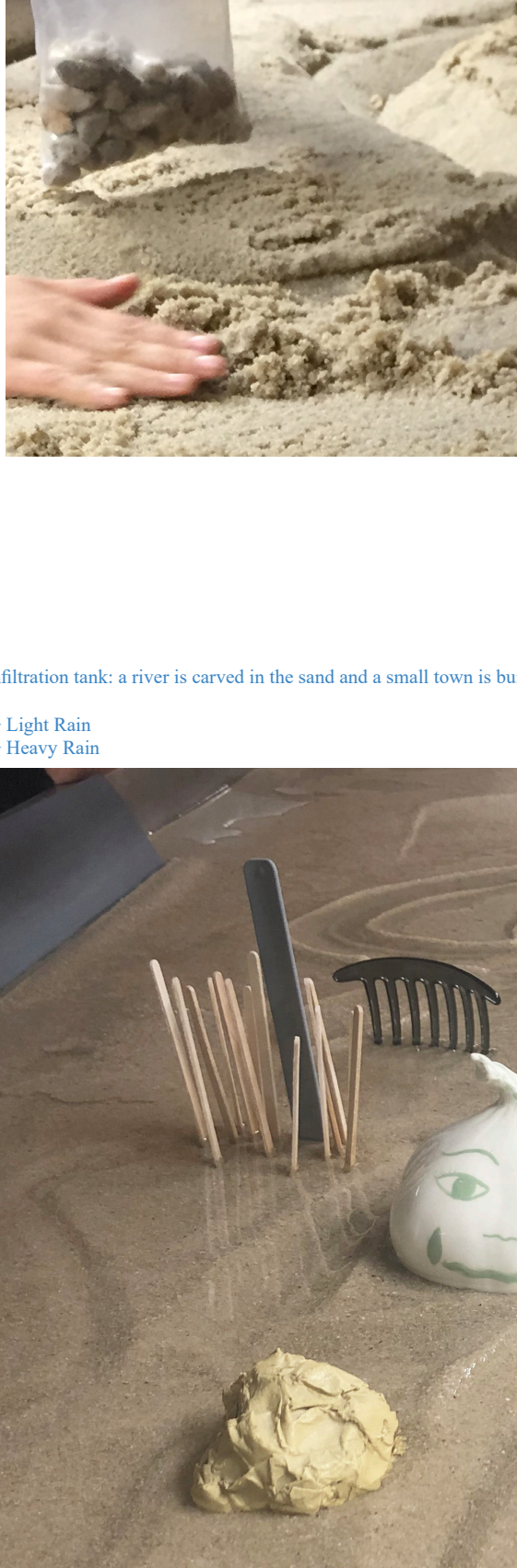
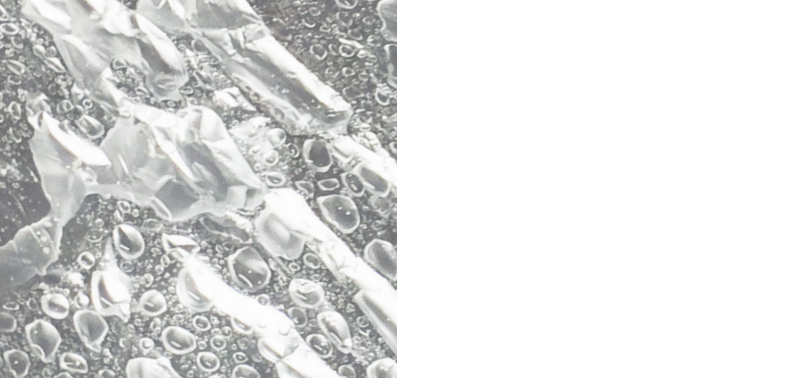




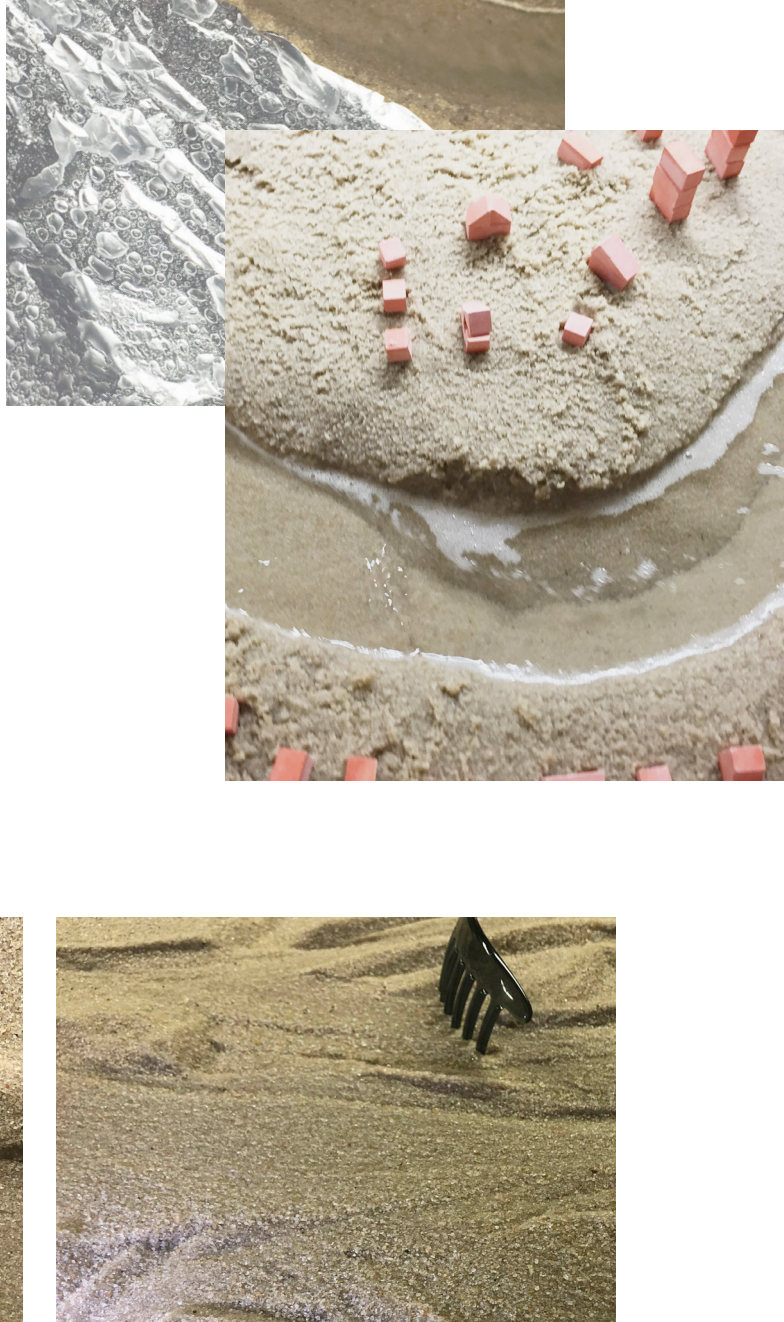
University of Melbourne - Infrastructure Engineering - Weir Lab



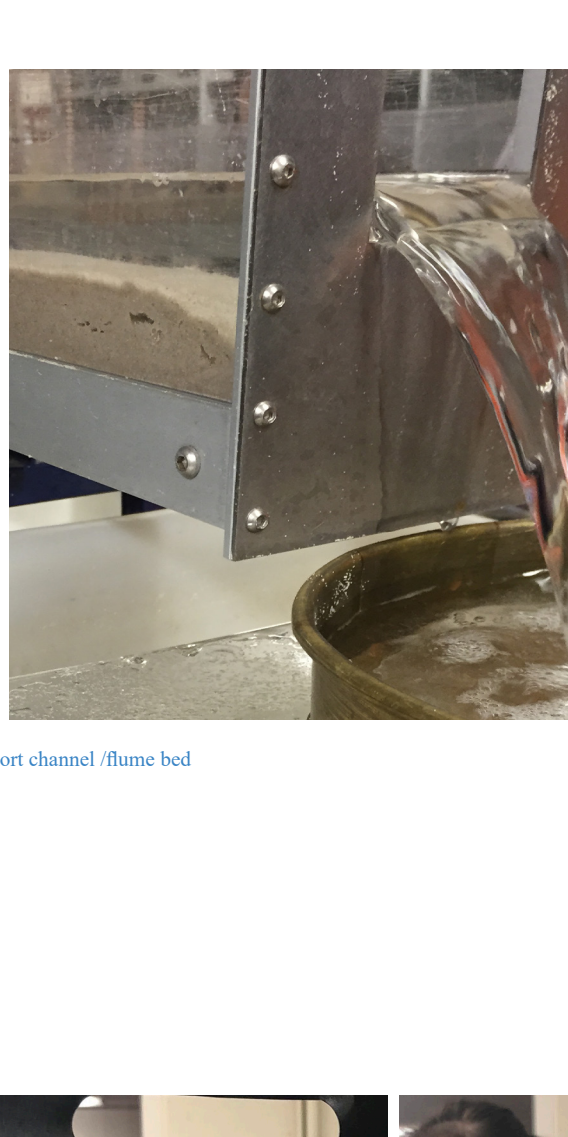
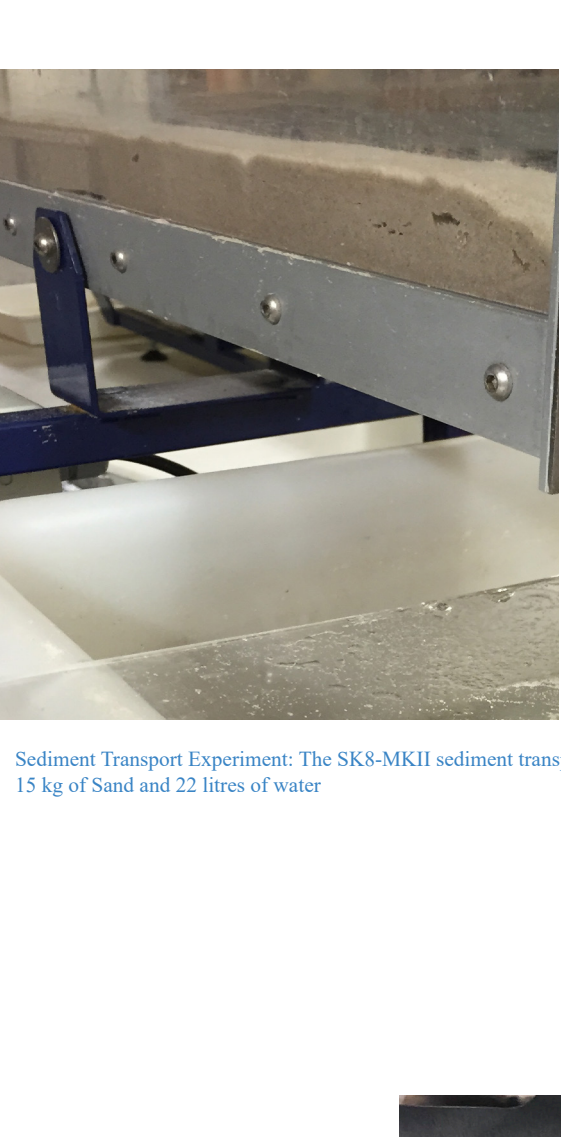
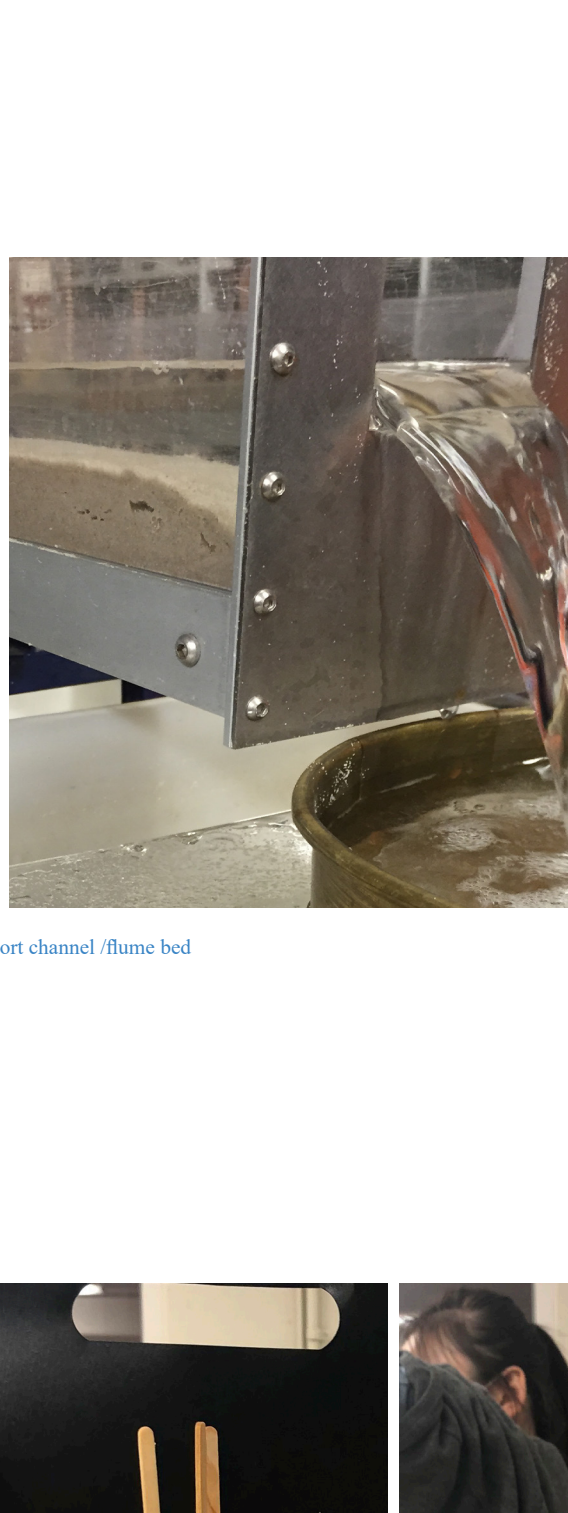
Sand infiltration tank: a river is carved in the sand and a small town is built around it.
 River + Light Rain
 River + Heavy Rain



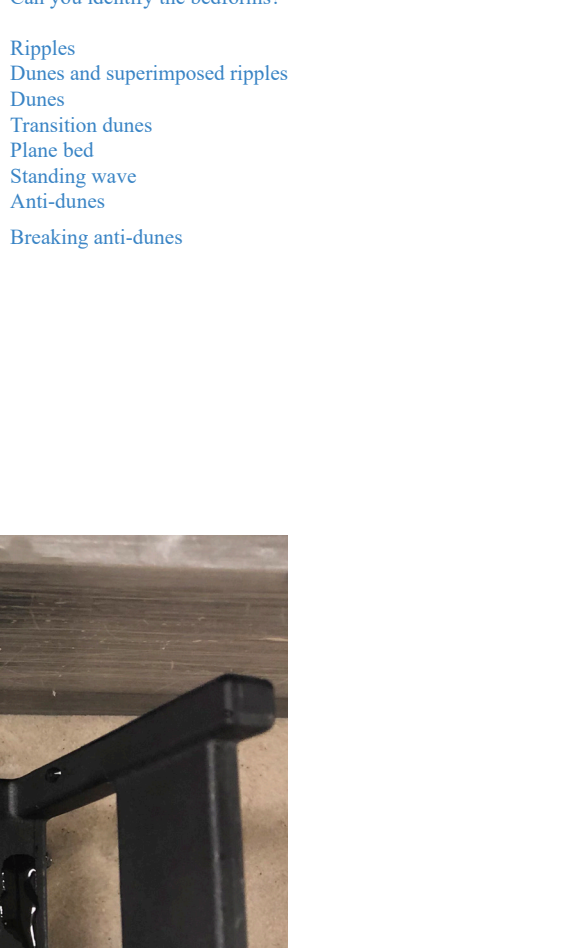
Impermeable surfaces and objects
 Drain
 Scoops
 Tupperware lid
 Small bricks
 Foil



Testing the impacts of heavy rain and a full flood simulation on the banks of the river



Sediment Transport Experiment: The SK8-MKH sediment transport channel /flume bed
 15 kg of Sand and 22 litres of water

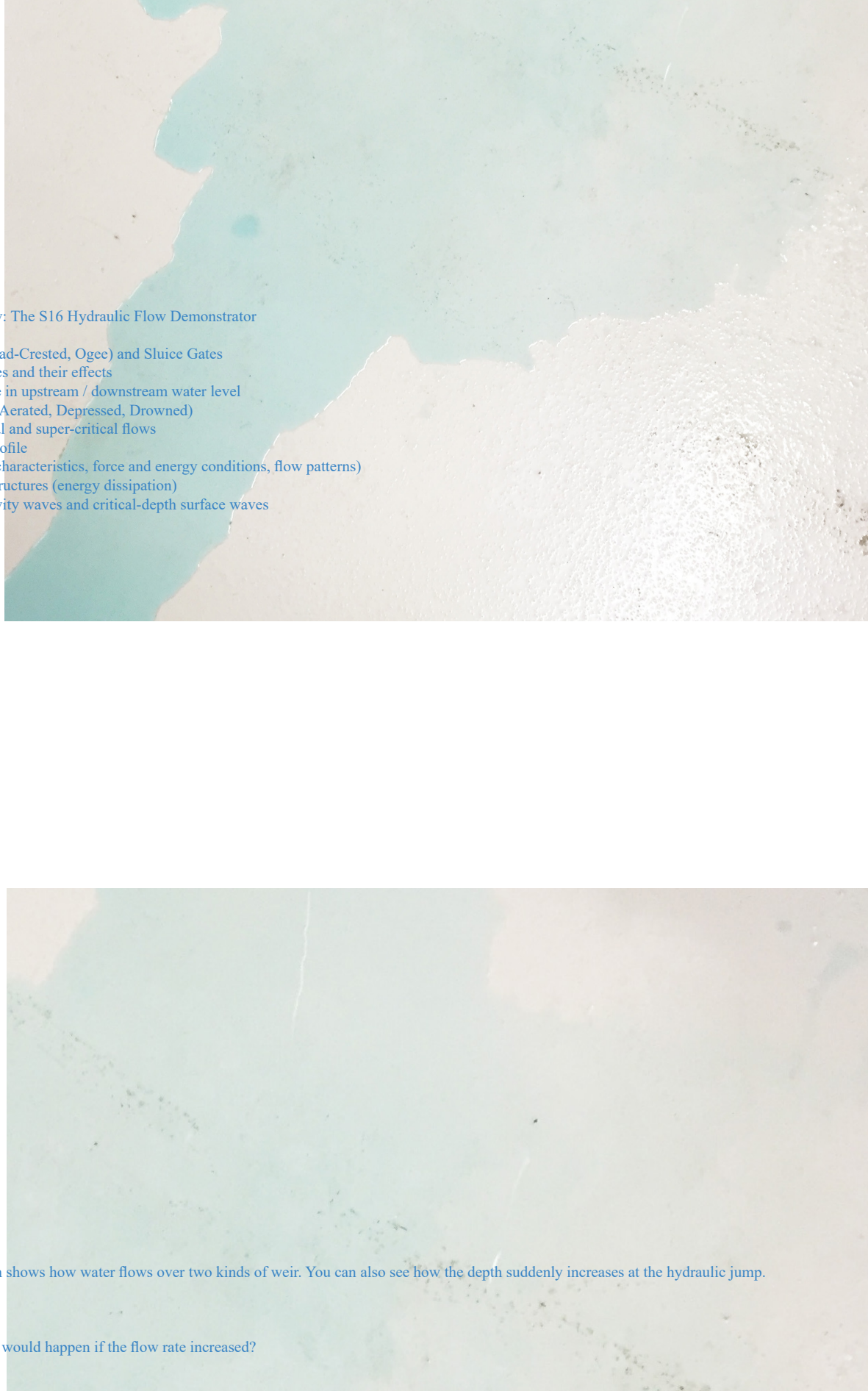


Can you identify the bedforms?

- Ripples
- Dunes and superimposed ripples
- Dunes
- Transition dunes
- Plane bed
- Standing wave
- Anti-dunes
- Breaking anti-dunes



When sediment starts moving
 How do bed forms change with flow rates and slopes?



Open Channel flow: The S16 Hydraulic Flow Demonstrator

- Weirs (Sharp-, Broad-, Crested-, Ogee) and Sluice Gates
- Hydraulic structures and their effects
- Controlling change in upstream / downstream water level
- Nappes (Clinging, Aerated, Depressed, Drowned)
- Sub-critical, critical and super-critical flows
- Changes in flow profile
- Hydraulic jumps (characteristics, force and energy conditions, flow patterns)
- Flow over Drop Structures (energy dissipation)
- Shallow depth gravity waves and critical-depth surface waves

This demonstration shows how water flows over two kinds of weir. You can also see how the depth suddenly increases at the hydraulic jump.

What do you think would happen if the flow rate increased?

