

# Industrial Wastewater Reduction and Water Conservation Initiative

**CAPT J. M. Belmont**  
Commanding Officer

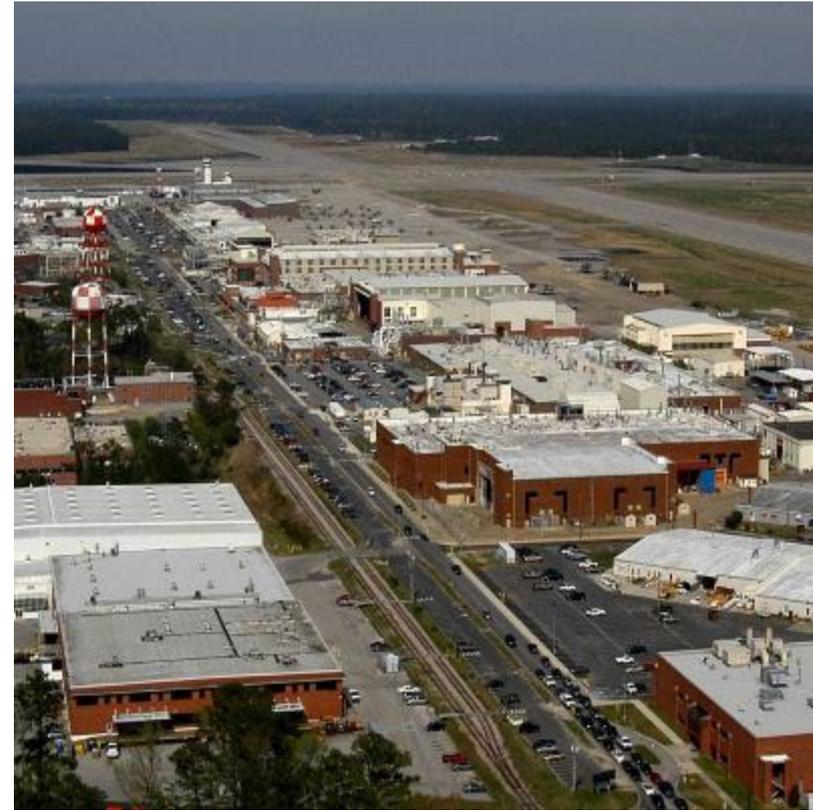
**CAPT R. J. Berti**  
Executive Officer

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# FRC East's Mission

Fleet Readiness Center East's (FRC East) mission is *Generating Combat Air Power for America's Marine and Naval Forces*. FRC East has provided the highest quality services in maintenance, repair, and overhaul as well as engineering and logistics processes to support Department of Defense (DOD) aviation for more than 70 years. Located within the city limits of Havelock, North Carolina, FRC East is the largest tenant of Marine Corps Air Station (MCAS) Cherry Point. FRC East employs approximately 3,800 civilian, military, and contract personnel, making it the largest industrial employer in Eastern North Carolina. FRC East facilities include 119 buildings with a total of 2.1 million square feet, 1.6 million square feet of which is industrial production space. The total facility footprint is approximately 147 acres bordered by Slocum Creek, the Neuse River, and the Croatan National Forest. The command also has permanent sites at Marines Corps Air Stations New River, NC, and Beaufort SC, and Joint Base McGuire-Dix Lakehurst, NJ.





# Investigation

- 2019 FRC Environmental Division began to target industrial processes that utilized a high volume of potable water and that discharged or generated additional high volumes of industrial waste water.
- Utilizing MCAS Geographic Information System data layers, FRC East installed potable water meters to identify buildings and/or industrial processes that were utilizing high volumes of potable water and discharging high volumes of water to the industrial waste water treatment plant (IWTP).





# Discovery

- One of the largest building sites identified as a heavy contributor to the IWTP was at the Naval Engine Air Foil Center, Building 4225.
- Building 4225 was constructed in 1993 and is comprised of over 420,000 square feet. It incorporates over 27 industrial activities to include: welding, blending, painting, coatings, blasting, non-destructive investigation, examination/evaluation, de-plating, washing/cleaning, foundry/kiln operations, cooling towers, chill water processes, and furnace shop operations.
- Based on water meter data, this building was utilizing, on average, nearly **79,000 gallons of water per day**.





# Efforts

FRC East Environmental Division worked directly with the artisans to identify the processes which utilized significant amounts of water in Building 4225 and to develop solutions; the following were implemented:

- Updated clean-line automation, actuated valves, solenoids, and related pumping systems,
- Conversion and operation of the air scrubbing system as a closed-loop system, and
- Conversion from overflow rinse tanks to artisan-initiated hose flushing.





# Results and Savings

## Bldg. 4225 Savings

- Building 4225 sustained **56 percent reduction** in potable water usage over the next year, reducing the average daily potable water consumption from 79,000 to **44,240 gallons per day**.
- The effort aided in a **56 percent** decrease in the amount of chemicals required for treatment at the IWTP that year
- A utility credit of **\$540,000** was realized in fall 2017 as a direct result of these conservation efforts.

## Other Notable Water Conservation Initiatives

- Redirected stormwater drains to no longer discharge into Industrial Waste Water treatment Plant Drains allowing for a 20% reduction of water being sent to the IWTP.



# Closing



FRC East Environmental Division proudly serves the war fighter with a quality product, on time, at cost, while advancing efforts to safeguard the environment. The Environmental Division on behalf of FRC East has been a good neighbor to Eastern North Carolina for more than 70 years, and an ESI Steward of North Carolina since 2004, and continues looking to the future with anticipation of continued sustainable improvements such as additional green purchasing, increased community involvement, and implementing improved technologies. All FRC East employees are vitally aware of their individual and team contributions to the mission and the need to maintain environmental sustainability, both within the FRC East fence line and beyond.



# Questions?

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