



**Duke University - Facilities Management Department
Standard Operating Procedure**

EXCAVATION PROGRAM

Applicable to: All Duke Organizations and Contractors

Date Effective: August 4, 2011

Issue No.: 1 Revision: 0

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I. Purpose

- A. The Excavation Program is designed to ensure underground utilities are not damaged during ANY kind of excavation (digging) being performed on the Duke University property.
- B. This Facilities Management Department (FMD) program should be used in conjunction with any/all Duke University policies and procedures pertaining to excavation and provides specific procedures and responsibilities for FMD employees and contractors.

II. Scope

- A. This program applies to all Duke employees and contractors working on Duke property.
- B. This policy applies to all excavation work on campus including night and weekend work.

III. Policy

- A. FMD will take all reasonable measures to provide a safe workplace. All FMD operations must be performed in a manner, which will prevent any undesirable effects to FMD and/or Duke employees, assets, the local community, and the environment.
- B. The provisions of this program and all applicable standards will be followed to ensure the reliable operation of utility systems. Failure to follow the requirements of the Excavation Program will be cause for disciplinary action for Duke employees and potential fines & penalties for contractors.
- C. Duke's Excavation Program is meant to work with the North Carolina Underground Damage Prevention Act of 1985 and should not be in conflict with its requirements.

IV. Procedures

- A. Excavation permit required before any performing excavation (digging), anywhere on campus, by anyone
 - 1. Only exception could be external utility companies with right of way easements on Duke property (permit only, not locating)
- B. Permit must remain on site during excavation
- C. Permits expires with associated NC One-Call Ticket
- D. If a new equipment operator is assigned to work on the site not on the active permit, a new permit must be requested
- E. If any utility is discovered that is not marked the equipment operator must immediately stop and contact the Duke Project Manager or rep and the Duke utility locator
- F. Utility location markings must be maintained throughout the work. If work area needs to be remarked during permit period, the Duke Utility Locator should be contacted
- G. Locating natural gas lines or the 44KV electrical lines require a vacuum truck to locate
- H. Utility markings should not be considered an exact location, they have a 30" variance each side of the marking
- I. Within 30" of the edge of a utility, hand digging or vacuum excavation is required to locate utility
- J. For new utilities or repaired utilities, excavated areas must be inspected by a DUES representative prior to back filling. Failure to receive approval, the utility will have to be uncovered at the contractor's expense.

| Revision | Description | Effective Date |
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K. Obtaining an Excavation Permit

1. Is work area in High Risk Zone or major construction project (new building or building addition)? If not go to Step 2. If it is, a pre-excavation review needs to be held prior to project starting. Request from Duke Project Manager or Supervisor/Manager to Duke Utilities & Engineering Services (DUES) Operations/Project Manager one week before request for locate of utilities.
 - a) Review scope of excavation
 - b) Excavation/project schedule
 - c) Drawings of planned work
 - d) Drawings of any logistical issues (traffic impact, etc.)
 - e) Name of contractor(s) doing work
 - f) Temporary utilities or shutdowns if required
 - g) Review Risk Mitigation Plan
2. Contractor completes Permit Request Form and is signed off by Duke Project Manager or representative
3. Contractor or requestor must attach a drawing(s) and sketch(es) of planned work
4. Contractor performing the work calls NC One-Call Center to request utility locate 48 hours or more prior to need date
5. Duke Utility Locator contacts requestor (superintendent) to set up time to meet
6. Duke Utility Locator will coordinate marking of utilities within the 48 hour period and provide a drawing of known utilities in area to be attached to the permit
7. Duke reviews markings and requirements with equipment operator
8. Both Duke Utility Locator and equipment operator signs excavation permit
9. Contractor can now begin work
10. If work goes on beyond NC One-Call Ticket end date, go to Step 2 to request new permit
11. If work area needs to be remarked during permit period contact the Duke Utility Locator

V. Training

- A. Duke managers, supervisors and project managers will be responsible for training their employees and contractors.

VI. References

- A. NC Underground Damage Prevention Act of 1985

VII. Document Retention

- A. Permits must remain on the work site during excavation and made available to any Duke employee requesting to review the permit.
- B. Permits may be discarded after work is complete or they have expired.

VIII. Attachments

- A. Documents can be found on Facilities Management Department website under Utilities & Engineering (<http://www.fmd.duke.edu/utilities/index.php>)
 1. Excavation Program SOP 1.0
 2. Excavation Permit 1.0
 3. Excavation High Risk Map
 4. Excavation Risk Mitigation Form 1.0

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