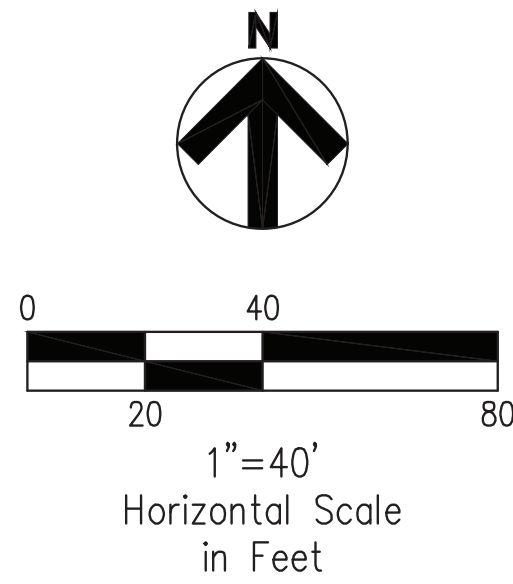


- EXISTING CREEK CHANNEL
- EXISTING CULVERT
- PHASE I PROJECT LIMITS
- ACQUIRED PROPERTIES

Hemlock Creek Stream Restoration, Existing Conditions





- EXISTING CREEK CHANNEL
- PROPOSED CREEK CHANNEL
- PROPOSED FLOODPLAIN LIMITS
- PROPOSED GRADING LIMITS
- PROPOSED STAGING AREA
- PROPOSED PAVEMENT AND WALK REPLACEMENT LIMITS
- PROPOSED CULVERT / HEADWALL / WINGWALL
- PROPOSED CONCRETE DROP STRUCTURE

Hemlock Creek Stream Restoration, Proposed Conditions



What do stream restoration projects look like?

Beechers Brook Stabilization Project in Mayfield Village:



Stickney Creek Stream Restoration & Utility Repair Project in the City of Brooklyn:



Baldwin Creek Stabilization Project in the City of Parma:



What are typical components of stream restoration projects?

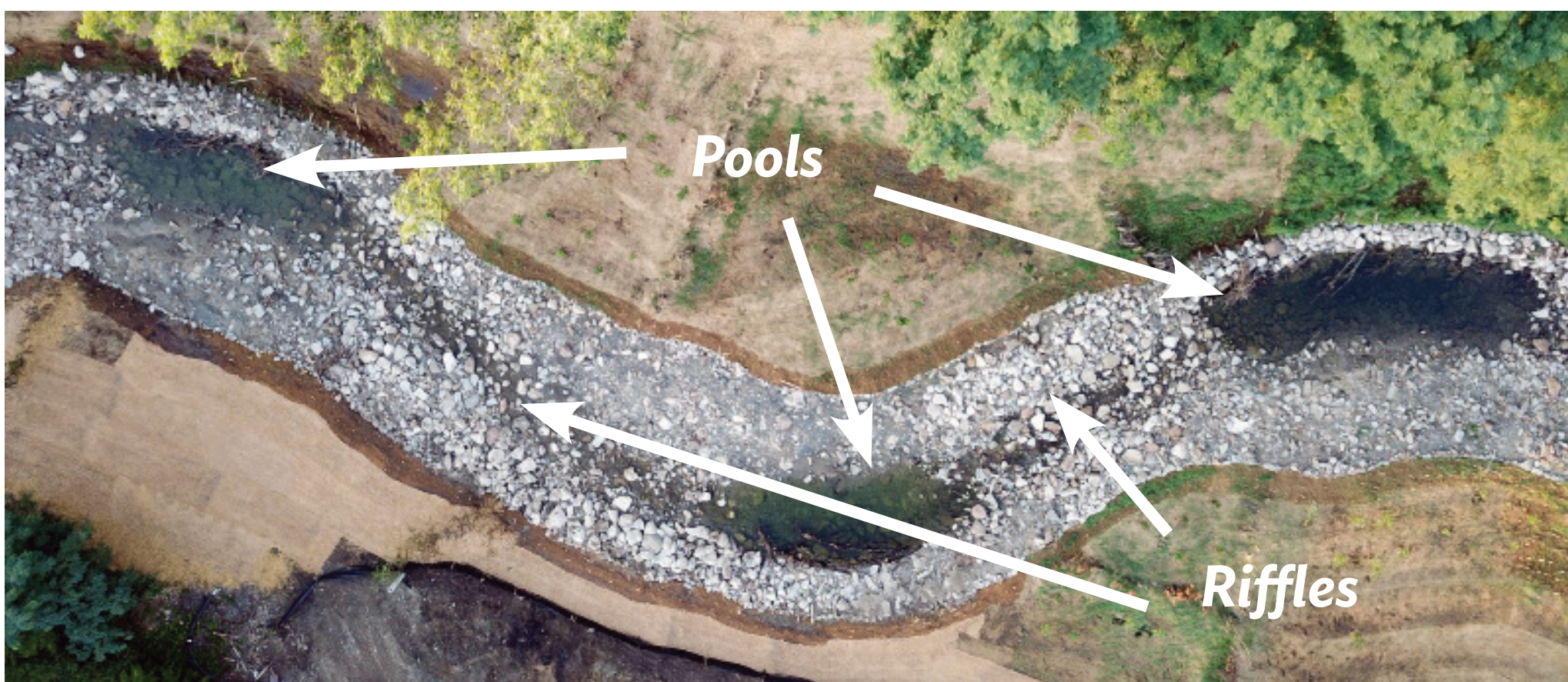


Rocks

Sometimes referred to as “riprap,” rocks are used to stabilize streambanks and line the bottom of the stream to make it less vulnerable to erosion. Sizing of the rocks depends on the amount of flow that the stream experiences. Limestone and sandstone are commonly used.

Pools & Riffles

Pools are deeper sections of the stream usually built on the outside of bends. *Riffles* are shallow areas of the stream with protruding rocks at the surface. Both structures work together to reduce the energy of the stream.



Floodplains

Floodplains are areas where streams can flow out of their main channels during large storm events to provide some temporary flood storage and dissipation of stream energy. After a large storm event, water on the floodplains will infiltrate or slowly flow back into the stream channel. Floodplains also have a positive impact on water quality by allowing sediment and nutrients to settle out and not be carried downstream.



Vegetation

Vegetation typically installed on stream restoration projects include:

- Trees and shrubs;
- Live stakes, which are woody cuttings harvested from trees in the dormant season. They are installed along streambanks and develop dense root systems to help hold the soil together and minimize future erosion;
- Herbaceous plugs and seeding.



**Northeast Ohio
Regional Sewer District**

Hemlock Creek Stream Restoration

PROPOSED DESIGN PROJECT FEATURES

DROP STRUCTURE



POCKET WETLAND



STREAM AND RIPARIAN VEGETATION

