Planning for LID 2.0

Introduction 2.1

LID Planning Principles 2.2

Site Analysis 2.3

Site Mapping Process 2.4
Key LID Planning Principles

- Preserve native vegetation
- Protect critical areas
- Minimize impervious surfaces
- Minimize grading and compaction of site soils
- Preserve existing flow paths
- Infiltrate stormwater runoff
- Disperse stormwater to vegetated areas
- Utilize naturalistic surface conveyance facilities
- Utilize small-scale, distributed LID BMPs
Hydrologic patterns and features

Identify and map:
• Prominent features (i.e., rivers, creeks, lakes, etc.)
• Minor features (i.e., seeps/springs/swales)
• Surface flow patterns (i.e., discharge locations, subbasins, flow durations, erosion and deposition patterns, etc.)
Hydrologic Patterns and Features: *Sub-basin Delineation*

Advantages of detailed delineation:

- Distributed practices can reduce hydraulic and pollutant loads
- Smaller-scale BMPs may better interact with other design elements
- Sizing can accurately account for tributary drainage area and required sizes of individual BMPs
- More accurate understanding of cumulative LID site performance
Hydrologic Patterns and Features: *Identify, protect, and restore:*

- Wetlands
- Streams
- Riparian Areas
- Flood Plains
- Other Water Bodies
Soil & Sub-surface Hydrology

- Identify infiltrating soils
- Identify less pervious soils
- Identify depth of groundwater
- Identify presence of shallow bedrock
- Small scale pilot infiltration test
- Soil grain size analysis method
- Large scale pilot infiltration test (PIT)
Native Vegetation & Soil Protection Areas Basic Inventory:

• Identify vegetation on the site and identify species and condition of ground cover and shrub layer

• Identify underlying soils using soil pits and soil grain analysis to assess infiltration capability
Access

- Identify access requirements
- Single or multiple access points?
- Conceptual roadway and parking layout
- Roadway widths
- Parking standards
- Perimeter and internal landscape requirements

Utility Availability & Conflicts

- Identify above and below ground utilities early in design process
- Map utility easements/ note restrictions
- Identify utilities that may need to be moved
- Identify measures to protect utilities

Land Use Controls

- Determine comprehensive plan designation
- Determine zoning
  - Parking requirements
  - Landscape requirements
  - Is clustering permitted?
- Can storm drainage and landscape be combined?
- Identify overlay districts
- Is design review required?
- What is shoreline designation?
Develop composite site map

- Include on map:
  1. Zoning
  2. Hydrology
  3. Topography
  4. Vegetation
  5. Soils
  6. Access
  7. Utilities

- Resulting composite map provides basis for LID site design
Questions/Comments