

EXPLORING SPOKANE Stormwater

Milo the marmot has watched Oliver and Jules have all kinds of adventures throughout Spokane. Now that his friend Lily the frog is in trouble, it's his turn to discover something new. After asking our favorite friends for help, all three of them learn about Spokane's storm water system and why it's important to keep our streets and drains clean.

KEEPING THE SPOKANE RIVER CLEAN IS UP TO US. FOLLOWING MILO ON HIS JOURNEY THROUGH THE DRAIN PIPES HELPS US HAVE A VISUAL OF HOW EASY IT IS FOR CONTAMINANTS TO GET INTO OUR WATER. IT'S ALSO VERY EASY TO DO OUR PART TO KEEP THAT FROM HAPPENING!



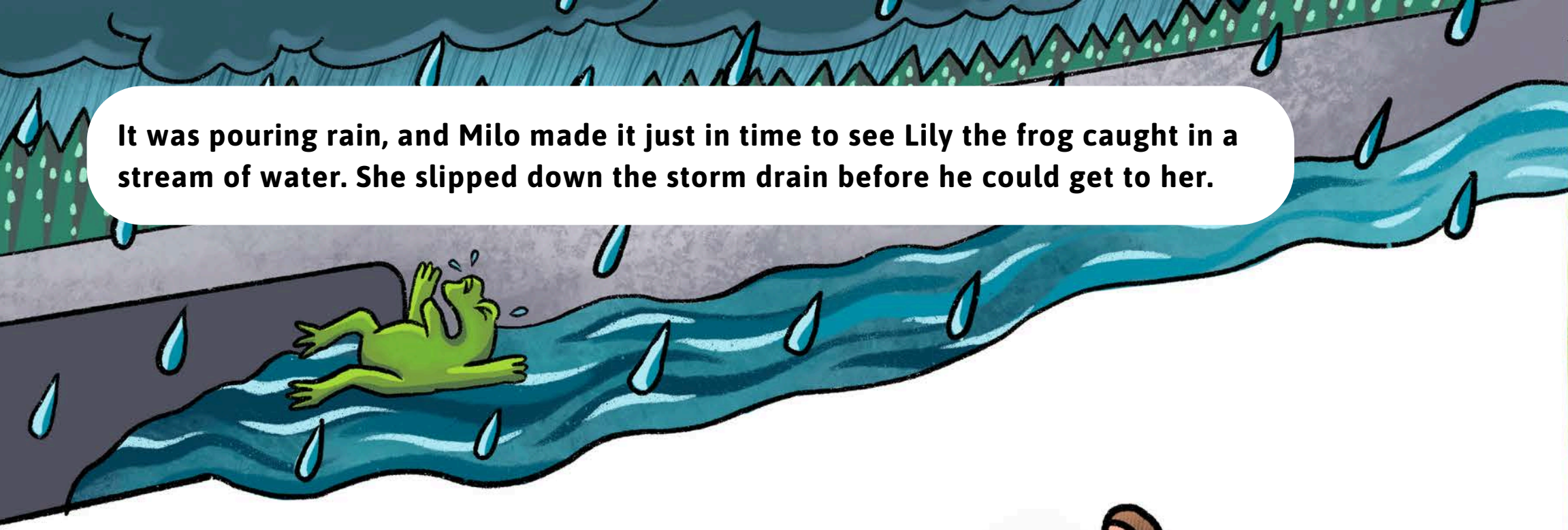
WRITTEN & ILLUSTRATED BY CORINNA REN





WAAAAAH HEEELP

Milo the marmot was sniffing out his next snack when he heard what sounded like his friend Lily calling for help!



It was pouring rain, and Milo made it just in time to see Lily the frog caught in a stream of water. She slipped down the storm drain before he could get to her.

Oh no! Milo didn't know what to do. Where was the rain water going to take his friend?



Milo is running across a grassy yard towards a house. The house has a blue door and two yellow windows. The yard is green with some bushes. In the background, there are several green trees. The sky is dark blue, and it is raining heavily, with large raindrops visible in the air and on the ground. Milo is running on a grey sidewalk.

Milo knew he needed help. He ran to the first place he could think of, Jules & Oliver's house.

He had never talked to them before, but had seen them around and they seemed like cool kids. Milo really hoped they would know what to do.

Oliver and Jules were playing a board game when they heard the tiniest of knocks on Jule's front door. They opened the front door, only to see a little marmot, standing on its hind legs, looking up at them.

KNOCK
> < KNOCK

Were you expecting someone?

No, I have no idea who that could be.

Without wasting any time, Milo did something that left the kids completely stunned, he started talking to them! He didn't know what were they going to say but a talking marmot had to be a shock to two human kids. It took them a moment, but then they agreed to help. What a relief.

How does a MARMOT know our names???

Oliver! Jules! I need your help. My friend washed down the storm drain.

Jules invited Milo in and offered him a little snack. She knew she had a map of Spokane somewhere and ran to find it. When they opened it together, Milo pointed to the street name that he saw in the area where Lily disappeared.

Jules recognized it. She said she knew exactly where it was, close to the TJ Meenach Bridge.

The three of them started to hatch a plan.



We should definitely start where you last saw Lily. Maybe she is still in the catch basin. Then, Jules and I can help you get her out. I know that these pipes all lead to the river. So, hopefully she didn't wash further down.

Milo agreed to the plan. He was so glad that Oliver and Jules were willing to help.

LET'S LOOK AT JULES' MAP

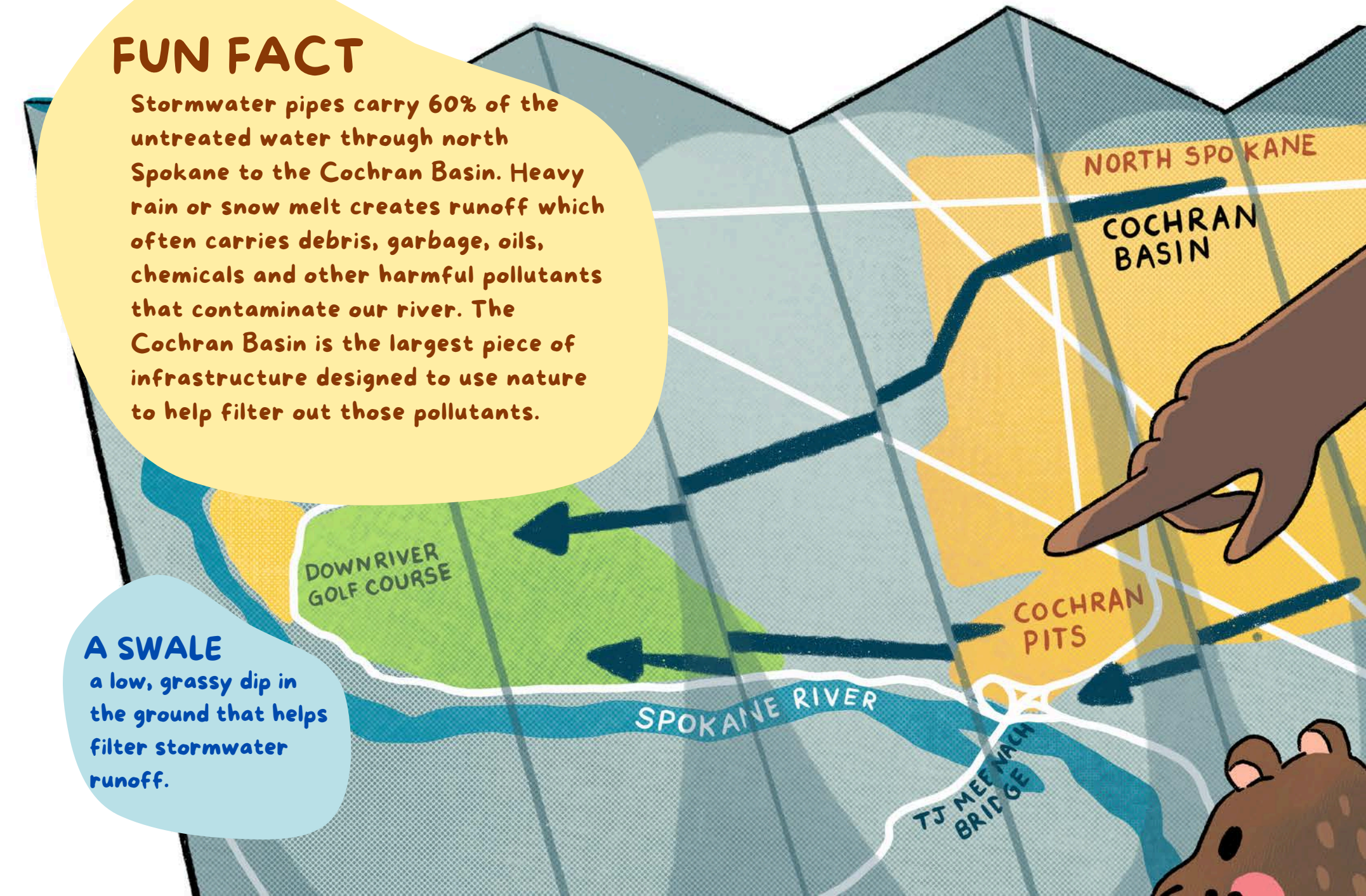
Some of the water from North Spokane finds its way into the system, down the pipes and gets redirected into several different swales as a way to filter it before it reaches the river.

FUN FACT

Stormwater pipes carry 60% of the untreated water through north Spokane to the Cochran Basin. Heavy rain or snow melt creates runoff which often carries debris, garbage, oils, chemicals and other harmful pollutants that contaminate our river. The Cochran Basin is the largest piece of infrastructure designed to use nature to help filter out those pollutants.

A SWALE

a low, grassy dip in the ground that helps filter stormwater runoff.

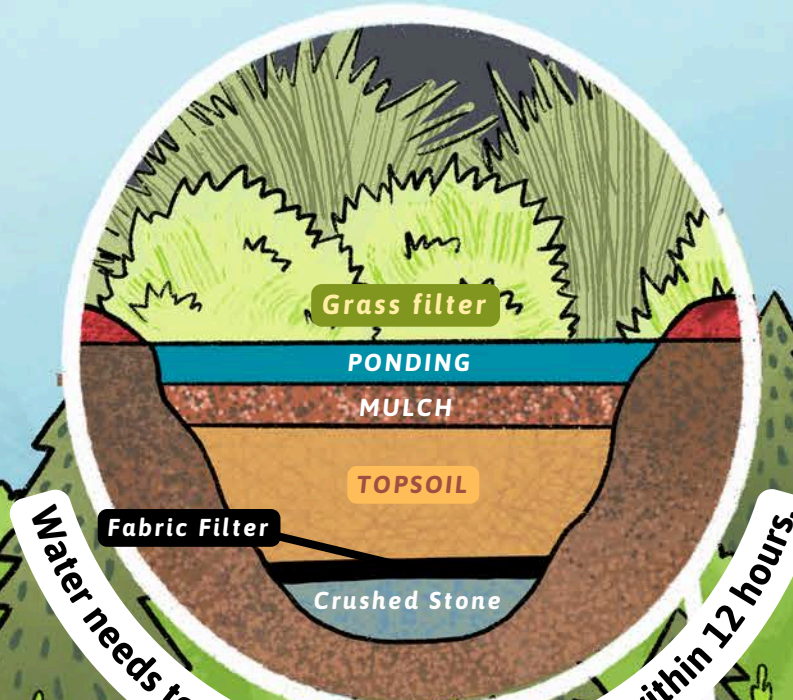


LET'S TALK ABOUT SWALES

There are thousands of swales in the Spokane area that are hiding in plain sight!

Our beautiful city Spokane has a very close relationship with the Spokane River, which runs right through its heart. Us humans produce all kinds of pollutants every day from our cars, litter and anything else getting introduced to the environment that doesn't belong. When it rains, it's easy for those things to get washed into our water ways. So, we need to work hard to come up with ways to protect our river water from those pollutants. One of the big ways we do that, is with swales.

Swales capture water in green spaces, but they are not as simple as you might think! There is a carefully thought out system underneath all the beautiful native plants for the grass filter



In order for swales to work the right way, they need the right kind of soil. A lot of work and engineering goes into the layers that make up a swale so that they filter pollutants correctly and at the proper rate.

Swales not only help filter pollutants, but they help keep water from flooding streets and neighborhoods.

Just because a swale does its part doesn't mean its not for all of us to keep our streets clean!

What have you learned? Why are swales important?


There wasn't a moment to lose. Oliver and Jules grabbed their raincoats and followed the tiny marmot out to the Centennial Trail. There were outfalls along the trail which already had some water pouring from them.

All Milo could think of, was his friend possibly washing out into the river and how much he hoped they would get to her in time.

FUN FACT

Some storm drains take rain right from the street to the river through a huge opening called an outfall. That's one of the biggest reasons its so important to minimize pollution on our streets and in our neighborhoods.





At last, they reached the neighborhood where Milo had just seen Lily moments ago, but as they got close, there was no sign of her! They called down the drain but couldn't hear anything that sounded like a frog in distress. What were they going to do now?

How can you help keep our water clean?

We may have just learned about swales, but swales don't exist everywhere. A lot of rain water still has the potential to wash trash and pollutants into our water system. It's very important that we focus on making sure these pollutants aren't introduced into our system in the first place. Can you spot 3 of the biggest ways our water gets contaminated here in Spokane?

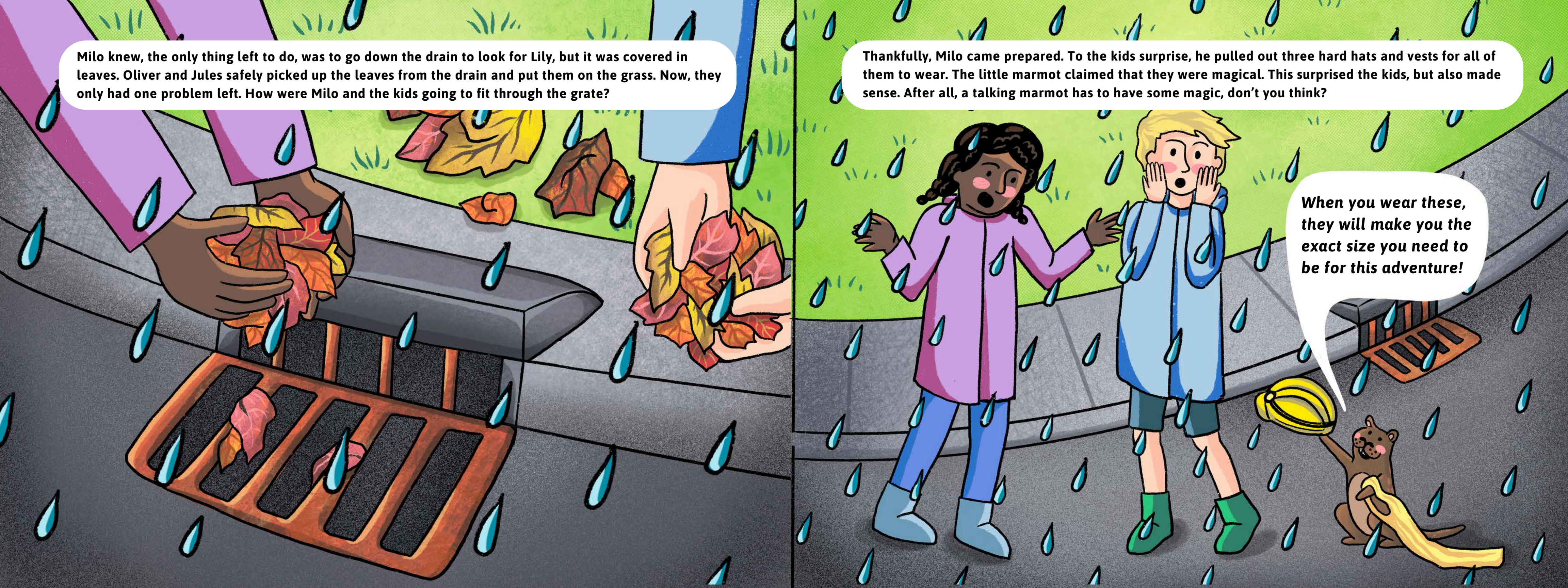
PRO TIP:

Cleaning up before a big rain, making sure that contaminants are stored and anything that could potentially contribute to runoff is covered is a great way to help prevent pollution in our Stormwater system!

Milo knew, the only thing left to do, was to go down the drain to look for Lily, but it was covered in leaves. Oliver and Jules safely picked up the leaves from the drain and put them on the grass. Now, they only had one problem left. How were Milo and the kids going to fit through the grate?

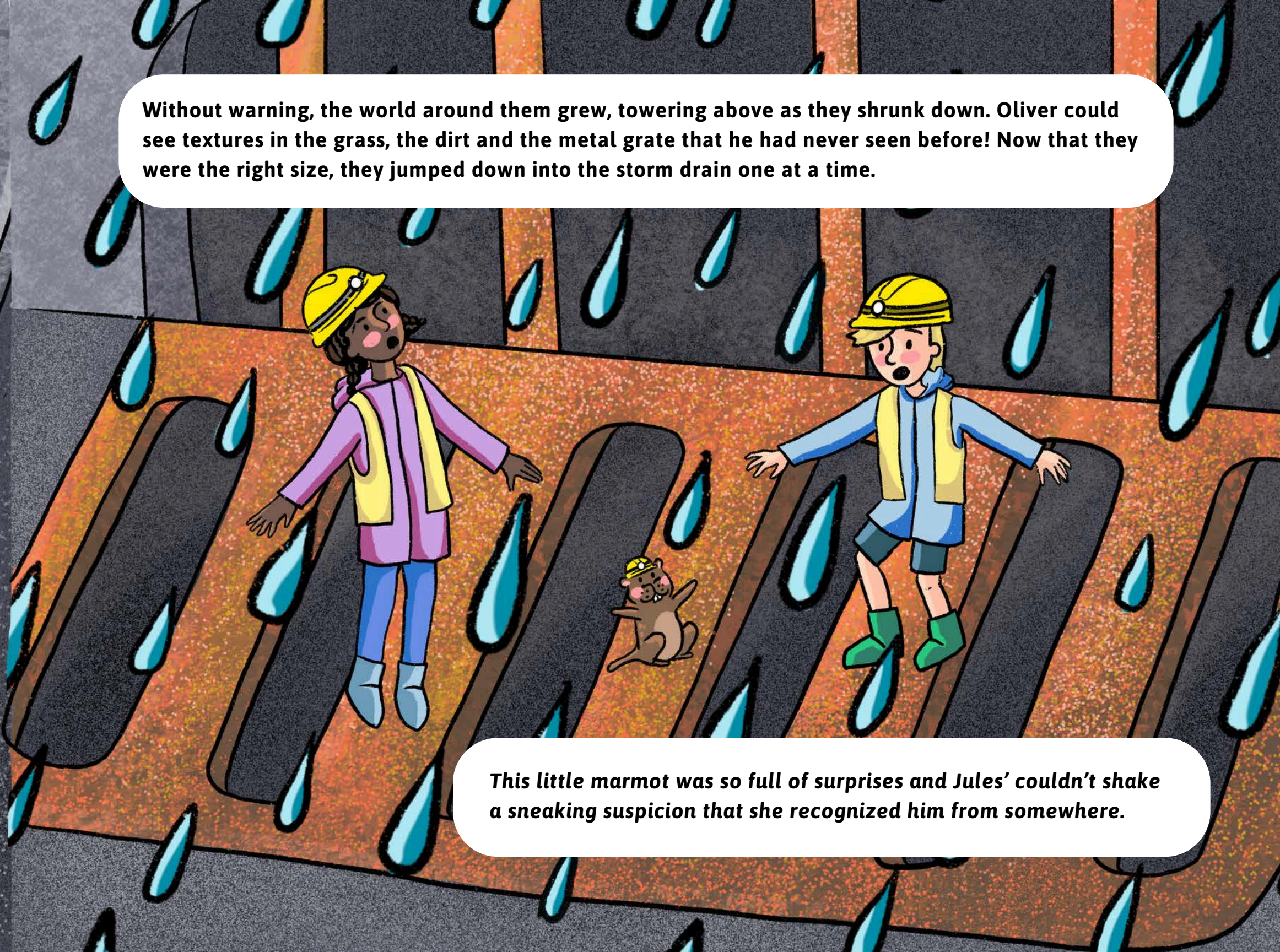
Thankfully, Milo came prepared. To the kids surprise, he pulled out three hard hats and vests for all of them to wear. The little marmot claimed that they were magical. This surprised the kids, but also made sense. After all, a talking marmot has to have some magic, don't you think?

When you wear these, they will make you the exact size you need to be for this adventure!





As they put their gear on, they started to feel excited. This was a rescue mission, and they were happy to help, but they were also about to learn something new. The three of them gathered around the grate. "Ready?" asked Milo, and the kids nodded.



Without warning, the world around them grew, towering above as they shrunk down. Oliver could see textures in the grass, the dirt and the metal grate that he had never seen before! Now that they were the right size, they jumped down into the storm drain one at a time.

This little marmot was so full of surprises and Jules' couldn't shake a sneaking suspicion that she recognized him from somewhere.

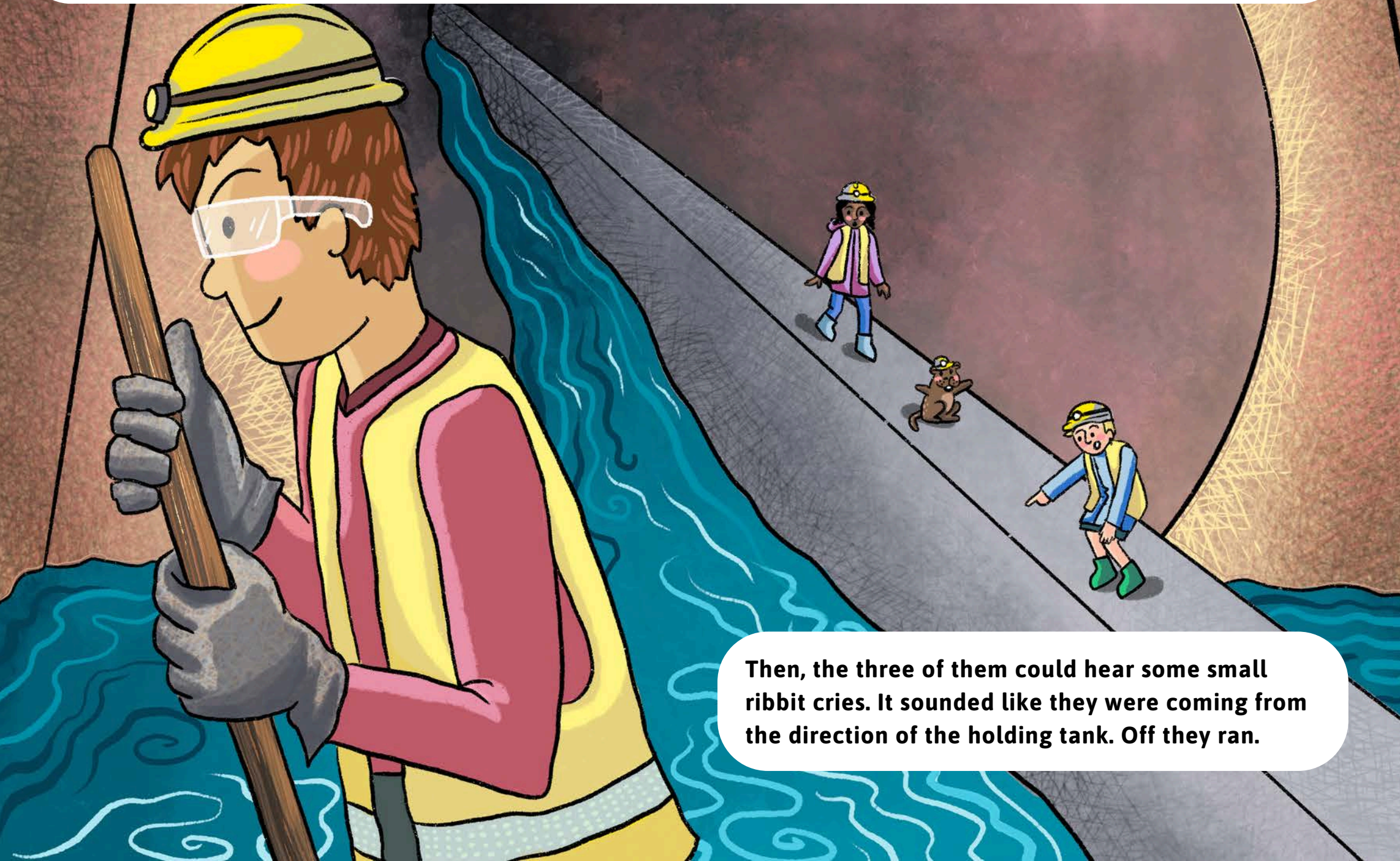
It was dark inside the catch basin. Milo was so glad his gear had headlamps to help light their way. Turning them on one by one, they ventured down the first pipe, marveling at all the things they were finding that they didn't realize would be in there!

Wow, it's such a bummer to see garbage down here! There should only be rain down the storm drain!

Water was just starting to flow through the pipes, keeping the kids rushing forward. As they hurried along, Milo told the kids about a spider he knew once that lived in the storm drain system.

I didn't expect to see spider webs down here!

The stormwater pipes seemed to go on for ages, but they soon found themselves in a much larger tunnel with maintenance holes lining the top. It was big enough for a grown adult to stand up in! This must be the COCHRAN FLOW CONTROL VAULT. According to Jules map, the water flowed to multiple places from here. How would they know which way to go?



Then, the three of them could hear some small ribbit cries. It sounded like they were coming from the direction of the holding tank. Off they ran.

The holding tank was huge, but shining a light to the other side, Milo could see a small green frog huddled and crying in the corner. The marmot didn't waste another moment, he ran over to give his friend a big hug.



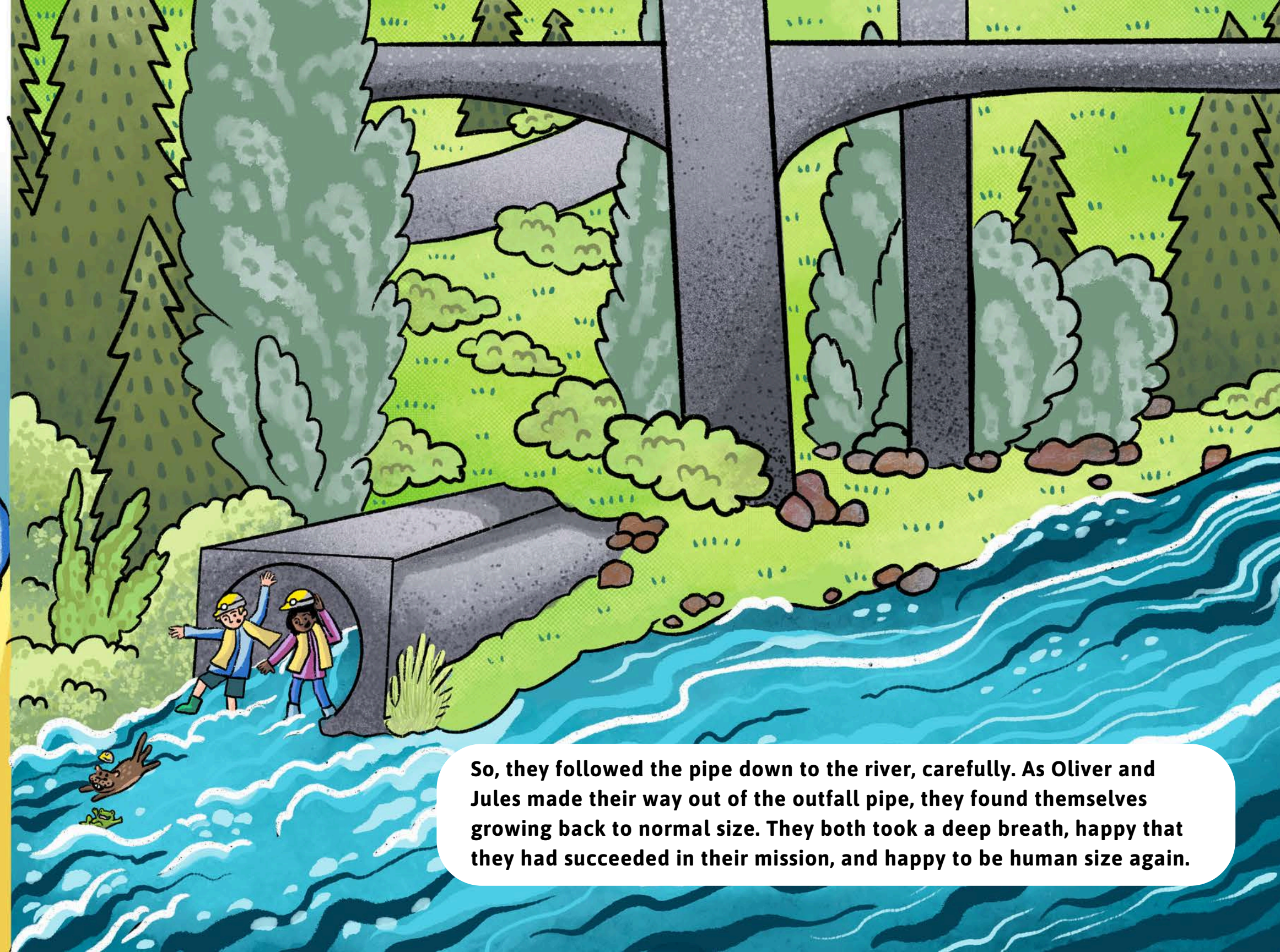
FUN FACT

Sometimes, rainstorms create too much water for the City's filtering system to keep up. When this happens, a wastewater team member can redirect water through different pipes to help spread it out and have as much water filtered as possible. If there is a big enough storm, the water can flow directly to the outfall.

It was so good to see Lily safe and sound. Milo was thankful that Jules and Oliver were so brave and kind. The next step had to be to get all four of them out of the storm drain system safely, but going back the way they came would be too hard since it was raining. Then, Jules remembered seeing that the TJ Meenach outfall was near the holding tank.



I think I know a faster way out!



So, they followed the pipe down to the river, carefully. As Oliver and Jules made their way out of the outfall pipe, they found themselves growing back to normal size. They both took a deep breath, happy that they had succeeded in their mission, and happy to be human size again.



Finding their way to the bank, these four friends took a moment to take in their adventure. Milo felt like they had gone on another tour in Spokane—only this time, they learned what happens to stormwater when it rains. He also learned that it's not fun to get swept away into a storm drain. Jules and Oliver would remember this experience forever. Going through the system really helped them understand how pollutants could end up in our river. They made a promise to help protect our water. Now that you know, you can help too!

OUR PLEDGE

We promise to work hard to reduce our waste and make sure that contaminants stay out of our waterways.

We promise to teach our friends and family the importance of protecting the Spokane River.