

CASE STUDY

University of North Carolina – Wilmington, Outdoor Fields & Facilities Enhancement

Wilmington, NC

Bed 1

Storage Provided:	11,243 CF
Area:	16,290 SF
Model:	Contactora® Field Drain C-4HD
Number of Units:	414

Bed 2

Storage Provided:	10,225 CF
Area:	11,189 SF
Model:	Contactora® 100HD
Number of Units:	395

Installed: April 2017

General Contractor: Sports Construction Management, Inc. (SCM)
Lexington, NC

Site Contractor: East Coast Contracting, Inc.
Wilmington, NC



Wilmington College officially opened its doors as on September 4, 1947, welcoming 238 students. It became The University of North Carolina Wilmington in 1969, and by 2016 enrollment was more than 15,700.

To better serve its students, UNCW has embarked on a \$45 million outdoor enhancement program intended to upgrade the school's athletic facilities. This plan includes a wide variety of projects encompassing new intramural and club sports fields, rehabilitated varsity practice and game fields, public access buildings and storage and service facilities.

There was a total of four new fields being built; two with synthetic turf and two with natural grass. Due to the relatively large site disturbance and strict drainage requirements of the new playing fields, substantial underground stormwater detention was required. Because one of the systems was

installed in an area where the water table is high, two different-sized chamber detention systems were used. The water is stored underground beneath the playing fields within the CULTEC systems until it is discharged downstream at a controlled rate.

"The high water-table was a problem, as it provided very little room for storm water to infiltrate back into the ground" said Jon Shell, CULTEC's Regional Sales Manager, "so our Contactora® Field Drain C-4HD™ heavy duty chamber was selected for that field. We were able to use the Contactora® 100HD™ chambers on the second field. In addition to the high ground water constraint, the detention systems needed to be able to withstand light to moderate traffic loads up to 8,000 lbs. per axle. The CULTEC Contactora chambers were the only product on the market that could meet these requirements."



CULTEC

University of North Carolina - Wilmington, Outdoor Fields & Facilities Enhancement

Wilmington, NC

For the first system constrained by high groundwater, 414 pieces of CULTEC Contactor Field Drain C-4HD stormwater chambers were used. CULTEC's Contactor Field Drain C-4HD chamber stands a mere 8.5 inches tall, making it the lowest profile chamber on the market. For this field, the chambers were covered by six inches of stone, followed by two inches of No. 8 stone and finished off with 1.75 inches of artificial turf. The total storage area was slightly less than 16,300 ft² and provides a storage capacity of 11,243 ft³ in a horizon of only 18.5 inches from system invert elevation to final grade.

The second system featured 396 pieces of CULTEC's Contactor 100HD chambers, another low-profile model at 12.5 inches tall. Similar to the first system, the 12.5-inch-high chambers were covered with six inches of No. 57 stone, two inches of No. 8 stone and 1.75 inches of artificial turf for an overall depth of 22.25 inches. The system provides 10,225 ft³ of water storage, within an area of 11,189 ft².



According to the Site Contractor, Joby Hawn of East Coast Contracting, "I had never installed CULTEC chambers before. In the past we've done some fairly large-diameter corrugated metal pipe systems but this was the first shallow-water system that we've done. This CULTEC system installed a lot faster than systems I've installed before; the way it just snaps together is much more efficient."



According to the General Contractor, Shane Harkey of Sports Construction Management, "We build around 50 fields with about 4 million square feet of turf a year, and I had never worked with CULTEC chambers before. They were very easy to work with and the stockpiling was great. The chambers were packed up on pallets so they didn't take up much room on the site and we could remove them one at a time."

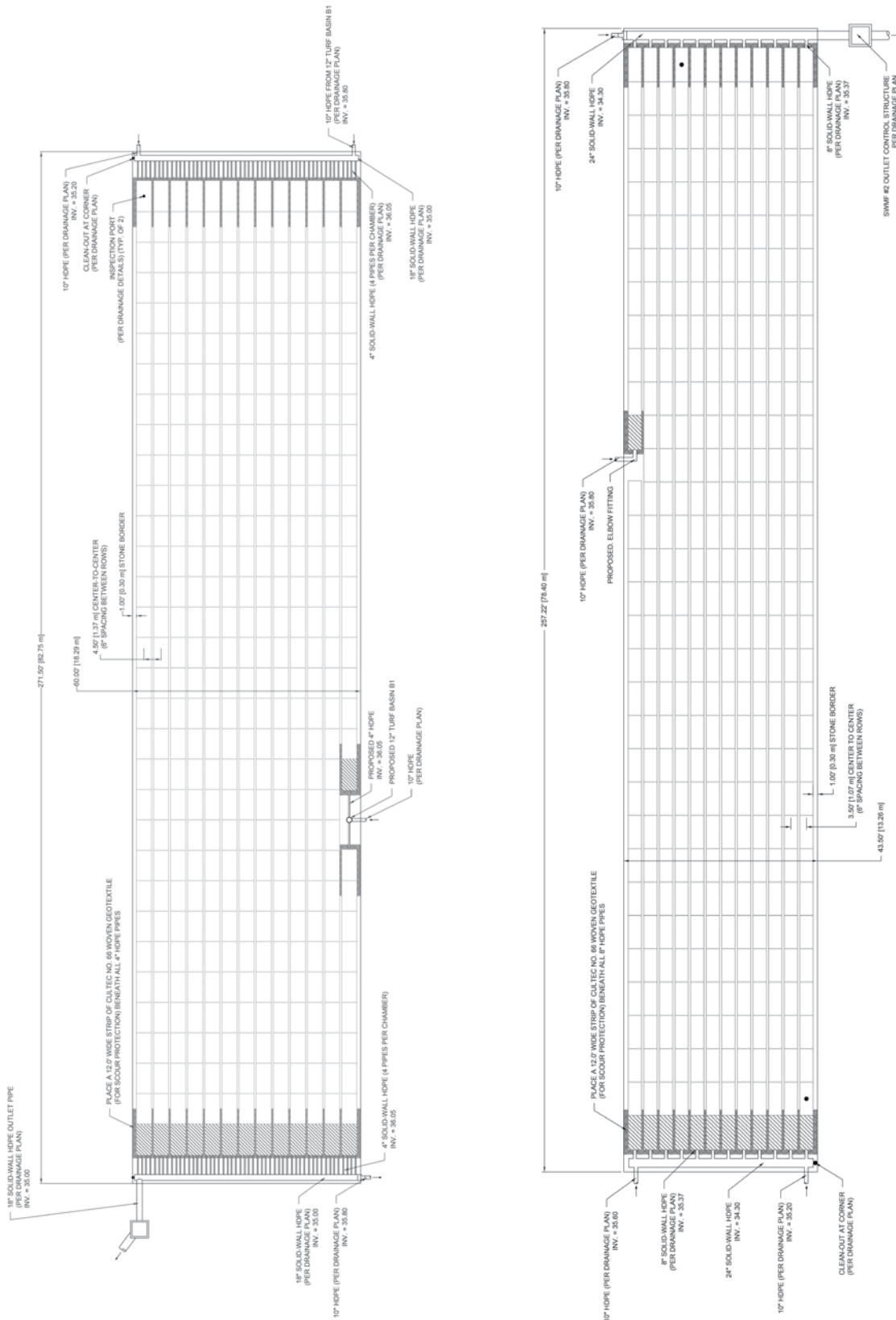
"We got two entire systems on one truck and I was able to pick it up, stockpile it and move it where I wanted it to keep it out of the way, which was important because this was a pretty tight jobsite. We were able to install about fifty chambers per hour with only two installers," said Hawn.

The systems were built in April of 2017." Working with CULTEC was great. From Jon Shell their outside sales guy, to their inside Technical Specialists, if we had any questions about the amount of weight the structures would hold, where we should place the materials or anything else all we had to do was ask and we got an immediate answer. Jon even came to the job site to be a resource for us. I would definitely recommend CULTEC for stormwater management." Hawn continued.



University of North Carolina - Wilmington, Outdoor Fields & Facilities Enhancement

Wilmington, NC



CULTEC, Inc.

878 Federal Road • P.O. Box 280 • Brookfield, CT 06804 U.S.A.

Phone: 203-775-4416 • Toll Free: 800-4-CULTEC • Fax: 203-775-1462 • Web: www.cultec.com



CULTEC