



## **AUTOMATED IRRIGATION: TECHNOLOGY & CURRENT STATUS**

— The Intelligent Use of Water.™

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# **Do we need LANDSCAPING?**

## **WHY?**

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## LANDSCAPING

### Economic

Tourism  
Branding  
Attracting Investment  
Attracting Residents  
Productivity

### Social/Cultural


Quality of Life  
Spiritual Renewal  
Sense of Place and  
Identity  
Cultural Values  
Historical Linkages

### Ecological

Regeneration  
Conservation

## How much **Water** is required to Irrigate?

<b>1 Acre</b>	<b>24,000 Liters Per Day Max</b>
<b>5 Acres</b>	<b>1,20,000 Liters Per Day Max</b>
<b>10 Acres</b>	<b>2,40,000 Liters Per Day Max</b>


**IGBC Green Campus**

### Management of Irrigation Systems

**WC Credit 3** **Points: 1-2**

**Intent:**

Reduce water demand for irrigation through water efficient management systems and techniques.

**Compliance Options:**

Provide or install highly efficient irrigation systems and techniques incorporating the features mentioned below: *(1 point for every three measure; maximum 2 points)*

- ❖ Central shut-off valve
- ❖ Soil moisture sensors integrated with irrigation system
- ❖ Turf and each type of bedding area must be segregated into independent zones based on watering needs
- ❖ Atleast 50% of landscape planting beds must have a drip irrigation system to reduce evaporation
- ❖ Atleast 75% of turf area must have sprinkler irrigation system to reduce water losses
- ❖ Time based controller for the valves such that evaporation loss is minimised and plant health is ensured
- ❖ Pressure regulating device(s) to maintain optimal pressure to prevent water loss
- ❖ Any other innovative methods for watering

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### Waste Water Treatment and Reuse

**WC Credit 4** **Points: 1-4**

**Intent:**

Treat waste water generated on-site, so as to avoid polluting the receiving streams by safe disposal. Use treated waste water, thereby reducing dependence on potable water.

**Compliance Options:**

- ❖ **Waste Water Treatment: (2 Points)**  
Have an on-site treatment system to handle 100% of waste water generated in the campus, to the quality standards suitable for reuse, as prescribed by Central (or) State Pollution Control Board, as applicable.


**(AND)**

- ❖ **Waste Water Reuse: (2 Points)**  
Use treated waste water for atleast 25% of the total water required for landscaping and centralised Air-conditioning cooling tower make-up water (if the project uses centralised water-cooled chillers)

Points are awarded as below:

Application (in aggregate)	Percentage of Total Water Catered through Treated Waste Water	Points
Landscaping and	≥ 25%	1
Centralised Air-conditioning cooling tower make-up	≥ 50%	2

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**IGBC Green New Buildings**

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**WATER CONSERVATION**

**Management of Irrigation Systems**

**WC Credit 2**

**Points: 1**

**Intent:**


Reduce water demand for irrigation through water efficient management systems and techniques.

**Compliance Options:**

Provide or install highly efficient irrigation systems incorporating the features mentioned below:  
(Minimum four features)

- ❖ Central shut-off valve
- ❖ Soil moisture sensors integrated with irrigation system
- ❖ Turf and each type of bedding area must be segregated into independent zones based on watering needs
- ❖ At least 75% of landscape planting beds must have a drip irrigation system to reduce evaporation
- ❖ Time based controller for the valves such that evaporation loss is minimised and plant health is ensured
- ❖ Pressure regulating device(s) to maintain optimal pressure to prevent water loss
- ❖ Any other innovative methods for watering

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**IGBC Green New Buildings**

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**WATER CONSERVATION**

**Waste Water Treatment and Reuse**

**WC Credit 5**

**Points: 1-5**

**Intent:**

Treat waste water generated on-site, so as to avoid polluting the receiving streams by safe disposal.  
Use treated waste water, thereby reducing dependence on potable water.

**Compliance Options:**

❖ **Waste Water Treatment: (2 Points)**

Have an on-site treatment system to handle 100% of waste water generated in the building, to the quality standards suitable for reuse, as prescribed by Central (or) State Pollution Control Board, as applicable.

(And)

❖ **Waste Water Reuse: (3 Points)**

Use treated waste water for at least 25% of the total water required for landscaping, flushing, and cooling tower make-up water (if the project uses water-cooled chillers).

Points are awarded as below:

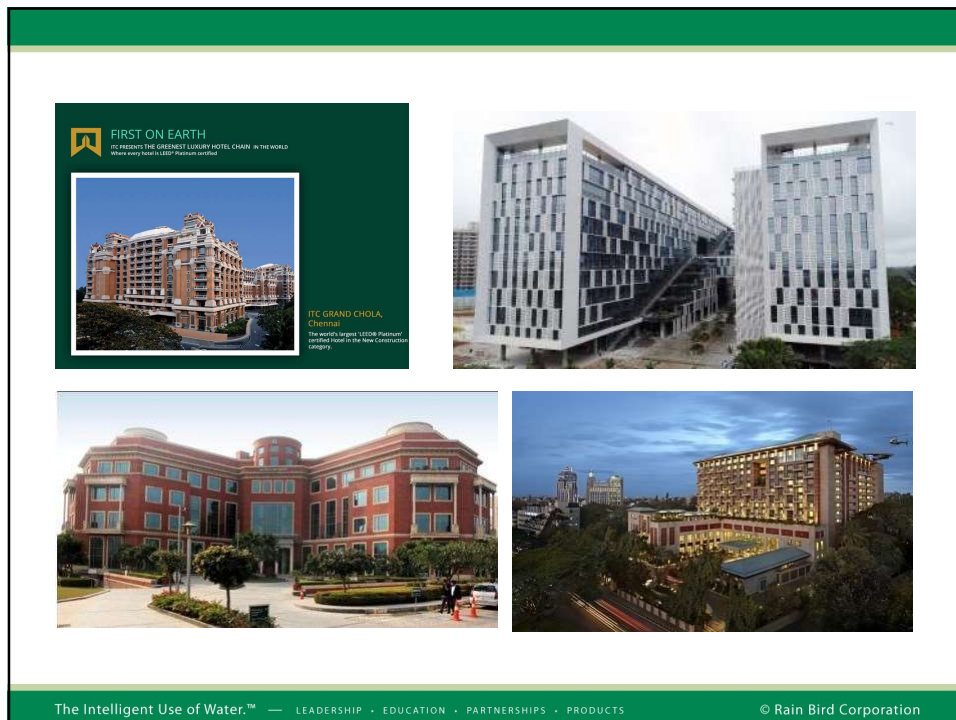
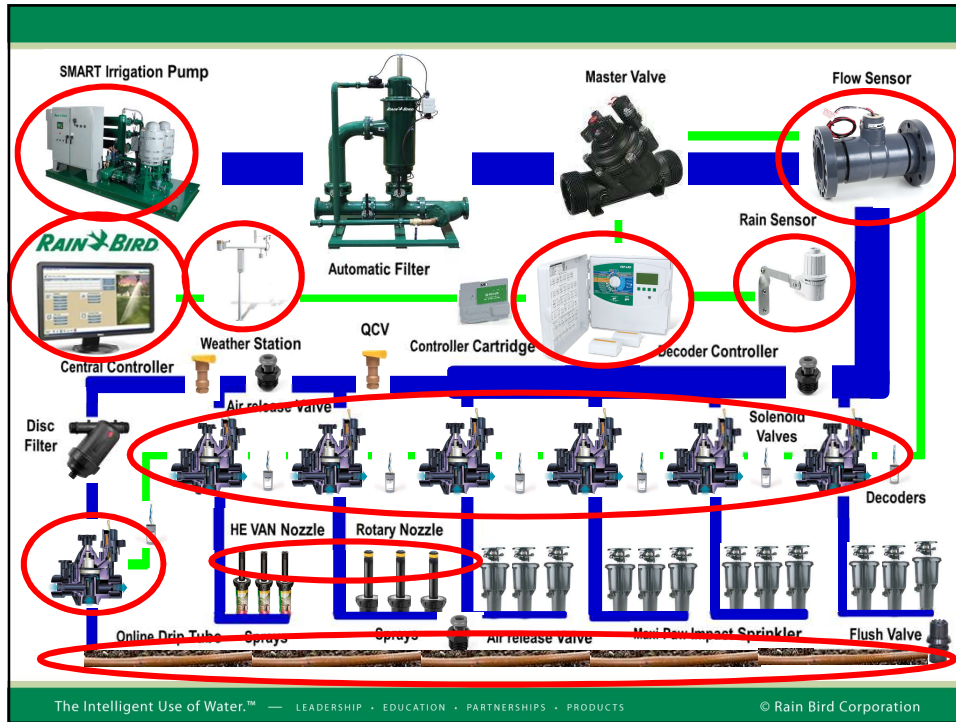
Application (in aggregate)	Percentage of Total Water catered through Treated Waste Water	Points
Landscaping, Flushing and Cooling tower make-up	≥ 25%	1
	≥ 50%	2
	≥ 75%	3

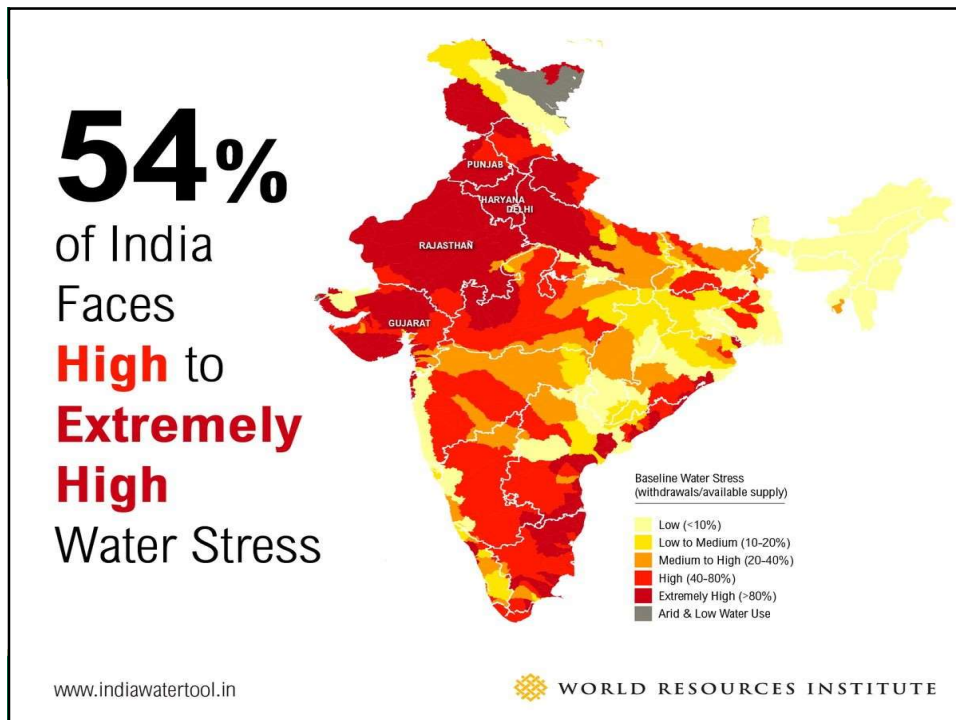
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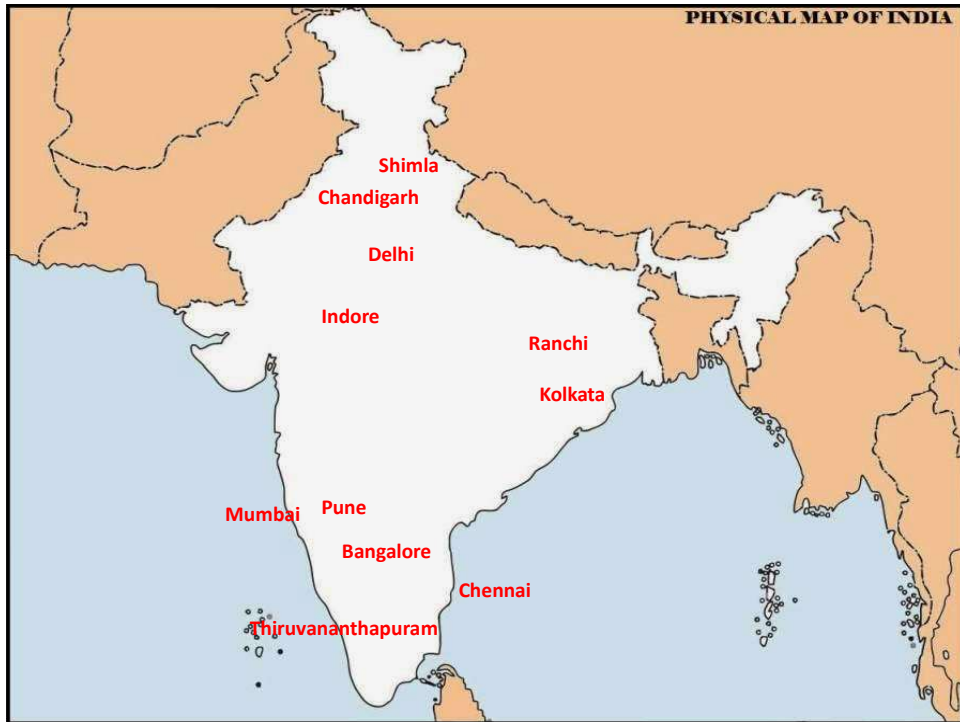
IGBC Green Homes	
<b>WATER EFFICIENCY</b>	
<b>Management of Irrigation Systems</b>	<i>Design Submittal</i>
<b>WE Credit 2</b>	<b>Points: 1</b>
<b>Intent:</b> Reduce water demand for irrigation through water efficient management systems and techniques.	
<b>Compliance Options:</b> Provide or install highly efficient irrigation systems incorporating the features mentioned below:	
<i>For Individual Residential Units: (minimum three features)</i>	
<ul style="list-style-type: none"> <li>❖ Central shut-off valve</li> <li>❖ Turf and each type of bedding area must be segregated into independent zones based on watering needs</li> <li>❖ <u>Atleast 50% of landscape planting beds must have drip irrigation system to reduce evaporation</u></li> <li>❖ <u>Pressure regulating device(s) to maintain optimal pressure to prevent water loss</u></li> <li>❖ Any other innovative methods for watering</li> </ul>	
<i>For Multi-dwelling Residential Units: (minimum four features)</i>	
<ul style="list-style-type: none"> <li>❖ Central shut-off valve</li> <li>❖ Moisture sensor controller</li> <li>❖ Turf and each type of bedding area must be segregated into independent zones based on watering needs</li> <li>❖ Atleast 50% of landscape planting beds must have drip irrigation system to reduce evaporation</li> <li>❖ Time based controller for the valves such that evaporation loss is minimum and plant health is ensured</li> <li>❖ Pressure regulating device(s) to maintain optimal pressure to prevent water loss</li> <li>❖ Any other innovative methods for watering</li> </ul>	
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<b>WATER EFFICIENCY</b>							
<b>Waste Water Treatment and Reuse</b>	<i>Design Submittal</i>						
<b>WE Credit 5</b>	<b>Points: 4</b>						
<i>Not applicable for Individual Residential Units</i>							
<b>Intent:</b> Reduce consumption of potable water and waste water generation to minimise the burden on municipal streams.							
<b>Compliance Options:</b>							
<ul style="list-style-type: none"> <li>❖ <b>Waste Water Treatment: (2 points)</b> Provide an on-site treatment system to treat 100% of waste water generated in the building/ campus, to the quality standards suitable for reuse as prescribed by Central (or) State Pollution Control Board, as applicable.</li> <li>❖ <b>Waste Water Reuse: (2 points)</b> Reuse treated waste water or captured rain water for atleast 50% of landscaping &amp; flushing water requirements.</li> </ul>							
Points are awarded as below:							
<table border="1"> <thead> <tr> <th>Percentage of Landscaping &amp; Flushing Water Requirement catered through Treated Water</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>≥ 50%</td> <td>1</td> </tr> <tr> <td>≥ 95%</td> <td>2</td> </tr> </tbody> </table>	Percentage of Landscaping & Flushing Water Requirement catered through Treated Water	Points	≥ 50%	1	≥ 95%	2	
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≥ 95%	2						
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How many commercial projects are with Automated Irrigation when tendered?	< 20%
How many existing commercial establishments are having Automated Irrigation?	< 10%
How many of the Top 30 Consultants include Automated Irrigation in all their tenders?	< 20%
How many of the commercial establishments have irrigation system metered?	< 5%

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**IGBC Green Campus**

**Management of Irrigation Systems**

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## MOVING FORWARD

1. All commercial irrigation tenders need to be with Automated Irrigation. Conserving water should not be an option. **Is Fire Safety an option? Then why Water Conservation?**
2. All Irrigation systems need to be metered.
3. IGBC rating system need to include metering irrigation.
4. IGBC rating system need to explicitly focus on quantifying water saving.

**Option 2:** Reduce irrigation by at least 30% from the calculated baseline for the site's peak watering month.

- Site plan showing location and size of landscape zones
- Water budget tool report

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