



POST-TENSION CONCRETE STRUCTURES:

DEMOLITION | SITE PREPARATION | ENVIRONMENTAL REMEDIATION

Brandenburg®

About the Company

Brandenburg, established in 1968, is one of the nation's premier demolition firms with a staff in excess of 400 full-time permanent employees. The company provides comprehensive asset retirement services for total plant closure as well as selective demolition designed to enhance the efficiency and profitability of ongoing plant operations. Brandenburg self-performs associated services including environmental assessments, remediation, scrap management, site preparation, electrical and mechanical utility construction and relocation, equipment salvage and rigging.

In the commercial sector, Brandenburg provides demolition services for building owners and the real estate development industry. The company specializes in projects which present challenging operational constraints and has developed a proven track record of completing these projects on time and without incident.

Brandenburg's engineering and estimating staff provides diverse backgrounds and industry-specific knowledge to design and implement exacting operational plans which are responsive to customer needs. The company performs extensive project assessment and planning to develop contract terms and specifications which address the unique requirements of each project.

The company has maintained consistent and strong annual growth by focusing on customer service to develop and deliver engineered solutions for asset retirement. Comprehensive technical expertise in safety,

environmental, and utilities operations enables Brandenburg to meet demanding project schedules.

Brandenburg is a total quality management company with ISO 9001 certification.

Brandenburg is committed to providing a safe work environment for our employees and our customers. We are the first demolition contractor to successfully complete OSHA's Challenge Program and to be certified as a Star Member in OSHA's prestigious Voluntary Protection Program (VPP).



Name of Project	Admiral Benbow Hotel	Crouse Hospital Parking Garage	Green Street Garage
Location	Dayton, Ohio	Syracuse, New York	Ithaca, New York
Owner	Greater Dayton Regional Transit Authority	Heurber-Breuer Construction Company, Inc.	Crane Hogan, Inc.
Type of Work	Total demolition of the 13-story brick, lift-slab, post-tension structured hotel located downtown. Building is located adjacent to buildings that must remain in full operation. Work included minimal asbestos abatement of pipes, floor tiles, and fire doors.	Remove 211,000 square feet, seven level parking deck down to grade. Slabs are post-tensioned.	Remove approximately 50,000 square feet of the center section of the post tension, three level parking garage. Work includes the removal of foundations, pedestrian bridge that crosses over NY SR79, and a two level helix.
Contract Amount	\$1,939,000	\$1,064,000	\$419,845





About Post-Tension Demolition

Demolition of post-tensioned concrete structures presents the demolition contractor with unique issues. Post-tensioned concrete is accomplished by tensioning high strength steel cables within the concrete mass. This method is achieved in a process where metal or plastic tubes which contain loose tensioning cables or rods are cast into the concrete. When the concrete reaches a certain design strength, the cables are then tensioned to a predetermined force. The ends of the cables or rods are anchored to each end of the building component by various types of devices.

Because the cables or rods are not bound to the concrete, they can act like a stretched rubber band. When the concrete is broken, the cable may snap violently causing the imbedded anchors to become projectiles. In addition, the sudden release of the tendons causes the post-tensioned member to lose its tensile strength causing the concrete to fail. The result can be a catastrophic collapse of the entire building.

For post-tensioned structures that can be imploded, the risk of injury or damage is controlled by ensuring that people are kept at a safe distance and that there is no exposure to property if anchors are ejected. To restrain anchors from being ejected, sandbags or other measures are utilized to temporarily hold the anchors during collapse.

For post-tensioned structures that can be demolished using a crane & ball or hi-reach excavator, the system for progressive demolition can be designed to allow the machine to work at a safe distance from the structure. Temporary anchor restraints may also be needed.

For multi-story structures located in a confined location such as a downtown area, Brandenburg develops a demolition plan in conjunction with a design engineer experienced with post-tensioning construction. In these situations, demolition is typically performed floor-by-floor, working from the top floor down until the remaining structure can be demolished using heavy equipment from grade level.

The floor-by-floor method is completed utilizing a combination of mini-excavators, skid steers, man lifts, and hand work performed by laborers. Shoring is typically used on all floors as the work proceeds. The purpose of shoring is to increase the live load capacity on the deck that is currently being worked on and to give the structure additional support. As each floor is demolished, shoring is removed.

Depending on the circumstances, additional barrier protection is installed around the outside of the structure and near post-tension anchorage locations. These protection barriers shield adjacent structures, pedestrian traffic, vehicular traffic, and other various live operations.

The physical demolition of the structure begins with the interior and the roof being completely gutted of all combustible and non-recyclable materials. All material is segregated and removed from the structure using the existing elevator shaft or installed chute systems. After the structure has been gutted, each floor slab is typically removed by skid steer loaders using hydraulic hammers and impact hammers. The tension from the cables is released and can be cut with hydraulic shears or torches. Upon completion of each floor slab, equipment is lowered to the next floor and the perimeter walls are removed by pulling them in toward the floor. All debris generated by this work is continuously segregated and moved to the chute area. Materials are then processed on the ground level by hydraulic excavators equipped with magnets and concrete processors. The processed materials are sent to recycling facilities, with the exception of non-recyclable combustible materials.

Brandenburg continuously implements fall control measures as hazards are created by the modified structure. Fall protection is achieved by handrail, protective cables, floor-hole coverings, labeling, and continuous safety supervision and training.

Professional Services

DEMOLITION/DECOMMISSIONING

Industrial
Commercial
Highway structures
Residential

ENVIRONMENTAL

Asbestos abatement
Decontamination
Site remediation
Hazardous waste management
Water treatment
(advanced oxidation process)
By-products recycling
Underground storage tanks
Drum identification and management
Lab packs

SITE PREPARATION

Mass excavation
Infrastructure development
Dynamic compaction
Soil stabilization

EMERGENCY RESPONSE

Consultation
Structural engineering
Specialized equipment
Skilled labor

CONSULTING

Specification development
Facility closure
Environmental remediation
Utilities system design
Site preparation
Surplus facility disposition
Asset recovery

ELECTRICAL & MECHANICAL UTILITIES

System mapping and design
Mechanical construction, piping
disconnection, and relocation
Electrical construction, disconnection,
and relocation

INVESTMENT RECOVERY

Scrap management
Equipment rigging
Equipment sales

Partial Client List

Abbott Laboratories
AMEC
American Electric Power
Amtrak
ArcelorMittal Steel
Arkema Inc.
ASARCO
Ashland Chemical
BASF
BHP Copper, Inc.
BMW International
Bovis Lend Lease
BP Amoco
Cargill
Centerpoint Properties
Chemtura Corporation
Chicago Transit Authority
Citgo
City of Chicago
Commonwealth Edison
Conectiv Energy
ConocoPhillips
Consolidated Edison
Corn Products Corporation
Chrysler
Dow Chemical USA
Eli Lilly and Company
Exelon
Exxon Mobil Corporation
Ford Motor Company
General Electric
General Motors
Gilbane Building Company
Home Depot
Honeywell International Inc.
Kraft General Foods
Marathon Oil Company
National Starch & Chemical
Navistar International
NiSource
O'Brien & Gere
Pannatoni Construction Inc.
Pennsylvania Power & Light
Pepper Construction Company
Pfizer Inc.
Phelps Dodge
Praxair
Proctor & Gamble Company
Quantum Chemical
Rohm & Haas
SEPTA
Sherwin Williams
Skanska USA Building, Inc.
Smurfit Stone
Sunoco, Inc.
The Trump Corporation
Turner Construction Co.
U.S. EPA
United States Steel Corporation
Valero
Walbridge Aldinger
Walsh Construction Company
Waste Management, Inc.
WE Energies
Weston Solutions
Wyeth Pharmaceuticals
Xcel Energy

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