

Construction Services

The construction of buildings, bridges, dams, embankments, roadways, airport runways and aprons, offshore structures, process and power plants, and other types of facilities requires precise planning, careful design, rigorous execution, and the expenditure of a great deal of money. Thus, it is extremely important that all work and materials be of acceptable quality to assure that specifications, schedules and budgets are met. One way to do this is by using the testing and inspection services of PSI as an independent consultant.



Construction monitoring, testing, and inspection has been an integral part of the services offered by PSI since its founding. Pittsburgh Testing Laboratory, a division of PSI, tested the original cables for the Brooklyn Bridge in the 1880s; in recent years the firm tested the replacement cables. No other testing inspection firm has that kind of history and continuity. Our construction related services offer a logical extension and continuity to the geotechnical and environmental studies performed by PSI during earlier project phases.

The PSI Plymouth, Michigan office is currently accredited by the U.S. Army Corps of Engineers for Soils and Aggregate and holds accreditation from American Association of State Highway and Transportation Officials (AASHTO) in Hot Mix Asphalt, Aggregate, Soil and Portland Cement Concrete.

Wide Range of Services

PSI's construction testing and inspection personnel can serve a variety of projects from residential properties to fossil fuel power plants. Our services can be provided on either a call out or resident basis, and our specialty is dedicated project testing where we provide an on-site laboratory and full-time staff.



All field activities are supported by our own laboratories, which have total materials testing capabilities, including many types of metallurgical testing.

Our laboratories can also perform special testing, in which unusual types of testing are performed by creating test conditions based on our client's needs and specifications.

PSI maintains complete facilities and equipment for inspection and testing of:

- Soils and Foundations
- Concrete
- Masonry
- Structural
- NDE/Metals
- Pavement Materials
- Construction Materials
- Roofing
- Specialty Items

In addition, PSI performs a full range of consulting engineering services: investigation and evaluation of materials failures and/or deterioration; forensic evaluation of all types of construction materials and structures; and, establishment of quality assurance procedures for construction projects.

Soils and Foundations

- Laboratory testing and evaluation of proposed fill materials
- Sitework monitoring and subgrade evaluation
- Monitoring and testing of compacted fill soil
- Shallow and deep foundations inspections
- Subgrade and soil improvement recommendations



Concrete

- Cement physical and chemical testing
- Mix designs and verifications
- Aggregate Testing
- Field sampling and testing
- Strength testing (compressive, flexural, split-tensile)
- In-situ evaluation
- Concrete Maturity Monitoring
- Batch plant inspection
- Precast and prestressed concrete testing and inspection (field and plant)
- Petrographic and other forensic analysis

Pavements

- Subgrade observations and stabilization recommendations
- Soil-cement mix design
- Base course testing and evaluation (laboratory and field)
- Laboratory testing of asphaltic concrete, including mix designs and verifications
- Field testing and inspection of asphalt and concrete paving materials
- Pavement evaluations (rigid and flexible)



Masonry

- Concrete masonry unit and brick testing
- Mortar/stucco mix design, testing, and inspection
- Forensic investigation
- Prisms construction control

Structural

- Threshold inspections
- Post-tensioning calibration and inspection
- Fireproofing inspection
- Reinforcing steel placement inspection

NDE/Metals

- Structural steel fabrication inspection
- Structural steel erection inspection
- Welder certification and procedure qualification
- Non-destructive examination
- Laboratory chemical and physical testing
- Pressure vessels
- Pipelines



Specialty

- Floor flatness profiling
- Vibration monitoring
- Failure investigations
- Waterproofing monitoring and testing
- Curtainwall mock-up and fabrication inspection

Roofing and Facilities Engineering

- Field evaluation and testing
- Monitoring of roof installation and application
- Laboratory testing of roofing materials
- Roof replacement plans and specifications, non-destructive
- Roof Surveys – Moisture Surveys

