



Project: NFX Project
Location: Albany, NY
Construction Manager: M+W Group, US, Inc.
Core + Shell Contractor: The Whiting-Turner Contracting Group (Allentown/Albany)
Precaster: The Shockey Precast Group
Owner: SUNY Albany - Colleges of Nanoscale Science and Engineering

Project Summary

The fast-track NFX Project is a Nano-Technology research, development, and manufacturing facility that required tight tolerances, extensive vibration mitigation criteria, extensive loads, blast loads, specialized material handling/chemicals facilities/elevators, and long, heavy load, clear spans. The Shockey Precast Group manufactured 1,352 precast concrete elements totaling more than 11,000 cubic yards of concrete, including 72 120' long, 60" deep, 8' and 12' wide, 135,000 to 155,000-pound Jumbo Ts.

The Shockey Precast Group deployed onsite project management staff to lead all field scope items including hauling operations, specialty super load hauling operations, property management, precast erection, precast grouting, crane operations, and precast finishing. Shockey accelerated the schedule through a work schedule consisting of 6 x 12 hours and 1 x 10 hours days working 7 days/week for the duration of the project. All field work was completed by subcontracted Union firms as per the Project Labor Agreement and Shockey maintained excellent Union relations throughout the project.

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Transport of the Jumbo Ts from Winchester, VA, to Albany, NY offered its own logistical challenges. The Shockey Precast Group coordinated with 15 police and transportation jurisdictions for hauling of all products, with virtually all of the project's 1,152 loads designated as, "permit loads." The complexities of managing super load transportation and coordination for the 72 120' long Jumbo Ts was magnified by the number of jurisdictions involved in the transport of product.

- Virginia DOT
- Virginia State Police
- West Virginia DOT
- Maryland SHA
- Maryland State Police
- Pennsylvania DOT
- New Jersey DOT
- New York State DOT
- New York State Police
- New York State DOT Department of Super Loads and Special Permits
- New York State Thruway Authority
- Albany County Department of Transportation
- Town of Colonie, NY
- City of Albany, NY

Detailed Explanation of Relevancy:

- Blast, Seismic, and Vibration Criteria
- Speed and schedule from contract date to Final Completion of this major structural project in 12 months with Substantial Completion or precast scope achieved in 10 months
- Precast Emulating CIP
- Significant Live and Dead Loads
- Union/PLA onsite labor
- Transportation Logistics

Challenges and Solutions Encountered:

With an exceptionally compressed design period, concurrent engineering of precast allowed development and coordination of steel, CIP, and MEP design. Given the complexity of the structure, the engineering and design period extended while the planned start of precast erection remained a fixed point. To mitigate impact, Shockey moved to accelerated production and onsite erection. Efforts culminated in 10-12 hour shifts Monday through Sunday in Shockey's precast plant and onsite for erection.

Lessons Learned:

- Precast designed for significant blast criteria
- Incorporation of unique design aspects of end user products in facility and elevator design
- Incorporation of seismic and vibration criteria into the precast design
- Use of "clean room" construction methods for precast fabrication
- Application of dust mitigation sealant at the SPG plant
- Super load hauling operations and jurisdictional permitting compliance for irregular loads
- Super-load logistical planning, operations, and execution
- Management of remote facility staging area property management and leases
- Extensive onsite management and reporting requirements
- Remote operations with independent management of operations apart from centralized Shockey corporate offices
- Developed strong positive relations with local building trades

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Start Date:	Contract 03/24/11
Precast Scope:	300,000 SF of structural precast, including long-span, 60" DTs
Precast Contract Amount:	Greater than \$18 million
Precast Erection Duration:	20 weeks
Erection Complete:	12/23/11
Final Contract Completion:	March 2012
Beneficial Occupancy Date:	Available March 2012 with Owner occupancy thereafter