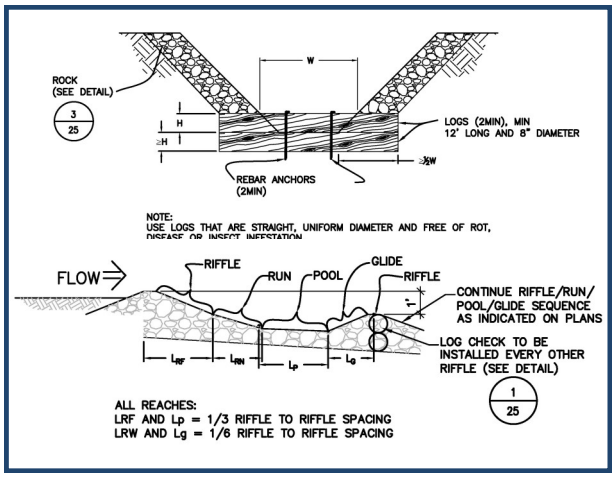
Queen City & Cora Avenue Sewer Separation Project

Metropolitan Sewer District of Greater Cincinnati

As a subconsultant to Arcadis U.S., Coldwater completed the stream channel design and environmental permitting for this sewer separation project in the Lick Run watershed. The Queen City & Cora Avenue project was developed with the objective to remove stormwater inflow from the combined sewer system, reduce downstream CSO discharge volume, and restore a portion of the Lick Run stream channel system.

Existing natural basin that will be modified into a floodplain enhancement area.

The Lick Run watershed is typical for Cincinnati in that many of MSDGC's larger sewer lines were constructed in stream channels and inlets were installed along those pipes to route stormwater runoff into the combined sewer system. The design for this CSO mitigation project involved the removal of those inlets, restoring the historic channel to accommodate increased streamflows and improve its ecological function, and creating stormwater management areas to reduce peak flows and improve water quality.



Design details of a log check and riffle/pool sequence channel restoration section.

The project team performed an alternatives analysis and prepared cost estimates for both gray and green infrastructure alternatives. The alternatives analysis task included an evaluation of geotechnical information, pipe condition, existing/proposed hydrology and hydraulics, existing/proposed stream channel characteristics, water quality benefits, and permitting issues. Coldwater performed various site assessments in support of this project, including site characterization, threatened and endangered species habitat evaluations, wetland delineations, and GPS/GIS mapping of environmentally sensitive areas. Coldwater was responsible for the design of 2,400 feet of stream channel improvements, which incorporated natural channel design features including riffle/pool complexes, log checks, rock cross vanes, native plantings for aesthetics and wildlife habitat, and a re-connection of the channel to its natural floodplain. Coldwater also prepared the 404 permit application materials for coverage under Nationwide Permits 12, 27 and 43; 404 & 401 permit approval was received in February 2018. Construction is currently underway and scheduled for completion in December 2018.

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