



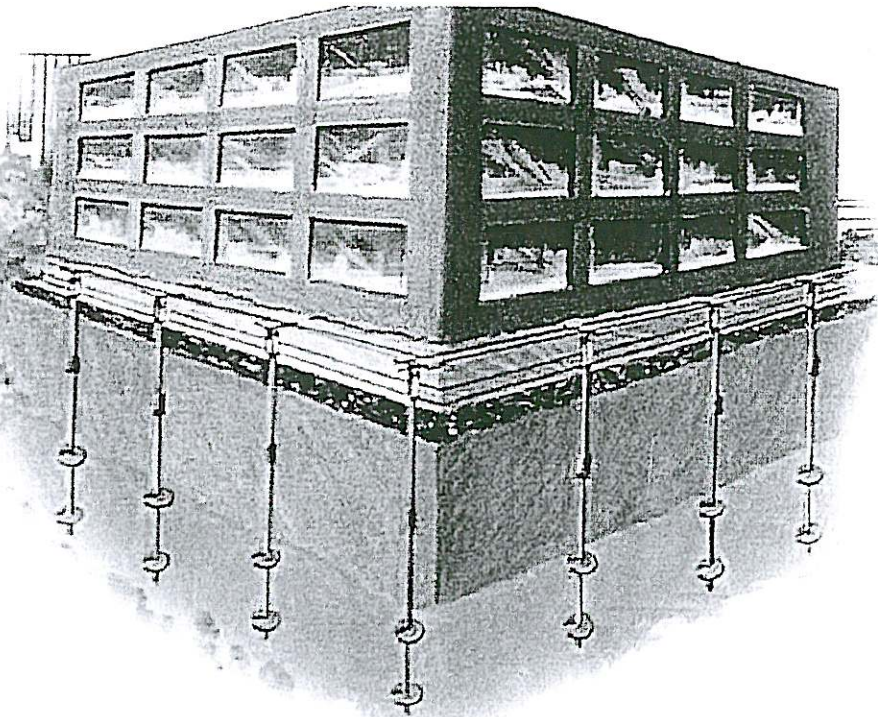
**Butterfield Gymnasium  
Foundation Reinforcement**

Dover, NH  
June 20, 2007

**Structural Engineering Review**

- Introduction
- Previous Foundation Reinforcing
  - 2001
  - 2006
- Geotechnical Investigations
  - Existing Foundation Deficiencies
  - Recommended Solution
- Cost
  - Helical Piles - \$500,000 (estimated)
  - Structural Slabs - \$150,000 (estimated)
- Schedule – 6 to 8 weeks (can be concurrent with Children’s Museum Construction)
- Will the Building be Safe?
- Questions

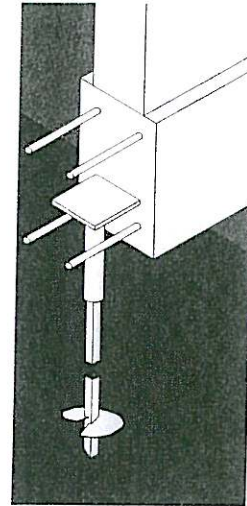
• **New Foundation Construction — Residential & Commercial**  
**HELICAL PIER® Foundation Systems**  
**DURA-GRIP™ Wall Repair System and Screw Anchor Wall Kit**



**NEW-CONSTRUCTION BRACKET**



Brackets for new construction are placed on anchors in between footing forms and tied to rebar before concrete pour.

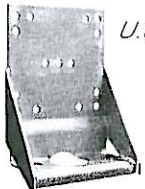


Catalog No. C150-0458 for 1½" Shafts and C150-0459 for 1¾" Shafts

footing forms and tied into the rebar gridwork prior to pouring concrete. For more information on this compos-

ite friction/end-bearing pile method utilizing screw anchor technology, see pages 6 and 7.

**SEISMIC/UPLIFT-RESTRAINT BRACKET KIT**



*U.S. Patent 5,213,448*

**Rated Capacity:**  
7,500 lb.

Fits on Standard Brackets

Catalog No. C150-0227 C150-0298 and C150-0299



Remedial bracket resists upward forces that can damage foundations and structures.

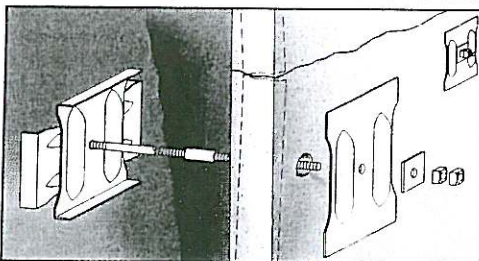
In seismic areas, locate at the ends of a shear wall. In expansive soils, place around the perimeter.

To resist uplift only, Kit may be installed with only T-Pipe E150-0294

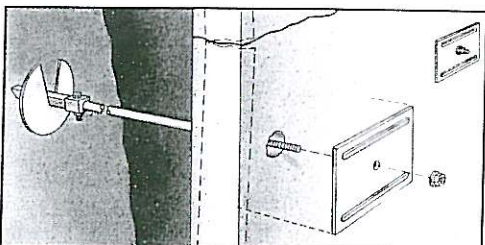
or E150-0295 on an anchor.

Kit requires 20" to 24" vertical surface above the bottom of the foundation and concrete with a minimum rating of 2,000 psi. Kit includes bracket, epoxy bond, instructions and anchor bolt/stud requirements.

**DURA-GRIP™ WALL REPAIR SYSTEM AND SCREW ANCHOR WALL KIT**



Above, DURA-GRIP™ Wall Repair System cross plate anchors tie back retaining and foundation walls.

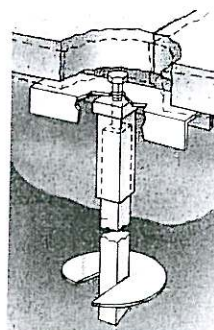


Here are two fast alternatives for saving foundation walls at less expense and trouble than replacement. DURA-GRIP™ Wall Repair System uses cross plate anchors placed in vertical holes in undisturbed soil away from the wall. Rods are driven through holes in the wall and secured to the wall with steel plates, washers and nuts. Torquing the rods stabilizes the wall against further movement. If the wall is to be straightened immediately, first excavating along the entire length and depth of the wall to relieve pressure permits using either the DURA-GRIP System or the Screw Anchor Wall Kit.

At left, screw anchors tie back retaining and foundation walls.

**SLAB-REPAIR BRACKET**

Slab-repair bracket kit for stabilizing uneven or damaged floors. Bolt adjusts through cap fitting on top of anchor so channel lifts floor.



Catalog No. T150-0085 for 1½" Shaft, includes channel, bolt and anchor terminator.

**Rated capacity:**  
5,000 lb.



