underside of the 6-inch by 6-inch cross-stringer. This is detailed on Plan Sheet 8, Figure 16 (page 59), and photo 64 (page 62). As each threaded rod adjustment affected the load on its neighbor, the final bridge tuning was a repetitive process. Photo 82, perhaps the definitive photo during the construction period, shows the bridge camber after two adjustments.

## Decking and Stairs

The plans specified 2-inch by 6-inch #1 SYP CCA.40 KDAT 19% MC decking, screwed down bark side up with a 1/8-inch gap between boards to accommodate swelling. The screw holes were pre-drilled, and the soaped square drive, galvanized 3-inch bugle head deck screws were driven two per joist at 14.5 inches on center (o.c.) This was a very time-consuming process as opposed to power nailing. This is shown in photo 83. Out of the 31 other pedestrian suspension bridges inventoried by the author, only the Dry River Bridge in the WMNF used screws; all others were nailed. Screws are a superior connector, especially for an elevated bridge subject to cross-winds.

The staircases are detailed on Plan Sheet 3, and the construction is shown in photo 84. When the wire mesh and handrail are completed, the staircases will comply with the BOCA® code, with the exception that the total rise on the west staircase is 12 feet, 3 inches, which is 3 inches more rise than allowed by BOCA® without an intermediate landing. Given the location on a wilderness footpath, the project partners and project owner found this to be acceptable.

## Field Modifications

Following is a list of field modifications.

1. Because of the drought, the site was accessible to concrete trucks, up to 30 CY of concrete was utilized for the snowshoe foundation in lieu of the 20 CY specified by the plans. This improved the protective concrete cover on the rebar.

2. The tower base rebar was upgraded from a #14 to a #18 due to availability.
3. The epoxy coating was eliminated from the rebar because of more than adequate concrete cover. This saved money as well as time because of easy availability of standard rebar. All rebar is 60 KSI.

4. To allow bending in the field, the dowel bars were changed from #6 to #5, but the number of dowel bars was increased to maintain the same cross-sectional area. A Joslyn Universal pole band was utilized to connect the #5 bars to the transmission poles, instead of the pipe straps.

5. GPU Energy provided single curve spike grids. GPU Energy also provided 3-inch by 3-inch by 1/4-inch square washers for the suspenders, in lieu of the 4-inch by 4-inch specified.

6. The walkway portal crossarm centerpoints were lag-screwed in lieu of through-bolted.

7. The cable saddles were customized for the individual non-uniform pole tops. See previous discussion on page 45. Top crossarms were doubled-up.

8. The walkway interior 2-inch by 6-inch stringers (joists) were not staggered for ease of prefabrication and transport.

9. The west staircase has a total rise of 12 feet, 3 inches in lieu of 12 feet.

10. An underbelly wind guy was added.

11. In order to ensure Americans with Disabilities Act compliance, bridge walkway slope was revised from 4.5 to 3.5 percent.

12. For ease of prefabrication, the bridge walkway rail truss was revised from a “Pratt” to a “Howe” configuration.

13. Available 2-inch by 12-inch lumber was substituted for the 2-inch by 6-inch stock on the staircase treads.

**Americans with Disabilities Act (ADA) Compliance**

As indicated in the project goals and project correspondence, the bridge is the central element in what may become a handicapped-accessible segment of the Appalachian Trail. It is NJDEP policy to meet the recreational needs of citizens with disabilities. In order to provide a standard of which to design to, the project engineer treated the walkway of the bridge no differently than any other public pedestrian walkway. Project design adhered to the handicapped-accessible standards of the following three codes or standards:

- The BOCA® National Building Code
- N.J.A.C. 5:23-7, Barrier Free Subcode
- Title III of the Americans With Disabilities Act

In order to meet ADA requirements, the bridge walkway had to meet specific dimensional, clearance, and slope criteria. Specific design elements referenced to the appropriate ADA section numbers are as follows:

4.8.1 The walkway slope is 3.5 percent or 1:22.5. As it is under 5 percent, it is not considered a ramp. The length and rise limitations of section 4.8 are not applicable.

4.8.3 The walkway clear width of 39 inches exceeds the minimum standard of 36 inches.

4.8.4 Although not required as the walkway is not a ramp, a 10-foot level platform is provided at the center of the bridge, and a 6-foot long by 8-foot wide level platform is provided at either end.