BACKGROUND

Building and sidewalk collapses can be attributed to builders digging basements and footings close to adjoining public and private property. Many older buildings in Philadelphia are supported on rubble stone foundation walls with minimal or no spread footings below. When such walls are exposed or undermined they become unstable and are prone to sudden catastrophic failure. Likewise, when excavations are made immediately abutting paved areas, like private yards and public footways that have no soil support, the exposed soil is prone to catastrophic failure, damaging property and infrastructure and disrupting traffic.

Collapses have also been caused by property owners that attempt to increase the height of their basements by digging out the basement floor. Though the danger is most acute with rubble stone foundation walls and areas with no soil support, damage and failure can occur whenever excavations are made adjacent to existing structures and adjacent yards and footways, regardless of their age or condition.

This Code Bulletin will set forth construction document and inspection requirements to aid in enforcing the code sections that address concerns with excavations and their impact on adjoining public and private property.

CODE REFERENCES

The 2009 and 2018 International Building Code and Philadelphia amendments include the following provisions related to this matter:

**B-3307.1 Protection required.** Adjoining public and private property shall be protected from damage during construction, remodeling and demolition work. Protection must be provided for footings, foundations, party walls, chimneys, skylights and roofs. Provisions shall be made to control water runoff and erosion during construction or demolition activities. The person making or causing an excavation to be made shall provide written notice to the owners of adjoining buildings advising them that the excavation is to be made and that the adjoining buildings should be protected. Said notification shall be delivered not less than 10 days prior to the scheduled starting date of the excavation.

**B-3307.3 Physical examination.** A physical examination of such adjoining property shall be conducted by the person causing the construction or demolition operations prior to the commencement of the operations and at reasonable periods during the progress of the work. Observed conditions shall be recorded by the person causing the construction or demolition operations, and such records shall be made available to the Department upon request.
B-3307.4 Soil or foundation work affecting adjoining property. Whenever soil or foundation work occurs, regardless of the depth of such, the person who causes such to be made shall, at all times during the course of such work and at his or her own expense, preserve and protect from damage any adjoining structures, including but not limited to footings and foundations.

B-1804.1 Excavation near foundations. Excavations for any purpose shall not remove lateral support from any foundation without first underpinning or protecting the foundation against settlement or lateral translation.

DIRECTION

PART A

A building permit application for new construction, additions, underground tank installations and any alteration that includes an excavation, shall include the following:

1. The construction documents shall include a detailed plan for protecting the footings and foundations of buildings and structures from settlement or lateral translation. Such plans for protection of buildings and other adjoining property must be designed by a registered professional engineer.

   Exceptions:

   a. Where no special precautions are warranted, the registered design professional shall provide a sealed statement that no special precautions or measures are required to protect existing footings and foundation on the subject property or on the immediately adjoining property.

   b. Construction projects such as certain single-family ground floor additions that do not require the seal of a registered design professional as detailed in Administrative Code Section A-304.

2. Where excavations of twelve (12) feet or less below the adjacent grade are proposed, the soils investigation report prepared by a licensed professional engineer as required by the Building Code shall provide information to the contractor where sheeting and shoring for immediately adjacent rights-of-way, alleys and yards of adjacent properties is necessary given the depth of the excavations and the soil conditions present. All excavations in excess of five (5) feet in depth require support in accordance with OSHA regulations. The soils investigation report may also provide for alternative methods for an installation of a slope angle in instances where lay back excavation is appropriate.

3. Engineer designed sheeting and shoring plans shall be submitted when the proposed excavation is deeper than twelve (12) feet below the adjacent grade and is horizontally closer to the edge of the adjoining property, including the footway or other public right-of-way, than a distance of 1.25 X the depth of the excavation.

4. Where the protection of footways and other public rights-of-way includes protections other than sheeting and shoring (such as tie-backs, soil nailing, etc.) or includes encroachments into the right-of-way, the method and plans shall be approved by the Streets Department.

PART B

Special Inspections shall be performed under the following conditions:

1. When underpinning or structural support is specified or required, Special Inspections by a licensed professional engineer shall be performed.
2. Where excavations in excess of twelve (12) feet in depth require engineer-designed sheeting and shoring, Special Inspections by a professional engineer shall be performed.

3. Where an excavation is three (3) feet or less from an existing building, Special Inspections shall be performed by a licensed professional engineer to ensure that conditions and protections conform to the approved permit drawings.

   a. Exception: Special inspections are not required for excavations that are three (3) feet or less below adjacent grade.

A Building Permit shall not be issued unless the required Special Inspection Form(s) are submitted in accordance with Departmental procedures.

PART C

A Stop Work Order shall be issued whenever:

1. An excavation is performed that is not in accordance with the approved plans and special precautions;

2. Underpinning or structural support is installed in the absence of the special inspector;

3. The Code Official determines that a dangerous condition is being created by any excavation.