

PROJECT DESCRIPTION

Fisher Price Team Design Center



Location:
East Aurora, New York

Client:
LBM Construction

Client Contact:
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Preparing a pile for dynamic tests

MMCE designed a subsurface exploration program for this two-story building with basement having a 62,500 square foot first floor area. Explorations revealed that this site is a glacial kettle deposit with a series of compressible deposits including organic silt, peat, marl and soft silty clay. The thickness of these deposits vary across the site and they overly a sand deposit having a density that varies laterally and with depth.

MMCE analyzed subsurface conditions and recommended a pile foundation. The recommended pile type is 12.75 inch outside diameter concrete filled pipe piles to support the heavy column loads. Their support was developed from friction and end bearing resistance in the sand deposit.

Static pile analyses were used with the Wave Equation Analysis of Piles (WEAP) to estimate the capacity of the piles. MMCE developed a test pile program to measure the response of piles in these soil types and to estimate the length of piles required to develop the necessary capacity. This included driving 12 pipe piles. Dynamic pile measurements were used to estimate the capacity of the test piles. The results of this program were used to prepare the driving criteria for the pile foundation. The project required about 500 piles with lengths ranging from 25 feet to 110 feet. MMCE monitored the pile installation and selected piles throughout construction for dynamic measurements to confirm the pile driving criteria.