

Appendix A.

Benefits of Low Impact Development & Green Infrastructure

Financial and Ecological Benefits

Benefits of constructed GI and LID mimic many of the natural benefits identified below as well as others, including cost savings by reducing the need for expensive grey infrastructure¹ and maintenance as well as reduced energy costs by providing shade and windblocks. It brings increased public safety by reducing flooding, improving water quality, increasing a community's climate change resilience, and reducing the urban heat island effect. The benefits of LID and GI also extend to improving the quality of life by offering protection of natural features and improved aesthetics, increased property values for homeowners and businesses, and assists communities working to meet regulatory requirements.

Natural GI absorbs rainfall and recharges local water supplies, filters water and cleans air, prevents flooding, offers shade and wind blocking, provides carbon storage and wildlife habitat, and supports numerous recreational activities.

Stormwater Management

Stormwater management is becoming increasingly important, especially as heavy precipitation events increase flooding and communities are facing high costs of water quality regulations.

Polluted water from roads and parking lots gets washed into streams and ponds, and municipalities on tight budgets are facing millions of dollars in stormwater improvements. The commonwealth estimates that we will require an \$18 billion investment in stormwater management over the next 20 years².

Poorly managed stormwater can create serious issues, including:

- Pollution, including nutrients, bacteria, chemicals
- Erosion and sedimentation
- Loss of stream habitat
- Flooding, leading to culvert and road failure
- Loss of recharge to aquifers, leading to dried up streams

¹ Grey infrastructure is defined as "conventional piped drainage and water treatment systems (ie. pipes, tanks, conventional treatment systems including energy-intensive water treatment systems and processes such as membranes and reverse osmosis)." - <http://www.engineeringnaturesway.co.uk/2011/blue-green-and-grey-infrastructure-what%E2%80%99s-the-difference-%E2%80%93-and-where-do-they-overlap/>

² http://www.senatoreldridge.com/wp-content/uploads/2010/11/WIFC_ExSum.pdf