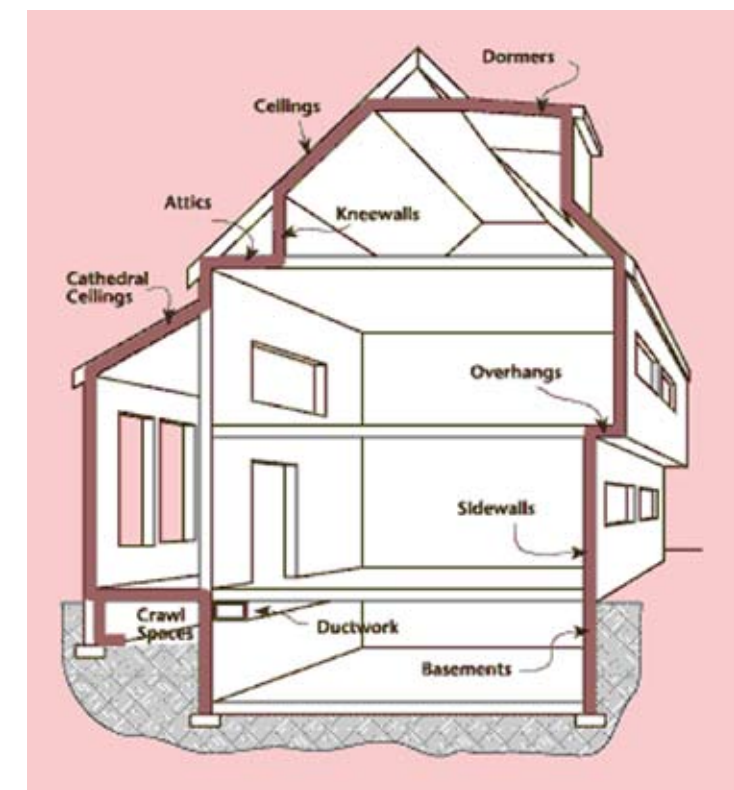


4

Green Building



What are the possibilities in Shoreline?
What do **you** want to see?

What is **green building** ? Why is it **important** ?

Green buildings are designed and built to protect the health of end-users and occupants, conserve water and energy, and reduce impacts on the environment. This holistic approach to development of buildings is called sustainable design. Green buildings do more than reduce negative environmental impacts -- they often save owners and operators money in operations and maintenance costs.

Making the Old New

Building on infill lots and renovating existing buildings makes use of existing utilities, sidewalks, and neighborhood amenities, saving costs of additional infrastructure.

Encouraging Alternative Transportation

By locating buildings on infill lots, building owners help staff and clients get to services without using their cars. Bicycle storage, changing rooms, and showers make it easier for people to bike to work.

Managing Stormwater

Porous asphalt allows rain to soak into the ground instead of running into a storm drain. This helps restore the natural water cycle and filters out pollutants.

Saving Water

Green buildings reduce indoor water use through water-saving restroom fixtures and showers. Outdoors, low-water-use plants and an efficient irrigation system save water used for landscape irrigation.

Saving Energy

Green buildings reduce energy use by installing energy efficient walls, windows, lighting, and heating and cooling equipment.

Throwing Less Away

Most construction waste can be recycled rather than sent to landfills. Dedicated recycling programs are part of regular operations.

Buying Recycled and Local

Many building materials contain recycled content, including steel, concrete, gypsum board, ceiling tiles, and carpet. Some materials are extracted and manufactured locally, reducing embodied energy resulting from transport.

Breathing Freely

Green buildings provide fresh, healthy and natural indoor air by using paints, adhesives, and sealants that don't off-gas.

Using Natural Air and Light

Research shows that workers and students in classrooms and offices are more productive if they can see out of, and open, windows. Operable windows help cool buildings if opened on warm days. Shades keep direct sun from entering windows during warm months, and allow direct sunlight to heat and light rooms in the winter.

Keeping Cities Cool

Cities warm up when dark roofs and pavement absorb sun. Green buildings have white rooftops that reflects heat in summer, helping to keep the building, and environment, cooler.

4

Green Building

What is being done in **Shoreline** ?



Shoreline City Council has set an objective that the civic center/city hall development be one that is smart in design with a focus on customer service, transparency and accessibility to the entire community. The City would like to pursue a proposal that reaches the highest level of LEED (Leadership in Energy and Environmental Design) certification feasible. Many features such as onsite rainwater reclamation, solar and alternative energy source power solutions, energy efficient lighting and climate control tools will be considered in this project.

description:

- integrated building envelope
- single-level courtyard (parking)
- all walls for daylighting
- green space on hillside
- recreational site (heritage park)
- public open space (parkland)
- separated by buildings
- lobby at the corner with glass

notes:

- Building has a grander entrance facing both streets - pulling both streets together - giving heritage into plan
- West "L" design gives some privacy to the courtyard area, provides a sound barrier, and makes the water feature from the 775th, especially from the east side of the traffic light.
- I am very much in favor of options for community meeting areas - hospitality at no charge to non-profit.
- Can large lobby be used for other purposes?
- With further expansion will need to consider more zoning.
- I see how the design provides connection/visibility for pedestrians. Presley Michale access to city hall + Heritage Park + Some things shops, restrooms, etc.
- A main street for Shoreline
- Maybe farmers market + small events in short or long term
- More interesting W with views from 775th + Michale
- Prefer west L.
- Appears more operable through lobby on 2 sides
- West "L" with 2 or 3 story parking garage would be a nice choice
- I like West "L" primarily
- This is the only design with the potential to be "air". Others are just office buildings.
- Mittels to study underground now. Could be quiet, cute, and a gathering place with the design. Others ignore it.
- Accommodate future multi-use facility which is a leader to the Heritage Park.
- Give more exposure to sitting / visual from west as well as south
- Good to have transparency with the lobby - even more
- Open the lobby for more natural light for the public and ECC operation in emergencies
- This layout provides for adapting the council chambers into an Emergency Operations Center
- Presley 2nd story council chambers for storage of emergency supplies (food/water) at all expense
- A way to accommodate sanitary facilities, if the water don't flush in emergencies
- A place for ECC personnel to rest
- The lobby area could accommodate expansion of the operation center
- The design is good to separate ECC from city offices

Upcoming Programs

Civic Center/City Hall
The new Civic Center/City Hall will serve as a model for sustainable practices throughout the community by implementing standards of construction to the extent possible that support re-use of materials, energy conservation, water efficiency, landscaping and indoor environmental quality.

To parallel the construction of the new Civic Center/City Hall, a Green Building brochure will offer examples and resources for residents to incorporate sustainable building practices into their home remodeling projects.

Climate Protection Campaign
In 2007 and 2008, the City of Shoreline will collect baseline data from local practices that contribute to global warming. In fall/winter 2008, a pilot education program will be proposed.

Green Street Demonstration
Green Street Demonstration Projects will focus on developing opportunities that will provide a "living demonstration" to serve as an educational experience, support sound environmental practices and improve water quality in the City of Shoreline.

Environmental Sustainability Strategy
The City of Shoreline is working to develop an overarching Environmental Sustainability Strategy that will most likely include environmental decision-making criteria, green infrastructure mapping and an assessment of current sustainability, among other strategy aspects.

The Homestead
Martha Rose Construction



Bog Garden, Shoreline
Living Systems Design

What do **green building and LID** look like? What can you do?

Water Efficiency



Indoor Environmental Quality



Energy Efficiency



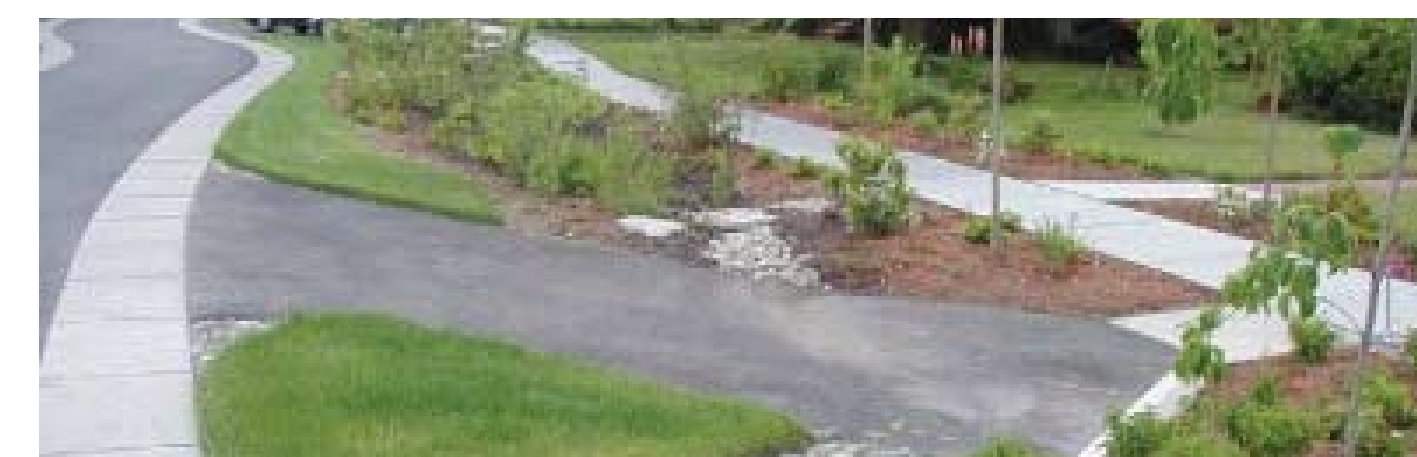
Human Health



Materials & Resources



Stormwater Management



4

What is Low Impact Development?

Low Impact Development (LID) is an environmentally sensitive approach to land development with the goal of generating no measurable impacts to aquatic environments influenced by the development. Two central principles guide the application of LID: 1) maintain and/or restore the natural hydrology on a developed site; and 2) manage stormwater as close to its origin as possible.

The principles are achieved by maximizing the retention of native vegetation cover to intercept, evaporate, and transpire

precipitation. Permeable native soils are preserved or amended to infiltrate and store stormwater. Building footprints, road widths and lengths, and other infrastructure are minimized to reduce impervious surfaces. Pervious surfaces are utilized where possible to promote stormwater infiltration. Small scale decentralized bio-retention, constructed wetlands, bioswales and other appropriate technology are distributed across the development site to infiltrate, store, and transpire precipitation.

LID Best Management Practices



Amended Soils

1 Appropriate soil amendments are critical to restoring the natural functions of a site. Amended soils provide some flow control and water quality.



Open Conveyance



A fundamental principle of LID storm drainage is the elimination of curb, gutter, and underground piped conveyance.

2



Pervious Pavement

3 Most appropriate for parking areas. Pervious alternatives include concrete pavers, porous concrete, porous asphalt, and grasscrete pavers.



Rain Gardens

4 Roof drainage and runoff from roadway and parking areas are directed to rain gardens which feature amended soils, underdrains, appropriate plantings, and drainage overflow features.

Alleyways

5 Incorporate pervious pavement options in alley and driveway areas.



Roof Downspouts

6 Roof drainage is directed to a rain garden via surface flow. Roof drainage is not tight lined.

Streets



7 Narrower roadway sections are effective in reducing overall site imperviousness. Fire access is the critical issue. Some jurisdictions have approved 15 foot wide roadways (minimum of 20 feet is more typical).



8 Auto Courts Cluster residential units to minimize building footprint and the length of driveway access.

Low Impact Foundation Technology

9 Eliminates extensive over excavation of foundations. Maintains storm drainage interflow in top soil horizons.



4

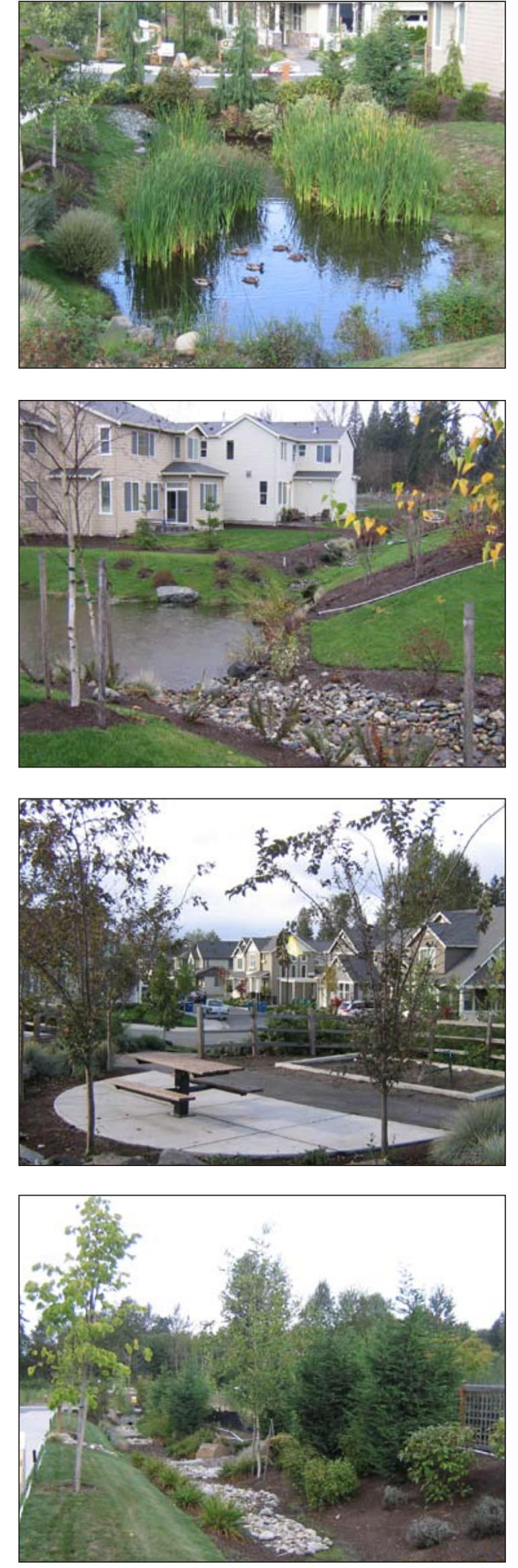
Low Impact Development Site Plan Examples



Shamrock Heights is a King County demonstration project for LID and is certainly the first of its kind, incorporating 4-Star Built Green and Energy Star homes and a Built Green certified community.



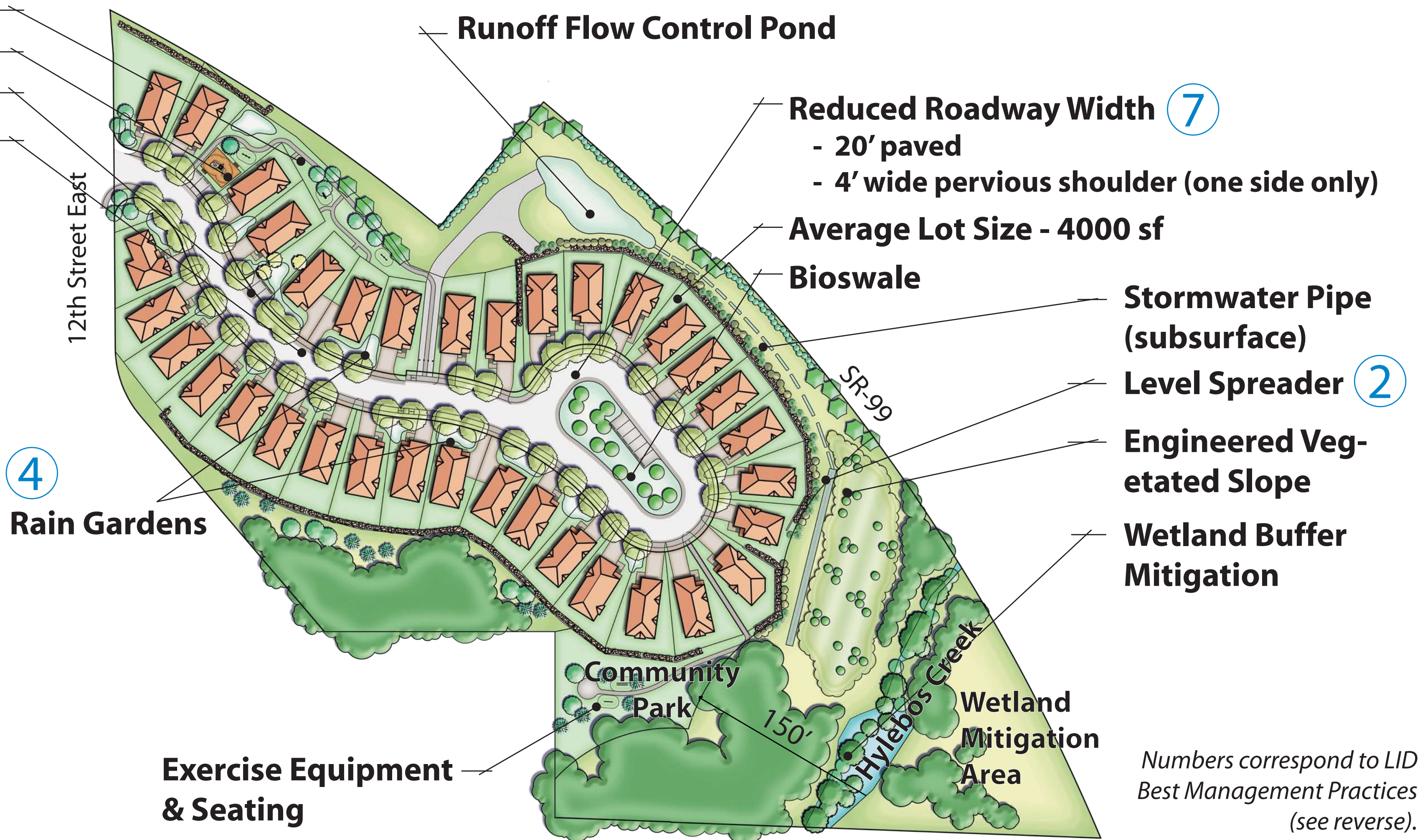
Numbers correspond to LID Best Management Practices (see reverse).



Meadow on the Hylebos

The Meadow on the Hylebos was an opportunity to utilize LID concepts within an actual 35-lot residential subdivision. The 8.9-acre site is located between Milton and Fife in unincorporated Pierce County, at the geographic center of an urban growth area. The site is bisected by Hylebos Creek and an associated wetland and contains soils with poor infiltration rates.

- ③ Pervious Pathway
- ③ Pervious Parking
- ③ Pervious Paving
- ③ Road Edge



Numbers correspond to LID Best Management Practices (see reverse).



October 11, 2007