

## Warren Township

# Low Impact Checklist: Construction

This suggested list has been compiled by the Warren Township Green Team in collaboration with related township departments. This is not a requirement of the Uniform Construction Code. It is intended to be beneficial to all residents considering renovations and new construction. The purposes of this list are to 1) assist those planning construction projects to do so in a manner that causes the least disruption to the environment; 2) establish a healthy setting for those occupying the new or renovated space; and 3) reduce waste and save resources.

Implementing environmentally friendly practices can be economical when considered at pre-construction stages and are often beneficial in the long term.

### General Construction

- Recycle and/or salvage non-hazardous construction and demolition debris
- Use renewable building material and products
- Incorporate renewable energy (i.e. geothermal, solar)
- Use local products (i.e. local and sustainable woods)
- Use local construction products and companies
- Conserve energy and reduce electricity use as much as possible

### Grounds & Landscaping

- Create a sedimentation control plan to prevent sediment from moving offsite
- Use native plantings (Native plants are adapted to thrive in local conditions)
- Use captured rainwater or recycled grey water for irrigation

### Storm Water Management

- Avoid runoff to other properties by installing an underground cistern or rain garden. This will keep water on your own property and out of the sewer system.
- Limit impervious surfaces – use an open grid pavement system (at least 50% pervious)
- Promote infiltration that captures and treats storm water runoff from rainfall
- Use a water retention system (i.e. rain barrel) to collect rainwater for non-potable uses

### Lighting

- Choose LED lights (this is the most environmentally-efficient lighting option)
- Use solar lighting outdoors
- Use skylights or solo tubes for natural daytime lighting
- Use sensor controls in commercial or industrial settings

## Foundation & Basement

- Use environmentally friendly foundation sealants (rather than black tar)
- Prevent sump pump water from flowing into the sewer system

## Roofing

- Use light color roofing materials to limit heat absorption created by darker roofs
- Use roofing material with a solar reflectance index (SRI) equal to or greater than 78 for low roofs and 29 for steep-sloped roofs
- Install tile or metal roofs
- Consider installing a vegetated roof

## Heating & Cooling

- Use 2 x 6 studs instead of 2 x 4 to increase amount of insulation
- Install programmable thermostats that adjust temperatures throughout the day
- Use occupant sensing and/or remote control thermostat technologies
- Install heat pumps to transfer energy heat and cold
- Use high-efficiency boilers/furnaces
- Use attic fans to regulate heating and cooling

## Windows

- Choose ultraviolet window protection to protect against sun damage
- Install triple pane windows or windows with Argon or Kryton gas between panes

## Products

- Choose products with low VOCs (VOCs are found in adhesives, interior paints, cabinets, etc.)
- Avoid products that contain hazardous chemicals such as formaldehyde and cyanide
- Choose ENERGY STAR® appliances
- Install dual flush toilets
- Install low flow shower heads
- Avoid garbage disposals and make provisions for composting

For more information and resources please see:

US Green Building Council. 14 Maple Avenue, Suite 201. Morristown, NJ 07960. 973.290.0013

Rutgers Center for Green Building. <http://greenmanual.rutgers.edu/> Email: [info@usgbcnj.org](mailto:info@usgbcnj.org)

The Native Plant Society of New Jersey. [www.npsnj.org](http://www.npsnj.org)

## Warren Township

# Low Impact Checklist: Planning

This suggested list has been compiled by the Warren Township Green Team in collaboration with related township departments. This list is intended to assist individuals involved in planning and building projects in Warren Township towards submitting low impact plans. The goal of a low impact plan is not only to increase cost savings and add value to your project but to make environmentally responsible choices and eliminate project delays in early stages of the planning process.

### General Construction & Design

- Provide occupants with connection to outdoor space through increased natural light and views
- Orient buildings facing southwest to maximize potential solar installation
- Use orientation and design to maximize passive solar heat/cooling
- Use proper planning to prevent damage to surrounding properties and public spaces
- Minimize disturbance to soils and vegetation
- Recycle and/or salvage non-hazardous construction and demolition debris
- Use renewable building materials and products
- Use local and sustainable woods
- Incorporate renewable energy and reduce energy use

### Grounds & Landscaping

- Create a sedimentation control plan
- Limit altering steep slope areas
- Encourage landscaping that requires limited moving, trimming, and watering
- Create landscapes that limit the need for lawn chemicals and maintenance
- Position evergreens to the north to shield wind/ Position deciduous trees to the south to cool buildings
- Use native plantings (Native plants are adapted to thrive in local conditions)
- Place parking spaces in shaded areas
- Use paving materials with an SRI value >29. This will reflect, not absorb solar heat.

### Storm Water Management

- Limit impervious surfaces – use an open grid pavement system (at least 50% pervious)
- Reduce impervious cover to promote infiltration that captures and treats storm water
- Use a water retention system (i.e. rain barrel) to collect rainwater or recycled gray water for non-potable uses

## Foundation & Basement

- Use alternative practices (rather than black tar) for foundation sealants
- Encourage aeration and ventilation
- Draw sunlight into basement areas through access windows

## Roofing

- Use light color roofing materials to limit heat absorbed by dark colored roofs
- Use roofing material with a solar reflectance index (SRI) equal to or greater than 78 for low roofs and 29 for steep sloped roofs
- Consider Tile or Metal roofs
- Construct roofs that can support solar installations

## Lighting

- Use solar lighting outdoors
- Use skylights or solo tubes for natural daytime lighting
- Use motion sensor lighting where applicable
- Choose energy-efficient light bulbs

## Products

- Avoid products that contain hazardous chemicals such as formaldehyde and cyanide
- Use local products (i.e. local and sustainable woods)
- Use local construction equipment and companies when possible

For more information and resources please see:

The Native Plant Society of New Jersey. [www.npsnj.org](http://www.npsnj.org)

The Association of New Jersey Environmental Commissions. <http://www.anjec.org/pdfs/solarwhitepaper2012.pdf>

US Green Building Council NJ Chapter - website <http://usgbc.org/>

New Jersey Green Building Manual

<http://greenmanual.rutgers.edu/>

Rutgers Center for Green Building <http://greenbuilding.rutgers.edu/>