DESIGN CRITERIA

Building & Safety Division
8000 South Redwood Road
West Jordan, Utah 84088
Phone: (801) 569-5050

The West Jordan City Building & Safety Division uses the following design criteria when reviewing projects submitted for a building permit within City limits.

1. **BUILDING CODES:** The Building Division enforces the following building codes with State amendments.
   - 2021 International Building Code *(including Appendices C and J)*
   - 2021 International Residential Code *(including Appendix AQ; Energy efficiency from 2015 IRC)*
   - 2021 International Plumbing Code
   - 2021 International Mechanical Code
   - 2021 International Fuel Gas Code
   - 2015 International Energy Conservation Code *(residential provisions)*
   - 2021 International Energy Conservation Code *(commercial provisions)*
   - 2021 International Existing Building Code
   - 2021 International Swimming Pool and Spa Code *(residential provisions)*
   - 2021 International Fire Code
   - 2020 National Electric Code
   - 1997 Uniform Code for Abatement of Dangerous Buildings
   - City of West Jordan Code of Ordinances

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 mean sea level the ground snow load (P_f) shall be a minimum of 28 pounds per square foot. For elevations above 4,239 feet mean sea level please visit https://utahsnowload.usu.edu as referenced in Section 15A of Utah's "State Construction and Fire Codes Act".
   b) **Roof Snow Loads:** Shall be determined per Chapter 7 of ASCE 7-16.
   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

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b) **Exposure:** Site specific (per Chapter 26 of ASCE 7-16). Typically "B" or "C".

4. **SEISMIC:**
   a) **Seismic Design Category:**
      - Residential: D2
      - Commercial: D
   b) Because ground motions tend to vary substantially throughout the city, the mapped spectral accelerations (S_S & S_1) should be obtained by considering the site-specific address or latitude and longitude values and obtaining the ground motions from the Applied Technology Council's "ATC Hazards by Location" tool (https://hazards.atcouncil.org/).
   c) **Site-Specific Parameters** *(unless ASCE 7 exceptions are met)*:
      - $S_1 \geq 0.2g$ and Site Class 'D or E' → A ground motion hazard analysis (GMHA) must be provided
      - $S_S \geq 1.0g$ and Site Class 'E' → A ground motion hazard analysis (GMHA) must be provided.
      - Site Class 'F' → A site response analysis (SRA) must be provided.

5. **SOILS:**
   a) **Frost Depth:** 30 inches.
   b) **Site Class:** Site specific. For projects not requiring a geotechnical report *(see below)* Site Class 'D' can be assumed per Section 20.1 of ASCE 7-16 but ground motions must be adjusted per IBC 1613.2.3.
   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 20 percent; or
        - Where the building is to be built on a lot in which a previous structure once existed.

- 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 unless known geotechnical issues exist.

6. **FLOOD HAZARDS:**
   a) **Flood Hazard Areas:**
      - 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 7-16 and ASCE 24-14.

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

   c) **Interactive Flood Zone Map:** Available at the following web link…
   https://west-jordan-city.maps.arcgis.com/home/index.html

7. **RAINFALL:** Average annual rainfall is 16 inches.

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: 1/2024