



**BARBER & HOFFMAN, INC.**  
Consulting Engineers

PROJECT

## Great Lakes Science Center Parking Garage

YEAR  
COMPLETED  
1998

Cleveland, OH  
**\$6.0M**



### PROJECT DESCRIPTION:

Three-level 500-stall post-tensioned concrete parking garage located adjacent to the Great Lakes Science Center. The top level of the structure has a green roof. Since the Science Center and garage are located adjacent to North Coast Harbor, augercast pile were provided as the foundation system.

### ADDITIONAL PROJECT FACTS:

- 6-inch post-tensioned one-way concrete slab spans 25 1/2-feet between post-tensioned beams.
- Typical post-tensioned beams span 60-feet.
- Precast concrete facade panels utilized at all exposed elevations.
- Roof structure supports up to 36-inches of soil.

The Great Lakes Science Center is one of America's largest interactive science museums. In addition, Cleveland's North Coast Harbor includes the Rock and Roll Hall of Fame & Museum and Cleveland Browns Stadium.

The 500-stall post-tensioned parking structure proudly serves all three attractions. The structure utilizes 6 inch thick one-way slabs and 36 inch deep one-way beam (spanning 62-feet) supported by cast-in-place concrete columns spaced 25 1/2-feet apart. Since portions of the garage are below grade, cast-in-place concrete retaining walls occur on two sides which retain the lateral earth pressure.

The "green" roof plaza structure supports 24- to 36-inches of soil. The plaza serves as exterior exhibits for the Science Center during summer months. Lastly, the garage structure is supported by 100-ton augercast concrete pile groups located below each column and the continuous retaining wall footings.

