

PROPOSAL PAPER

Independent Technical Panel on Demand Management Measures
Final Report on California Landscape Water Use
1-20-16 Draft

Section: 6

Section Title: New Landscapes

Recommendation: #2 State Facility Leadership

Authoring Team: Penny Falcon, Lisa Maddaus, William Granger

Background:

There a number of opportunities for the state to take leadership in improving water efficiency in state facilities. In recognition of these opportunities, state requirements including a 2012 Governor's Executive Order are now in place for state buildings to become more water efficient, with some pertaining to improvements in sustainable landscaping and on-site water management. However, the implementation of these policies and requirements are lacking due to insufficient funding availability by numerous State Departments and Board that comprise the Sustainable Building Task Force.

A summary of governing policy and procedures that include or support the sustainable landscape requirements that are currently in place include the following:

- Executive Order B-18-12: Calls for state agencies to reduce water use, monitor and report that use consistent with goals of the 20x2020 Water Conservation Plan.
- Senate Bill 1812: Presiding water use guideline document for state agencies to meet the 20x2020 water use requirements.
- Green Building Action Plan: A detailed implementation guide to achieve goals of B-18-12.
- Water Use Reduction Guidelines: Guidelines written by Department of Water Resources (DWR) Water Use Efficiency (WUE) staff to provide additional guidance to state agencies.
- Management Memo (MM) 14-02: 2014 MM14-02 from the State Administrative Manual describing exactly what agencies must do to reduce water use and track progress, where DWR WUE Office had lead authorship in writing the memorandum.
- Management Memo (MM) 15-06: 2015 MM15-05 from the State Administrative Manual describing building and grounds maintenance, which instructs state agency landscape managers to manage to a water budget. DWR had minimum input into this document.

Based on information provided by the DWR along with a review of the documents listed above, the ITP recommends strengthening the requirements, budget priorities, and implementation for designing, installing and maintaining sustainable landscaping at state facilities. There are mutual benefits to improving water use efficiency above the state code requirements at all new and majorly renovated state facilities, especially those with high visibility due to customer service functions or other drivers for

Deleted: The

Deleted: se r

Deleted: are

Comment [L1]: ASK JULIE: Email mentions MM 15-05 but title is same as 15-06 and no copy attached.

visitation. It is an important catalyst in changing social norms for leadership to be shown by the state, even if benefits cannot be quantified (i.e., where some renovated facilities are not metered).

Currently, new and majorly renovated state buildings are subject to compliance with the *Green Building Action Plan – For Implementation of Executive Order B-18-12*. For water conservation, the standard is found within Section 7 of the Plan;

Section 7. New and major renovated State buildings and build-to-suit leases larger than 10,000 square feet shall obtain LEED “Silver” certification or higher, using the applicable version of LEED.

7.1. Certification to an equivalent or higher standard is acceptable when approved by the Sustainable Building Task Force.

7.2. Buildings smaller than 10,000 square feet authorized to begin design after January 1, 2013, shall meet applicable California Green Building Standard’s Tier 1 measures.

Section 12. *State agencies shall reduce water use at the facilities they own by 10% by 2015 and by 20% by 2020, as measured against a 2010 baseline.*

12.2. All new and renovated State buildings and landscapes shall utilize alternative sources of water wherever cost-effective. Sources may include, but are not limited to: recycled water, graywater, rainwater capture, stormwater retention, and other water conservation measures.

12.3. Landscape plants shall be selected based on their suitability to local climate and site conditions, and reduced water needs and maintenance requirements.

The water efficiency standards for LEED are relatively minimal and focused more on indoor water use, where landscape benefits are generally through implementation of either (a) Option 1 for to contain no supplemental irrigation on site or (b) Option 2 to save 30% from a baseline peak month demand using the EPA WaterSense Water Budget Tool. It should be noted that the LEED requirements for indoor are less stringent than the current CalGreen Building Codes for California and 30% savings on outdoor peak month irrigation only is less stringent than the current MWELo that saves 20% on an maximum applied water allowance with irrigation efficiency requirements.

Currently, the State has an extensive online training and certification program for stormwater. The ITP recommends that DGS in consultation with DWR and the State Water Resources Control Boards set up a training and certification similar to State Water Board’s Storm Water Monitoring and Report Tracking System (SMARTS) online database. The SMARTS program should include all landscape designers and practitioners to participate in a program similar to the requirements for Qualified SWPPP Developers (QSDs) and Qualified SWPPP Practitioners (QSPs)¹ by the State Board.

Comment [L2]: Penny – I think this should move to 5.3 – existing buildings?

Comment [WG3]: I think the reference to existing buildings should indeed move to 5.3

Deleted: in

Deleted: is to

Comment [WG4]: Perhaps we should define “build to suit?” I’m not sure what this means

Comment [L5]: Note that I left out 12.1 as its long... has directive to DWR

Deleted: operate

Deleted: mainly

Deleted: to have

Comment [L6]: Metrics committee to check this.

Deleted: It is recommended by t

Comment [WG7]: Might need to move this to the recommendation section

Deleted: ’

¹ http://www.waterboards.ca.gov/water_issues/programs/stormwater/training.shtml

Given CalTRANS has the most irrigated landscape area of the state agencies, it seems prudent to expand on the online training required for storm water best management practices by identified CalTRANS maintenance employees as part of compliance with the CalTrans' NPDES permit². It is assumed that given CalTRANS has the most irrigated area in the state and numerous other facilities have stormwater requirements, that there would be significant overlap and therefore mutual benefit with DWR, SWRCB and CalTRANS collaborating on the implementation of this directive.

Comment [L8]: Penny – I think this is moving to Recc 5.3 (see last item below – if not done there then fits here).

Recommended Action:

This proposal focuses on new and renovated state facilities only.³ The ITP is recommending to strengthen the requirements for sustainable landscape design and maintenance policies and commitments on the same level commitment as Energy Section 2.0 of the Green Building Action Plan (see Appendix XX) for Net Zero Energy Approach, where on the same 10-year implementation schedule that buildings be designed with landscaping requiring no supplemental potable irrigation beyond the maximum two year establishment period (LEEDv4 Water Efficiency, Outdoor Water Use Reduction, Option 1).

Comment [WG9]: I think this needs to be reworded along the lines of what Ed suggested. "The ITP Recommends that the State of CA/DGS, (etc.) be directed to follow.

Comment [L10]: Or provide a web link

Proposal:

The State will "lead by example" through innovative design of new and majorly renovated buildings, which will further help to educate the public, and provide ideas about how to beautifully apply California-friendly landscaping.

Deleted: 's

Deleted: as outlined below

1. The DGS, Resources Agency (DWR), CalEPA (SWRCB) and CalTRANS, shall seek funding from the Governor a Supplemental Budget Request by July 1, 2016, or an alternative source of funding (e.g., Cap Trade Program⁴) for the full and complete multi-year effort to implement the Executive Order B-18-02 Green Building Action Plan. This should follow the completion of the "Roadmap to meet EO B-18-02) currently being worked on by the all the State Departments.
2. By January 1, 2017, the State Architect shall in consultation with DWR Water Use Efficiency Office, be required to prepare landscape design templates that are accessible to new building developers for all new state facilities. This follows the same approach used by City of Los Angeles and elsewhere for their municipally owned facilities.
3. By January 1, 2017, the State Architect shall in consultation with DWR Water Use Efficiency Office, establish an landscape and irrigation system Water Efficiency Building Commissioning Protocol, such that proper installation occurs and transfer to the landscape maintenance staff is successfully completed.

² http://www.dot.ca.gov/hq/construc/stormwater/swppp_training.html

³ Note Recommendation 5.3 focuses on retrofitting existing state customer service buildings for educational purposes, which includes a mandated watershed approach, and demonstration type gardens that would include detailed signage explaining the landscaping and identifying various features in the garden (versus other facilities with small signs).

⁴ <http://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>

4. By January 1, 2018, the State's Green Building Action Plan Sections 7 and 12, shall be updated by DGS in consultation with DWR and other appropriate state agencies, associated with the landscape related requirements in Sections 12.2 and 12.3, which shall include:
 - a. Aligning with the state's Net Zero Energy policy in the Green Building Action Plan outlined in Section 2.0 for all new state buildings and major renovations, projects beginning landscape designs after January 1, 2025 shall be constructed as maximum practicable to implement the watershed approach, through eliminating all supplemental potable irrigation on site, maximizing of non-potable water sources, rainwater infiltration, and on-site reuse.
 - b. As an interim target, 50% of new facilities beginning design after 2020 should be targeted to achieve this goal in line with LEEDv4 Water Efficiency Outdoor Water Use Reduction, Option 1.
 - c. Where practical and feasible, these facilities should include demonstration gardens with accompanying, appropriate educational signage.
5. If not completed under Recommendation 5.3, by January 1, 2019, DGS in consultation with DWR, State Water Resources Control Board and CalTRANS shall establish an online training curriculum with requirements to review and certify landscape design and maintenance professionals working on existing and new state facilities, with a focus on new landscape managers starting to maintain new irrigated area with water budgets in line with MM 15-06 and meeting MWELO requirements.

Comment [WG11]: Struggling for words here... designs are not constructed, they are created, right?