



# NORTH CAROLINA NATIONAL GUARD TUAS

## CHALLENGE

ALSO SEEKING A LEED CERTIFICATION, FORT BRAGG WANTED TO CONSTRUCT A TACTICAL UNMANNED AERIAL SYSTEM SUPPORT FACILITY LOCATED ON BASE.

## SERVICES

- Architecture
- Sustainable Design
- Interior Design
- Landscape Architecture
- Site Civil Design
- LEED Administration & Certification

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Fort Bragg, located in North Carolina, is one of the nation's most combat ready and active military installations. Several airborne units of the U.S. Army are stationed there, notably the XVIII Airborne Corps HQ, the 82nd Airborne Division, and the United States Army Special Operations Command (USASOC).

Since the facility's purpose is to maintain specialized TUAS equipment and serve as a training center for the National Guard, the design team coordinated various equipment types for each of the support spaces within the facility.

ms consultants provided architectural and engineering design services for the North Carolina National Guard Tactical Unmanned Aerial System (TUAS) Support Facility located on the Fort Bragg base.

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## SUSTAINABLE DESIGN

As one of the North Carolina National Guard and Fort Bragg Garrison requirements, the new hangar facility had to pursue a minimum LEED Silver Certification. After assessing all of the LEED Silver requirements and without additional costs to the project, the project team made small revisions to the initial building design and was awarded LEED Gold Certification.

Some of the sustainable elements incorporated into the building design to achieve the higher status were:

- Integration of a geothermal heating/cooling system which help contribute to a 41% energy savings
- Two gravity-fed solar panels that generate 12,000 MBH of power to heat water used within the building
- Photo-voltaic electric system capable of producing 19,000 kWh per year

All elements above qualify as “On-Site Renewable Energy” with a total on-site generation of 20,000 kWh or 14% of the energy used on site.

A rainwater-capture system was also integrated into the building design, which houses grey-water for flushing toilets and regular maintenance. With this strategy, the project reduced potable water use for sewer conveyance by 100%. The rainwater-capture system also supplies water to the covered wash bay to maintain all TUAS equipment on-site. An overall 66% reduction in potable water usage is expected at this facility with no potable water used for irrigation.

During the construction process, 75% of the construction waste was diverted from the local landfill. Additionally, material selections were carefully considered. All materials used in the building are user-friendly with low COV content for paints, adhesives, sealants, and carpet. Locally-sourced materials within 500 miles of the project site comprised 19% of all building materials along with 27% being recycled material.

As another of the Garrison Standards, the design team also worked with the Fort Bragg Directorate Committee assigned to this project to coordinate the specification of energy-efficient products and the installation of the facility performance, monitoring software and all secure & non-secure communication systems. The building monitoring software calculates and records building’s daily utility consumption, which is then electronically reported back to the Directorate on a monthly basis.

Due to the National Guard requirements and immediate need for this facility, the team was required to design the entire facility, pursue LEED certification, comply with all federal and state requirements, and receive all construction bids in less than six months.