One Water Los Angeles
Decentralized / Onsite Treatment Special Topic Group – Meeting #2
Thursday, May 9th, 2016 1:30PM-3:30PM
2714 Media Center Drive, Los Angeles, 90065 (Training Room)

"This summary reflects the opinions of stakeholders and may not necessarily be those of the City of Los Angeles."

Meeting Summary

*The purpose of this summary is to provide an overview of the discussion topics, including ideas, solutions and issues. It is not intended as a transcript or as minutes***.**

Meeting Attendees

Participants

Craig Kessler	Southern California Golf Association
Cris Sarabia	Greywater Action
Katie Mika	UCLA
Dr. Tom Williams	Citizen Coalition for Safe Communities
Bonny Bentzin	UCLA
Hyginus Mmeje	LASAN/WESD

Meeting Team

Facilitator	Hampik Dekermenjian	CDM Smith
Technical Lead	Robin Nezhad	CDM Smith
One Water LA Team	Lenise Marrero	LASAN
One Water LA Team	Denise Chow	LASAN
One Water LA Team	Flor Burrola	LASAN
One Water LA Team	Mario Acevedo	LADWP
One Water LA Team	Bob Sun	LADWP
Note Taker	Inge Wiersema	Carollo

Introductions and Agenda Overview

Introduction of LASAN and LADWP staff, consultant staff, and lead team took place. Participants also introduced themselves to the group.

Definition and Overview on Graywater

- A power point was presented which listed the definition of Graywater (GW):
  - Wastewater from domestic applications such as bathroom sinks, showers, bathtubs, clothes washers, and laundry sinks (excludes toilet and kitchen sink).
  - GW can be collected from residential/commercial buildings and treated for non-potable uses such as landscape irrigation and toilet flushing.
- The CA Plumbing Code allows "laundry to landscape (L2L)" systems without a permit and more complex systems with a permit.

- GW systems can be implemented at single family residential (SFR) and multi-family residential (MFR) sites. GW systems for MFR sites require more components.
- Water Quality considerations include:
    - Pathogens and organic matter in GW require treatment for uses with risk of human contact (e.g., spray irrigation, toilet flushing)
    - There is no national guideline
- GW regulatory challenges included:
    - Simple single household laundry-to-landscape system (for subsurface irrigation) does not require permit because it is covered under the California Plumbing Code.
    - O&M of graywater systems is not tracked or monitored nationwide.
    - Graywater for expanded uses beyond subsurface irrigation is prohibited in the City.
    - LADWP is monitoring and collaborating with other agencies regarding expanded graywater use in the City, but there are issues with tracking these systems.
- Comments:
    - GW is prohibited for anything except irrigation
    - There are a lot of houses with systems that are unknown by building and safety
    - Enforcement is needed because only Notices of Violation are tracked
- A summary of what LA has done to-date regarding GW was presented
    - GW quality varies depending on household size, etc.
    - GW volume is proportional to reduction in sewer flows, impacts to infrastructure due to concentration
    - GW impacts on groundwater contamination requires more research
    - GW impacts on water use are controversial
    - GW impacts on public heath depend on water quality
- Graywater Research
    - More research is needed
    - Signage would be helpful for areas irrigated with GW
    - Graywater guidelines would be needed/helpful

Open Discussion on Graywater

- The open discussion is summarized by topic below.
- **Health Risks, Water Quality, and Monitoring**
    - Health Concerns:
        - Runoff from irrigation
        - Diapers (bacteria)
        - Odor Issues and Complaints
        - Ponding/mosquitos with stagnant water
- Septic systems were historically introduced as a health benefit, but are now associated with water quality issues
    - Water Quality
        - A concern was raised regarding monitoring laundry products that are used by customers with GW systems.
        - Other water quality concerns included diapers, stagnation, and leaching.

- Monitoring & Inspection
  - Monitoring would be important because some homeowners may not be familiar with all the complexities.
  - GW with laundry water is a concern for the City because these systems don't require a permit and are difficult to track.
  - Laundry-to-Landscape systems do not have/require inspectors.
  - Is an inspector for a GW system necessary? Should this be voluntary?
  - There is minimal error with GW systems, but education is very important. There are only 12 guidelines in the plumbing code that need to be followed to control contact, maintenance, etc. Voluntary inspection/reporting would be useful, but may not be necessary.
  - There is a need for proper signage and inspection. However, the City's role for (self) reporting and inspection still needs to be defined.
  - It was concluded that self-reporting system on shrinking number of septic systems is sufficient.
  - There should be consistency between the LID and GW system inspection requirements.
  - Inspection of septic systems was discussed. It was noted that there may be concerns about government intrusion as well as increased cost to homeowners.

Consideration of Costs and Benefits

- Sewer Charge Adjustments
  - Sewage rate is being based on water usages, so customers may be concerned when diverting water to their GW system

Policy and Regulatory Issues

- Education & Signage
  - The public can be educated on the use of graywater quickly
  - Example: The City of Pasadena is doing a pilot education program with approximately 30 people per month using three hour classes. This program is limited to capturing laundry water only, which is the easiest to do (no permit needed)
  - Information materials needed to be translated to accommodate diverse group of interests
  - Homeowners need to be educated on impact of soaps to avoid salt build up
  - Proper GW signage would be beneficial, similar to purple pipes
  - Education needs to be continued upon a home ownership transaction
  - More information is needed and GW systems need to go with a system manual. How can the City ensure that this information is provided and transferred?
  - Education on GW systems takes time as it requires a behavioral shift. For example, the City has changed its solid waste recycling practice during the past 15 years, making recycling second nature for most customers. Concern was raised on that many people still make mistakes on waste recycling. It was noted that a certain error rate should be acceptable.

Operations and Tracking

- Graywater Application
  - Many GW systems are taking place throughout the county with very diverse demographics
- Impact on Water Recycling
  - Graywater causes a concern due to the flow reduction for recycled water
  - Flow issue needs to be calculated and addressed
  - What is the flow impact of GW? Is it limited to laundry only? What is the flow impact if all households would do GW for laundry?
  - Research is needed to see if GW results in an increase/decrease of water, and to understand impact on water conservation behaviors
- Impact on Water Conservation
  - Impact of GW systems on water conservation is unknown.
  - Would customers use GW systems if it doesn't reduce bills? Customers with strong environmental awareness would be interested regardless of the financial benefit.
  - Would GW system be worthwhile if it does not result in conservation?
  - GW systems would not result in a lot of conservation during a drought due to the stress on resources in a severe drought.
  - Many people do not care about their water bill, until it triggers rate increases and penalties, including cutting of the water use.
- Impacts on the Sewer System
  - Is a backup connection to the sewer needed? In order to avoid accumulation of settlement?
  - Water fountain could be added on top of the sewer to maintain flow in the sewers
- LID Systems
  - Graywater can be used to supplement/fill LID system using the blue, black, and green barrels.
  - The level of inspection for LID systems varies greatly and it will be important to be consistent and apply the same regulations to LID and GW systems.
- Stormwater/Graywater Combined System
  - How will GW and SW systems be combined in a building? It was concluded that it requires a certain threshold.

Ideas for Guidelines

- Inspection: Suggestions to minimize cost to the City
  - Implement a threshold
  - Consider the property locations
  - Consider the type of GW use on the property, such as lawn, on-site use, or centralized systems.
  - Implement an inspection program
- Cost-Recovery: GW costs that need to be recovered include cost for installation, inspection, and monitoring. Cost recovery could be achieved through some type of a permit. Items to be considered include:
  - A counter Permit is preferred over a building permit

    - Participation in permit process is a mixed bag, some people will go under the radar.
    - To avoid cost of on-site inspectors, most items could be handled with forms and pictures
- Developing a GW system inventory is important. Challenges include:
    - There is no existing registration system for "simple systems".
    - The first step could be to initiate a self-reporting system.
    - Require a notification/recording of presence of a GW system at the time of home ownership transfer (with/without a physical inspection)
    - The City needs to improve the data gathering process and be more sophisticated handling and managing the data.
- Incentives:
    - The overall focus should be on local source, and GW should have incentives to reduce imported water needs.
    - Make implementation as easy as possible. The easiest GW systems are systems that reuse water from clothes washing machines because they have pumps
    - Money (rebates) is an important incentive. The following comments were made:
        - LADWP first needs to show through a (benchmark) study that GW systems would result in water savings, before any incentive/rebate would be approached.
        - Laura Allen just completed a study that demonstrates the water savings of a GW system.
        - It was thought that LADWP implemented the turf replacement rebate without any data/study. LADWP to verify.
        - Money is not always the motivation, as some demographics want to be self-sufficient.
- Education and Information Sharing:
    - A decent computer model is needed for the entire water system needed to show impact of solutions like GW on other element of the water balance/system
    - Explain impact of cost in terms of water bill increase (e.g. 5% increase vs absolute cost in millions (hard to relate to)
    - Explain benefit of reducing water import from Northern California
    - Explain the impact on the reduction of water and energy cost
    - Share information of existing system like the Ecovillage, which contains 16 homes on graywater that demonstrate that there are easy to operate

Final points

- Summary of Considerations that would need to be incorporated in potential regulations are:
    - Water Quality
    - Threshold Water Conservation
    - Potential Incentives
    - Health Impacts
    - Systems reporting to make these known
    - Regulatory Cost

Next meeting:

- The last (3rd) Special Topic Group meeting on this topic will be scheduled in approximately three weeks (at the same location and time).
- The next meeting will clearly summarize the brainstorm discussion, which will be brought for the entire Stakeholder Group.
- It was requested that the meeting agenda and content (presentation) be provided 3 days in advance.