CITY & COUNTY OF DENVER COMMUNITY PLANNING & DEVELOPMENT BUILDING PERMIT POLICY		
Subject:	**STRUCTURAL SUBMITTAL REQUIREMENTS FOR DRC STRUCTURES**	
Number: DCBC 133.2.2	**Effective Date: May 20, 2026** Replaces policy dated: March 2, 2020	**Page:** 1 of 5

REFERENCE: 2025 Denver Commercial Building Code (DCBC) Section 133.2.2

A. SCOPE

This policy establishes the minimum structural submittal requirements for applications for residential construction permits for Denver Residential Code (DRC) one- and two-family dwellings, DRC townhouses, and DRC accessory structures where the scope of work includes new construction, additions, structural alterations, structural repairs, or structural work previously completed without permits.

This document is intended to capture the majority of items requiring structural design and review. The building official is authorized to ask for any additional information necessary to assist in evaluating the structural design and compliance with the codes and standards (DCBC Section 133.2).

B. SUBMITTAL REQUIREMENTS APPLICABLE TO ALL STRUCTURAL SUBMITTALS

All applications must include the following:

1. **Geotechnical Investigation Report**
   A geotechnical investigation report shall be submitted if required by Building Code Policy DRC R401.4, “DRC Geotechnical Investigation Reports”.

2. **Excavation, Benching, Sloping, and/or Shoring Documentation**
   Excavation, benching, sloping, and or shoring documentation shall be submitted if required by Building Code Policy DCBC 130, 131 and 3307, “Excavation, Benching, Sloping and Shoring for DRC Structures.” Some project types will require an engineered design and structural calculations.

3. **Construction Documents**
   Construction documents of sufficient clarity to indicate the location, nature and extent of the work proposed must be submitted. Construction documents must include:
   a. A narrative describing the entire structural scope of work.
   b. The building codes and standards used in the design including reference to the 2025 Denver Building Code (2025 DBC).
   c. The design loads applicable to the project, which may include dead loads, live loads, roof loads, flood loads, snow loads, wind loads, seismic loads, and soil loads.
      i. Dead loads are to be determined by the actual weights of materials and construction with consideration for the dead load of fixed service equipment.
      ii. Include the applicable snow load parameters:
         1. If using the prescriptive framing tables in the DRC, include the design ground snow load ($P_{g(ASD)}$) of 43 psf (per DRC Table R301.2), otherwise
         2. Include the site-specific design ground snow load per the ASCE 7 Hazard Tool (P_g), the thermal factor (C_t), the exposure factor (C_e), and the calculated flat roof snow load (P_f). When applicable, include the slope factor (C_s), drift surcharge loads (P_d), width of snow drift (w), and the winter wind parameter (W_2).
      iii. The ultimate design wind speed (V_{ult}) (DCBC Table 1609.3) and wind exposure category applicable to the project site:

1. All of Denver east of Federal Blvd is 115 mph.
2. Between the centerlines of Sheridan Blvd & Federal Blvd is 125 mph.
3. Between the centerlines of Kipling St & Sheridan is 140 mph.

iv. City and County of Denver is in seismic design category B.

v. The soil bearing capacity as identified in the geotechnical investigation report. If a geotechnical investigation report is not required, the following may be assumed:

1. Lateral earth pressure: At-rest: 60 psf, Active: 45 psf (DCBC Table 1610.1, based on USC soil type SM)
2. Soil bearing capacity: 1500 psf (DRC Table R401.4.1)

d. Design criteria specifications for structural materials utilized in the project including solid-sawn lumber, engineered wood materials, concrete, reinforcing steel, hot-rolled steel, proprietary clips, hangers, and hold downs.

i. All concrete is to meet the “severe” weathering requirements of DRC Table R402.2: 3500 psi concrete for garage floor slabs, porches, steps and other concrete exposed to the weather and 3000 psi for basement walls, foundation walls, and other vertical concrete work exposed to the weather.

e. Plans that show all structural elements have a clear load path to the foundation as required for the scope of work. Include foundation, floor, and roof plans, as applicable. Identify the location of all concentrated loads and show the size, section, and relative locations of structural members with column centers and offsets dimensioned.

f. Elevations, sections, and details as required for the scope of work, keyed back to the plan view, showing all structural requirements, including but not limited to:

i. Fully dimensioned, labeled, and detailed foundation sections, including reinforcing, lap splices, the maximum wall height and maximum unbalanced backfill height. Include foundation drainage system, where required.

ii. Unique connections fully labeled and detailed (if not per minimum requirements of DRC Table R602.3(1)) including wall to foundation; floor to foundation; posts to foundation, wall to floor; wall to roof, and posts to beams.

iii. Fully dimensioned, labeled, and detailed cantilever spans, including back spans. Web stiffeners and hangers labeled, where required.

iv. Details for header designs, including required trimmers, king studs and any necessary hardware.

v. Label the type, size, material, grade, spacing, and fastening of all:

1. Wall framing and sheathing.
2. Floor framing, sheathing, and exterior deck framing (including lateral deck restraint per DRC R507.9).
3. Roof framing and sheathing, including collar ties, rafter ties and ceiling joists, if applicable.

g. The lateral design must be clear on the submittal documents and be either prescriptive in design (See section C of this policy), or an engineered design (See Section D of this policy).

h. When proposing construction to an existing structure, graphically show, label, and dimension which portions of the structure will remain and which will be removed.

i. Documents prepared by a licensed design professional, where required, shall bear the seal and signature of the licensed design professional responsible for each design phase per DCBC Section 133.1. For digital submittal, refer to Development Services Electronic Signatures Tutorial.

4. Letter of Inspection and Structural Integrity

Where the proposed scope of work changes the loads on an existing structural element that will remain, a letter of inspection and integrity for the existing structure must be submitted. The letter must be prepared by the licensed design professional responsible for the design and must state that they have personally inspected the foundation and the building.

C. SUBMITTAL REQUIREMENTS APPLICABLE TO PRESCRIPTIVE LATERAL DESIGNS

In addition to the submittal requirements of Section B of this policy, drawings and specifications submitted for prescriptive lateral designs must include sufficient information to describe, in detail, the method of compliance for each element in the scope of work with regard to the applicable prescriptive requirements of the DRC Section R602.10. The simplified bracing method per DRC Section R602.12 or the alternative provisions of DRC Section R301.1.1 are also acceptable, if applicable.

1. Graphically indicate and dimension locations of braced wall lines on the plan view (DRC Section R602.10.1).
2. Identify the intended method(s) of prescriptive wall bracing to be used (DRC Section R602.10.4). Label and dimension braced wall panels and hold downs on the plan view.
3. Indicate the minimum required length of bracing for each braced wall line (DRC Section R602.10.3) including all applicable adjustment factors per DRC Table R602.10.3(2).
4. Detail and indicate braced wall panel requirements including foundation attachment, blocking, framing, sheathing, nailing patterns, and corner conditions.

D. SUBMITTAL REQUIREMENTS APPLICABLE TO ENGINEERED DESIGNS

In addition to the submittal requirements of Section B of this policy, drawings and specifications submitted for engineered designs must include sufficient documentation and calculations substantiating the proposed structural design for all elements supporting the proposed construction, including but not limited to:

1. Plan views and details indicating shear wall locations, foundation attachments, hold downs, blocking, framing, sheathing, and nailing patterns. Include attachment details where applicable (weld types/ sizes, bolt size/spacing).
2. Where special inspections are required by DCBC Section 1705, a statement of special inspections in accordance with DCBC Section 1704.3.1 shall be submitted.
3. Engineering design calculations when requested, signed and sealed by the licensed design professional responsible, including:
    a. All load assumptions and load combinations applicable to the scope of the work.
    b. Roof snow load calculations including applicable factors and drift surcharge loads.
    c. Wind load calculations including applicable factors, internal pressure coefficients, and design wind pressures.
    d. Shear wall or moment frame design, including overturning, uplift, and connections.
    e. Diaphragm calculations for large openings or irregular re-entrant corners.
    f. Beams, joists, posts, foundations and column calculations, including connections.
    g. Calculations for any existing structural elements to remain where the proposed scope of work changes the loading on the existing construction.

E. ADDITIONAL SUBMITTAL REQUIREMENTS BASED ON SCOPE OF WORK

In addition to the submittal requirements of Section B of this policy, applications for residential construction permits which include one or more of the following elements in the scope of work will require additional information with the initial submittal as listed below.

1. Helical Piers / Push Piers

a. Dimension proposed pier locations on the site plan.
b. Include a labeled and dimensioned foundation plan that includes pier locations, capacity, minimum embedment depth, and torque (if applicable).
c. Provide dimensioned foundation sections, as needed, indicating the assumed type, size, depth, materials, and condition of the existing structure to be supported.
d. For new construction, continuous special inspections in accordance with DCBC Section 1705 must be performed during installation. Provide a statement of special inspection per DCBC Section 1704.2.3. For work considered to be minor in nature, including many repairs, structural observation is required to observe general conformance with the approved structural plans and specifications (DCBC Section 1704.6). As part of the structural observation, the structural engineer is to verify the adequacy of the existing concrete structures that are connected to the underpinning system.

2. Basement Dig-Outs / Underpinning / Sister Walls

a. Provide a structural narrative that outlines if the proposed work includes a new or expanded basement resulting from either excavating an existing crawlspace, lowering an existing basement area, or replacing the exterior foundation walls of an existing basement area.
b. Include details and notes for the proposed excavation sequencing below the existing foundation and/or structure. The sequencing plan shall include segment dimensions and minimum time requirements between excavation segments.
c. Verify the wall sections and details include the following, at a minimum:
    i. The type, size, thickness, depth, materials, and condition of the existing structure to be supported.
    ii. The type, size, thickness, depth, materials, and reinforcement of the proposed new construction.
    iii. The connection between the existing construction and the proposed new construction, between adjoining underpinning segments, and any other proposed connections.
d. Provide signed and sealed structural calculations for the engineered design. Verify these include all existing gravity and surcharge loads, taking into account the affects of the offset design, if applicable.

3. Retaining Walls / Site Walls / Fences

Walls without permanent lateral support at the top or bottom, such as retaining walls or non-posthole dug fences, are to be designed per the 2025 DCBC and submittals are to follow the requirements of Section B and D of this policy.

4. Proprietary Materials, Designs, and Methods of Construction

Provide complete reports from an independent testing agency, such as from the ICC Evaluation Service or other approved agency, which substantiates performance requirements of the current building code are met regarding structural and/or fire-resistance rated construction requirements, and list any additional design and construction requirements, limitations, and conditions of use. Expired test reports or expired evaluation reports will not be accepted for permitting.

5. Work Previously Completed Without Permits

Structural work previously completed without permits must be submitted for permitting by providing drawings, calculations, and details sufficient to indicate the work conforms to the current building code requirements, including:

a. A narrative indicating the complete extent of the scope of work completed without permits;
b. Complete as-built plans, wall sections, specifications, and details sufficient to describe in detail the entire scope of work completed; and
c. Drawings, calculations, and details for structural repairs for work previously completed without permits that do not conform to the minimum requirements of the current building code.

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