Boyds Bear Country

Pigeon Forge, Tennessee

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Structural Option

http://www.arche.psu.edu/thesis/eportfolio/2007/portfolios/lew152/

Project Team:

Owner: Boyds Collections, Ltd.
Architecture: LSC Design
Structural: C.S. Davidson, Inc.
Construction Management: Kinsley Construction
Site Contractor: Blalock and Sons
General Construction: Rouse Construction
Structural Steel: Quality Machine and Welding
Mechanical: Engent Plumbing and Heating
Electrical: Advent Electrical, Inc.
Elevator: Otis Elevator Company **Sprinkler:** MASCO

Structural System:

Steel Structural System clad in Decorative Wood
Masonry Walls: both 1500psi CMUs and 2800psi Ivany
Composite Slab Floors: 3" x 20 gauge Type VL galvanized
Timber Truss Roof Framing: Pressure Treated Southern Pine
Lateral System: Concentric Braced Frames and Masonic Shear Walls
Wall Framing: Cold Formed Steel with Plywood Sheathing
Additional Design Loads considered for Large Scale Christmas Decorations

Building Envelope:

Front façade: 18" wide snap-on metal batten wall panels on CMUs
Accents: 6" think fieldstone or 6" colored CMUs on cold-formed steel
Windows: aluminum clad wooden frames, reaching ~30' in height.
Louvers: aluminum and wood ranging in height from 2' to nearly 30'
Roof finish: 18" wide structural vertical seam metal roof panels, galvalume finish

Architecture:

Large scale Pennsylvania Dutch barn.
Mural: ~40'x60' of the company's trademark bears constructing and decorating the building
Steel silo: Large Boyds logo, measuring 20' dia. and domed at 65' high
Cupolas: Two 25' high topped with flags and one 36' high with life sized metal bear

Mechanical System:

13 AHUs ranging from 3100 – 8400 cfm
17 VAV Terminal Reheat Boxes heating to 98º
2 Boilers at 1030 mbh output serving supplemental hot water heaters
Supplemental electric heaters supply baths and stairwells