

PROJECT DESCRIPTION

PROJECT: Freightliner Test Facility

LOCATION: Portland OR

DESIGN TEAM: *Architect:* MNB Architects, Portland OR
Structural Engineer: Moffatt Nichol & Bonney, Inc., Portland OR
Geotechnical Engineer: Fujitani Hilts & Associates, Portland OR

CONTRACTOR: Brockamp & Jager, Inc. Oregon City OR

OWNER: Freightliner Corporation, Portland OR



DESCRIPTION:

- Full Vehicle Simulator on a concrete slab of approximately 800 kips
- New Cab Shaker on a concrete slab of approximately 140 kips
- Saturated, soft silt within 3' of the bottoms of the foundation mats

The purpose of this facility is to simulate 1,000,000 miles of major road shaking on new Freightliner trucks. The simulators are to be mounted on stiff concrete mats founded about 15' below grade.

To stiffen the soft, saturated silts below the mat foundations and dampen the vibrations from the shakers, a total of 26 Rammed Aggregate Pier®(RAP) elements were installed in the foundation excavation approximately 15' in depth. Due to the poor native soils, four pieces of equipment were needed, an excavator with an auger, an excavator with casing to keep the hole from caving during construction of the RAP elements, an excavator with a tamper and a skid steer to deliver the aggregate. Even with the severely restricted area of only about 30' x 50' in plan, the RAP elements were installed in less time than scheduled.

REFERENCES: K. Frank Fujitani, P.E. Russell Tuttle Greg Shea, S.E.
Fujitani Hilts & Associates, Inc. Brockamp & Jaeger, Inc. Moffatt, Nichol & Bonney, Inc.
(503) 223-6147 (503) 655-9151 (503) 232-2117