

LID Planning Requirements

A presentation to
San Diego LID Workshop

by

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Background and Biases

- Education
- Professional Employment
- Planning Perspective
- Stormwater Quality Experience
- Current Activities



Outline

- Low Impact Development site planning overview
- Ahwahnee Water Principles
- Requirements in MS4 Permits
- What to do now



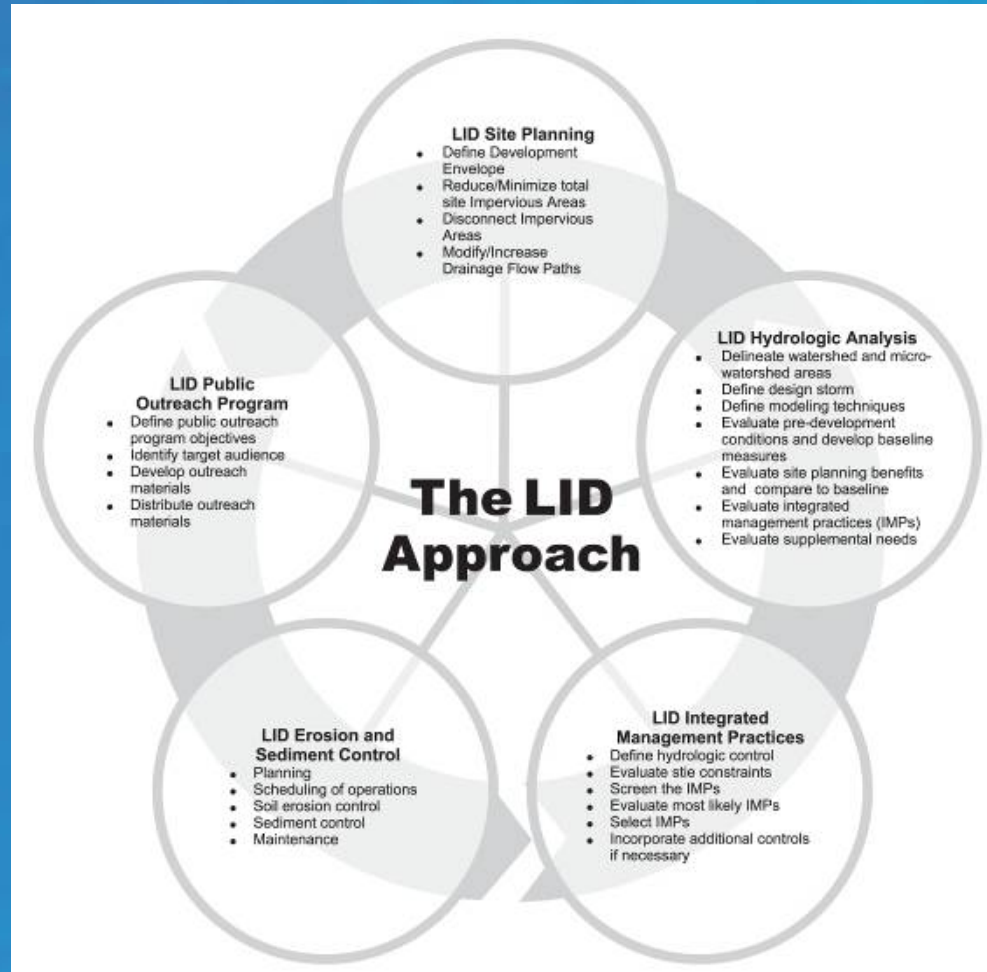
Low Impact Development Site Planning

The goal of LID site planning is to allow for full development of the property while maintaining the essential site hydrologic functions.

Source: Prince George's County, Maryland. Department of Environmental Resource Programs and Planning Division. *Low-Impact Development: An Integrated Design Approach*. June 1999.



LID Planning in Context



Source: Prince George's County, Maryland. Department of Environmental Resource Programs and Planning Division. *Low-Impact Development: An Integrated Design Approach*. June 1999.



LID Planning Approach

- Use a sub-watershed approach.
- Mimic pre-development discharges.
- Manage runoff as close to the source as possible.
- Use distributed decentralized micro- and meso-scale controls.
- Integrate LID early into the design of new development and redevelopment projects.
- Plan to retrofit existing development over time.

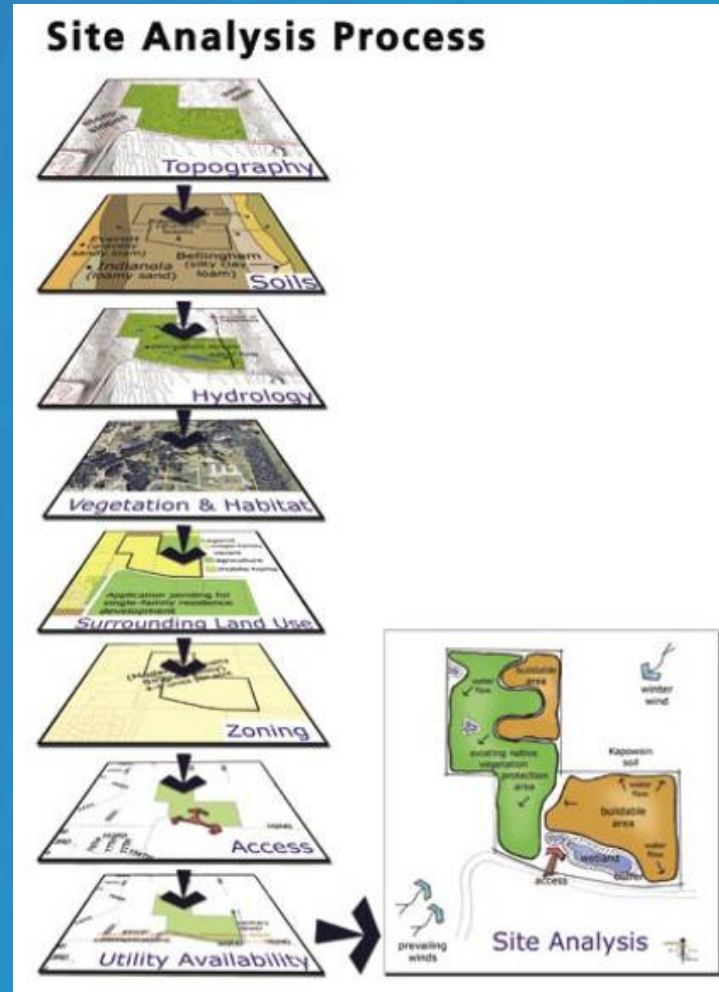


LID Planning Objectives

- Reduction of imperviousness
- Reduction of directly connected impervious areas
- Maintenance of pre-development times of concentration
- Storage and reuse of rainwater
- Groundwater recharge, where appropriate
- Compliance with MS4 Permit and local plans, ordinances and standards



One Approach to Site Planning



Source: Puget Sound Action Team and Washington State University. Low Impact Development; Technical Guidance Manual for Puget Sound. January 2005



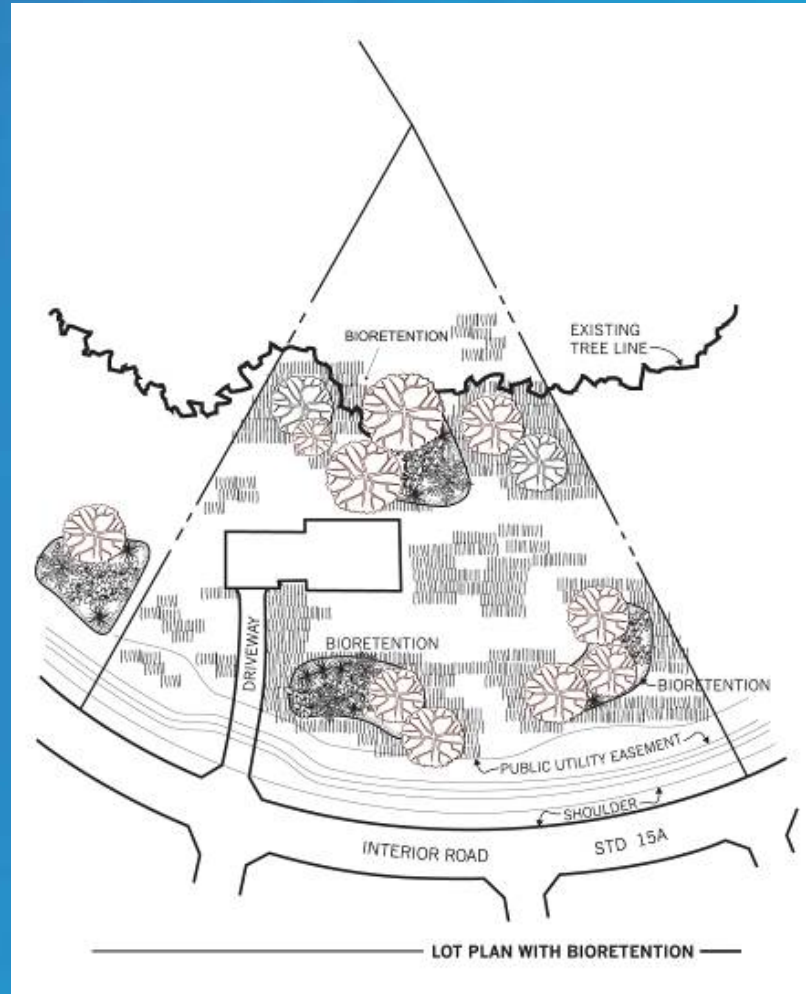
Puget Sound Example



Source: Puget Sound Action Team and Washington State University. Low Impact Development; Technical Guidance Manual for Puget Sound. January 2005



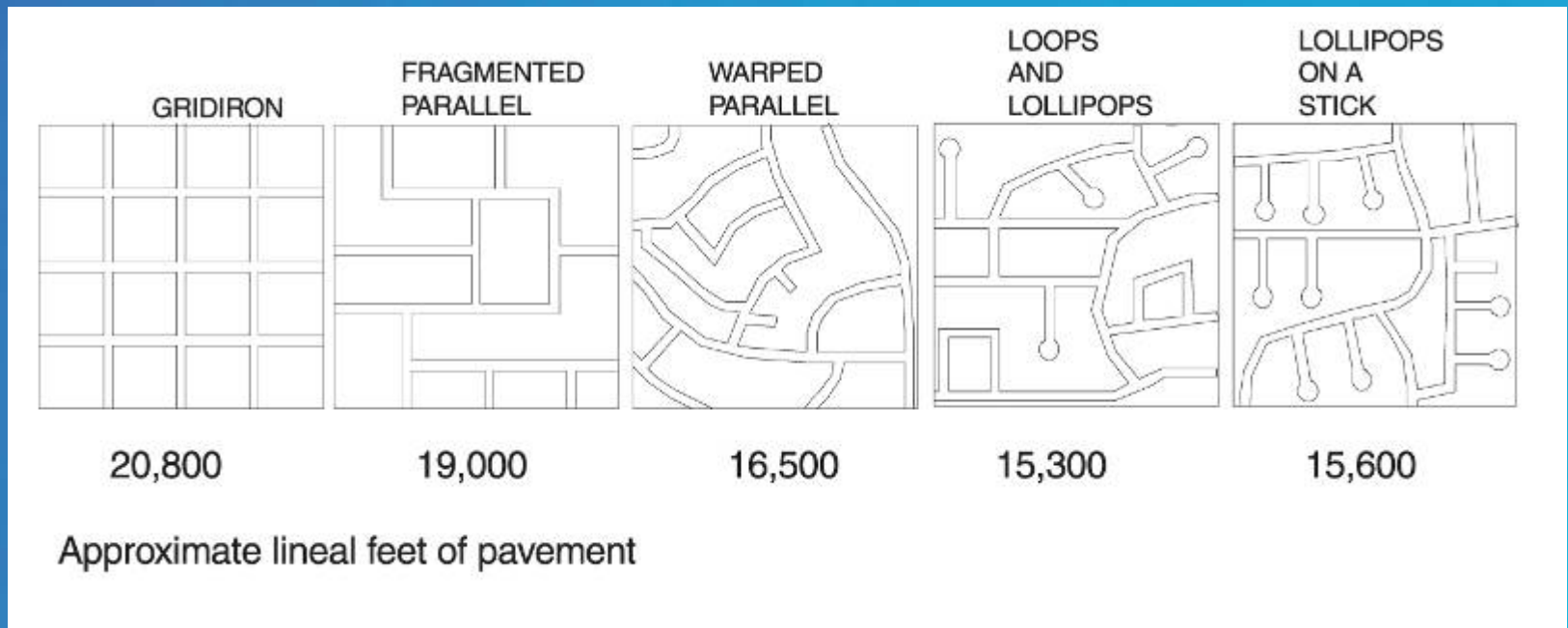
Prince George's County Example



Source: Prince George's County, Maryland. Department of Environmental Resource Programs and Planning Division. *Low-Impact Development: An Integrated Design Approach*. June 1999.



Street Patterns Make a Difference



Source: Prince George's County, Maryland. Department of Environmental Resource Programs and Planning Division. *Low-Impact Development: An Integrated Design Approach*. June 1999.



Starting to Plan and Implement LID

- Start with the Ahwahnee Water Principles.
- Review the Low Impact Development Handbook.
- Review local stormwater management manuals, ordinances, and standards.
- Review the literature and other manuals.
- Go to the MS4 permits.
- Learn as much as possible about LID and hydrology.



Ahwahnee Water Principles: Community Principles

- Community design should be compact, mixed use, walkable, and transit-oriented.
- Natural resources should be identified, preserved, and restored as valuable assets.
- Water holding areas should be incorporated into urban landscape.
- Landscaping should be designed to reduce water demand, retain runoff, and recharge groundwater.
- Permeable surfaces should be used for hardscape.



Ahwahnee Water Principles: Community Principles (Continued)

- Use dual plumbing that allows graywater to be used for landscape irrigation in new development.
- Maximize use of recycled water for landscape irrigation, toilet flushing, and commercial/industrial uses.
- Encourage water conservation technologies for new construction and retrofit.
- Maximize locally available, drought-proof water supplies (i.e. groundwater treatment and brackish water desalination).



Ahwahnee Water Principles: Implementation Principles

- Water supply agencies should be consulted early in land-use decision-making process.
- Municipalities and other stakeholders should collaborate for watershed-level planning.
- Multi-benefit, integrated strategies/projects should be identified and implemented before others.
- The process should be participatory.
- Plans, programs, projects, and policies should be monitored and evaluated.



Importance of MS4 Permits

- MS4 permits increasingly driving planning requirements to improve water quality.
- Regional Water Boards exchanging ideas and learning from each other
- Moving toward more consistent region-wide and state-wide requirements
- USEPA pushing for consistency
- MS4 permits driving current emphasis on LID



Planning Requirements from the Current San Diego MS4 Permit (SDRWQCB Order No. R9-2007-001)

- Updated Jurisdictional Urban Runoff Management Plans (JURMPs) and Watershed Runoff Management Plans (WURMPs)
- A new Regional Urban Runoff Management Plan (RURMP)
- Standard Urban Stormwater Mitigation Plan requirements consistent with SWRCB Order WQ 2000-11
- Compliance with TMDL Implementation Plan



Elements of the Development Component of the JURMP

- General Plan revision, as needed
- Environmental review process revisions
- Approval process criteria and requirements for all development projects to reduce discharge of pollutants from the MS4 to the MEP
- Updated SUSMP approval process criteria and requirements for priority development projects



Elements of the Development Component of the JURMP (Continued)

- Treatment control BMP maintenance tracking
- Verification of proper construction of LID, source control, and treatment control BMPs
- Development and implementation of Hydromodification Management Plans to limit increase of runoff discharge rates and duration
- Enforcement of stormwater ordinances for all development projects and at all development rates



What Should Planners Do Now ?

- Think watershed; act locally.
- Look at neighborhoods and subdivisions.
- Establish multi-disciplinary teams to address LID.
- Listen to the engineers and geologists, but ask questions (and sometimes challenge).
- Develop Standard Conditions of Approval.
- Be realistic and maintain flexibility.



Be Realistic

- Recognize technical realities and safety concerns
- Maintain flexibility.
- Recognize that one size does not fit all.
- Work with other disciplines.
- Learn more hydrology.
- Think about drainage patterns, watersheds, and subwatersheds.



What to Expect

- More and more emphasis on LID
- Lots of LID workshops and seminars
- Regional LID Guidance Manual
- SMC/CASQA-sponsored LID Training
- Third CASQA Planning for Clean Water Pre-Conference Workshop in Oakland on 22 September 2008



Action Items

- Learn more about hydrology and LID.
- Promote pilot projects within jurisdictions and developments.
- Assess what is done.
- Participate in development of new LID standards and criteria.
- Attend CASQA Pre-Conference Workshop.



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