



bennett & pless

STRUCTURAL ENGINEERS

LIFE SCIENCES
QUALIFICATIONS

FIRM OVERVIEW

Bennett & Pless is a structural engineering firm with more than six decades of experience delivering practical, efficient, and innovative design solutions. As a structural-only practice, we bring focused expertise in steel, concrete, masonry, and specialty systems across industrial, manufacturing, data center, and life sciences markets. Our work emphasizes constructability, performance, and solutions that support long-term operational needs. With ten offices across the South and a growing national presence, Bennett & Pless supports projects of all sizes, from new construction to expansions and adaptive reuse. We take a collaborative and responsive approach that aligns with each client's goals and schedule. Our team is committed to providing reliable structural solutions that guide projects smoothly from early planning through construction.

Large, complex projects.
Responsive, scalable expertise.



Chilled Water Plant Number 3 - Duke University (Durham, NC)

FIRM PROFILE

10
SOUTHEAST
OFFICES

FOUNDED IN
1964

180+
TEAM
MEMBERS

- **Structural Focus:** Single-discipline, structural-only firm dedicated to advancing our technical expertise and delivering reliable, well-coordinated solutions.
- **Rapid, Responsive Design:** Proven ability to support fast-track schedules with efficient, accurate design packages tailored to project needs.
- **Specialized Knowledge:** Extensive experience across industrial, manufacturing, mission-critical, commercial, life sciences, and other complex building types.
- **Collaborative Approach:** Strong understanding of how structural systems interact with architectural, mechanical, electrical, and process requirements to support seamless project delivery.
- **Nationwide Experience:** Licensed and active across the United States with a deep understanding of regional building codes, environmental conditions, and geotechnical considerations.

ASSESS.

DESIGN.

ADVISE.



PROVEN OUTCOMES

+50
LIFE SCIENCES
PROJECTS

+4.0M SF
OF RESEARCH &
DEVELOPMENT LABS

+3.25M SF
OF LIFE SCIENCES
MANUFACTURING SPACE



LIFE SCIENCES

Bennett & Pless delivers specialized structural engineering solutions for Life Sciences facilities, supporting high-stakes environments such as Research and Development laboratories, pilot plants, and biotechnical production facilities. Our expertise includes vibration control, GMP-compliant structures, and robust support of complex process equipment, while integrating advanced HVAC systems, utilities, and cleanroom technologies. As a single-discipline structural engineering firm, we collaborate closely with clients to deliver adaptable, compliant facilities that support innovation and long-term operational success.

LIFE SCIENCES

PHARMACEUTICAL MANUFACTURING - NEW CONSTRUCTION

Select Listing

Bennett & Pless understands the demands of pharmaceutical manufacturing facilities, where current Good Manufacturing Practice (cGMP) clean environments require heavy utilities, suspended cleanroom systems, and specialized equipment requiring pits and access platforms. Manufacturing projects often have aggressive construction schedules to expedite bringing products to market, requiring structural design to progress ahead of other disciplines. Below is a select listing of new construction projects where Bennett & Pless successfully addressed these challenges.

Concord Campus – Eli Lilly (*Concord, NC*)

Structural design of this 1,200,000 SF project with 10 new buildings connected by a central spine on a 400-acre site. The campus includes manufacturing, packaging, logistics, ASRS warehouse, distribution warehouse, QA/QC labs, administration, and central utility plant. The core and shell for the entire plant was completed as a design-build delivery with a fast-track schedule. Structural scope also included fit-up of the manufacturing and logistics spaces with pipe supports and equipment access platforms, also in a design-build arrangement with the fit-up contractors. The \$2 billion investment will bring over 600 jobs to the county and will produce diabetes and obesity medicines.

WSS Facility – Fresenius Kabi (*Wilson, NC*)

This \$100 million investment is an advanced production facility for Fresenius Kabi's patented ready-to-administer pre-filled IV bags. Bennett & Pless provided the structural design for 420,000 SF of space, including central utilities, formulation, sterilization, packaging, logistics, ASRS warehouse, QC lab, and administration. The buildings are framed with structural steel on footings on ground-improved soils and clad with insulated metal panels. The project was a design-build delivery with a fast-track schedule.

Fill Finish Expansion – Novo Nordisk (*Clayton, NC*)

This ambitious project is a multi-product production facility adjacent to Novo Nordisk's existing operations. Bennett & Pless designed all 140,000 SF of new construction as a design-build delivery and partnered with deep foundation contractors, steel fabricators, and concrete contractors to fast-track construction while design progressed. The buildings are framed with structural steel on continuous flight auger-cast piles and clad with insulated metal panels. The \$4.1 billion advanced facility is instrumental to manufacturing Novo Nordisk's innovative treatments for obesity and other chronic diseases. Construction will be finalized between 2027 and 2029. The project is pursuing LEED Gold certification.



LIFE SCIENCES

PHARMACEUTICAL MANUFACTURING - RENOVATION & EXPANSION

Select Listing

US Capsule Production Phase 1 – ACG (Conyers, GA)

Pharmaceutical manufacturing fit-up supporting capsule production operations within an active facility. Work included evaluation and modification of existing structural systems to accommodate new process equipment, production layouts, and supporting infrastructure.

Microsphere cGMP Improvements – Alcami Services, Inc. (Durham, NC)

Structural design of a 4,250 SF small-scale manufacturing renovation to an existing one-story building. Structural scope included a concrete floor pit and steel-framed access platform for a process tank, along with reinforcement of roof bar joists for new HVAC equipment.

Phase 1 & 2 Renovations – Aerie Pharmaceuticals (Durham, NC)

Structural design of a tenant fit-up for a Longfellow Real Estate property totaling 48,000 SF, plus an 800 SF loading dock expansion. Phase 1 included formulation labs, office, and support space, while Phase 2 included small-scale cGMP formulation space. Structural scope included foundations and framing for the loading dock expansion, reinforcement of roof bar joists for new lab HVAC units, and steel framing for a new overhead door in an existing exterior wall.

Clinical and Commercial Production Facility – Cellectis (Raleigh, NC)

Structural design of Phase 1 consisting of the fit-up of manufacturing and support space within an existing speculative warehouse shell. Structural scope included a structural steel grid to support walkable cleanroom ceilings, a steel and concrete slab-on-deck platform above the roof for a prefabricated modular mechanical penthouse, a freestanding exterior stair tower, floor-mounted racks for piping and cable tray, and exterior foundations for electrical gear.

Lab and Manufacturing Fit-Up – Jaguar Gene Therapy (Durham, NC)

Structural fit-up of an existing two-story shelled building with lab and manufacturing space. Structural scope included framing of new HVAC openings at the second-floor mechanical level and reinforcement of existing long-span roof trusses to support new rooftop HVAC units.

cGMP Manufacturing Facility Fit-Up – Liquidia Technologies (Morrisville, NC)

GMP manufacturing fit-up within an existing life sciences manufacturing facility. Work included evaluation of existing structural systems and coordination to support new pharmaceutical manufacturing equipment and building system upgrades in compliance with GMP requirements.

Line 36 Addition – Novo Nordisk (Clayton, NC)

Structural interior renovation to add a new filling line within the existing building. Structural scope included relocation of vertical steel wind and seismic bracing to open up space, along with modifications to rooftop steel dunnage to support new air handling units.



LIFE SCIENCES

PHARMACEUTICAL MANUFACTURING - RENOVATION & EXPANSION

Select Listing

Ammonia Dosing Upgrade – Novonosis (*Franklinton, NC*)

Ammonia dosing system upgrade including development of construction documents for process piping supports, building penetrations, and associated structural components to support future facility expansion.

Drum to Centrifuge Expansion – Novonosis (*Franklinton, NC*)

Upgrade to centrifuge-based separation included the evaluation and reinforcement of existing slabs, roof framing, and precast panels to support new centrifuges, process skids, air handling units, duct penetrations, and piping systems. Work also included design of hoist beams, equipment curbs, containment areas, and new interior and exterior pipe supports.

Eight Tank-Year Capacity Expansion – Novonosis (*Franklinton, NC*)

Production capacity expansion through the addition of two new 160 m³ fermenters, along with upgrades to recovery and filtration lines, the wastewater treatment system, and site utilities.

FHG15AB Tank Replacement – Novonosis (*Franklinton, NC*)

Replacement of an existing process tank within an active manufacturing facility. Structural scope included evaluation of existing foundations and structural supports and coordination to accommodate new tank loads and installation requirements.

Fermenter Tank Expansion – Novonosis (*Salem, VA*)

Expansion of fermenter tank capacity within an existing industrial biotechnology manufacturing facility, including evaluation of structural systems and foundations to support new equipment loads.

Clinical Gene Therapy Manufacturing Facility – Pfizer (*Durham, NC*)

Structural design of the fit-out of an existing 60,000 SF one-story high-bay shell building for manufacturing, lab, office, and warehouse space. Structural scope included an extensive mezzanine, cleanroom ceiling support framing, catwalks, bio-waste pit, pipe supports, and exterior cooling tower support dunnage.

Lab & Manufacturing Renovation – ProKidney (*Winston-Salem, NC*)

Structural design of an interior renovation including the reconfiguration and expansion of a steel-framed mezzanine to support HVAC equipment over manufacturing space.

Pharmaceutical Manufacturing Expansion – Tjoapack (*Clinton, TN*)

Expansion of a pharmaceutical manufacturing facility requiring evaluation of existing structures and coordination to support new process equipment and production space requirements.



LIFE SCIENCES

RESEARCH & DEVELOPMENT LABORATORIES - NEW CONSTRUCTION

Select Listing

R&D building facilities are a recruiting tool for talent. A well-designed building is a welcoming space that fosters productivity, creativity, and collaboration. At the same time, these buildings must be high performing with advanced and reliable MEP systems, unobstructed flexible space, and floors that are not susceptible to vibrations that disrupt focused research and sensitive equipment. Below is a select listing of new building projects that enable groundbreaking research for academic institutions and private companies.

Alexandria Center for Advanced Technologies, 4 Davis Drive & Parking Garage – Alexandria Real Estate (*Durham, NC*)

Structural design of a new 171,366 SF four-story speculative laboratory building with an adjacent 500-car parking garage. The building is framed with structural steel and features a dramatic overhang and open atrium. Floors meet VDC vibration criteria for light lab use, with a penthouse and exterior HVAC units screened from view. The parking garage is precast concrete.

Biotech and Medical Simulation Center – Edgecombe Community College (*Rocky Mount, NC*)

Structural design of a three-story, 45,000 SF facility serving 18 health science programs. The building includes simulated hospital spaces such as ORs, ERs, imaging labs, exam rooms, and biotechnology labs. It is steel framed on cast-in-place concrete footings and was delivered as a design-build project.

Founders Hall and Innovation Hall Engineering & Physics Innovation Quad – Elon University (*Elon, NC*)

Structural design of 65,000 SF of facilities serving engineering and physics programs. Founders Hall is a two-story building with instructional labs and student engagement spaces, while Innovation Hall is a three-story building with labs, classrooms, and faculty offices. Both buildings are steel framed with brick exteriors.

Bioprocess Innovation Center 2 – Fujifilm Diosynth (*Research Triangle Park, NC*)

Structural design of an 89,000 SF laboratory building featuring advanced analytical instrumentation, high-throughput bioprocessing equipment, and automation technologies. The facility doubles production capacity and supports process characterization, drug substance formulation, and quality control testing.

Via Labs at Hub RTP – Longfellow Real Estate (*Durham, NC*)

Structural design of an eight-story, multi-tenant laboratory and office building totaling approximately 227,850 SF within the Research Triangle Foundation's mixed-use Hub RTP development.

Triangle 54 – Longfellow Real Estate (*Durham, NC*)

Structural design of a six-story, 285,000 SF Class A laboratory and office building with a setback penthouse. The project is the first of two buildings on a 35-acre greenfield site and reflects Longfellow's campus-style development vision.



LIFE SCIENCES

RESEARCH & DEVELOPMENT LABORATORIES - NEW CONSTRUCTION

Select Listing

College of Veterinary Medicine Translational Research Facility – NC State University (*Raleigh, NC*)

Structural design of a 3,600 SF facility supporting animal holding, surgery, recovery, and research. The building is constructed with cold-formed steel trusses supported by CMU bearing walls on strip footings.

College of Veterinary Medicine Swine Holding Facility – NC State University (*Raleigh, NC*)

Structural design of a pre-engineered metal building supporting biomedical research and swine health programs. The facility includes a concrete slab and finishes designed for durability and frequent cleaning.

David H. Murdock Core Laboratory – North Carolina Research Campus (*Kannapolis, NC*)

Structural design of a four-story, 311,000 SF incubator core laboratory facility, one of the most comprehensive of its kind in the United States.

Duke Institute of Translational Medicine – North Carolina Research Campus (*Kannapolis, NC*)

Structural design of a four-story, 120,000 SF laboratory and office building supporting translational medical research focused on human health and disease.

UNC Nutritional Research Institute – North Carolina Research Campus (*Kannapolis, NC*)

Structural design of a four-story, 120,000 SF research facility housing the UNC Nutrition Research Institute and multiple partner research centers.

NC State Institute of Fruit & Vegetable Science – North Carolina Research Campus (*Kannapolis, NC*)

Structural design of a 45,000 SF agricultural research facility and greenhouse complex supporting the NC State Institute of Fruit and Vegetable Science and the Dole Foods research program.

Oxford Research Commons – Research Triangle Park (*Durham, NC*)

Structural design of Phase 1 consisting of two steel-framed lab and office buildings totaling 270,000 SF and a 500-car precast concrete parking deck.

UNC Chapel Hill Translational Research Building – University of North Carolina (*Raleigh, NC*)

Structural design of a 160,000 SF seven-story research facility including vivarium, wet labs, and support spaces for imaging, virology, and vaccine development. The building is founded on micropiles with cast-in-place concrete foundations.

UNC Chapel Hill Roper Hall Medical Education Building – University of North Carolina (*Raleigh, NC*)

Structural design of a 172,000 SF eight-story medical education building featuring a two-story atrium, a steel penthouse supported on micropiles, and a 400-seat active learning theatre spanned by steel transfer trusses.



LIFE SCIENCES

RESEARCH & DEVELOPMENT LABORATORIES - RENOVATION AND EXPANSION

Select Listing

Life Science Exterior Improvements & Parking Garage – Alexandria Real Estate (*Durham, NC*)

Alexandria Real Estate purchased the research campus from GlaxoSmithKline to convert it into leasable multi-tenant research space. Structural design included campus-wide improvements to modernize the buildings, extensive entrance canopies, re-cladding of ground-level floors, and a new stair tower. A new precast concrete 1,000-car parking garage was constructed and clad with decorative steel panels.

Life Science Node 1 Addition – Alexandria Real Estate (*Durham, NC*)

Structural design of the expansion to a central “node” between two lab buildings. The node was expanded on both the north and south sides with three levels of program space. The south side second floor was constructed by pouring a new concrete slab on the existing low roof with new sub-framing to support the additional load.

R16 Recycle Vivarium Renovations and Rooms R03 and R07– Charles River Laboratories (*Raleigh, NC*)

Structural design renovations to existing holding rooms flanking a central corridor. Scope included design of new rack washer and autoclave pits coordinated with equipment vendors, lintels for large CMU wall openings, and steel-framed platforms to access equipment controls.

Central Vivarium Primate Cage Washer Replacement – Duke University Medical Center (*Durham, NC*)

Structural design for replacement of two side-by-side rack washers, including demolition and reconstruction of a concrete pit with embedded stainless steel angle framing coordinated with the equipment vendor.

Tenant Fit-Up – Greenlight Bio (*Durham, NC*)

Fit-up of 44,500 SF of laboratory and support space on the first and third floors of an existing building at the Alexandria Center for AgTech. Structural scope included new slab-on-grade construction and framing for rooftop HVAC equipment and associated shafts.

Genetic Testing Facility Fit-Up – Invitae (*Morrisville, NC*)

Structural design of the upfit of a 125,000 SF genetic testing facility serving as Invitae’s first East Coast laboratory and production facility. The project includes labs, lab support, mechanical systems, shipping and receiving, offices, conference and training spaces, administrative support, amenities, and interior and exterior courtyards. The facility was designed for maximum flexibility to allow rapid reconfiguration as processes evolve.



Genetic Testing Facility Fit-Up – Invitae (*Morrisville, NC*)

LIFE SCIENCES

RESEARCH & DEVELOPMENT LABORATORIES - RENOVATION AND EXPANSION

Select Listing

Tenant Fit-Up at Newcastle North – Icagen / Longfellow Real Estate (*Durham, NC*)

Structural design of a 25,313 SF tenant fit-up in an existing one-story building, including reinforcement of roof bar joists for new HVAC equipment and steel framing for a new overhead door in the existing exterior wall.

Discovery at Perimeter Park – Longfellow Real Estate (*Morrisville, NC*)

Structural design of new freestanding entry canopy structures at five existing buildings framed with Architecturally Exposed Structural Steel (AESS) and roofed with decorative metal fins. Structural scope included the fit up of speculative and tenant-specific laboratories including roof joist reinforcement for new rooftop HVAC units, generator foundations and framing for new roll-up doors. Renovated suites are as follows:

- 507 Airport Boulevard:
 - Suite 260: 17,062 SF renovation
- 5151 McCrimmon Parkway Spec Lab:
 - Suites A,B and C: 19,438 SF renovation
 - Suite 240: 3,813 SF Enzerna renovation
 - Suite 260: 6,542 SF DMC Bio renovation
- 2400 Perimeter Park Drive Spec Lab:
 - Suites 110, 120, 130, 140, 150, and 160
- 2450 Perimeter Park Drive Spec Lab:
 - Suite 100: 9,000 SF renovation
 - Suite 300: 9,863 SF Glympse Bio renovation
 - Suite 200: 13,775 SF renovation for Inceptor Bio
- 2600 Perimeter Park Drive Spec Lab:
 - Suite 140: 11,259 SF renovation
 - Suite 160: 21,180 SF renovation for Encoded

Tripharma Office & Lab Improvement – Longfellow Real Estate (*Morrisville, NC*)

Structural design of a 25,000 SF tenant fit-up within a one-story building including small-scale manufacturing space, lab, and office areas. Structural scope included a rooftop generator platform, reinforcement of roof bar joists for new HVAC equipment, and metal stud framing for a pressurized lab.



LIFE SCIENCES

RESEARCH & DEVELOPMENT LABORATORIES - RENOVATION AND EXPANSION

Select Listing

Tenant Improvements – Lincoln Triangle Business Center (*Durham, NC*)

Structural design of exterior improvements and tenant fit-ups at this existing multi-building complex. Structural scope included the design of steel framed entry canopies attached to existing columns at Buildings 4022 and 4025 and design of roof bar joist reinforcement for new laboratory HVAC units for multiple suites as follows:

- Building 4020:
 - Suite 312: 6,969 SF Renovation
 - Suites 114 & 116: Combined 9,600 SF renovation
 - Suites 107 & 109: Combined 12,368 SF renovation
 - Suite 100: 18,852 SF renovation
- Building 4021:
 - Suite 220B: 6,125 SF renovation for Zymeron
 - Suite 210: 5,430 SF renovation for Isolere
 - Suite 300: 5,957 SF renovation
 - Suite 100: 7,652 SF renovation

Swine Facility Renovation – NC State University College of Veterinary Medicine (*Raleigh, NC*)

Structural design of a 4,000 SF swine holding facility constructed as a pre-engineered metal building with CMU divider walls and perimeter knee walls. Structural scope included slab and footing design, washdown trenches, and review of reinforcement and concrete mix designs.

Equine CT Room Renovation – NC State University College of Veterinary Medicine (*Raleigh, NC*)

Structural design of an existing suite to accommodate a new CT machine, including a new slab-on-grade and pit for an adjustable platform table, CMU wall modifications, new doors, and an overhead hoist system.

Swine Surgery Addition – NC State University College of Veterinary Medicine (*Raleigh, NC*)

Structural renovation of the east end of an existing barn, including demolition and replacement of floor slabs with sloped slabs and trenches, a new surgery suite, holding rooms, and installation of an overhead hoist beam.



LIFE SCIENCES

RESEARCH & DEVELOPMENT LABORATORIES - RENOVATION AND EXPANSION

Select Listing

Project Rise, Phases 2-6 – Novonosis (*Franklinton, NC*)

6,000SF lab and office renovation of an existing one-story building to support new rooftop mechanical equipment and utility upgrades, including evaluation and reinforcement of existing framing, building envelope modifications, and localized slab-on-grade repairs coordinated within an active manufacturing environment.

Tenant Fit-Up – Oerth Bio (*Durham, NC*)

Structural design of a new office space elevated 4 feet and immediately adjacent to the existing office. Existing steps were removed and replaced with new steps and an ADA lift.

McGavran Greenburg Hall BSL-3 Lab Renovation – University of North Carolina (*Chapel Hill, NC*)

Structural design renovation of the NIH funded COVID-19 lab including an exterior generator foundation, a concrete ramp addition to the existing reinforced concrete floors at the existing loading dock, floor and wall louver openings and penthouse roof framing modifications for new HVAC units. The existing building is framed with reinforced concrete floors and a steel framed gable roof.

Division of Laboratory Animal Medicine, McGavran Greenburg Hall, Animal Facility Improvements – University of North Carolina (*Chapel Hill, NC*)

Structural design renovation of the existing ground floor animal facility to provide a new holding area, autoclave suite new floor pit and lintels in masonry walls and new restrooms.

Vivarium Renovations – Thurston Bowles Building, University of North Carolina (*Chapel Hill, NC*)

Structural design for renovation of an existing cage washing facility, including reconfiguration of pits for new equipment and new lintels and bracing for CMU walls.

Vivarium Migration, Berryhill Hall – University of North Carolina (*Chapel Hill, NC*)

Migration of existing vivarium space from Berryhill Hall to new or renovated space in McGavran Greenburg Hall, Taylor Hall, the GMB, and Coker Hall. Structural scope included new openings in CMU walls, equipment and utility replacements, and an addition to McGavran Greenburg Hall.



Vivarium Migration, Berryhill Hall – University of North Carolina (Chapel Hill, NC)



Novo Nordisk (Clayton, NC)

ATLANTA · CHATTANOOGA · CHARLOTTE · DALLAS · KNOXVILLE · LOUDOUN · NASHVILLE · ORLANDO · RALEIGH · SARASOTA

CONTACT US



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