



# GUIDELINES FOR Underpinning Permit

## FUNDAMENTALS

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There are two types of Underpinning: One is shallow or traditional pit underpinning, when suitable foundation bearing soils are found at shallow depths. The second type is deep underpinning when suitable bearing soils are found at deeper depths (Helical piles, push piers, micro/mini piles to solve foundation settlement problems).

A building permit is required to provide underpinning of an existing wall footing when conducting the following construction:

1. Conversion of an existing crawl space to a full basement with code complying ceiling height.
2. To lower an existing basement with non-compliance ceiling height to a new basement with code complying ceiling height.
3. To add a footing to an existing wall without a footing.
4. When replacing an existing wall and its footing in distress due to settlement or design deficiencies.
5. Lowering of an existing wall footing due to adjacent new construction extending to elevations lower than the elevation of existing footing
6. Lowering of existing wall footing needed due to utility trench in the vicinity of the existing wall and its footing or similar other conditions.

This underpinning work shall be under the direction of a structural engineer and undertaken by experienced contractor because of the inherent dangers of possible wall collapses and endangerment of adjoining properties in performing this work.

★ ★ ★ Publications, forms, and other useful information can be found online at: ★ ★ ★  
[www.dkra.dc.gov](http://www.dkra.dc.gov)

Find DCRA: 1100 4<sup>th</sup> Street SW, Washington DC 20024

Permit Operations Center, 2<sup>nd</sup> floor  
Homeowner Center, 2<sup>nd</sup> floor, (202) 442-9517  
Building Plan Review, 3<sup>rd</sup> floor, (202) 442-8959  
Office of the Surveyor, 3<sup>rd</sup> floor, (202) 442-4984  
Office of the Zoning Administrator, 3<sup>rd</sup> floor, (202) 442-4576  
Inspection, 4<sup>th</sup> floor, (202) 442-9557  
Office of the Director, 5<sup>th</sup> floor, (202) 442-4400

### Hours of Operation

Mon, Tues, Wed + Friday: 8:30 am — 3:30 pm  
Thursday: 9:30 am — 3:30 pm

*This document is available in alternative formats and languages.  
Please call (202) 442-4601, TTY (202) 123-4567 for more information*

## REQUIREMENTS

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When applying for a building permit to performing underpinning of an existing wall the following are required:

- Provide the adjoining property owner notification form.
- Provide official Soil Classification Report used to determine if allowable soil bearing capacity value used is per the International Residential Code (IRC) table 401.4.1.
- Provide information about existing wall type and its thickness; type of existing footing material, width and thickness, depth to bottom of footing measured from top existing slab on grade from record/as-built drawings or by means of test pits if such information is not available.
- Provide underpinning plan. Use continuous and repeating sequence of 1, 3, 5, 2, and 4. Mark the starting segment and direction to be followed during underpinning.
- Provide architectural plan for the basement with complete layout showing location of sump pit/pump and cleanouts.
- Provide PE (structural) seal & signature on structural plans and supporting documents.
- Provide details for dowels between adjoining underpinning footing segments and wall segments.
- In presence of basements, provide water stop at cold/construction joints between underpinning wall segments, in dry pack between existing wall footing and new underpinning wall or footing, in isolation joint between new basement slab on grade and underpinning wall.
- Provide interior perimeter perforated drain with sump pit/pump and cleanouts.
- List DESIGN CRITERIA – Building codes (IRC2012 and DCMR12B-2013 supplement or IBC2012 and DCMR12A-2013 supplement as applicable. List design loads including surcharge loads from adjacent buildings and construction equipment and specifications for materials of construction used in construction of underpinning.
- Provide details of soil profile showing soil type at different depths, based on historically gathered data collected over period of time or other sources. Once the foundation bearing stratum type and its location is known, the presumptive load bearing values of IRC/Table R401.4.1 or IBC/ Table1804.2 as applicable can be used in lieu of complete geotechnical evaluation. In case the required information is not available, soil borings shall be conducted to determine the type and location of suitable foundation bearing soil to use the presumptive values of IRC or IBC.
- MEP plans are required if there are any utilities (PIPING, DRAINS ETC.) planned under or in the new basement slab on grade.
- Submit wet-ink stamped and signed calculations, drawings and supporting documents for underpinning from a professional engineer (structural) registered in Washington DC.

## PROCESS

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When applying for the building permit, bring the required documentation (listed on Page 2) to the Permit Operations Center. DCRA staff will direct you through the multiple-agency review process. All underpinning projects shall be filed for review.

The average review time for a file job is between 14 and 30 business days from the date of filing and payment of filing fee, depending on the complexity of the job and how well prepared the submittal documents are.

## FREQUENTLY ASKED QUESTIONS

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**1. What if I have an existing two family dwelling with NO Certificate of Occupancy.**

**Answer:** Since there is no existing C of O, you must obtain one, which includes obtaining a building permit first.

- You may apply for a Basic [Business License \(BBL\)](#) for a two family flat.
- Self-certify that the building is compliant with the current construction codes.
- Once the necessary inspections have taken place and have been approved, the C of O will be issued.

**2. What is the minimum ceiling height of a habitable space for a single family dwelling?**

**Answer:** For NEW ONE AND TWO FAMILY DWELLINGS, minimum ceiling height for habitable spaces, hallways, bathroom/toilet rooms, and laundry rooms both for basement, at grade and above grade floors shall be 7'-0" from finished floor. Ceiling height for non-habitable spaces of the basement shall not be less than 6'-8". Ceiling height at location of localized obstructions/projections due to plumbing or other pipes, HVAC duct bulkheads, structural beams and girders may be 6'-4" above the finished floor per IRC /R305. For EXISTING ONE AND TWO FAMILY DWELLINGS, minimum ceiling height for habitable spaces, hallways, bathroom/toilet rooms, and laundry rooms at grade and above grade floors shall be 7'-0" from finished floor per IRC/R305. For Existing Basements, ceiling height for habitable spaces of the basement shall not be less than 6'-8". Ceiling height at location of localized projections due to plumbing or other pipes, HVAC duct bulkheads, structural beams and girders may be 6'-4" above the finished floor (IRC/AJ601.4).

Refer to "Conversion of a Single Family Dwelling to a two family Dwelling" PDF online at [dcra.dc.gov](http://dcra.dc.gov) for additional building code requirements.

**3. Can I have a window opening on a 1 and 2 family dwelling, 3 feet from property line?**

**Answer:** Window openings located within 3 ft. of the property line are NOT permitted per table R302.1 (1) of the 2012 International Residential Code (IRC).

**4. What are the requirements for obtaining a Building permit?**

**Answer:** You need to submit 4 sets of plans unless submitted via ProjectDox. Along with civil drawings duly sealed and signed by an architect or professional engineer, who is registered in DC for all projects except one and two family dwellings. If the building is new or an exterior addition is being built to an existing building, you need to submit a plat from our DC Surveyor's Office showing the footprint of the new building. **(OR)** The foot print of the existing building with the proposed addition, including all set back dimensions from lot lines. Refer to section §106 of 2013 DCMR 12A for more details.

**5. What is the permissible hours allowed for construction?**

**Answer:** In accordance with section 105.1.2 of 2013 DCMR 12A Construction Hours are from 7 a.m. to 7 p.m. Mondays through Saturdays, excluding legal holidays.

**6. What is the review time on a file job?**

**Answer:** All required DCRA reviews will be completed in 14 or 30 business days respectively from the date of filing, depending on the complexity of the job. Learn more about review times online at <http://planning.dc.gov/DCRA/Permits/TargetReviewTime.pdf>

## 7. How long is the permit valid?

**Answer:** Any permit issued shall become null and void if the authorized work is not begun and inspected pursuant to Section 109 within one year after the permit is issued or if the authorized work is suspended, abandoned or not inspected pursuant to Section 109 for a period of one year. In determining whether work has been suspended or abandoned under this Section 105.5, including exceptions thereto, the code official shall have the right to request documentation from the permit holder and to inspect the premises, including any building or other structure, for which the permit has been granted. For additional information see Chapter 1, Section 105 of 2013 12 DCMR A.

## 8. When is a plat required?

**Answer:** The applicant shall provide an official building plat issued by the D.C. Office of the Surveyor, in duplicate or by electronic submission, with applications for permit involving any of the following:

1. Erection of a new *building* or other *structure*.
2. Addition to an *existing building*, and addition of accessory structures
3. Permanent construction higher than 48 inches (1219 mm) above grade, outside the footprint of *existing buildings*.
4. Construction or alteration of projections into public space.
5. Erection of retaining walls higher than 48 inches (1219 mm) measured from bottom of footing to top of wall.
6. Establishment of a new parking lot, regardless of the amount of work involved.

For additional information see Chapter 1, Section 106 of 2013 DCMR 12 A.

A surveyor's plat can be ordered from the DC Surveyor's Office located at 1100 4<sup>th</sup> Street, SW, Third Floor, Washington, DC 20024. They can be reached at (202) 442-4699.

## 9. What is a Structural Certification?

**Answer:** A Structural Certification is a form executed by a professional structural engineer, who is registered in the District of Columbia to certify that the structural portion of the plans submitted are in compliance with the structural requirement of the current construction codes. The code official is authorized to accept the structural portions of the plans thus certified at the code official's discretion.

## 10. What is the frost depth for DC?

**Answer:** The frost depth for DC is 2 ft. 6" inches for existing or finished exterior grade per the 2013 DCMR 12A, §1809.5.

## 11. What is the wind load for DC?

**Answer:** Design wind loads shall be determined in accordance with Chapters 26-30 of the ASCE 7 – Minimum Design Loads for Buildings and Other Structures. For more information on design roof loads, see Chapter 16, Sections 1607 and 1609 of the Building Code.

## **12. What is the snow load for DC?**

**Answer:** Design snow loads shall be determined in accordance with Chapter 7 of the ASCE 7 – Minimum Design Loads for Buildings and Other Structures. For more information on design roof loads, see Chapter 16, Sections 1607 and 1608 of the Building Code.

**For information on DCRA’s affiliated agencies within the permitting process please visit the appropriate websites:**

- **District Department of Transportation**  
<http://ddot.dc.gov/>
- **District Department of the Environment**  
<http://green.dc.gov/>
- **District of Columbia Water and Sewer Authority**  
<http://www.dewater.com/>

**For inquiries on Zoning submittals or reviews please refer to the Office of the Zoning Administrator by visiting the DCRA website: (<http://dcra.dc.gov/service/zoning-certificates-occupancy>) or by telephone at (202) 442-4576.**