



## City Drainage Ditch Manassas, Virginia

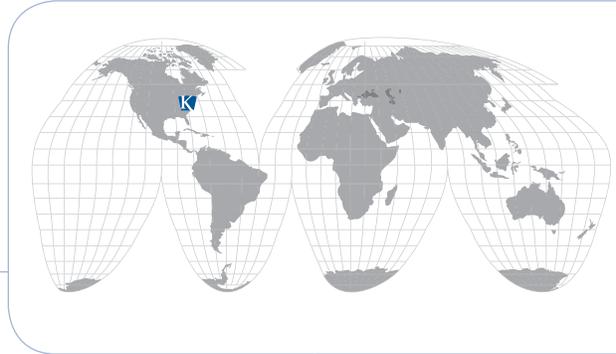
### *City saves money by using Keystone on drainage ditch.*

A drainage ditch improvement project by the City of Manassas, Virginia was constructed with the Keystone Compac Units instead of poured concrete. Officials were so pleased with the results that additional projects are anticipated. The project began after a resident complained about the city’s plan to use poured concrete for the ditch improvement, which crosses the rear of her property, instead of the red stone walls used on previous drainage ditches. At about the same time, Jim Weber, a landscape products sales representative for Betco Block Co. in Manassas, called on the city and adjacent Prince William County officials trying to interest them in Betco’s products for sewage facility construction. With Betco’s help, they decided to use Keystone for the drainage ditch improvements.

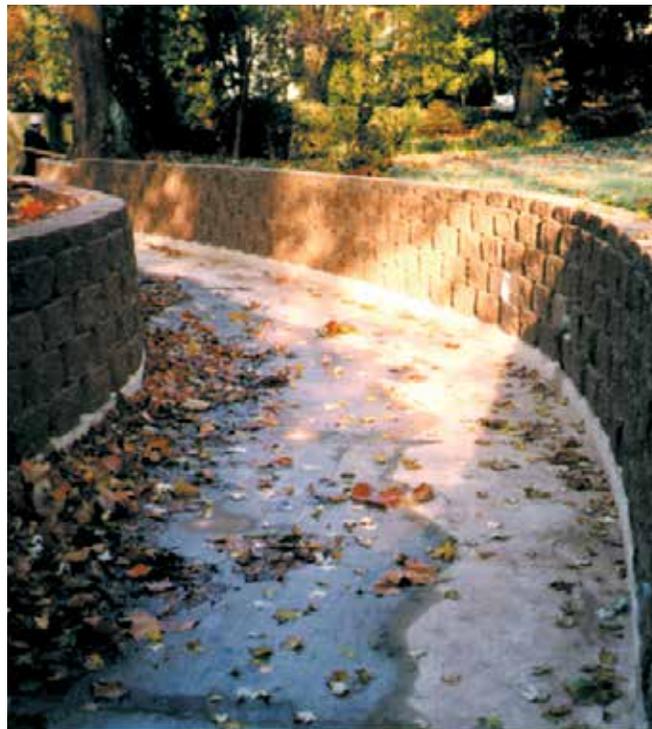
According to Don Sager, the city’s acting engineer, much of the existing ditch embankment had been previously constructed with a concrete bottom and huge red rocks mortared together to form the sides. “We had a hard time locating stone that was the same color, and we had this resident who wanted us to try to match the stone. We saw the Keystone Retaining Wall System, did a cost analysis, and saw the potential for saving both money and construction time.” Betco sponsored a one-day training seminar for Sager and other city officials on how to use and install the Keystone units. “We put on a certification program for the City of Manassas and Prince William County people,” Weber said. “We taught them what they needed to know, and now they are trained installers.”



Before project began.



<b>Project:</b>	<i>City Drainage Ditch</i>
<b>Location:</b>	<i>Manassas, Virginia</i>
<b>Keystone Product:</b>	<i>Keystone Compac Units</i>
<b>Licensed Manufacturer:</b>	<i>Betco Block &amp; Products Manassas, Virginia</i>
<b>Total Wall Area:</b>	<i>6,000 square feet</i>
<b>Contractor:</b>	<i>City of Manassas–Public Works Manassas, Virginia</i>
<b>Specifier:</b>	<i>City of Manassas–Engineering Manassas, Virginia</i>



After the drainage ditch improvement project.

# CASE STUDY



# CASE STUDY

The first phase of the ditch construction was 400 linear feet (122m) going through two back yards. It consists of about 3,800 square feet. The second phase added another 450 linear feet (137m). In addition, Sager said, *“Prince William County is installing the units on another portion of the same channel just outside the city.”* The drainage ditch in Manassas where the Keystone was used is about 8 feet (2.4m) wide, with sides about 3½ feet (1m) high. City workers poured the channel bottom with concrete and then built the sides with Keystone Retaining Wall units. According to Sager, using the Keystone system has enabled them to greatly increase the productivity of the city’s ditch construction crew. *“We’ve completed about three times the amount (that was completed before with the old system) in about half the time,”* he explained.

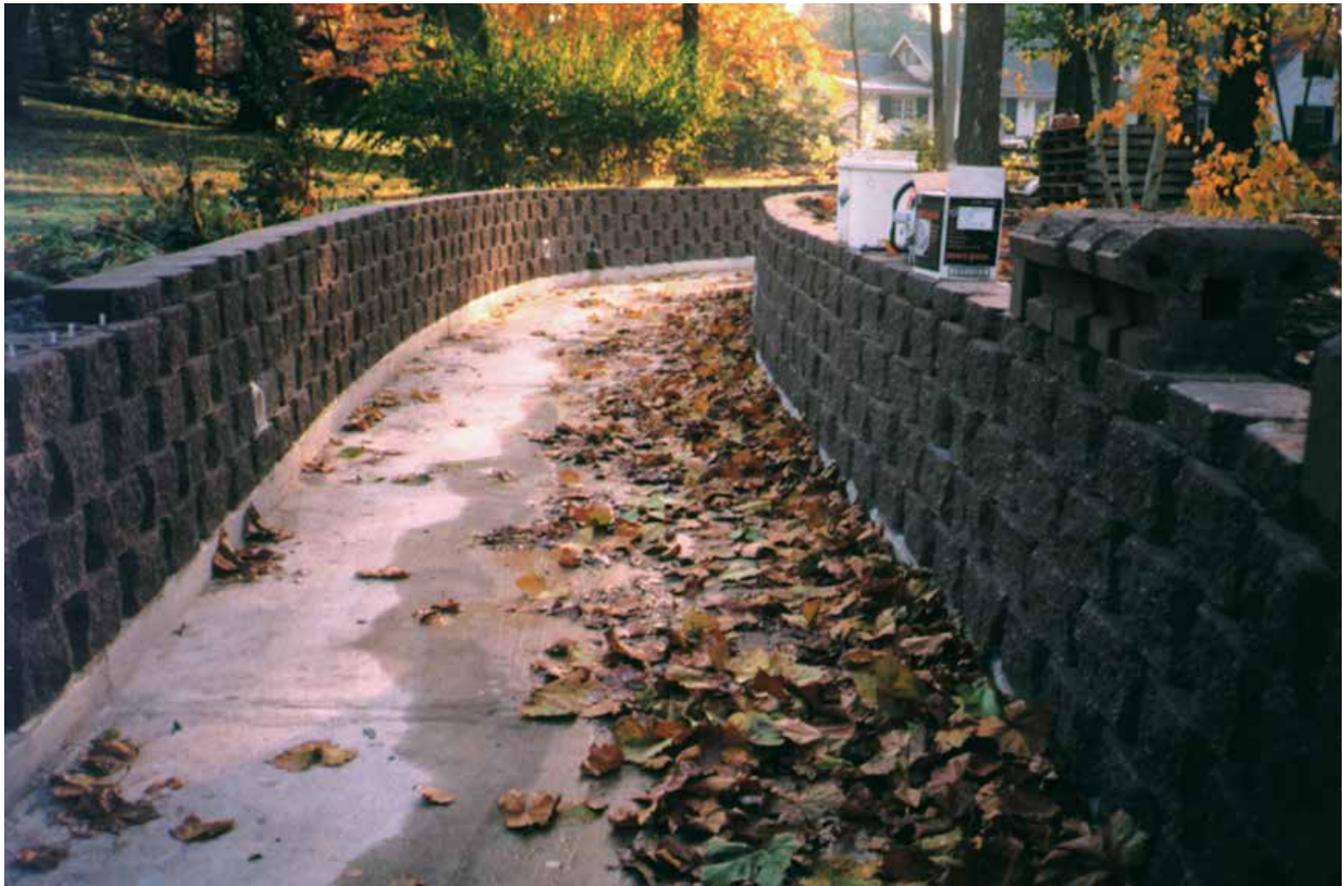
*“We’ve had a lot of inquiries,”* Sager added. *“People are asking why we didn’t put that kind of a ditch improvement through their property.”*

*“It has a lot of potential,”* Weber said. *“There could be miles of ditch improvements if they put it throughout the county.”*

For more information on the Keystone Compac units or other innovative Keystone products, please call 800-747-8971 or visit [www.keystonewalls.com](http://www.keystonewalls.com).



The Keystone units were placed on a concrete footing.



Keystone was chosen for this project by the City of Manassas, Virginia.