

Your board has received some emails requesting additional information about the \$33,000 expenditure to correct an erosion issue within the Village on Boxford Ct. There were concerns that the trustees may not have evaluated the situation correctly and rushed in accepting responsibility. This is the boards' response to those concerns. We hope that you will agree that the board is working in the best interest of all property owners residing in the Village of Greentrails.

The prior park board of trustees was initially made aware of the problem in April of 2016. At that time the trustees went to the site to look at the problem. The financial situation and uncertainty due to the legal dispute about assessment monies during this timeframe prevented the trustees from taking action.

There has been some suggestion that the property owner is responsible for the erosion. First, the lot owner's maintenance of this section of his lot included the elimination of small shrubs and undergrowth and he mowed to the creek bank. Second, there are buried drainage pipes that are connected to gutters at the site. The assumption is that the combination of these two caused the erosion. Looking at the site now, one could come to this conclusion. This was not the situation during 2016 and early 2017. During this time undergrowth and some trees were growing along this portion of the creek bank. When originally installed, the drainage pipe extended to the creek bank.

In April of 2017, representatives from two companies that are experts in the field of determining the cause of erosion and corrective action viewed the site. The experts concluded that the erosion initially started on the common ground on the eastern end of the site with debris sliding into the creek. This partially blocked the normal flow of the creek. During periods of heavy rain, this blockage forced the water onto the south side of the creek, creating a "whirlpool" effect that would undercut the bank. With each heavy rain, a portion of the bank would break away and the soil would be carried away downstream. Once the bank started eroding, the hillside also became unstable during periods of heavy rain. Small pieces of the hillside would break away. The creek did not need to rise very high for this to happen. The heavy and prolonged rains of December 2016 and April 2017 eroded the bank and uprooted the

undergrowth and the trees, further blocking the creek and accelerating the erosion. The experts also said that the drainage pipe did not cause the erosion.

The heavy rains of May 2017 expanded the erosion area to its current position. In June 2017, the board voted to have most of the debris removed. This included removing a tree that became uprooted and was part of the blockage. This work was performed by Terrill Landscaping. The board felt that removing the debris would reduce the expansion of the erosion during heavy rains. One can see the tree that was removed. It is alongside the creek bank on the south side of the creek. When the erosion work is performed, it will be removed.

In September of 2017, the new board sought professional advice on this problem. During this time, the trustees visited the site with Guy Litteken, an expert in erosion control who recommends companies that have the expertise to perform the work. He also saw the site in April 2017. The visit lasted for over one hour as he described the cause of the erosion, the corrective action required, and answered many questions. It was at this time the board realized a company experienced in erosion control was required.

After meeting with Guy Litteken in September of 2017 the board agreed that we were responsible for the erosion. The experts confirmed that the erosion started on common ground maintained by the Village of Greentrails. The debris initially deposited in the creek blocked the normal flow of water during periods of heavy rain eroding the bank. As the erosion expanded up the creek, it created the problem on the homeowners' property. If we delayed correcting the problem, it would only worsen. The erosion would expand up the hillside and along the creek bank. This would increase the cost. Given this data, the board agreed that it is in the best interest of the homeowners to fix the problem now.

The companies that came to bid on the job had the expertise the board wanted. They performed work for many subdivisions in the area. They also worked for and with many cities in West County. Lastly, they performed work for MSD. The companies came out multiple times, reviewing the site to determine the scope of the work and to describe the solution. At least 2 trustees were in attendance each time. Each site visit lasted from 45 minutes to 1 hour. Some trustees have been at the site nearly 4 hours discussing issues and solutions. Every company that provided a bid came to the same conclusion to the cause. The erosion began on

common ground and was moving up the creek bank, undergrowth along that portion of the creek became uprooted further altering streamflow and the drainage pipe did not cause nor contribute to the erosion.

When the bids were reviewed by the board, they all had a common theme. The proposed solution was nearly the same. All bids included a cost of about \$1500 for permits. The work will require at least a week to complete. The board reviewed the bids and selected the company that provided the best value for the money. This was also the lowest bid. The company selected to perform the work is DJM Ecological Services. The amount approved was \$28,000.

Every bid contained the same warning; there was a chance that the City of Chesterfield, MSD or the Corps of Engineers would require an Engineering drawing before any physical work could be performed. The cost of this drawing was not included in any proposal. The board was informed in December of 2017 that this drawing was required. The cost is \$7700. The contractor agreed that the cost to the Village would be \$5000. They would absorb the additional cost.

This is a very large expense. When discussing the issue with the consultant, the board came to the conclusion that the level of expertise required and the scope of the work justified the expense. The board now has a better understanding of the issues and will be vigilant in monitoring the creeks within the village. We cannot do this alone. If anyone notices any erosion on the common ground, please contact the board as soon as possible. The goal is to correct problems early. This will keep costs low.

Thank you

Village of Greentrails Parks Board of Trustees

Here is a brief description of the work to be performed:

STREAMBANK REPAIRS: DJM will utilize a Track Hoe and Skid Steer to perform debris removal, Excavation and grading, reinforced toe installation, Clay Fill installation and compaction, and creation of the floodplain bench. Reinforced Toe Installation will be created with 18-24" Rip Rap extended 12" below Low flow grade. Toe is anticipated to be 75' long x 6' wide x 24" deep. Above the toe will be wrapped earth extending into the created floodplain bench. Additional stabilization for large rain events will include a rock berm above the floodplain Bench 75' long x 4' wide x 12" deep. Please see shop drawing and details below.

SITE RESTORATION: Restoration will include a native streambank stabilization seed mix, SC150 ECB, and 150 4' live stake species including Elderberry, Sandbar Willow, and Buttonbush installed within the created floodplain bench. All access and disturbed areas outside of the Floodplain bench will be vegetated with Fescue Sod and be brought back to original state.

Diagram of work to be done:

