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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 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! 😊
A. Gutters and 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? Downspouts have an interesting shape of drain. Why do you think this drain is shaped the way it is? Where does the water come from and where do you think it might go?

B. Slope

Stormwater that can't absorb into the ground runs off it. The slope of the ground affects where this water flows and how fast. Consider the slope and surfaces of this area: where will the water end up? What kind of ground surface is on the slope (grass, bushes, dirt, gravel, concrete?) How do these surfaces and vegetation affect the stormwater runoff here? How does it compare with the other types of soil that you have seen in other places on the school grounds? Have students observed stormwater runoff here? How pervious is this surface? Where does the rainwater go? What might be carried with it? Also notice the corner of this parking space. Does water collect here in a heavy rain? Does it cause any flooding problems or large puddles?
C. Sloped roofs

How does this roof help direct water to the gutters and downspouts? What would happen if this roof was flat?

D. Storm Drain in Field

How does this drain affect the drainage of this field? Is it different than storm drains we might see on the road?
E. Rubber vs. cement
Does the water that falls on the rubber get absorbed more easily? How do these two surface differ? How are they similar?

F. woodchips/pervious ground
How do the wood chips at your school help to absorb water? Do they ever have puddles or floods? What would it be like if they were not there?
Mapping Your Schoolyard – West Seattle

Name: _______________ Date: __________

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.

• Sketch larger plants and bushes.
Local Stormwater Systems – Lesson 5

What happens with the Stormwater Pipes around your school?

- Stormwater from your school and community enter the green stormwater pipes through the blue storm drains on your school’s property. The stormwater pipes from your school’s property then flow north into the High Point Development.
- The High Point Development has many features designed to help with stormwater and ends up treating 10% of the watershed that feeds Longfellow Creek. It includes swales, large retention ponds, and smaller wetland ponds. Graphic from http://www.seattle.gov/util/EnvironmentConservation/Projects/GreenStormwaterInfrastructure/CompletedGSIProjects/HighPointNaturalDrainageSystem/index.htm:

![Diagram of stormwater systems](image)

- Some of the stormwater pipes from your larger community flow into combined sewage and stormwater (orange) pipes that end up in a very different place. We are focusing on Longfellow Creek with the maps provided but see below if you want to also incorporate the Combined Sewer overflow issues.

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.
What happens to the stormwater runoff flowing North?

- Follow the green stormwater pipes on the map. Stormwater from your school's property flows north into the High Point Development, which was built to handle storm water. Stormwater can end up in a few different places.
  - Some will enter ditches and culverts (blue dashed lines) at places like High Point Commons Park.
  - Most will flow even further north into the High Point Pond, a retention pond. During storms, the pond slowly fills. Once the water stored in the pond reaches a certain height the overflow goes through more pipes into Longfellow Creek.
- Since the stormwater from your school eventually ends up in Longfellow Creek and the creek flows along the entire East side of your community, we suggest watching the “Effects of Urbanization on Stream Ecosystems” video (OPTION A) during Lesson 5. Watch from 0:00 to 2:57. You can find this video linked on communitywaters.org or at https://www.youtube.com/watch?v=BYwZiiORYG8
- If you also want to incorporate information about where other water from your school ends up, see below.

West Seattle Elementary 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 via the front door, turn left then right on 34th, right on Holly and Right on 31st.
Points of Interest

A. Field/Hill
Does this field flood when it rains? Where does the water go? Does this field have a drain?

B. Stormwater Drain
How does this drain direct stormwater?
Is it different than a storm drain in a field?
How is this drain affected by being clogged?
C. Storm water pipes /Swale

How does this feature direct water? Does it help the whole neighborhood or just the home it is in front of?

Where does the water come from and where does it go?

D. Mulberry park

How does this feature collect water? Is it designed to direct water or to store it?
E. Large stormdrain – possible underground stormwater vault?

This drain looks different – and is in a different place – than many “regular” stormdrains. Why might that be? Can students see water in the drain?

F. Different types of storm drains

How is this different than other drains we’ve seen?

Do you think this drain will also get clogged with debris?