



## JOB SAFETY ANALYSIS

COMPANY/ PROJECT NAME or ID/ LOCATION ( City, State)	DATE 5/30/14	<input checked="" type="checkbox"/> NEW <input type="checkbox"/> REVISED	PAGE 1 of 2
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WORK ACTIVITY (Description):

# HYDRO EXCAVATION

DEVELOPMENT TEAM	POSITION / TITLE	REVIEWED BY:	POSITION / TITLE
Joe Sitar	Supervisor		
Brad Southall	Project Manager		

MINIMUM REQUIRED PERSONAL PROTECTIVE EQUIPMENT ( SEE CRITICAL ACTIONS FOR TASK-SPECIFIC REQUIREMENTS)

<input checked="" type="checkbox"/> REFLECTIVE VEST <input checked="" type="checkbox"/> HARD HAT <input type="checkbox"/> LIFELINE / HARNESS <input checked="" type="checkbox"/> SAFETY GLASSES	<input type="checkbox"/> GOGGLES <input checked="" type="checkbox"/> FACE SHIELD <input checked="" type="checkbox"/> HEARING PROTECTION <input checked="" type="checkbox"/> SAFETY SHOES	<input type="checkbox"/> AIR PURIFYING RESPIRATOR <input type="checkbox"/> SUPPLIED RESPIRATOR <input checked="" type="checkbox"/> PPE CLOTHING	<input checked="" type="checkbox"/> GLOVES Cut-resistant <input checked="" type="checkbox"/> OTHER Double Hearing Protection- Slicker Suits
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1JOB STEPS	2POTENTIAL HAZARDS	3CRITICAL ACTIONS TO MITIGATE HAZARDS
<p>1) Excavations require a competent person be appointed. This competent person is responsible for proper execution of the excavation process.</p> <p>a. Complete all site required forms and notifications. Obtain prints and notify utilities companies or owners of intended excavation.</p> <p>b. Use "Call Before You Dig" agency or provide for alternative methods of underground obstruction location.</p> <ul style="list-style-type: none"> <li>• Locating underground utilities and obstructions prior to digging</li> <li>• Scanning with electronic equipment.</li> <li>• Probing with metal tipped fiberglass rods.</li> </ul>	<ul style="list-style-type: none"> <li>• Slips trips and falls walking in general area of intended excavation.</li> <li>• Trips and falls, strain from lifting heavy instruments.</li> <li>• Slips trips and falls walking in general area of intended excavation.</li> <li>• Back strains, hand injury from probing rod</li> </ul>	<ul style="list-style-type: none"> <li>• Review general terrain and identified surface conditions. Look for ruts, larges rocks and uneven terrain.</li> <li>• If focus on instrument distracts excessively from attention to terrain, have an assistant help spot various hazards in area. If lifting or pushing scanning instruments of heavier weights, get help with movements to avoid strains.</li> <li>• Review general terrain and identified surface conditions. Look for ruts, larges rocks and uneven terrain.</li> <li>• Avoid excessive force attempting to penetrate deeper with rods. Wear leather gloves to avoid blisters and other hand injuries.</li> </ul>
<p>2) Setup job site for Hydro Excavation</p>	<ul style="list-style-type: none"> <li>• Slips, trips and falls</li> </ul>	<ul style="list-style-type: none"> <li>• Identify/mark slip, trip and fall hazards.</li> </ul>



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	<ul style="list-style-type: none"> <li>• Eye and skin contact with Fuel</li> <li>• Spills</li> <li>• Loose/worn parts</li> <li>• Equipment malfunction or damage</li> <li>• Site specific hazards</li> </ul>	<ul style="list-style-type: none"> <li>• Wear appropriate PPE if fueling equipment, read MSDS.</li> <li>• Make sure equipment is not leaking. Fuel equipment at secure location with underlying pavement.</li> <li>• Ensure that connections are tight. Replace defective or worn parts. Locate all kill switches</li> <li>• Operators to perform daily equipment inspections. If any defects notify equipment manager for repair.</li> <li>• Create a TSTI and Excavation Permit for work to be performed</li> </ul>
3) Inspect for Proper Grounding	<ul style="list-style-type: none"> <li>• Electrical Shock/Electrocution</li> </ul>	<ul style="list-style-type: none"> <li>• Hook up ground wire to ground strap of cable or copper ground rod</li> </ul>
4) Hydro Excavate	<ul style="list-style-type: none"> <li>• Underground Interferences</li> <li>• Struck by/Crushed by</li> <li>• Cave-in protection</li> <li>• Safe access and egress</li> <li>• Hazardous Atmospheres</li> </ul>	<ul style="list-style-type: none"> <li>• Identify all asset utilities with a RYCOM in area to be Excavated. Mark with a visible indicator that can be easily seen by employees in the work zone.</li> <li>• Complete Brieser Excavation Permit</li> <li>• Barricade swing radius of Hydro Vac Hose</li> <li>• Sloping, benching or shoring as required by excavation permit</li> <li>• Competent person to verify daily integrity of excavation per excavation permit</li> <li>• Install ladders per policy. Inspect before use or install ramps per excavation policy</li> <li>• Use of a calibrated 4-gas monitor as needed per excavation permit.</li> </ul>
5) Start "Digging" Hydro Excavating	<ul style="list-style-type: none"> <li>• Explosion, Fire, Electrical Shock/Electrocution</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain a circular motion with the pressure wand until the "electrical line" has been "Day lighted". Then use a sweeping motion across line, never allowing pressure wand to become stationary and avoiding contact with line.</li> </ul>
6) Contacting unknown underground (asset) lines that are not marked	<ul style="list-style-type: none"> <li>• Explosion, Fire, Electrical Shock/Electrocution</li> </ul>	<ul style="list-style-type: none"> <li>• "<b>STOP WORK</b>", re-evaluate job steps and if Electrical Lines are identified incorporate equal potential grounding mats (EPM's)</li> </ul>
7) Noise exposure Site emergency response	<ul style="list-style-type: none"> <li>• Hearing loss from constant exposure to sound levels above 85 db.</li> <li>• Need for trench rescue or</li> <li>• EMS</li> </ul>	<ul style="list-style-type: none"> <li>• Wear Double Hearing Protection whenever 30 ft. close to operating near Hydro Vac equipment.</li> <li>• Call plant emergency number for all emergency response needs. Plant protection is coverage for excavation/trench rescue; they must be contacted daily to advice of excavation/trenching activities.</li> </ul>
8) Secure Area	<ul style="list-style-type: none"> <li>• Slips, Trips and Falls</li> </ul>	<ul style="list-style-type: none"> <li>• Install jersey barricades to protect open excavation from other non-authorized personnel.</li> </ul>
9) Clean up	<ul style="list-style-type: none"> <li>• Slips, trips and falls</li> <li>• Sprains &amp; Strains</li> </ul>	<ul style="list-style-type: none"> <li>• Inspect work area, move material that may cause trips prior to performing work.</li> <li>• Use proper lifting techniques/team lift.</li> </ul>



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10) Secure tools.	<ul style="list-style-type: none"><li>• Slips, trips and falls</li><li>• Security</li></ul>	<ul style="list-style-type: none"><li>• Inspect work/staging area.</li><li>• Lock equipment.</li><li>• Lock away tools.</li></ul>
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<sup>1</sup> Each Job or Operation consists of a set of steps. Be sure to list all the steps in the sequence that they are performed. Specify the equipment or other details to set the basis for the associated hazards in Column 2

<sup>2</sup> A hazard is a potential danger. What can go wrong? How can someone get hurt? Consider, but do not limit, the analysis to: **Contact** - victim is struck by or strikes an object; **Caught** - victim is caught on, caught in or caught between objects; **Fall** - victim falls to ground or lower level (includes slips and trips); **Exertion** - excessive strain or stress / ergonomics / lifting techniques; **Exposure** - inhalation/skin hazards. Specify the hazards and do not limit the description to a single word such as "Caught"

<sup>3</sup> Aligning with the first two columns, describe what actions or procedures are necessary to eliminate or minimize the hazards. Be clear, concise and specific. Use objective, observable and quantified terms. Avoid subjective general statements such as, "be careful" or "use as appropriate".