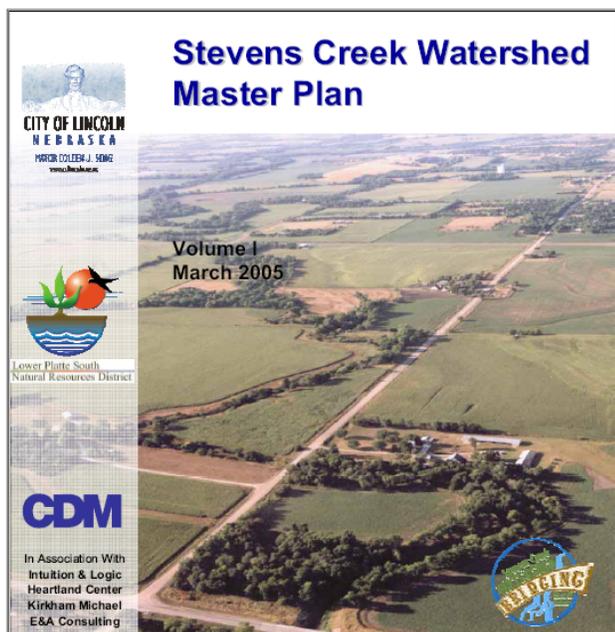


Water Quality Control Volume Costs

Costs for incorporating water quality standards vary and are highly dependent upon the site and design. Costs found in literature vary between a cost savings of thousands of dollars a lot (Chicago 700 acre development) to added costs of \$750/lot (Omaha 2008 estimate). In general, developments that look at Best Management Practices (BMPs) holistically from the start of planning and design can save or break even on their use. Conversely developments that add storm water Best Management Practices after the development has been planned and designed spend extra dollars.

There are two examples of costs related specifically to Lincoln. One is the Stevens Creek Master Plan which was completed in 2005. The Plan estimated an additional cost for incorporating water quality standards at \$210/acre (approximately \$50/lot). Another is a report done by Olsson Associates in 2009 that indicated the costs to integrate water quality standards would be similar to those in the Stevens Creek Master Plan if no additional grading or land area were needed. Including both grading and land area, the total additional costs for integrating water quality standards would range between \$170 to \$570 an acre. As an example, assuming a present day cost of \$450/acre (around \$100/lot) an example 10 acre residential site would have an added cost of \$4,500.



As stated in the ‘Volume and Land Use Comparisons’ Technical Memorandum, incorporating the use of Best Management Practices into the initial concept of a development can actually lead to overall reduced costs in the

development due to less storm drainage structures and less grading. There are also other tangible benefits including lots adjacent to outlots and natural areas selling faster and for higher prices than other lots.

Cost Appropriation

The cost for offsetting the impacts of urban development to water quality and stream stability has typically been the burden of the developer, similar to widely accepted practices for offsetting flooding impacts caused by developments. Many other Midwest communities have faced similar challenges. A review of other community ordinances has shown that the burden for these impacts has been with the development for water quality also.

The cost appropriation was discussed during the Stevens Creek Watershed Master Planning process and this issue was one of the key concerns expressed by the Citizen Advisory Committee and by businesses during stakeholder sessions. As there is both a private responsibility to offset impacts from developments as well as public issues involved with improving water quality and reducing stream bank erosion downstream from the development, there is a potential for continuing the current cost share program currently in place for volunteer Best Management Practice projects. The current program is on a case by case basis with the City of Lincoln and under a more standardized program with the Lower Platte South Natural Resources District.

A potential city cost share program would need to be standardized with priority likely being given to Best Management Practices that holistically incorporate water quality standards and/or are above the requirements set by any water quality standards. Such a cost share program would be subject to yearly budget approvals and voter approval of General Revenue Bonds,

Case Studies

<http://www.bmpdatabase.org> {International Stormwater BMP Database, includes BMP studies}

http://water.epa.gov/infrastructure/greeninfrastructure/gi_c_ostbenefits.cfm {compendium of various case studies comparing conventional and BMP developments}

<http://www.stormwaterpa.org/case-studies-all.html> {includes videos so takes a while to load}