

May 22, 2009

Andrew Crabtree  
Principal Planner, City of San José  
San José, CA 95113  
Phone: (408) 535-7893

*Sent Via Email: [andrew.crabtree@sanjoseca.gov](mailto:andrew.crabtree@sanjoseca.gov)*

**RE: Consideration of Low Impact Development in Envision San José 2040 General Plan Update**

Dear Mr. Crabtree:

I am writing to you on behalf of San Francisco Baykeeper ('Baykeeper') and its 1,300 members to ask the City of San José to incorporate low impact development strategies into its General Plan. Baykeeper is an environmental non-profit organization that has worked for twenty years to protect the water quality of the San Francisco Bay. Our work has focused on the largest source of pollution to San Francisco Bay and its many tributaries – polluted stormwater runoff. We believe that low impact development ('LID'), an environmentally progressive way to develop land, is one of the best ways to reduce stormwater pollution. LID seeks to maximize the amount of stormwater runoff that can be captured and treated by leveraging the natural hydrology and vegetation at the area that is being developed. Given the important linkages between land use development and water quality, Baykeeper is asking the City of San José to consider one of two approaches to update the General Plan to protect water quality:

1. Incorporate low impact development approaches and designs into relevant sections
2. Add a Water Element to the General Plan

Diffuse in nature and difficult to control, stormwater has been the subject of intense water quality regulation since the inception of the National Pollution Discharge Elimination System ('NPDES'). Despite over twenty years of regulation through the NPDES program, stormwater continues to pollute the Bay and local creeks, including portions of Guadalupe and Coyote Creek. According to the Santa Clara Valley Urban Runoff Pollution Prevention Program, there are significant levels of sediment toxicity in the lower portions of Coyote Creek. Additional monitoring data suggests that the cause of this toxicity is pyrethroid pesticide—a pesticide largely used in residential areas and for which stormwater is the main pathway of entry into receiving waters<sup>1</sup>.

Conventional end-of-pipe methods of stormwater management have not been successful in preventing or reversing degraded water quality in the San Francisco Bay watershed. This failure has led many in the water quality community to search for innovative solutions which are lower in cost to implement than conventional approaches and easy to maintain over the long term.<sup>2</sup> Consensus is building that low impact development—an approach that maximizes the retention, infiltration and reuse of stormwater—represents just such a solution.

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<sup>1</sup> SCVURPPP. FY 2007-2008 Annual Report. Section 4, Monitoring Activities. Sept 15, 2008.  
[www.eoainc.com/sc\\_draft\\_ar\\_0708/sections/Section\\_04\\_FY0708.pdf](http://www.eoainc.com/sc_draft_ar_0708/sections/Section_04_FY0708.pdf)

<sup>2</sup> Low Impact Development Guidance and Training for Southern California Literature Review August 16, 2007 Draft

Low impact development ('LID') is an approach to stormwater management that mimics natural hydrological processes to use stormwater beneficially. LID strategies focus on minimizing impervious surfaces like concrete and asphalt. As urban and suburban areas continue to grow, so do impervious surfaces, which increases the total polluted runoff into local waterways. Research indicates that as little as 10% impervious surface area in a watershed can have negative impacts to the aquatic ecosystems, and once impervious area reaches 25-30%, aquatic diversity, and stream habitat and water quality are consistently degraded to a poor condition.<sup>3</sup> Other aspects of LID include distributing and lengthening runoff flow paths and preserving and restoring environmentally critical features like riparian buffers, wetlands, mature trees, floodplains, and permeable natural soils. Typical best management practices include green roofs, disconnected downspouts flowing to raingardens, or cisterns, bioswales, and permeable pavement parking or road surfaces.

Research shows that LID techniques are highly effective at protecting water quality and help to maintain creek hydrology, reduce peak flows, control flooding, and can contribute to water supplies. For example, the Gap Headquarters in San Bruno has a green roof that captures and stores approximately 70% of rainfall runoff and is the second most energy-efficient building in California.<sup>4</sup> In addition, because LID techniques rely on maximizing the implementation of vegetated areas (green roofs, bioswales, rain gardens), it offers additional environmental benefits by mitigating greenhouse gas emissions, sequestering more carbon, reducing urban heat island effects, increasing local wildlife habitat and improving the aesthetics of an area. Thus, a well planned site or neighborhood that properly incorporates LID can have multiple community benefits and can help meet the emission reductions targets set by AB32).

LID approaches are flexible and scalable. With effective planning, LID can be implemented at the scale of an individual site ('better site design'), at the whole neighborhood scale (for example, the City of San Francisco's Better Streets Plan) or at the whole watershed scale (for example the Anacostia River Watershed Retrofit and Restoration Study for Urban Areas).

LID is already being implemented in San José at individual sites. For example, the Cruz-Alum Rock Library installed a landscaped vegetated detention area and Congregation Sinai, pervious pavement was used to increase stormwater infiltration<sup>5</sup>. Furthermore, the City of San Jose currently participates in Santa Clara County's stormwater program - the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP). As such, San Jose is already subject to the LID requirements of its NPDES permit (also known as the C.3 provisions). In response to this, the City of San José has adopted its Stormwater Policy, Policy 6-26.

While we respect and appreciate the work that has been done by this program to address stormwater runoff pollution, we feel that the permit requirements are too narrow to effectively reduce the flow of polluted runoff from urban areas in San José. The permit requirements do not describe a holistic approach to managing stormwater: they only focus on large new & redevelopment, do not address the need to retrofit existing development, and do not address runoff from residential areas. NPDES C.3 permit requirements do not address most of the development that is happening in San Jose—87% of new development in San José do not meet the 10,000 square foot trigger for LID implementation outlined in

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<sup>3</sup> Negative impacts include a significant decline in the diversity of aquatic insects and fish and rapid decline in channel stability and fish habitat quality after 10% impervious area. See Table 1. Review of Key Findings of Recent Research Examining the Relationship of Urbanization on Aquatic Systems

<http://www.stormwatercenter.net/monitoring%20and%20assessment/imp%20cover/impercovr%20model.htm>

<sup>4</sup> Water Sustainability: How will we do more with less? Presentation given by Bruce Wolfe, Executive Officer San Francisco Bay Regional Water Quality Control Board. October 30, 2008 [www.jointventure.org/programs-initiatives/sustainable/documents/Wolfe\\_Presentation.pdf](http://www.jointventure.org/programs-initiatives/sustainable/documents/Wolfe_Presentation.pdf)

<sup>5</sup> J. Bicknell. Site Design for Protecting Water Quality – Award Winning Approaches. SCVURPPP C.3 Workshop, June 3, 2008.

the permit.<sup>6</sup> We think that the City could do more to make LID a core part of the vision that the City of San José has for its future; we describe a two potential approaches to do so below.

### **1. Incorporate low impact development approaches and designs into relevant sections**

Baykeeper views the General Plan as a gateway for protecting water by incorporating LID techniques into all the decisions about growth and land use planning in San José. Incorporating LID and other water resource protection concepts into the General Plan can improve water quality and enhance wildlife habitat while making San José an even more enjoyable place to live.

In San José's current General Plan, stormwater is only briefly described in Chapter 4. Baykeeper feels that the City can do much more to protect water quality in its General Plan and there are multiple ways to incorporate LID. At the simplest level, the City can include a goal in its Goals and Policies section that promotes LID as the key tool for sustainable urban development. This approach was taken by the City of Summit, Ohio.<sup>7</sup> Likewise, at a minimum, the City could incorporate a LID goal into the following existing sections: the Urban Design Goals Section could state a goal of reducing runoff and protecting creeks through implementation of LID; the Urban Services/Storm Drainage & Flood control policies in the Water Resource Section (p .68) could be revised to incorporate a LID goal and policy; and the Sustainable Cities Major Strategies Section could acknowledge that preserving and restoring natural hydrology is a major component of being a sustainable city.

Alternatively, a LID goal can be included into each element of the General Plan. For example, in the current General Plan, Chapter 4 describes all the goals and policies for community development, housing, natural resources, land use and transportation. Each of these subsections could incorporate a stand alone policy and goal that promotes or requires LID. Additionally, the City could consider making LID a central platform for its Special Project Area plans. For example, the Coyote Valley Urban Plan could add a prerequisite condition that LID will be implemented to the fullest extent possible and that street planning will follow Green Streets Program similar to those laid out by San Mateo or San Francisco. By envisioning the implementation of progressive water quality protection at the scale of a whole neighborhood development, the City of San José could make significant inroads to mitigating urban runoff pollution.

In its current Housing Section, the General Plan states that the housing' goals and policies are not just found in the housing sections of the Plan but are woven throughout the Plan and influence the City's land use and development decisions<sup>8</sup>--we believe that it should do the same with water. To this end, we view the Ahwahnee Water Principles for Resource-Efficient Land Use as an ideal model for incorporating water protection as a core concept into city planning. It states "community design should be compact, mixed use, walkable, and transit-oriented so that automobile-generated urban runoff pollutants are minimized and the open lands that absorb water are preserved to the maximum extent possible" and that "impervious surfaces such as driveways, streets and parking lots should be minimized so that land is available to absorb stormwater, reduce polluted urban runoff, recharge groundwater, and reduce flooding."<sup>9</sup> The Ahwanhnee Principles have been endorsed and adopted by both the California Ocean Protection Council and the Local Government Commission as an effective approach to meet water quality protection.

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<sup>6</sup> SCVURPPP. Memo to Management Committee from K. Kerr and J. Bicknell. March 5, 2005. Data Analysis of Development Patterns for Group 2 Projects. P. 47.

<sup>7</sup> <https://scene.summitoh.net:444/pdfs/Internet%20PDFs/DOD/GenPlan/ch7.pdf>

<sup>8</sup> San Jose General Plan. Chapter 3, p 49, Major Strategies.

<sup>9</sup> [http://www.lgc.org/ahwahnee/h2o\\_principles.html](http://www.lgc.org/ahwahnee/h2o_principles.html)

While these actions would be an important step forward, simply adding one or two LID goals to the General Plan is an approach that would be limited in scope and likely effectiveness. Other general plans, like that of Prince George's County, Maryland have taken a more comprehensive and integrated approach by developing a stand-alone document that outlines a Green Infrastructure Master Plan.<sup>10</sup> In order for LID to be truly effective, it must be thoroughly incorporated into the fabric of how all of San José is planned and how it continues to grow.

## **2. Add a Water Element to the General Plan**

If the City is not prepared or able to integrate low impact development principles throughout the General Plan, an alternative option is to add a Water Element. According to California's Office of Planning and Research Guidelines on General Plans, Water Elements are optional elements for General Plans, but their inclusion has multiple benefits.<sup>11</sup> Typically, water related information is fragmented throughout a plan, if included at all. A Water Element puts all water-related policy and information in one place, which makes information more accessible to City staff and the general public. Water elements also help improve consistency between general plan elements and can lead to more coordinated infrastructure decisions that help reduce costs. Finally, a single water management element may increase the visibility of water and highlight its importance in the future of the community. This approach has already been taken by Humboldt County. Humboldt County's General Plan includes a Water Resources Element that addresses water planning issues including river and stream water quality, stormwater runoff, groundwater management, water needs of fish and wildlife, water consumption, conservation and re-use methods, and state and federal regulations. The primary purpose of this element is to ensure that the County's water resources are sustained and protected.<sup>12</sup> Butte County is also taking up the challenge of including a stand-alone section that specifically addresses water resources and their protection<sup>13</sup>

The City of San Jose serves a community of nearly one million residents and considers itself to be an active 'steward of the environment, [...] local creeks, and the San Francisco Bay that identifies the region'. As city planners for San José move forward with making their city more environmentally progressive, they should ask themselves – are we doing enough to make San José a leader in protecting all of their vital natural resources? The City has made claims through the launching of its Green Visions program that it wishes to have a comprehensive approach to fostering sustainability.<sup>14</sup> That cannot be achieved unless water and the protection of water quality are given equal footing to other considerations.

San Francisco Baykeeper is working to solve the urban runoff problem. We want to be a partner to the City of San José and help staff as they move forward in protecting their local waters and improving the quality of life for all residents. To this end, we have provided a list of resources that provide further information on LID (See Appendix 1: LID Resources). We recognize that the San José General Plan is still being shaped. As a result, we believe that this is excellent opportunity for the City's Planning Department to learn about LID and how its incorporation into San José future will benefit residents and the environment. San Francisco Baykeeper's staff is ready and willing to assist the City's Planning Department with any questions or assistance that is needed.

**Sincerely,**

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<sup>10</sup> [http://www.pgplanning.org/Resources/Publications/General\\_Plan\\_Publication.htm](http://www.pgplanning.org/Resources/Publications/General_Plan_Publication.htm)

<sup>11</sup> State of California, General Plan Guidelines, Governor's Office of Planning and Research 2003

<sup>12</sup> Humboldt County General Plan. Chapter 11. Water Resources Element. Planning Commission Hearing Draft. Humboldt County General Plan. <http://co.humboldt.ca.us/gpu/docs/HearingDraft/Part3Chapter11PlanningCommissionHearingDraftOne11-20-08.pdf>

<sup>13</sup> Butte County General Plan 2030. <http://www.buttegeneralplan.net/announcements/2008-03-21water.asp>

<sup>14</sup> [www.swrcb.ca.gov/water\\_issues/programs/stormwater/docs/npdes/comments/ed\\_shikada.pdf](http://www.swrcb.ca.gov/water_issues/programs/stormwater/docs/npdes/comments/ed_shikada.pdf)

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A handwritten signature in cursive script, appearing to read "Jennifer Kovecses".

**Jennifer Kovecses**  
Staff Scientist, San Francisco Baykeeper