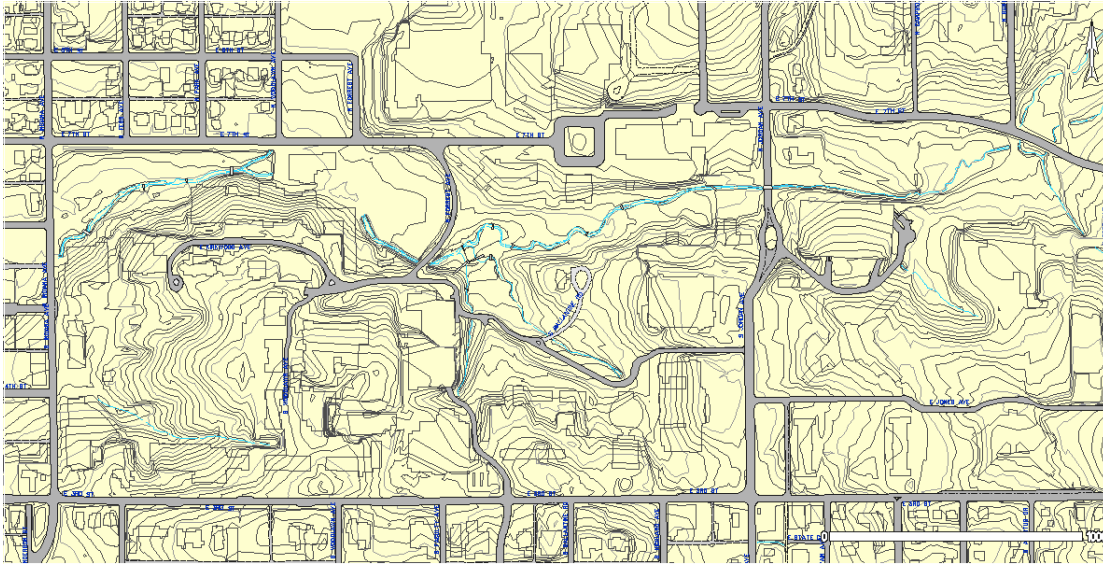
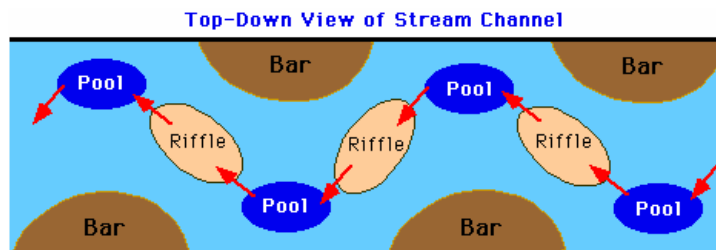


Campus Tour



We'll walk along the creek looking at sedimentary structures and make detours to look at the stone in some buildings and walls. The bedrock underlying the campus is the Salem Limestone Formation, which is Mississippian in age and represents a shallow marine carbonate platform environment, one typically without fossils.



In this straight channel stream, bars form in the regions of the stream away from the thalweg. Riffles, another type of coarse deposit, develop beneath the thalweg in locations where the faster flow moves vertically up in the channel. Between the riffles are scoured pools where material is excavated when the zone of maximum stream velocity approaches the stream's bed. The absolute spacing of these features varies with the size of the channel. However, the relative distance between one riffle and the next is on average five to seven times the width of the channel (exaggerated in diagram). Both of these features can also occur in sinuous channels.

Dunes and ripples are the primary sedimentary features in streams whose channel is composed mainly of sand and silt. Dunes are about 10 or more centimeters in height and are spaced a meter or more apart. They are common in streams with higher velocities. Ripples are only a few centimeters in height and spacing, and are found in slow moving streams with fine textured beds. Both of these features move over time, migrating down stream. Material on the gently sloping stoss-side of these features rolls and jumps up the slope under the influence of water flow. Particles move up the slope until they reach

the crest of the feature and then avalanche down the steeper lee-side to collect at the base of the next dune or ripple. This process is then repeated over and over again until the material reaches a location down stream where it is more permanently deposited.

Alongside stream channels are relatively flat areas known as floodplains. Floodplains develop when streams over-top their levees spreading discharge and suspended sediments over the land surface during floods. Levees are ridges found along the sides of the stream channel composed of sand or gravel. Levees are approximately one half to four times the channel width in diameter. Upon retreat of the flood waters, stream velocities are reduced causing the deposition of alluvium. Repeated flood cycles over time can result in the deposition of many successive layers of alluvial material. Floodplain deposits can raise the elevation of the stream bed. This process is called aggradation.