Our project has two kneebrace mortises at corner posts A1, A5, E1, and E5, with one centered and the other offset. The two kneebrace mortises located on each of posts C1 and C5 are offset to accommodate the exterior infill wall (see Figure 3-2a). The interior post C3 has two centered kneebraces.

Posts A2, A4, E2, and E4 each have one offset kneebrace to accommodate the exterior wall (see Figure 3-1). The second floor shows three king posts—1A3, 1C3, and 1E3—each with centered kneebraces (see Figure 3-7). Kneebrace tenon thickness is typically 1½″ (38 mm) for layout purposes. Refer to the Joinery chapter 4 for more details.

Kneebraces Required:

- 24 kneebraces

3.4 Gable Wall Beams

During assembly, the gable beams are placed first with the sidewall beams locking the half-laps at the corners. Two identical gable end plate beams and a tie beam run horizontally on the plan grid: beam A1 to A5, beam E1 to E5, and tie beam C1 to C5. Each of the gable beams must be 8″ x 8″ x 26′ (203 x 203 x 7925 mm) when complete. Off-setting the scarf joint center 12″ (305 mm) from post A2 and E2 on their respective gable beams results in two timber lengths: 11′ (3353 mm) and 17′ (5182 mm). Refer also to Figure 4-7a,b.

Figure 3-4
Gable Wall
Beams