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| **Name of Safe Job Procedure**  | Hydrovac Use of Grounding Mats | **SJP #** | 00-0\_\_  |
| **Hazard Rating:** |[ ]  High |[ ]  Moderate |[ ]  Low |
| **Date Developed:** | Enter Date Here | **Revision Date:** | Enter Date Here |
| **Reviewed by:**(name & title) | Add name of Management representative | **Date:** | Enter Date Here |
| **Reviewed by:** (name & title) | Add name of worker representative.  | **Date:** | Enter Date Here |

**Purpose:** When a crew or unit is dispatched to a location where digging for electrical companies or exposing electrical utilities, including working at substations, grounding mats are used. When a high voltage energized line cannot be shut down and “locked out” this procedure will help reduce the possibility of electrical injury or electrocution.

**Instructions:**

* Management and Worker representatives must review this safe job procedure (SJP) prior to implementation, annually or any time the task, equipment, or materials change.
* Do NOT perform this procedure until you have been appropriately trained and authorized to do so by your supervisor.

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| **Required Training:**  |
| * Equipotential Grounding & Bonding (may be facilitated in-house aligned with grounding mat manufacturer)
* On-the-job aligned with the instructions in the manual that comes with the grounding mat
* On-the-job instruction of the Electrical Safe Work Practices and Breaking Ground Procedures
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| Eye Protection | Half or full face mask | Face-Shield (as needed) | Safety Footwear | Hearing Protection for 100 dB | Type of Gloves | Hard Hat | Hi-visibility Vest | Fall restraint when applicable | No Loose clothing, jewelry  |

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| **Potential Hazards:**  |
| Energized Lines – contact made with, or encroachment of (no touch just close) energized lines can result in electrical shocks and burns to the operator of the wand.Touch potential – contact made with energized lines can energize the truck and then result in electrical shocks and burns to the operator who touches the truck. |

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| **Pre-Operational Safety Checks**  |
| * Obtain and refer to Breaking Ground Procedure.
* Conduct a hazard assessment and discuss with all personnel.
* Make sure mats have been tested in accordance with the manufacturer’s specifications at least semi-annually or at a frequency established by the local utility association. Maintenance is to be performed as per manufacturer's specifications.
* Inspect the portable bonding mat, check the non-skid material for tears or rips, check all electrical connections and inspect the flat braided wire grid. Bonding mat must be used grid side FACE UP.
* Report any damage to your supervisor. DO NOT use the mat if it is damaged in any way.
* **The power company must supply supervision or a safety watch. Should the power company elect not to comply with this requirement, document their decision.**
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| **Job Steps**1. Set up a bonded zone of 10m (30 feet) around the working zone using barricade tape.
2. Remove and keep away all non-essential personnel from the bonded zone.
3. Remove as much wand hose from the hose reel as required before you begin your excavation.
4. Position the hydrovac unit.
5. Set up a barricade no less than 2m (6.5 feet) from the hydrovac unit and surround the work area using “Danger High Voltage” barricade tape.
6. **Do not** lean tools or equipment such as a spare wand or pry bar on the hydrovac unit as such items could act as an electrical ground.
7. Position the portable equipotential mat as follows:
	1. Connect the mat to the wand with a duck bill or T-bar clamp
	2. Connect the mat to the hydrovac with a bull stud clamp
	3. Connect the mat to the dig tube with a duck bill or T-bar clamp.
	4. Should there be a permanent bonding cable from the dig tube flange to the hydrovac unit, eliminate step c) and test conductivity between the dig tube flange and the hydrovac unit using a standard ohmmeter. Remember anything you touch must be bonded.
8. Pre-set the water pressure and temperature. DO NOT exceed 14 millipascals (mpa) or 1500 pounds per square inch (psi) or 38 degrees Celsius (100.4 degrees Fahrenheit) within 1m (3.28 feet) of the expected depth of the electrical line.
9. Activate the vacuum and high-pressure pump, then stand on the equipotential mat and proceed to excavate.
10. **Never** step off the mat while excavating.
11. **Never** touch, climb on, or enter hydrovac unit while excavating.
12. Both operators must stand on the equipotential bonding mat always. Deactivate the vacuum and high-pressure pump.
13. Remove the dig tube and high-pressure wand from the excavation before stepping off the mat.

**If electrical contact occurs:**1. DO NOT step off the equipotential mat.
2. Shut off the pump using the remote control.
3. Deactivate the vacuum using the remote control.
4. Remove the dig tube and wand from the excavation.
5. All crew must sidestep together, shuffling the equipotential mat with them, to a minimum distance of 12m (40 feet) from the excavation.
6. Contact the power company immediately.
7. Keep the work area secured. Do not allow anyone inside the secured work area.
8. If a worker receives an electrical shock seek immediate medical assistance.

**REPORT ANY HAZARDOUS SITUATION TO YOUR SUPERVISOR/MANAGER OR EMPLOYER IMMEDIATELY** |