

Implementation Plan for Five TMDLs for Bacteria in Four Austin Streams

Table 1. Management Measures in a Nutshell

The IAS Coordination Committee proposes five categories of solutions to reduce bacterial levels, organized around how they will reduce pollution.																																																													
<p>1.0 Riparian Zone Restoration</p> <p>Instream bacteria concentrations are reduced when stormwater runoff filters through natural riparian buffers (vegetated areas along the creek's edge) before entering the stream. Restoring and enhancing riparian buffers along Austin-area streams is a primary strategy for the four creeks in this I-Plan and citywide.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center; padding: 2px;">1.1</td> <td style="padding: 2px;">Increase riparian zones in Austin parks by expanding Grow Zone initiative¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">1.2</td> <td style="padding: 2px;">Recruit adopters for all creeks and parks in the watersheds²</td> </tr> <tr> <td style="text-align: center; padding: 2px;">1.3</td> <td style="padding: 2px;">Use volunteers to help expand Grow Zone riparian initiative²</td> </tr> <tr> <td style="text-align: center; padding: 2px;">1.4</td> <td style="padding: 2px;">Increase riparian buffer zone width for new development¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">1.5</td> <td style="padding: 2px;">Increase waterway setbacks in Walnut Creek³</td> </tr> </table> <p>2.0 Wastewater Infrastructure</p> <p>The I-Plan focuses on means to reduce sewage contamination of creeks through the following means:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center; padding: 2px;">2.1</td> <td style="padding: 2px;">Require failing OSSFs to connect to City sewer lines, and provide incentives for connection when new mains are installed¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">2.2</td> <td style="padding: 2px;">Provide incentives in Walnut Creek area for OSSF repair and improvements³</td> </tr> <tr> <td style="text-align: center; padding: 2px;">2.3/ 2.4</td> <td style="padding: 2px;">Inspect & repair sewer lines^{1,4}</td> </tr> <tr> <td style="text-align: center; padding: 2px;">2.5/ 2.6</td> <td style="padding: 2px;">Respond to sewer overflows^{1,4}</td> </tr> <tr> <td style="text-align: center; padding: 2px;">2.7</td> <td style="padding: 2px;">Reduce contamination from private sewage laterals through inspection when overflows occur, ensuring repair when needed¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">2.8</td> <td style="padding: 2px;">Design & construct outdoor public toilets in high-use locations in Waller Creek: pilot program¹</td> </tr> </table> <p>3.0 Domestic Pet Waste</p> <p>Pet waste contributes significantly to stream contamination. Education is a central focus of the I-Plan efforts, as is installing Mutt Mitts.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center; padding: 2px;">3.1</td> <td style="padding: 2px;">Educate park users through signs and citywide "Scoop the Poop" efforts, enforce requirements in parks to remove pet waste¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">3.2</td> <td style="padding: 2px;">Install pet waste bags dispensers in all City parks in watersheds¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">3.3</td> <td style="padding: 2px;">Place educational kiosks in Walnut Creek Park off-leash area^{5,1}</td> </tr> <tr> <td style="text-align: center; padding: 2px;">3.4</td> <td style="padding: 2px;">Educate pet-care businesses about pet waste management, seek their cooperation to distribute educational materials to their customers^{10,11}</td> </tr> </table>	1.1	Increase riparian zones in Austin parks by expanding Grow Zone initiative ¹	1.2	Recruit adopters for all creeks and parks in the watersheds ²	1.3	Use volunteers to help expand Grow Zone riparian initiative ²	1.4	Increase riparian buffer zone width for new development ¹	1.5	Increase waterway setbacks in Walnut Creek ³	2.1	Require failing OSSFs to connect to City sewer lines, and provide incentives for connection when new mains are installed ¹	2.2	Provide incentives in Walnut Creek area for OSSF repair and improvements ³	2.3/ 2.4	Inspect & repair sewer lines ^{1,4}	2.5/ 2.6	Respond to sewer overflows ^{1,4}	2.7	Reduce contamination from private sewage laterals through inspection when overflows occur, ensuring repair when needed ¹	2.8	Design & construct outdoor public toilets in high-use locations in Waller Creek: pilot program ¹	3.1	Educate park users through signs and citywide "Scoop the Poop" efforts, enforce requirements in parks to remove pet waste ¹	3.2	Install pet waste bags dispensers in all City parks in watersheds ¹	3.3	Place educational kiosks in Walnut Creek Park off-leash area ^{5,1}	3.4	Educate pet-care businesses about pet waste management, seek their cooperation to distribute educational materials to their customers ^{10,11}	<p>4.0 Resident Outreach</p> <p>The I-Plan focuses on education of residents, whose actions are essential to reduce bacteria in the creeks. Educational efforts will be through:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center; padding: 2px;">4.1</td> <td style="padding: 2px;">Austin Neighborhoods Council⁶</td> </tr> <tr> <td style="text-align: center; padding: 2px;">4.2</td> <td style="padding: 2px;">Austin Environmental Board⁷</td> </tr> <tr> <td style="text-align: center; padding: 2px;">4.3</td> <td style="padding: 2px;">Homeless survival guides¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">4.4</td> <td style="padding: 2px;">Earth Camp and other AISD campus outreach¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">4.5</td> <td style="padding: 2px;">Austin Parks Foundation & Keep Austin Beautiful²</td> </tr> <tr> <td style="text-align: center; padding: 2px;">4.6</td> <td style="padding: 2px;">Community communication⁸</td> </tr> <tr> <td style="text-align: center; padding: 2px;">4.7</td> <td style="padding: 2px;">People Organized in Defense of Earth and Her Resources⁹</td> </tr> </table> <p>5.0 Stormwater Treatment</p> <p>Most fecal material enters the streams through stormwater runoff. Nonstructural and structural BMPs will be important to reducing bacteria in the creeks.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center; padding: 2px;">5.1</td> <td style="padding: 2px;">Install or retrofit water quality structural controls on public lands¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">5.2</td> <td style="padding: 2px;">Inspect existing city-owned and commercial water quality controls, and repair problems as feasible¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">5.3</td> <td style="padding: 2px;">Inspect and ensure proper operation of private water quality treatment and flood detention structures in Travis County jurisdiction³</td> </tr> <tr> <td style="text-align: center; padding: 2px;">5.4/ 5.5</td> <td style="padding: 2px;">Dry-weather inspection of storm drain outfalls to identify illicit connections^{1,4}</td> </tr> <tr> <td style="text-align: center; padding: 2px;">5.6</td> <td style="padding: 2px;">Pilot program test new roadway bacteria reduction technology³</td> </tr> <tr> <td style="text-align: center; padding: 2px;">5.7</td> <td style="padding: 2px;">Street sweeping on University of Texas-Austin campus⁴</td> </tr> <tr> <td style="text-align: center; padding: 2px;">5.8</td> <td style="padding: 2px;">Construction site inspection & monitoring¹</td> </tr> <tr> <td style="text-align: center; padding: 2px;">5.9</td> <td style="padding: 2px;">Inspect commercial and industrial facilities for illicit discharges³</td> </tr> </table> <p>Responsible Organization</p> <ol style="list-style-type: none"> 1 City of Austin 2 Austin Parks Foundation, Keep Austin Beautiful 3 Travis County 4 University of Texas at Austin 5 Friends of Austin Dog Parks 6 Austin Neighborhoods Council 7 City of Austin Environmental Board 8 Shoal Creek Conservancy/ Pease Park Conservancy 9 People in Defense of Earth and Her Resources 10 Sierra Club, Austin Chapter 11 Austin Chamber of Commerce 	4.1	Austin Neighborhoods Council ⁶	4.2	Austin Environmental Board ⁷	4.3	Homeless survival guides ¹	4.4	Earth Camp and other AISD campus outreach ¹	4.5	Austin Parks Foundation & Keep Austin Beautiful ²	4.6	Community communication ⁸	4.7	People Organized in Defense of Earth and Her Resources ⁹	5.1	Install or retrofit water quality structural controls on public lands ¹	5.2	Inspect existing city-owned and commercial water quality controls, and repair problems as feasible ¹	5.3	Inspect and ensure proper operation of private water quality treatment and flood detention structures in Travis County jurisdiction ³	5.4/ 5.5	Dry-weather inspection of storm drain outfalls to identify illicit connections ^{1,4}	5.6	Pilot program test new roadway bacteria reduction technology ³	5.7	Street sweeping on University of Texas-Austin campus ⁴	5.8	Construction site inspection & monitoring ¹	5.9	Inspect commercial and industrial facilities for illicit discharges ³
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