PLAN REVIEW INFORMATION

Two (2) sets of plans shall be submitted at the time of application for a building permit.

*Per SPS 320.09: "All plans submitted for approval shall be accompanied by sufficient data, calculations and information to determine if the dwelling will meet the requirements of this code. They shall be legible and drawn to scale or dimensioned and shall include **all** of the following:"*

1) **Site plan.** -Show location of the dwelling & any other buildings, well, surface waters and dispersal systems on site with respect to property lines and surface waters.
   -Show the type/location of sediment control measures – SPS 321.125.
   -Note means of preventative soil tracking measures onto public roads

2) **Foundation plan.** Show location of the following:
   -Show footing sizes & locations
   -Show column or post footing sizes & locations
   -Identify size & location of footing reinforcement if needed
   -Show finished grade line at stepped footings
   -Show sizing & bracing of foundation cripple walls – SPS 321.25 (7)
   -Show wall height, thickness & type (poured block or other)
   -beam pockets

3) **Basement Floor Plan.** Show location of the following:
   -finished areas with room names & size
   -future bathroom if planned
   -location & sizes of windows and doors
   -sanitary sump pit (if needed), drain tile and cleanout
   -main electric service panel and meter base, water heater, floor drain & furnace
   -chimney (if needed)
   -furnace condensate drain or receptor
   (condensate drains using indirect/local waste piping creating a trip/fall hazard will not be allowed s. SPS 382.33 (8)(d)5)

4) **Floor plan.** Floor plans must be provided for each floor. Include the following:
   -Square footage of dwelling, porches, decks and garage (attached)
   -Size, use & location of all rooms, doors, windows, structural features, exits and stairs. Along with door & window "U" values, egress window compliance and tempered glass as needed
   -Location of plumbing fixtures, chimneys, heating & cooling appliances, the heating distribution layout such as supply and return ducts, fireplace type and it's vent type
   -attic access as needed
   -Location and construction details of the braced wall lines
   -Location, size, direction, span, number of members, species, grade or other material of headers, beams, joists, rafters, trusses and any other important structural members

5) **Cross Sections.**
-Show materials used to construct dwelling
-Show location of insulation types and "R" values including vapor barriers
-Show basement drainage system, insulation, floor thickness & vapor barrier
-Show exterior foundation insulation protection
-When used, show brick ledge, flashing, weep holes, moisture barrier material type and grade level

6) **Elevations.** The elevations shall show all of the following:
-Exterior appearance of the building including each side, including type of exterior materials and roof slope
-Location, size and configuration of doors, windows, roof, chimneys, exterior grade, footings and foundation walls

7) **Storm Water Management Plan.** Must have if a site has more than 1 acre of land disturbed.
-Delineate and describe the post-construction storm water management practices to be employed to comply with s. SPS 321.126
-The name of the initial downstream receiving water of the state from the dwelling shall be identified, regarding erosion and sediment control and storm water management.

8) **Data Required.**
-Headers under concentrated loads or point loads (girder trusses, etc.) will need calculations to show conformance to minimum design standards after roof loads or other loads are known.
-Engineered truss plans and engineered floor plans (I-joists) will be required on site at the rough framing inspection
-Tall walls will require design calculations to show code compliance
-Water distribution pipe size calculations will be requested for PEX tubing and may be requested for other pipe material types **before** installation
-Values used for energy calculations shall agree with the dimensions, materials, "R" values and "U" values given on plans submitted.

Minimum Bracing Lengths for Walls
SPS Table 21.25-H
(Intermittent Method)

Length of Braced Wall Line (Ft.)	Minimum Length of Braced Wall Panel in Braced Wall Line (Ft.), [Ft. – Inches][1,2]					
	Wall Height (Ft.)					
	Up to 10'	>10' & ≤ 12'[3]	Up to 10'	>10' & ≤ 12'[3]	Up to 10'	>10' & ≤ 12'[3]
	16%	19.2%	25%	30%	35%	42%
20	3.2 [3- 3]	3.84 [3 – 10]	5 [5 – 0]	6 [6 – 0]	7 [7 – 0]	8.4 [8 – 5]
25	4 [4 – 0]	4.8 [4 – 10]	6.25 [6 – 3]	7.5 [7 – 6]	8.75 [8 – 9]	10.5 [10 – 6]
30	4.8 [4 – 10]	5.76 [5 – 10]	7.5 [6 – 6]	9 [9 – 0]	10.5 [10 – 6]	12.6 [12 – 8]
35	5.6 [5 – 8]	6.72 [6 – 9]	8.75 [8 – 9]	10.5 [10 – 6]	12.25 [12 – 3]	14.7 [14 – 9]
40	6.4 [6 – 5]	7.68 [7 – 9]	10 [10 – 0]	12 [12 – 0]	14 [14 – 0]	16.8 [16 – 10]
45	7.2 [7 – 3]	8.64 [8 – 8]	11.25 [11 – 3]	13.5 [13 – 6]	15.75 [15 – 9]	18.9 [18 – 11]
50	8 [8 – 0]	9.6 [9 – 8]	12.5 [12 – 6]	15 [15 – 0]	17.5 [17 – 6]	21 [21 – 0]
55	8.8 [8 – 10]	10.56 [10 – 7]	13.75 [13 – 9]	16.5 [16 – 6]	19.25 [19 – 3]	23.1 [23 – 2]
60	9.6 [9 – 8]	11.52 [11 – 7]	15 [15 – 0]	18 [18 – 0]	21 [21 – 0]	25.2 [25 – 3]

Footnotes:
[1] Based on SPS Table 21.25-H
[2] Values based on braced wall line spacing of up to 35 feet. For braced wall line spacing's greater than 35 feet, multiply the values in the table by a factor of actual braced wall line spacing divided 35. In no case shall the braced wall line spacing be more than 50 feet. See s. SPS 321.25(8)(e)2.
[3] In accordance with Footnote 4 of Table 21.25-H, the percent values of Table 21.25-H are increased by 20%. The braced wall height may not exceed 12 feet.

Guide to Reviewing Tall Walls & Common Mistakes Seen In The Field

- Fastening for built-up columns is not designed properly per detailed drawings causing the framer to make mistakes fastening them together.

- Built up LVL or Timberstrand columns should have a nailing or bolting pattern supplied with a drawing.

- Headers should be attached with framing clips to the column, not the trimmers.

- Columns should extend to roof sheathing to disperse loads into roof sheathing.

- Columns stopping at bottom side of trusses create a hinge point needing bracing to the roof sheathing.

- LVL headers do not work well for wind loads in tall walls because the wind loads are applied to the weak axis, causing the header to buckle in, causing the column to rotate. This is especially true at intermediate locations where the column and the headers are fairly long.

- Framing clips should be attached from column to plates not to trimmers.