ground disturbance could include: excavation, digging, trenching, ploughing, pipe or cable drilling, vertical and horizontal auguring, tunneling or boring, ditch shaping, grading, topsoil stripping, and leveling, tree planting, blasting, rock picking and driving bars, posts, or anchors. The following procedure will be strictly adhered to: Reviews and updates of the procedure will occur annually or when OH&S regulations or client's regulations have been up graded.

TRENCHING AND EXCAVATION

Excavations and trenches must be properly supported to prevent walls or banks from caving in. Under OH&S Code # 450 – 458. An excavation or trench deeper than 1.5 m (5 ft) must have its banks cut back or sloped shored or both before a worker may work closer to the wall than the depth of the excavation.

1. Where a worker is required to work in a trench or excavation 1.5 m or greater by depth he/she will be provided with protection from a cave in or slide by o A 30 degree cutback from vertical in hard and compact soils or 45 degree cutback for other soils, to reduce the remaining vertical wall if any, to no more than 1.5 m.

2. Shoring temporary protective structures are to be designed and certified by an engineer or made of lumber specified in the government regulations.

3, When unwanted contact is made with a pipe or buried facility, work should be stopped immediately and the owner (licensee) should be notified. If the owner cannot be contacted, the applicable one-call center may be contacted.

4. A trench or excavation where possibility of gases or harmful substances could be present will be tested or checked prior to entering and commencing work.

5. All open excavations or trenches must be properly barricaded and an employee responsible for replacing a barricade if moving becomes necessary during construction.

6. A worker must not enter a trench or excavation if water is present. Water must be pumped out before entering.

7. A worker must not enter a trench or excavation that is deeper than 1.5 m without the use of a ladder in at least 2 locations no more than 8 meters from the worker. Each must be flagged for visibility of locations.

8. Always check drawings and have owner locate underground utilities. DO NOT USE MECHANICAL EQUIPMENT TO EXPOSE underground utilities, always hand dig or hydro vac to expose any lines. Use extreme caution when hand digging.

9. Product identifiers should be posted with MSDS sheets on site.

10. Spoil piles must be located at least 1 m (3 ft) from the edge of an excavation or trench and the slopes must me angled at a 45 degree.

11.Strict disciplinary action will be taken against anyone not following current safety regulations regarding excavations and trenches.

12.When a pipe/buried facility is exposed, the owner must be notified at least 24 hours prior to backfilling. The owner must inspect the buried facility to ensure its condition is satisfactory. If the owner can not be contacted or fails to inspect, the ground disturber must demonstrate that they made an effort. All records of inspections should be kept for the life of the buried facility.

EXPOSURE OF UTILITIES (HYDRO-VAC or shovel)

Hand expose all buried facilities within 5m of the digging area by hand exposure or Hydro-vac before using mechanical excavation equipment. Hand exposing means exposing a buried facility, whose location has been marked, using non-powered tools and equipment (for example, a shovel). There are several things to remember when exposing a facility:

• Never probe for the facility with pointed tools such as pick axes or pointed bars.

• If possible, use blunt shovels or tools to expose the facility. Caution should be taken with new or sharp edged tools.

• Diggers should never jump on or use their entire body weight on the shovel when digging.

• Use a prying (rather than striking) motion to loosen hard dirt.

• Dig on an angle if possible, such that any contact with the facility is a glancing blow as opposed to a direct hit.

• Digging from the side to expose the facility also helps reduce the chance of damaging the facility.

• If a reasonable attempt to hand expose a buried facility has been made but you cannot find it, immediately contact the facility owner for help.

1. When using hydro vac, expose the utility to a minimum of 30cm below the utility so that the utility is clearly viable.

2. The location of buried lines may not be known precisely and so extreme caution should be exercised while the digging is being carried out.

3. Always mark the area where an exposure has taken place to prevent anyone from falling into the hole.

ALBERTA ONE-CALL

Before you do any excavations on behalf of Quick N Quality, you are required to call the Alberta One Call system and to have a confirmation number that you must enter onto your excavation permit. No number = No digging.

The use of the Alberta one-call system is free. Their number is Toll free: 1-800-242-3447 or you can make a request online at their website. After a request is made, a qualified technician will mark your underground facilities within a few days. In most cases, the party responsible for damage incurred on an underground facility is required to pay all expenses related to the resumption of service, and these costs could amount in the thousands of dollars. For this reason it is strongly urged that you call before you dig.

One Call can be contacted by:

Phone: 1-800-242-3447

Fax: 1-800-940-3447

http://www.albertalcall.com

Be prepared to answer a series of questions to verify the plot of land that is to be worked on. One Call will then get in touch with the relevant companies.

The Utility company or pipeline owner may send you the relevant maps or the affected utility companies will visit the site and mark all underground lines at no cost to the excavator.

Maps for power, phone, gas lines etc. may be obtained by calling One Call. In some cases, One Call will be unable to help you with obtaining some maps as the company involved is not registered with One Call or have not given details of that site to One Call.

Once One Call has been contacted, the planned excavation must be carried out within 14 days otherwise

another application must be submitted.

EXCAVATION PROCEDURE

1. Complete the Ground Disturbance Checklist (attached to course) with the supervisor. Post permits

2. Conduct a Tailgate meeting to highlight and identify hazards with everyone.

3. Post the Product identifiers with MSDS's sheets on site.

4. Ensure that copies of locate documentation, including One Call ticket numbers, are on site at all times during the ground disturbance.

5. Follow the hot work permit and do not do work that is not on the permit.

6. Do not use any mechanical excavation within 60cm of the utility or pipe or follow the Code of Practice for the owner of the facility if this distance is greater or under the direct supervision of the facility owner.

7. Follow the procedures for Ground Disturbance.

8. Extreme care and precautions must be taken to ensure that no lines are hit during any excavations, which may mean utilizing a spotter.

9. Stop the excavating if the required spotter is not present.

10.Ensure that you know the Emergency procedure for a line strike and that the procedure is on site.

11. Do not allow any workers within the swing arc of the excavator.

12.If any line has been contacted, damaged or punctured, a report must be made to the AEUB within 24 hours with a complete follow-up report submitted within 30 days.

13.If the excavation is less than 3m in depth, the employer is responsible for providing temporary protective structures to support the excavation to prevent the walls caving-in.

14.If the excavation is deeper than 3m, any temporary protective structure used must be designed and certified by a professional engineer.

15.Provide access for workers in the excavation such as gradual ramps or steps within 8 m (25 ft) of the worker.

16.Support and protect exposed facilities. Unsupported exposed facilities may sag and cause breaks or damage.

17. All open excavations or trenches must be properly barricaded to prevent vehicles and equipment from slipping or sliding into the excavation.

18. When preparing an excavation for workers entering a trench or excavation 1.5m or deeper the sides must be cut back to prevent any cave-ins or slides. All vertical walls in the excavation must not exceed L5m in height if people are to enter.

19.When digging, be aware that the spoil pile needs to be FURTHER than 1 meter from the edge of the exposed excavation to avoid accidental backfilling or dirt lumps and boulders rolling into the excavation. The sides of the spoil pile must not exceed a slope of 45°.

WORKING IN EXCAVATIONS

The workers in the excavation are at the most risk of injury and so have a great responsibility to protect themselves and their fellow workers. They must remain alert and aware of your surroundings and responsibilities at all times.

Workers have a legal responsibility to refuse to enter an excavation or to do work if:

1. Vertical walls exist greater than 1.5 meters if they are to approach them any closer that equal to the depth of the excavation.

2. If the spoil pile is closer than 1 meter to the edge of the excavation or has loose material which may fall into the excavation.

3. If there is water accumulated in the excavation which may pose a danger to the workers.

4. If the workers are not fully aware of the work being done.

5. If equipment approaches to close to the excavation

6. A trench or excavation where the possibility of gases or harmful substances could be present will be properly tested or checked prior to entering and commencing work.

7. If preventative barricades are not in place or where equipment may slide into the excavation.

8. All open excavations must remain barricaded and if a barrier has to be moved for some reason, the person moving it is responsible for replacing it as soon as possible.

INSTALLATION OF SHORING, STRINGERS OR BRACING

1. Any worker, who installs shoring, stringers or bracing, must use a ladder and works down from the top of the trench, installing each brace in descending order.

2. Always removes shoring, stringers or bracing uses a ladder and works upward from the bottom of the trench, removing each brace in ascending order.

3. If the quality of the ground in which a trench has been dug has deteriorated during operations to the extent that it is unsafe to use the method of removal required by the method above, inform your supervisor and develop a method to remove the shoring, stringers or bracing using a method that does not require the worker to be in the trench.

CLASSIFICATION OF OIL TYPE

Working with excavations depends on the stability of the soil in many cases and may affect the degree of safety margin. If an excavation contains soil of more than one soil type, for the purposes of this Part an employer must operate as if all of it is the soil type with the least stability.

HARD AND COMPACT

Closely exhibits most of the following characteristics:

a) it is hard in consistency and can be penetrated only with difficulty by

b) a small, sharp object;

c) it is very dense;

d) it appears to be dry;

e) it has no signs of water seepage;

f) it is extremely difficult to excavate with hand tools;

g) if has not been excavated before.

LIKELY TO CRACK OR CRUMBLE

a) it has been excavated before but does not exhibit any of the

b) characteristics of "soft, sandy, or loose" soil, or

a.it closely exhibits most of the following characteristics:

b. it is stiff in consistency and compacted;

c. it can be penetrated with moderate difficulty with a small,

d.sharp object;

e. it is moderately difficult to excavate with hand tools;

f. it has a low to medium natural moisture content and a damp

g. appearance after it is excavated;

h. it exhibits signs of surface cracking;

i. it exhibits signs of localized water seepage.

SOFT, SANDY, OR LOOSE

a) if it closely exhibits most of the following characteristics:

b) it is firm to very soft in consistency, loose to very loose;

c) it is easy to excavate with hand tools;

d) it is solid in appearance but flows or becomes unstable when

e) disturbed;

f) it runs easily into a well - defined conical pile when dry;

g) it appears to be wet;

h) it is granular below the water table, unless water has been removed from it;

i) it exerts substantial hydraulic pressure when a support system is used.

EMPLOYER RESPONSIBILITY FOR DANGEROUS CONDITIONS

- If other hazardous conditions such as potential flooding of the excavation exist, then the employer must establish a safe working procedure. This may include provision of safety harnesses and lifelines to allow workers to be removed from the excavation immediately, should the hazardous condition develop.

- The employer must test the atmosphere prior to entry into the excavation. If an unsafe atmosphere exists, ventilation must be provided to maintain safe working conditions.

- If it is impossible to maintain a safe atmosphere by providing engineering controls and a worker must enter the excavation, then a proper supplied air respirator and emergency excavation procedures must be provided.

For detailed information, check with Alberta Occupational Health and Safety Regulations and “Guidelines for Confined Entry Work”.

QUICK N QUALITY OILFIELDS GROUND DISTURBANCE CHECKLIST MUST BE COMPLETED PRIOR TO WORK COMMENCING

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