DESIGN CRITERIA

Building Services - Permits
451 South State Street, Room 215
Salt Lake City, Utah 84111
Phone: (801) 535-7752

Effective 7/1/2026 Salt Lake City Corporation – Building Services, uses the following design criteria when reviewing a project or development within the corporate limits of Salt Lake City.

1. **BUILDING CODES:** Building Services enforces the following building codes with State amendments.
   - 2024 International Building Code *(including Appendices C and J)*
   - 2021 International Residential Code *(including Appendices AE and AQ;)*
   - 2024 International Plumbing Code
   - 2024 International Mechanical Code
   - 2024 International Fuel Gas Code
   - 2024 International Energy Conservation Code *(commercial provisions)*
   - 2024 International Existing Building Code
   - 2024 International Swimming Pool & Spa Code *(residential provisions)*
   - 2024 International Fire Code
   - 2023 National Electric Code
   - 2009 edition of ICC A117.1 Accessible and Useable Buildings and Facilities

2. ***SNOW LOADS:***
   a) **Ground Snow Loads:** The actual snow loads vary depending upon elevation. For all projects located at, or below, 4,239 feet MSL the ground snow load (P_g) shall be a minimum of 28 pounds per square foot. For elevations above 4,239 feet MSL please visit the "Utah Snow Load Study" (https://utahsnowload.usu.edu) as referenced Utah's "State Construction and Fire Codes Act".
   b) **Roof Snow Loads:** Shall be determined in accordance with Chapter 7 of ASCE 7-22.
   c) **Seismic Snow:** At locations where the roof snow load exceeds 30psf a percentage of the snow load must be considered in the effective seismic weight of the structure per Section 15A-3-107 of Utah's "State Construction and Fire Codes Act".

3. ***WIND:***
   a) **Speed:** All wind speeds listed below are 3-second gust at 33 feet above the ground.
      - Residential: 115 mph
      - Commercial (see IBC Figures 1609.3(1-4):
        - Risk Category I = 100 mph
        - Risk Category II = 105 mph
        - Risk Category III = 110 mph
        - Risk Category IV = 115 mph
      - Site-specific wind speeds can be obtained from the ASCE Hazard Tool. (https://ascehazardtool.org/)

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b) **Exposure:** Site specific (per Chapter 26 of ASCE 7-22). Typically "B" or "C".

4. ***SEISMIC:***

a) **Seismic Design Category:**

- Residential: D_2
- Commercial: D

b) **Site-specific:** Because ground motions tend to vary substantially throughout the city, the mapped and design ground motions (S_S, S_{DS}, S_1, S_{D1}) should be obtained by considering the site-specific address or latitude and longitude values and obtaining the ground motions from the ASCE Hazard Tool. (https://ascehazardtool.org/)

c) **Surface-Fault-Rupture Hazard:** If the geotechnical report notes the site is located near a Holocene fault, a surface-fault rupture hazard study may be required. Please review the Utah Geologic Survey's "Guidelines for Evaluating Surface-Fault-Rupture Hazards in Utah". (https://ugspub.nr.utah.gov/publications/misc_pubs/mp-03-6.pdf)

5. ***SOILS:***

a) **Frost Depth:** 30 inches.

b) **Site Class:** Site specific. For projects not requiring a geotechnical report *(see below) the "Default" s*ite class can be assumed. The "Default" site class is the worst case of Site Class C, CD, and D as outlined in Section 20.1 of ASCE 7-22.

c) **Allowable Bearing Pressures:**

- Foundation pressure: 1,500psf, per IRC Table R401.4.1 and IBC Table 1806.2.
- Lateral pressure: 100psf/f, per IBC Table 1806.2.
- The above listed values are maximum allowable values unless listed otherwise by a site-specific geotechnical report complying with IBC 1803.6 and IBC 1803.5.5, as applicable.

d) **Site-specific Geotechnical Report:**

- General: All geotechnical reports submitted for permit issuance must be dated no later than two years from the permit application date. Outdated reports must be accompanied by a letter from a qualified geotechnical engineer stating that the report requirements are still valid or stating what items may have changed.
- Residential: Residential projects meeting one or more of the following requirements must provide a site-specific geotechnical report meeting the requirements of IBC 1803.6:
  - Where the building footprint is greater than 3,000 square feet, or has a gross square footage of 6,000 square feet or greater; or
  - Where the grade supporting the structure has a slope equal to or greater than 15 percent; or
  - Where the building is to be built on a lot in which a previous structure once existed.

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- Commercial: All commercial projects require a site-specific soils report meeting the requirements of IBC 1803.6 and IBC 1803.5.5, as applicable. Additions to existing facilities of less than 3,000 square feet are exempt from this requirement.

6. ***FLOOD HAZARDS:***

   a) **Flood Hazard Areas:** see https://floodhazards.utah.gov/mapping/
      - Residential: Buildings and structures located in flood hazard areas (i.e. Flood Zones A or V) must comply with IRC R322.
      - Commercial: Buildings and structures located in flood hazard areas must comply with IBC 1612, Chapter 5 of ASCE 7-22 and ASCE 24-14.

   b) **Floodways:** Buildings and structures located in identified floodways must be designed and constructed in accordance with ASCE 24-14.

7. **RAINFALL:**
   a) Rainfall Intensity: 4.06 in/h (15-minute duration storm)
   b) Design Storm: 100 years for Risk Category I & II. 200 years for Risk Category III and 500 years for Risk Category IV. 9see IBC table 1611.1)

8. **CLIMATE ZONE:** 5B

9. **WEATHERING:** Severe

10. **TERMITE:** None to Slight

11. **WINTER DESIGN TEMP:** 8°F

12. **ICE SHIELD UNDERLAYMENT:** Yes

13. **AIR FREEZING INDEX:** ≤ 1500

14. **MEAN ANNUAL TEMP:** 45*°F*

Last Revised: 07/2026