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Excavation Assessment Form Instructions

Instructions for completing the Excavation Assessment Form ([doc](#) | [pdf](#)) are provided below.

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Project Information

- ▶ **Location:** (specify the location of the excavation - street, nearest building, etc.)
- ▶ **Date/Time:** (specify the date and time that the excavation is being evaluated)
- ▶ **Miss Utility Ticket Number:** (specify the ticket number given by Miss Utility verifying that notification and approval to dig has been given)
- ▶ **Date/Time Cleared:** (specify the date and time that clearance was given by Miss Utility)

Excavation Depth

- ▶ **Excavation Depth:** (check one of the boxes indicating the anticipated depth of the excavation and follow the required action specified)
 - ▶ If " < 4 feet or personnel will not be entering" is checked, contacting Miss Utility is the only action required. The remainder of the assessment form does not need to be completed, provided there are no additional hazards.
 - ▶ If "between 4 and 20 feet" is checked, all hazards must be identified and effectively controlled prior to personnel entering.
 - ▶ If " > 20 feet" is checked, the competent person must contact EHS at 231-2341 for additional review and compliance assurance.

Hazards and Controls

Protection Against Cave-in or Trench Collapse

- ▶ **Cave-in: any soil class:** If a trench box will be used, check this box. Soil does not have to be analyzed and classified. The trench box must be appropriate for the excavation depth and used according to manufacturer's recommendations.
- ▶ **Cave-in: assume Class C:** If the excavation walls will be sloped or benched 34 degrees (i.e. 1 1/2 H to 1 V), check this box.
 - ▶ Note: This box cannot be checked if the excavation is a bell-bottom pier hole, protective systems for class "C" soil cannot be implemented, or timber or aluminum shoring will be installed.
- ▶ **Cave-in: all other situations:** (includes class "A" or "B" soil, bell-bottom pier holes, and the use of aluminum or timber shoring systems). If one of the previous options cannot be selected and implemented, check this box. EHSS and/or departmental safety representatives must be contacted for additional review.

Protection Against Other Hazards

- ▶ **Surface Encumbrances:** All equipment, materials, supplies, permanent installations (e.g. buildings, roadways, sidewalks, trees, boulders, etc.) at the surface of the excavation that could present a hazard to personnel working in the excavation must be removed or supported, as necessary.

- ▶ Check "N/A" if it is not applicable.
- ▶ Check "Removed" if there are items which must be moved at least two feet from the edge of the excavation.
- ▶ Check "Supported" if shoring or other support is necessary to secure items.



- ▶ **Underground Installations:** Arrangements must be made, as necessary, by the competent person with the appropriate utility agency for the protection, removal, shutdown/de-energization, or relocation of underground installations identified by the Miss Utility system. (Check the appropriate control measure taken.)
 - ▶ Work on such installations shall only be conducted by authorized personnel (i.e. the owner of the installation).
 - ▶ If it is not possible to establish the exact location of underground installations, the work may proceed with caution, provided detection equipment or other safe and acceptable means (e.g. hand digging) are used to locate the utility as the excavation is opened and each underground installation is approached.
- ▶ **Access/Egress:** Stairs, ladders, or ramps must be provided where personnel must enter excavations four feet or more in depth, and must comply with OSHA rules and regulations. The maximum distance of travel in an excavation to a

means of egress shall not exceed 25 feet. (Check the appropriate box for the control measure selected.)

- ▶ **Vehicular Traffic:** Excavations affecting vehicular traffic must be barricaded and warnings provided to oncoming traffic. Additional precautions for personnel (i.e. high visibility warning vests, hard hats, etc.) may be required. Personnel designated to flag traffic must comply with the Virginia Department of Transportation's [flagger certification](#) program. This certification is available through EHS. (Check the appropriate box for the control measure selected.)

- ▶ **Falling Loads:** Personnel shall not be permitted underneath loads handled by lifting or digging equipment. All personnel are required to stand away from any vehicle being loaded or unloaded.

Vehicle operators may remain in the cab of the vehicle being loaded or unloaded by lifting/digging equipment provided the vehicle cab is reinforced or otherwise adequately protected from impact.



(Check the box to verify that personnel have been informed to stay clear of loading equipment.)

- ▶ **Mobile Equipment:** When mobile equipment is operated adjacent to the edge of an excavation, a warning system must be used when the operator does not have a clear and direct view of the edge of the excavation. The warning system may consist of barricades, hand or mechanical signals, signs/flags, or stop logs. If possible, the surface grade should slope away from the excavation. (Check the type of warning system to be used.)

- ▶ **Hazardous Atmosphere:** Atmospheric testing must be conducted in excavations over four feet deep where a hazardous atmosphere could reasonably be expected to exist, such as near landfill areas, near hazardous substance storage, near gas pipelines, or whenever hazardous chemicals will be used in the excavation. This determination is made by the competent person during excavation evaluation and/or inspection. Information and guidelines for atmospheric testing can be found [here](#).

- ▶ Emergency rescue equipment, such as breathing apparatus, safety harness and lifeline, or basket stretcher shall be readily available where hazardous atmospheric conditions exist or may reasonably be expected to develop during work in an excavation. This equipment shall be attended when in use.

- ▶ **Water Accumulation:** Personnel are not permitted to work in excavations that contain, or are accumulating, water unless precautions have been taken to protect personnel from hazards posed by water accumulation.

These precautions may include special support or shield systems to protect from cave-in, water removal by mechanical pump to control the level of accumulating



water, or the use of a safety harness and lifeline. (Check the appropriate box for the control measure selected.)

- ▶ If water is controlled or prevented from accumulating by the use of water removal equipment, the equipment and operation must be monitored by a person familiar with the equipment.
 - ▶ If excavation work will interrupt the natural drainage of surface water (e.g. streams), diversion ditches, dikes, or other suitable means must be used to prevent surface water from entering the excavation. Precautions must also be taken to provide adequate drainage of the area adjacent to the excavation.
 - ▶ Excavations subject to runoff from heavy rains must be re-inspected by the competent person to determine if additional precautions are necessary.
- ▶ **Adjacent Structures:** Where the stability of adjoining buildings, walls, or other structures may be endangered by excavation operations, support systems (e.g. shoring, bracing, or underpinning) shall be provided to ensure the stability of the structure and provide adequate personnel protection. Excavations below the level of a base or footing of any foundation or retaining wall that could reasonably be expected to pose a hazard to personnel is not permitted **unless**:



- ▶ A support system, such as underpinning, is provided to ensure the safety of personnel and the stability of the structure; or
- ▶ A registered professional engineer has approved the determination that the structure is sufficiently removed from the excavation so as to be unaffected by the excavation activity; or
- ▶ A registered professional engineer has approved the determination that such excavation work will not pose a hazard to employees.
 - ▶ Note: Where review or approval of a support system by a registered professional engineer is required, the competent person shall secure this in writing before work begins. A copy of this approval must be

provided to EHSS upon request.

- ▶ **Loose Rock or Soil:** Adequate protection must be provided to protect employees from loose rock, soil, or other materials that could pose a hazard by falling or rolling from an excavation face. Such protection may consist of:
 - ▶ Scaling to remove loose material,
 - ▶ Installation of protective barricades, such as wire mesh or timber on the face of the sloper, at appropriate intervals, to stop and contain falling material,
 - ▶ Sufficient benching to contain falling material,
 - ▶ Keeping materials or equipment at least two feet from the edge of the excavation,
 - ▶ Use of restraining devices that are sufficient to prevent materials or equipment from falling or rolling into the excavation.

- ▶ **Fall Protection:** Standard guardrails, fences, or barricades must be provided for excavations adjacent to walkways, driveways, and other pedestrian or vehicle thoroughfares. Walkways or bridges for public and site personnel to cross over excavations must be provided when the excavation width is greater than 30 inches, and depth is greater than four feet. Walkways or bridges must have standard guardrails (which are missing in this example) and be at least 19 inches in width. If the walkway will serve the general public, it must be at least 36 inches in width, or the width of the building exit door(s) if serving as the exit for that building, whichever is greater. Where personnel will be working or passing under such walkways, a toe-board must be installed on the walkway. Wells, holes, pits, shafts, and similar excavations must be effectively barricaded or covered and posted (as necessary) to prevent unauthorized access. All temporary excavations of this type must be backfilled as soon as possible.

- ▶ **Security:** When an excavation will be left open overnight, barricades and/or fencing to restrict access, warning signs, and adequate lighting shall be provided as necessary to protect the public.

- ▶ **Personal Protective Equipment:** (Indicate the minimum personal protective equipment, associated with excavation hazards, required for entry into the excavation.)



Entry Authorization

- ▶ **Competent Person:** Once the competent person has evaluated site conditions and necessary control measures have been implemented, the competent person shall sign the Excavation Assessment Form and post it at the entrance

to the excavation, or other central location. Personnel shall not enter the excavation until this assessment has been completed, control measures implemented, and entry has been authorized on the form. All entrants must review the information provided on the assessment form so that hazards are known and protective measures understood. If any of the controls identified on the form have been altered, removed, or damaged entry should not occur until the competent person has re-evaluated the situations and corrective measures have been taken.

- ▶ **In case of emergency:** Call 911 immediately! Personnel shall have a means for contacting emergency services in the event of an emergency. Phone numbers for on and off campus phones are provided on the form. When radio contact is the primary means of communication, personnel must be available at the base station with a phone system available.

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