Water Smart Practices -A Checklist for Hospitality Industry

Facility Name_____ Prepared By: _____

Date: _____Phone:_____ E-mail:_____

(Please review and mark boxes accordingly)

Area	Questions	Yes	No	NA
A. Bulk Meter (Main)	1. Take main meter readings regularly to monitor any abnormal increase of water consumption.			
	2. Install monitoring system (eg. Building Management System) to identify the performance of the hydraulic systems such as chillers, water tanks, etc.			
	3. Reference water accounts meters, size and conduct a fixture inventory.			
	4. Request annually a Water Use History from your water utility provider.			
B. Guest and Public Area Restrooms	1. Install sub-meter at the water riser to the Guest Rooms to monitor water consumption.			
	2. Place and replace water smart card in guest rooms.			
	3. Adopt water flow rate of ≤ 1 gallon minute at basin taps.			
	4. Adopt water flow rate of ≤ 2 gallons/min at shower taps.			
	5. Install toilet water-saving tank technology in high flush toilets to reduce the flush volume.			
	6. Install dual flush tank technology which use 1.28 gallons or less for full flush and 0.8 gallons or less for low flush.			
	7. Install water efficient labeled fixtures with "excellent" rating.			
	8. Encourage guests to reuse the towels or linen for up to three days for extended stays. – Promote using smart card.			
	9. Check for overflow or flapper failure in toilet tanks.			
	10. Display contact numbers for guest to call should they come across any water leakage or faulty fittings for prompt rectification.			
	11. Install constant flow regulators at all wash basin taps & mixers, shower taps & mixers, bib taps, sink taps and mixers.			

Area	Questions	Yes	No	NA
C. Public Area Restrooms	1. Install sub-meter at the riser to the public toilets to monitor water consumption.			
	2. Reduce flush volume of urinals to 0.5, 1,gallon for public urinals or evaluate the use of waterless urinals.			
	3. Display contact numbers for public to call should they came across any water leakage or faulty fittings for prompt rectification or assign cleaners to individual toilets to take responsibility.			
D. Cooling Towers	1. Install sub-meter at the make-up water of the cooling towers.			
	2. Make-up water, blowdown and conductivity should be monitored, logged and charted.			
	3. Install anti-splash mats to control splashing.			
	4. Install side stream water filters to make condenser water clean.			
	5. Clean the conductivity sensor on a monthly basis and recalibrated at least once every 6 months.			
	6. Operate the cooling towers at 6 or more cycles of concentration.			
	7. Minimize cooling load to reduce energy consumption and save water.			
	8. Operate the blowdown in continuous mode by keeping conductivity close to the upper control limit.			
	9. Carry out routine maintenance work in a timely manner.			
	10. Examine monthly routine maintenance reports provided by the respective maintenance contractors, paying particular attention to minimize water usage and eliminating any water wastage.			
	11. Ensure reports are passed on to the mechanical services maintenance contractor for prompt attention in regards to any reported water losses eg. pump leakages.			
	12. Ensure follow-up actions are taken and documented in the maintenance reports.			
	Questions	Yes	No	NA

	13. Carry out or arrange a periodic visual inspection of the water cooling system to see if there are any obvious signs of water wastage occurring, eg. water flowing or leaking out of the tower drainline, splash out from the tower onto surrounds, tower basin overflowing onto surrounds, etc.			
	14. Work closely with your water treatment contractor to reduce bleed off.			
	15. Require the water treatment contractors to commit to a predetermined minimum level of water usage and make this a KPI.			
	16. Ensure the condenser water system is pre-treated as per the water treatment contractor's recommendations when commissioning new cooling towers.			
	17. Use alternative sources of water such as reclaimed water, unit condensate water or rainwater for cooling towers' water make-up for landscaping or cleaning.			
Area	**Questions**	**Yes**	**No**	**NA**
E. Water Tanks	1. Install sub-meter to monitor washing activities.			
	2. Plan the cleaning of water tank such that water in the tank is used for facility cleaning instead of draining it away.			
	3. During the cleaning of water tank, wash 1 tank at one time with the water from another tank.			
F. Outdoors / Irrigation / Landscaping	4. Install a sub-meter to monitor the usage for irrigation system.			
	5. Water the plants with a drip cycle once per week for long period of time.			
	6. Water the turf grass every third day.			
	7. Use drought resistant plants and group plants with similar water requirements.			
	8. Use alternative sources of water such as reclaiming water, condensate water or rainwater for watering of plants.			
	9. Install moisture sensor technology to support outdoor water management.			
	10. Review irrigation system every quarter to identify and repair leaks.			
	11. Use pressure compensated/ regulated drip emitters to control the water distribution and reduce waste.			
	12. Use flow control devices; install valves with flow control that allow you to better manage the flow of your system and prevent run-off.			

	13. Set the irrigation system to water the plants only before 8 am in the morning or after 8pm in the evening to minimize evaporation and water loss.			
	14. Zone the irrigation system so that plants of different types are irrigated separately.			
	15. Use system with sensors and controllers in relation to zones.			
	16. Sweep walkways using a push broom instead of an open-end hose.			
	17. When using a hose affix a spring-loaded shutoff nozzle to the hose.			
	18. Advise the cleaners / maintenance crews to conserve water at all times during outdoor cleaning activities.			
	19. Replace lawn area spray heads with rotary style low consumption heads.			
Area	**Questions**	**Yes**	**No**	**NA**
G. Swimming Pool and Spa's	1. Install sub-meter at the balancing tank to monitor PUB incoming water.			
	2. Install sub-meter to monitor the water usage for backwashing.			
	3. Set the operating water level in the balancing tank at appropriate level to minimize overflow.			
	4. Use pool cover to reduce evaporation loss.			
	5. Install pilot valve system at balancing tank to better control the water levels and help minimize water loss.			
	6. Lay exposed pipes where possible.			
	7. Look out for tell-tale signs of leaks on a regular basis.			
	8. Site the swimming pool at suitable location to avoid or minimize direct sunlight and to reduce wind speed.			
	9. Conduct regular checks for leaks and repair promptly.			
	10. Carry out leak detection pool or spa bucket test regularly.			
	11. Set backwash duration ≤ 5 minutes.			
	12. Use rainwater for backwash.			
	13. Reuse backwash water for irrigation and area cleaning, etc.			

	14. Carry out manual cleaning / skimmer to reduce filter load.			
	15. Use more effective filter medium such as zeo lite.			
	16. Keep the pool chemically balanced to prevent water quality problems and therefore reduce the frequency of backwash and cleaning.			
	17. Use spray-loaded nozzle for cleaning.			
Area	**Questions**	**Yes**	**No**	**NA**
H. Kitchen / Cooking Area	**1.** Install sub-meter to monitor water consumption.			
	2. Install constant flow regulators installed at all sink taps & mixers and bib taps.			
	3. Adopt water efficient flow rate of ≤ 2.5 gallons /minute at sink taps.			
	4. Install water efficient labeled fixtures with "excellent" rating.			
	5. Wash vegetables and dishes in a filled sink instead of under running taps.			
	6. Do not thaw frozen food or melt ice under running water.			
	7. Use a low flow designed pre – rinse spray nozzle for pre-washing dishes.			
I. Laundry	**1.** Install sub-meter to monitor water consumption.			
	2. Recycle the final rinse water for the next pre-wash in the next load.			
	3. Operate washing machines only when fully loaded.			
	4. Presort towels, linen, etc. before loading the machine.			
	5. Adhere to the manufacturer's recommended temperature settings and regularly check that the water level is correct during operation.			
	6. Discuss ways with the laundry chemical supplier on how to reduce water usage.			
	7. Carry out regular maintenance to ensure water valves and dump drains are free from leaks.			
	8. Turn off and isolate the steam supply to equipment when not in use.			

	9. Consider a high efficiency energy star and water sense labeled front loading machine.			
Area	**Questions**	**Yes**	**No**	**NA**
J. Others	**1.** Set up water recycling system to reuse water for non-potable purposes.			
	2. Inspect the water reticulation system and water fittings regularly for leaks. Repair any leaks found.			
	3. Ensure taps are turned off tightly to stop drips.			
	4. Remove ball valves' handles to prevent any tampering of flow rates.			
	5. Remove loose head handles of bib taps to avoid misuse.			
K. Behavioral	**1.** Appoint a green team liaison to report to supervisor on matters pertaining to water and energy waste.			
	2. Management and corporate agree to spearhead water and energy efforts.			
	3. Form a committee / team to coordinate and oversee water conservation initiatives. Review them regularly.			
	4. Educate workers / employees on the need to conserve water through pre-work briefing, talks, discussion, publicity materials, etc.			
	5. Engage employees to come up with new waste reduction and conservation ideas and reward them accordingly.			

Site Notes: