



Emissions Reduction Project  
Tyson Foods, Inc.  
Danville, VA

NAMI ELS+ Conference

April 2024

New Orleans, LA



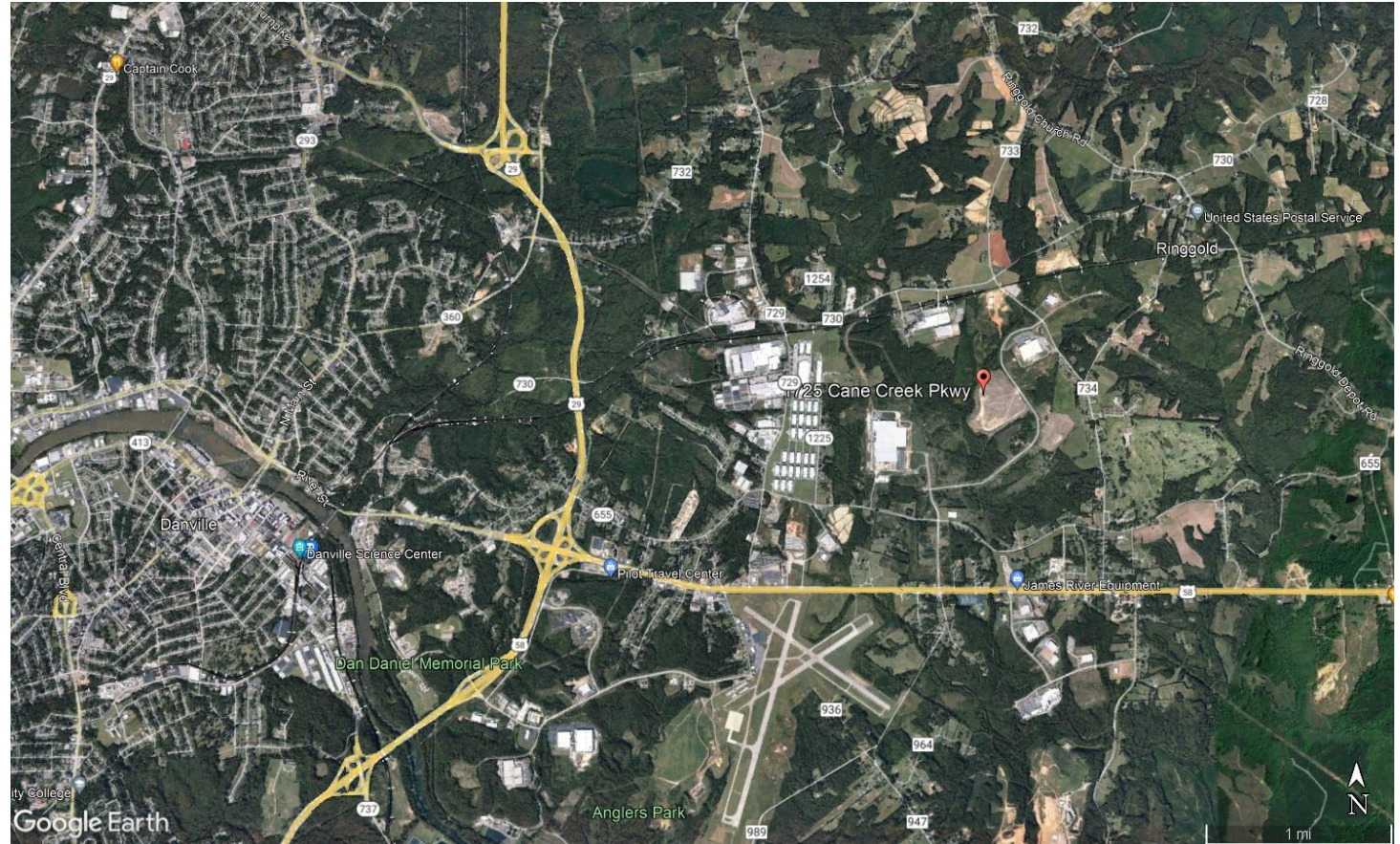
## Facility Background

- Opened November 2023
- Produce fully cooked poultry products
- 400 team members
- Highly automated

# Challenge

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- Facility located in an industrial area with population centers nearby
- Modeling showed PM emissions were passing but not as low as desired
- PM from fryer operations needed reduction, and would help positively impact stormwater by keeping O&G off the roof





# Solution

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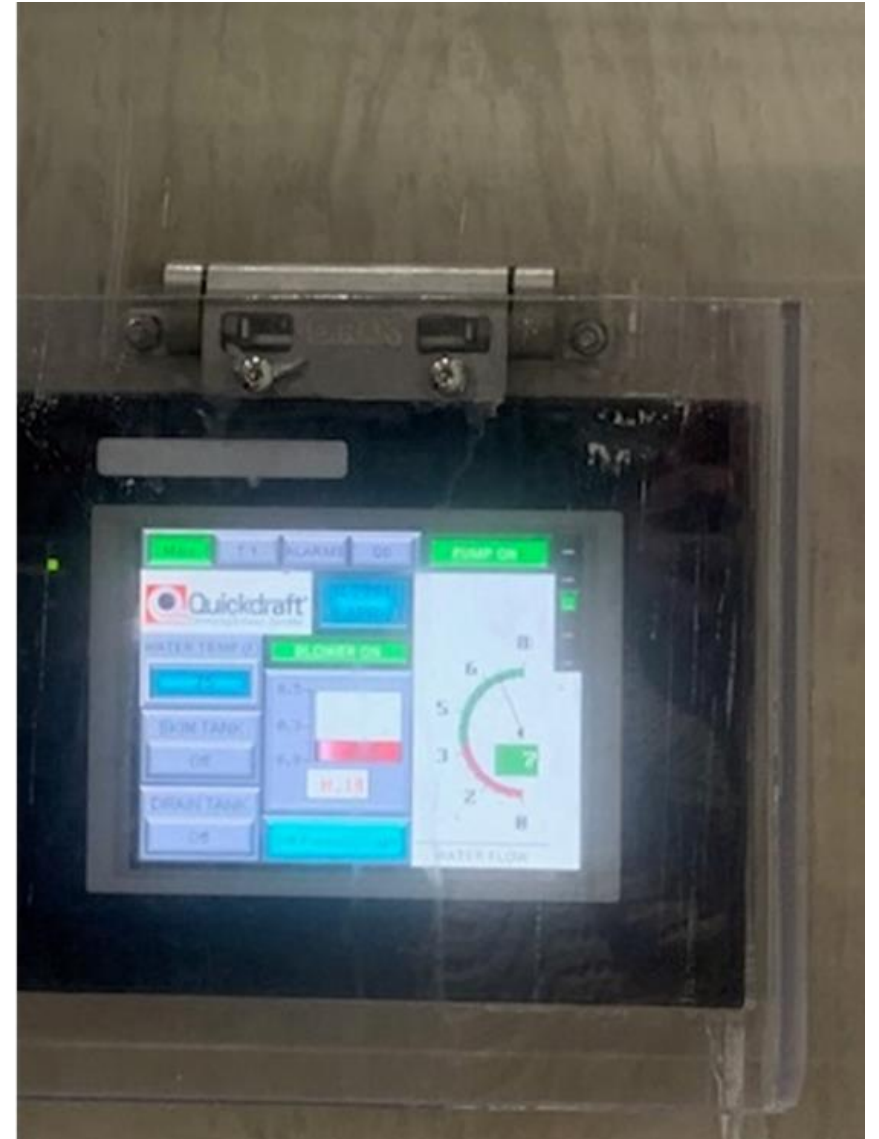
- Initially considered electrostatic precipitator (ESP) technology
- Settled on demister scrubber system for each fryer
- 30" diameter, 304SS, internal spray showers, demister pad filter, 3.2 gpm water requirement



# Project Results

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- +90% reduction in PM, down to 0.2 lbs. per hour
- Reduced storm water impact
- Cleaner air for the area
- Electronic system controls
- Initial challenge getting operators to understand control parameters and adjustments, but training solved this
- Working on digitalization of necessary system documentation, e.g., pressure drop and water flow



# Technological Innovation Project

## Tyson Foods, Inc.

### Vicksburg, MS

NAMI ELS+ Conference

April 2024

New Orleans, LA





# Facility Background

- Produce chicken wings and tenders
- 600 team members

# Challenges

## Spills

- Issues with contaminated stormwater reaching nearby creek from trailer weep pads
- Wastewater pretreatment spills due to excess hydraulic loading from stormwater

## Sludge

- Daily cleaning of fryers causing increased water usage from sanitation and excess sludge generation from fryer oil disposal



# Solutions

## Spills

- Redesigned trailer weep pads to direct all flow to containment structure
- Containment allows first flush to wastewater; remotely controlled valves can divert flow to stormwater after containment water quality is checked
- Installed berms in various locations to help segregate clean storm water from contaminated storm water

## Sludge

- Instead of cleaning fryers daily, went to weekend sanitation cleaning only

# Stormwater Controls



# Project Results

## Spills

- Reduced stormwater hydraulic load to wastewater which in turn addressed wastewater spill issues
- Addressed issue of contaminated stormwater leaving the property
- No more spill clean-up costs and state-issued fines

## Sludge

- By changing fryer sanitation schedule
  - ✓ Water use was reduced by 40%
  - ✓ Sludge loads hauled reduced by 30%
  - ✓ Overall energy usage reduction and operating cost reduction