



FIGURE 9.1 Shop primer is applied to a segment of primary frame.

- Any restrictions on framing sizes. The drawings should indicate the largest column depth that the foundations can accept. The rate of column taper should also be controlled if any equipment or interior walls are to be located near the columns.
- Lateral drift and vertical deflection criteria for both the main and the secondary framing. (This issue is critical enough to deserve its own chapter; see Chap. 11.)
- Crane requirements, if any are needed, including service levels, as is further explained in Chap. 15.

The author's practice for most projects, including those using metal building systems, is to provide a drawing with general structural notes. The notes summarize the design loads, material specifications, concrete strength, etc. A sample section dealing with pre-engineered buildings is reproduced in Fig. 9.2. The design loading, including collateral load, would be shown in a separate note section (usually Section I).

A set of typical details that show the areas where specific performance is required (instead of the standard manufacturers details) could also be included. Among those could be the details of purlin bracing, anchor bolt construction, backup plates at hillside washers, framing around overhead doors, and any other features deemed necessary.

9.3 THE MANUFACTURER'S RESPONSIBILITIES

The manufacturer is responsible for design and fabrication of the metal building, exclusive of the items mentioned above, down to the bottom of the column base plates. Using the owner-supplied

PRE-ENGINEERED BUILDING NOTES

1. PROVIDE SINGLE-SPAN RIGID FRAMES WITH PINNED COLUMN ENDS, TRANSFERRING NO MOMENTS TO FOUNDATIONS.
2. INCLUDE IN THE DESIGN A COLLATERAL LOAD OF 8 PSF FOR SPRINKLERED BUILDINGS.
3. PROVIDE MINIMUM CLEARANCE UNDER FRAMES AS SHOWN. SEE ARCHITECTURAL DRAWINGS FOR COLUMN TAPER DETAILS.
4. INCLUDE STRUCTURAL STEEL FRAMING FOR ROOFTOP HVAC UNITS AND SUSPENDED MONORAILS.
5. PROVIDE FRAMING MADE OF STRUCTURAL TUBE SHAPES AROUND LARGE OVERHEAD DOORS AS SHOWN. COLD-FORMED CHANNEL JAMBS ARE NOT ALLOWED. DESIGN THE FRAMING FOR ALL EFFECTS OF WIND AND DEAD LOADS INCLUDING CATENARY FORCES.
6. PROVIDE CHANNEL-TYPE PURLIN BRACING AT INTERVALS NOT EXCEEDING $\frac{1}{4}$ SPAN. PROVIDE ANTIROLL CLIPS AT ALL PURLIN BEARING POINTS.
7. LIMIT LATERAL BARE-FRAME DRIFT UNDER ANY DESIGN LOAD COMBINATION TO $H/400$ FOR BUILDINGS WITH INTERIOR PARTITIONS OR FINISHES ATTACHED TO FRAME ($H/200$ FOR OTHER CASES). COMPUTE DRIFT USING DESIGN WIND LOADING WITH 50-YEAR MEAN RECURRENCE INTERVAL.
8. LIMIT THE MAXIMUM COMBINED VERTICAL DEFLECTION OF PURLINS AND FRAMES TO $L/240$ UNDER DESIGN SNOW OR ROOF LIVE LOAD.
9. LIMIT THE MAXIMUM HORIZONTAL DEFLECTION OF GIRTS SUPPORTING STEEL STUDS WITH DRYWALL FINISH TO $L/240$ UNDER DESIGN WIND LOADING WITH 50-YEAR MEAN RECURRENCE INTERVAL.
10. PERMANENT BUILDING BRACING MAY BE INSUFFICIENT DURING ERECTION. DESIGN AND PROVIDE TEMPORARY LATERAL BRACING DURING CONSTRUCTION UNTIL PERMANENT BRACING IS IN PLACE.
11. COLUMN AND BASE PLATE SIZES SHALL ALLOW FOR A MINIMUM ANCHOR BOLT EDGE DISTANCE OF 7 INCHES TO ANY VERTICAL EDGE OF CONCRETE. BASE PLATE SIZES SHALL BE DESIGNED TO FIT ON THE FOUNDATION PIERS PROVIDED.
12. PROVIDE BOTTOM-FLANGE ANGLE BRACING FOR PRIMARY FRAMES ON TWO SIDES.
13. USE RODS, NOT CABLES, FOR WALL AND ROOF BRACING. PROVIDE BACKUP PLATES (MIN. 6" WIDE X $\frac{3}{4}$ " THICK) BEHIND ALL BRACE ROD CONNECTIONS TO FRAME WEBS. WELD PLATES TO FRAME FLANGES.

FIGURE 9.2 Sample set of notes for specifying metal building systems.