



CornerStone100™
by CORNERSTONE®

CornerStone Walls Support Iconic Property

Founded in 1748 and located an hour’s drive from the bustling metro areas of Washington, DC, and Baltimore, MD, is the revered city of Frederick, MD. Steeped in American history, the city’s downtown core has seen its share of development in recent years. Yet it has always maintained the same captivating atmosphere of its ‘clustered spires’ skyline and Historic District. Beyond the Historic District’s legendary 40-block span, The Bottling Plant Apartments’ iconic parcel of land in the community has seen a transformative makeover with the help of CornerStone Wall Solutions’ segmental retaining wall system.

Total Block Installed	6,288 SQ. FT. (584 SQ. M)
Manufacturer	<u>York Building Products</u>
Installation Company	<u>Botanica Enterprises</u>
Wall Engineer	<u>Scott A. Miller Consulting Engineer</u>
Civil Engineer	<u>Harris Smariga</u>
Architect	<u>GTM Architects</u>
Geogrid	<u>Strata SG200</u>
Filter Fabric	<u>Mirafi 140N 4 Ounce</u>

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Bottling Plant Apartments, Frederick, Maryland

Along North Market Street stood a building affectionately known as the former Coca-Cola bottling plant. Originally built in 1947 to churn out one of the world's most famous soda brands, Coca-Cola occupied the beautiful 9,200 SF brick facility for decades. The plant served as a bottling facility until 1978. Thereafter it became a Coca-Cola distribution center until its 2008 closure.



In 2019, a major development project began to refurbish the former Coca-Cola bottling plant, turning it into a multi-purpose commercial space. Additionally, behind the plant is a trendy new loft-style apartment complex. This apartments have a similar industrial décor-inspired aesthetic design to honor the property's history.

The Bottling Plant Apartments, an 86-unit, four-story complex, proudly overlooks the beautiful greenspace of Rose Hill Manor Park. To secure and support the development's expansive parking area of both buildings, the team chose to install a strong, durable retaining wall.

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RETAINING WALL BIORETENTION SYSTEMS FOR STORMWATER RUNOFF

For this project, contractor Botanica Enterprises, chose the CornerStone 100 retaining wall system. The stand-out features include CornerStone 100's cost effectiveness and easy installation. The CornerStone 100 walls efficiently and effectively achieved the grade change requirements and site geometry necessary on Harris-Smariga's civil plans. The blocks also provide an aesthetically pleasing split-face textured appearance. The CornerStone wall system's local manufacturer, York Building Products, also supplied the Strata geogrid and Mirafi filter fabric. Many factors figure into the selection of retaining wall materials. The durability and innovative design of CornerStone's retaining wall blocks made them a natural fit for this high-profile development.

CornerStone 100 units were sourced for two retaining walls on the site which were expertly installed by Botanica Enterprises. The first was a lengthy wall to support the pressures of the property's massive parking lot. The other, a smaller retaining wall, protects The Bottling Plant Apartments' outdoor pool and lounge space.

The large retaining wall was required in order to raise and retain soil and backfill for the parking lot. Two portions of the wall crossed over pivotal bioretention areas that had to be handled with care. Bioretention areas are dedicated drainage areas landscaped and engineered to ensure proper filtration of sediments and contaminants. They are common for locations prone to stormwater runoff, such as paved parking lot surfaces.

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FILTERING THROUGH CHALLENGES

Bioretention areas have a strategic grade to redirect water away from the base of the retaining wall. They consist mainly of gravel layers, planting soil and mulch, which assists in filtering stormwater and removing pollutants. This also allows it to slowly disperse on site rather than leave, as this could cause flooding elsewhere. Due to their naturally wet environment, bioretention systems are an excellent space for the growth of shrubs and greenery.

While digging the bioretention areas, the crews unexpectedly encountered issues when preparing the retaining wall system's base leveling pad due to excessive amounts of groundwater. The team solved this tough situation by continuously running a pump to stay ahead of the groundwater, lowering the entire bioretention system by an additional 4ft (1.2m) and adding extra stones below the wall for embedment depth. To protect the toe of the retaining wall, a PVC liner and filter fabric were used below the bioretention systems.



At its highest point of 13 courses tall, the retaining wall measured 8.67ft (2.64m), plus the cap unit. To withstand the rigorous weight and pressures of the vehicles and traffic, Strata SG200 geogrid was also chosen to reinforce the backfill for a stabilized base under the parking lot. This polyester geogrid material increases the retaining wall's strength. In turn, it significantly reduces the need for future repairs and maintenance.

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ONE BLOCK SIZE FITS ALL

CornerStone 100's versatility was on full display with this project's two walls. First with the massive parking lot retaining wall in the Coastal Tan color to bolster soil reinforcement and drainage systems. Meanwhile, the smaller retaining wall on the property surrounded the apartment's pool deck. The pool wall's are Granite color blocks to accentuate the building's brick and smooth faced stone exterior. This gives the outdoor lounge space a neatly manicured, natural look to go along with CornerStone's renowned strength.

That strength and high-quality concrete of CornerStone 100 blocks manufactured by York Building Products are of critical importance. The outstanding installation techniques of Botanica Enterprises ensured features for both walls remained the same despite their sizes, including gravel fill in the hollow core design and CornerStone's SecureLug connection that lock the units in place. And with the expertise of wall designers at Harris-Smariga and Scott A. Miller, these small details provide assurance that the retaining walls will remain secure and not succumb to common wall failures like overturning or be exposed to the ill-effects of water absorption.

CornerStone Wall Solutions is proud to help shape and revitalize this iconic property of Frederick County, MD. Pairing CornerStone's unparalleled durability with Frederick's historical Bottling Plant is surely the next long-standing legacy among the city's storied streets.

CONTACT OUR TEAM TODAY

Email: info@cornerstonewallsolutions.com



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Contact our CornerStone experts for more details.

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