

HOSPITALS

Holland Community Hospital, Holland, MI

When Holland Community Hospital wanted to add another parking lot to its facility in Holland, MI, they had to meet the city's stormwater management regulations which required a retention system with discharge by infiltration.

As land development continues and more surface area is paved over, there is less surface area for natural groundwater recharge to take place. In addition, increased stormwater runoff from impervious surfaces carries pollutants into local watercourses. Engineers are faced with reducing or attaining zero increase in runoff from pre to post development when designing a stormwater system.

In this case, a surface pond was not an option due to limited space. The engineering firm of Fishbeck, Thompson, Carr & Huber of Grand Rapids, MI chose a CULTEC, Inc. subsurface stormwater management system for this project.

Going underground eliminates the maintenance and liability associated with ponds and allows designers to maximize valuable land above for paved parking and landscaping, among other things. CULTEC is the only plastic chamber manufacturer that offers a complete stormwater management plan consisting of filtration, conveyance, storage and infiltration within its own product line.

Fishbeck, Thompson, Carr & Huber Senior Engineer, Ken Ruitter, P.E., liked the RECHARGER® chambers' structural component with the repeating, fully formed end walls and the HVLV™ (High

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CASE STUDY

Holland Community Hospital

Volume, Low Velocity) Header System. RECHARGER® chambers have an open bottom and perforated sidewalls for maximum infiltration capability and groundwater recharge.

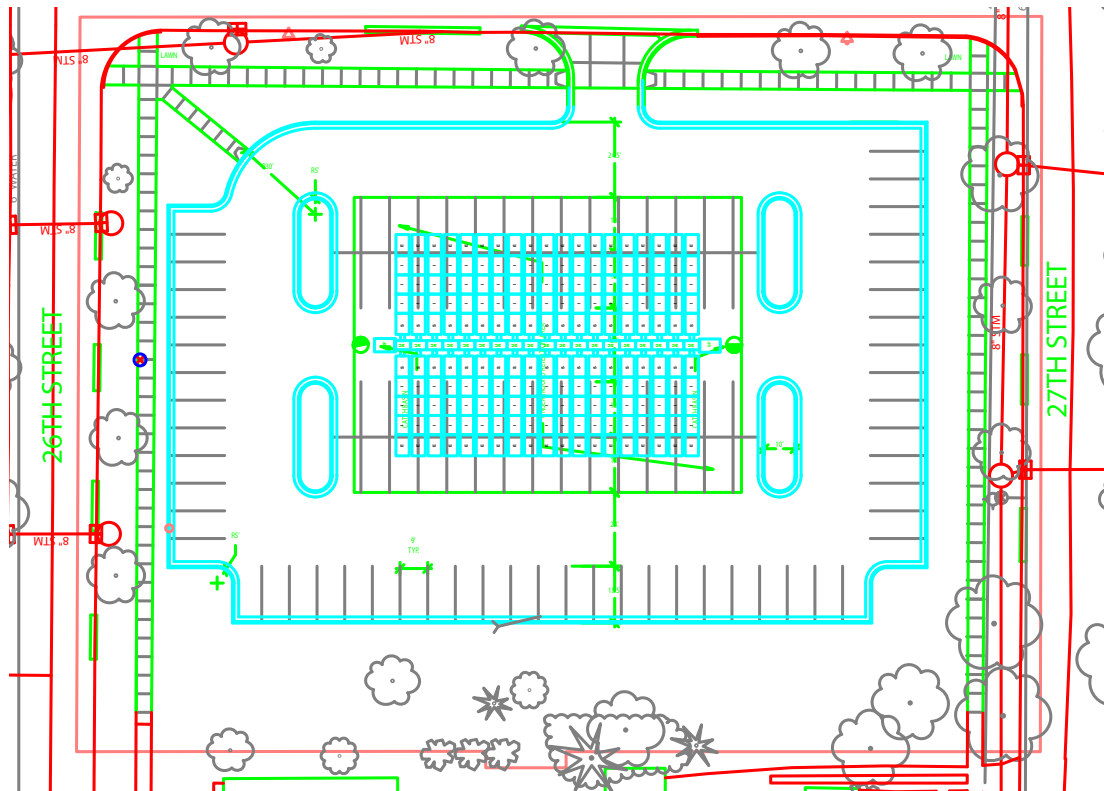
The support panel helps to retain structural integrity and prevent the unit from deforming under applied loads. “It was important that the system have the structural integrity to support the parking lot,” Ruitter stated.

Another concern was preventing fines from getting into the stone voids. The engineering firm specified STORMFILTER®, a secondary in-line filter system that removes many of the smaller particles not eliminated during the pretreatment by conventional structures.

The Holland Community Hospital project used the HVLV™ Header System, two STORMFILTERS® and 195 RECHARGER® 330HD chambers to provide 14,000 cubic feet of stormwater storage.

Ruitter wanted to minimize cost by reducing the amount of excavation required and complete the installation during the current construction season.

The contractor for the job, Dan Hoe Excavating Inc, of Holland, MI, installed the stormwater management system utilizing the chambers' unique overlapping rib connection. Project Manager Rich Maiké said this was his first time working with CULTEC chambers and the job went smoothly. The units were installed in just one morning.



CULTEC 878 Federal Road • PO Box 280 • Brookfield, CT 06804 • 203-775-4416 • 800-4-CULTEC • www.cultec.com

Protected by one or more of the following patents: U.S. Patent No. 5,087,151, U.S. Patent No. 5,419,838, U.S. Patent No. 6,129,482, U.S. Patent No. 6,322,288 B1. Other U.S. and Foreign patents. Other U.S. patents pending. RECHARGER®, CONTACTOR®, HVLV™ and STORMFILTER® are trade names of CULTEC, Inc.

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