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How to Use This Guide
This guide supports the Community Waters Science Unit Teacher Manual with information, maps, and images specific to your school and neighborhood. It is written for teachers; its goal is to provide a better understanding of what is happening with stormwater in and around your school. The points of interest and walking field trip route are suggestions and should be adapted as desired.

If you have any questions about these maps, accompanying lessons, or stormwater around your school, contact IslandWood staff at communitywaters@IslandWood.org.
Stormwater in the Schoolyard– Lesson 3

This map and points of interest (photos and info) can be used to guide your class’ exploration of the schoolyard. You will find the student worksheet for this lesson following the teacher guide version. Please use the extra space on the pages to add your own notes and questions! 😊

**Note: This Google map seems to have been recorded a few years ago, before the rain garden, path, and natural play area were made. We’ve tried to substitute some shapes for those!**

*The red squares represent storm drains.*
A. Storm drains:
There are many storm drains on the school grounds. They are marked on your map in small red squares. Of particular interest might be this very large drain behind one of the dumpsters. Why do you think it is so large? What might it collect here other than water? Why do you think this one was placed here?

B. Water channel in garden:
This little channel running through the garden must be for water. Where does the water come from? Does the channel help to catch, store, sink or slow stormwater? Where would the water go if the channel wasn’t there? Are there any other reasons you think this channel was built?

C. Sloped roof:
Check out the angle of this roof. Do you think it slows down stormwater or speeds it up? Where does the water go? Is there anything that catches it?

D. Ground surfaces: Observe all of the surfaces in this area. Where does the water go? What do you see that slows down stormwater? What speeds it up? In particular, compare the perviousness of the rubber to that of the paved surface around it, and the grass. Which do you think creates more or fewer stormwater problems?
E. Downspouts:
These downspouts collect water from this roof, and send the stormwater into the ground. Can students find these themselves? Where do you think the water might go? Where else can you find downspouts? Keep these in mind when you study the stormwater pipes in Lesson 11!

F. Rain garden:
Do students know this is a rain garden? How does it differ from other gardens you have seen? How does the design of this garden help catch, slow, and sink stormwater? Do you think it is working? What have you observed what happens in the garden when it rains?

G. Sloped ground:
Consider the slope and surfaces of this area. How do these surfaces and vegetation affect the stormwater runoff that enters this area? How does it compare with the other surfaces in the schoolyard? Have you observed rainwater running off this slope? Hint: The dry, hard-packed soil probably does not hold much water compared to other surfaces like the woodchips and mulch areas. Consider reminding students of the soil studies they did in the first part of the unit.
Include on your map:

- Symbols from the Key including flow of water, surfaces, and storm drains.
- Partially pervious surfaces can be shown with less dots.
- Label locations of litter, pollution and places where puddles form.
- Sketch any specific stormwater problems you see or are aware of.

Map Key

- Direction of water flow
- Pervious Surface
- Impervious Surface
- Storm Drain
Local Stormwater Systems – Lesson 5

What happens with the Stormwater Pipes around your school?

- The network of storm drains (blue squares) around your school collect stormwater into the stormwater pipe (green line with inset arrows) running south down 47th Ave S.

Where happens to the stormwater runoff?

- The stormwater pipes from your school carry the stormwater south until it empties into Lake Washington at Pritchard Island Beach.
- Those pipes that head north along Rainier Ave South end up in Lake Washington near Genesee Park (south of the boat launch).
- Once the stormwater enters Lake Washington it travels through the Montlake Cut and into Lake Union before passing through the Chittendam Locks into Puget Sound.
- We suggest watching the “Drained: Urban Stormwater Pollution” video (OPTION B) from 0:00 to 2:11 during Lesson 5. Point out to your students that the affect of the stormwater is very similar to what they seen in the video, except that it impacts the Lake Washington ecosystem instead. You can find this video linked on communitywaters.org or at https://vimeo.com/51603152.

Please Note: The pipes information provided here is our best estimate of the stormwater flow in your community based on the information we have currently. If you encounter more information in the course of your investigation please let us know so we can update future versions of this document.
**Runoff Destination Map**

Orca K-8 has a yellow star around it on the map.
Stormwater in Our Community – Lesson 6

Please use this map and points of interest as suggestions for your walking field trip, recognizing there may be other things of importance to note in other areas. It may be useful to bring the stormwater pipes map with you for reference. Questions posed are intended to be posed to students as desired.

Suggested Route: Exit front of school and turn right to cross 46th Ave S. over to S. Bennet Street. Walk to the end of the block and turn left onto 47th Ave S. Turn left on S. Dawson Street. Take another left onto 46th Ave S. to return to school. Alternatively, you could continue along S. Dawson Street, explore as long as you’d like, and re-enter the school grounds at the side door or ramp, depending on how much time you have.

Points of Interest

A. Storm drain:
   Keep an eye out for storm drains around the neighborhood. Where does the water that enters them come from? What else might be going in them besides water? Where do you think, they send the water?
C. Vegetation on street:
Check out how many plants are growing along this street. Which way does the stormwater flow here, and what effect do you think the plants have on it? What would be different if there were no plants? What other impacts, both good and bad, might the plants have on people or animals here?

B. Yard surface:
This yard has an interesting slope and surface. What do you think the front of the yard is covered with? (It looked to us like brick or rubber tiles.) How pervious do you think this surface is compared to the grass in the back? What if it were paved with asphalt? Why do you think they chose to use that surface? Notice also the slopes of the property (downward on both sides). Where does their stormwater go?

E. Plant cover; downward sloping driveway:
These folks have chosen to surround their yard with vegetation. What effect do you think this might have on stormwater that falls on this yard?

At the next house is a driveway that slopes down away from the street toward the house. What might happen in a big storm? Where does the water go? Do you see any evidence of stormwater problems or attempted solutions?
E. Downward sloping driveway:
Consider how stormwater flows on this driveway. What might happen in a big storm? Where does the water go? What might happen if the residents washed their car in the driveway? (Consider chemicals, oils, grease, and heavy metal residue that will wash off onto the ground.)

F. Traffic Circle with plants:
Do you think this little garden helps with stormwater at all? Can any runoff enter the garden from the street? It certainly serves as a community info board of sorts!

G. Ramp:
Here is a quite impervious slope. Have you seen what happens to water on this ramp in the rain? Does it move fast or slow? Where does it go? Is there anywhere for it to sink into the ground?