



## CASE STUDY

# How to Manage 21st Century Runoff from a 19th Century Downtown NOLA Building

### SUMMARY

The Sazerac House, a new interactive cocktail museum, just opened in October of 2019. The 48,000 square-foot, historic building stands on the corner of Canal and Magazine Streets. The historic building dates to the 1860s, just yards away from the original Sazerac Coffee House. The building was left unoccupied for more than 30 years. When the Sazerac Company decided to develop the property, they had to address stormwater runoff, something that the building wasn't originally designed to manage.

### CHALLENGE

How do you manage stormwater runoff from a 19th century building in an urbanized downtown location? The City of New Orleans requires developments over 5,000 SF detain and treat the first 1.25" of runoff, in this case that ended up being about 2,000 cubic feet.



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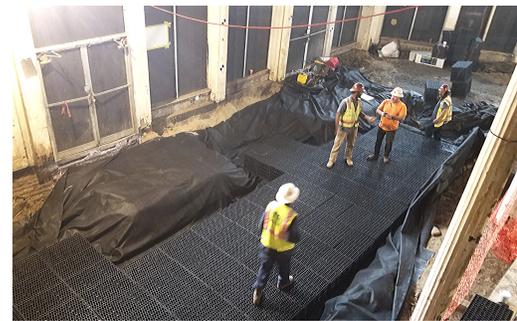
## SOLUTION

R-Tank was the clear solution for the challenge ahead. The 95% void space within the modules maximizes storage volume, provides a structural base for the bottom floor and keeps a safe distance from the building foundations. In addition, the flexible modular design of R-Tank allows in field adjustments, which was extremely valuable considering the complex foundation layout of the older building. A portion of the foundation relied on brick footers for support, which extended into the open areas available for detention. During excavation of the ground floor, concrete footers were discovered. These footers were much larger than the brick footers and made the design layout even more of a challenge. Since R-Tank is comprised of individual modules, the design team was able to quickly modify the tank layout to provide space for the footers, saving valuable time and money.

The other challenge CES helped overcome was the limited area to stage material during installation. The only area available for staging material was along the busy sidewalk of Magazine Street, which was already being used by other subcontractors. CES assembled the R-Tank modules off site and waited until the excavation was prepared before delivering and installing them.

Since the detention system only requires a 2' perimeter of backfill, the utility contractor didn't need much space to stage the stone backfill. This kept the project moving along, allowing other trades to continue working during the entire installation. With limited space for excavation and backfill equipment, the utility contractor was able to use wheelbarrows to backfill a portion of the tank that was farthest from the entrance. Since all the rooftop drainage was routed to the detention system, the engineer needed an emergency bypass for heavy flood events. During heavy rain events, the City's drainage pipes can become surcharged, which can push water back into the detention system. Scuppers were installed on the exterior of the building to serve as a bypass in case the detention system becomes surcharged. This prevents water from surcharging the tank and pushing water into the downspout pipes from the rooftop. Long term maintenance of the R-Tank system will be minimal, there are roof drains that prevent sediment and debris from entering the tank. In the case the tank needs to be maintained, there are maintenance ports within the tanks.

There a lot of barriers to implementing stormwater management in highly urbanized areas, especially in a city like New Orleans. That's why design professionals need modern solutions such as R-Tank, it gives engineers and contractors the flexibility that modern detention systems can't deliver.



## About Construction EcoServices

Construction EcoServices is focused exclusively in the stormwater marketplace. Our business units provide solutions involving turnkey compliance assurance services, engineering sub-consultancy and cutting-edge stormwater management systems to all segments of the development, design and construction markets where those pursuits intersect with the rapidly evolving stormwater regulations.

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