SAFE WORK PROCEDURE : EXCAVATION AND TRENCHING

Worksite: Wasagaming, MB **Written By:** Kenny Johnson **Approved By:** General Manager **Date Created:** June 23, 2008 **Date Of Last Revision:** June 24, 2008

Guiding Documents: Guidelines For Excavation Work ; WSH ACT & WSH REGULATION (PART 26)

HEADING:	CONTENT:	COMMENTS ON SPECIFIC JOBSITE:
1) Tools/Equipment	– Excavator, Backhoe, Trucks, Bobcat, Hand Shovels, Shoring or Trench cage, Barricades, Safety Fencing, Safety Signage	
2) Protective Clothing	– Hard Hats, Safety Boots, Reflective Vests, Safety Glasses, Protective Hand wear. – Respiratory and hearing protection if required.	
3) Safe Work Procedure	- Obtain registration number from the division. This is required in order to perform any excavation work - If the proposed excavation is more than 1.5 meters deep and a worker is required to enter the excavation, notice must be given to the division not more than 48 hours before the day that that excavation work is scheduled to begin. This notice is achieved by completely filling out and faxing a standard Ex-Fax to the division. *Ensure that the division has assigned a serial number to the excavation project before beginning the excavation. - Obtain utility clearances from utility providers. If utilities run through or are near the project, ensure a competent person meets with utility locaters to discuss drawings and utility locations. - Prepare and inspect excavation site. Eliminate or control all physical hazards. - Establish excavation boundaries. - Ensure that excavation area is adequately guarded by a fence, guardrail, or covering sufficient to prevent a person from falling into the excavation. Ensure proper signage has been posted. - When an excavation poses a risk to traffic because it is located close to a roadway, ensure reflective traffic control devices are installed around the excavation - Establish method of wall preservation (ie. slope or temporary protective structure.) - Remove soil with Excavator. - Place directly into trucks or stock pile at least 1 m from crest of excavation. - If entry is required into the excavation, slope all excavation walls at a 45 degree angle.(a combination of slope and vertical face can be used if the vertical face is 1 meter high and the remaining walls are sloped at an angle not greater than 45 degrees measured from the horizontal plane) - If adequate slope cannot be maintained, shoring will have to be used.(See Section 6 for shoring procedures) *If an Emergency situation occurs please follow the Emergency Response Plan for that particular worksite. Report all hazardous situations to your supervisor.*	

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4) Possible Hazards	- Contacting underground Services - Adjacent works. - Overhead facilities. - Unstable Soil. - Cave ins - Uneven ground - Access and egress - Pedestrians - Water table. - Surface run off. - Traffic. - Lightning - Pinch points - Wildlife - Soil contamination	

HEADING:	CONTENT:	Comments on Specific Job Site
5) Precautions	- Review Site Plans. - Examine soil test data. - Expose conduit and or other lines within 0.6 m of excavation by hand digging before mechanical excavation is commenced. - Entrance and exit routes must be identified and accessible - If contamination is suspected test for potential hydrocarbons within excavation prior to entrance by personnel. LEL and O2 must be checked to confirm entry is safe. - **NEVER** leave an excavation or trench unprotected. - All excavations / trenches where the public has access must have barriers and - signage to protect workers and the public from the hazards during the work hours - and off hours. - Ladders must be installed in an excavation greater than 1 meter - secured and - extend at least three rungs above ground level (1metre or 3ft). - In a trench excavation, a ladder must be located within 3 meters (10 ft.) of a - worker's working position. - Any crossover of an excavation must have a proper walkway with suitable - guardrails. - In the event of a lightning storm, cease work and take shelter. - Before approaching the excavation site workers should make eye contact with - equipment operators. - Ensure a first aider and first aid supplies are available at the excavation project at all times. - Workers will receive WHMIS training and MSDS (Material Safety Data Sheet) - will be on site. - Supervisor must be a trained excavator and remain on site when workers are in the excavation - When a worker is in an excavation more than 1.5m deep, a competent person must be located at the surface to alert the worker of potentially dangerous conditions and provide assistance. - Never use pointed tools to probe for underground gas and electrical services. Shovels are recommended. - All work materials should be a least one meter back from the edge of the excavation.	

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6) Proper Shoring Procedures	- Install from the top to the bottom of an excavation in descending order and removed in the reverse order from which it was installed. - When shoring is in progress, the bucket of the excavation machine must be placed in the trench directly in front of the shoring being installed. The bucket will serve as additional protection if a cave-in occurs. - It is essential that shoring struts/jacks be installed from the top down**.** It is important that the top (first) strut/jack be placed approximately .5 meters (18") below the surface, then the second strut/jack placed according to the shoring table. The installation of the first and second strut/jack to support the vertical uprights is very important as it stabilizes the excavation walls. - When removing shoring, the reverse procedure is used. That is, the struts are removed from the bottom to the top. Remember, there must never be less than two sets of uprights in place and the worker must always remain within the shoring in place for protection. - It is preferable to have the worker who installed the struts to be the one who removes them. That worker will know if there has been a change in conditions, undue pressure on struts or other potentially dangerous conditions. - **Please refer to the schedule in Part 26of the Manitoba WSH ACT & Regulations for exact specifications on shoring requirements**