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**Landscape Incentive Program (CII)
Project Los Angeles, California
Final Project Report"**



**Agreement # RIIAP35316
Los Angeles Department of Water and Power Recipient
1230 W. 3rd Street, #111
Los Angeles, CA 90017**

Reclamation Manual

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1. Recipient Information:	
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R t q l g e v " P c o g < "	Landscape Incentive program (CII)
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F c v g " q h " C y c t f < " * O q p j . " [g c t + "	September 28, 2011
G u k o c v g f " E q o r r g v k q p " F c v g " * O q p j . " [g c t + "	09/30/2013
C e w c n E q o r r g v k q p " F c v g < " * O q p j . " [g c t + "	03/31/2015

2. Final Funding Information	Funding Amount
P q p / H e f g t c n " G p v k g u "	
30 N q u " C p i g r u " F g r c t w o g p v " q h " Y c v g t " c p f " R q y g t	
40'	
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Non-Federal Subtotal:	
Q y j g t " H e f g t c n " G p v k g u "	
30	
40	
50	
Other Federal Subtotal:"	
Requested Reclamation Funding:	
Total Project Funding:	

3. PROJECT Summary:

Established in 2009, the LADWP's Commercial/Industrial Drought Resistant Landscape Incentive Program provides financial incentives of \$1.00 per square foot of turf removed and replaced with California Friendly landscapes, including mulch and drip water irrigation systems. Funding from this Grant was for converting 3,000,000 square feet total turf, expecting a water savings of 229.34 Acre Foot/Year (AFY).

4. FINAL PROJECT Description:

LADWP began implementing the Grant on October 1st, 2011, and when the Grant termed out in September 30, 2013, an extension was granted until September 30, 2016. The conditions of the Grant were met with the 7th, semi-annual invoice (10/01/14-03/31/15). 94 Turf projects were completed during the course of the Grant for a total of 3,690,550 square feet of turf converted. Of the 3,690,550 square feet of turf that was removed, 313,413 square feet were completed beyond the requirements of the Grant.

The following TASKS were performed for this grant:

1) Outreach and Education:

- a. The rebate application form was improved to simplify the process for customers.
- b. Meeting

2) Site Assessment

- a. Site assessments were normally completed during the pre-inspection stage.
- b. During the site assessment pictures and measurements are taken.
- c. LADWP meters are located and identified on the master database on the network
- d. LADWP staff meets with customers to discuss the project and ensure the terms and conditions of the program will be met.

3) Water Savings Evaluation Data Analysis

- a. This stage happens at least one year after the project is complete (evaluating projects for water savings). Before and after meter reads are documented.
- b. In part 6B of this report, you will find the savings from 10, randomly-selected, customers.

4) Reporting and Monitoring

- a. During the post-inspections, final measurements and pictures are taken
- b. Every quarter, completed projects are documented and monetary requests were made of the BOR.

For each customer project the normal phases were the following:

- 1) Customer emails, faxes, or mails a completed application.
- 2) One of the Water Conservation group Utility Services Specialists (USS) is assigned to the project by his/her Supervisor.
- 3) The USS goes out for the pre-inspection; takes photos, and does a pre-project square foot measurement. The USS discusses the terms and conditions for the program (replace turf with low water using plants, mulch, synthetic turf-not provided an incentive in this grant) with the customer, along with the customer's project plan. Back in the office, the USS verifies the LADWP meters that are linked to the project area and starts to build a baseline usage.

- 4) Customer completes project.
- 5) USS measures completed project, verifies adherence to rules and conditions, and writes post-inspection report.
- 6) USS submits a voucher for the rebate check, which is then signed by the Supervisor.
Some projects are large enough that they are done in phases with a check issued after each phase is completed.
- 7) Voucher submitted to LADWP Accounts Payable group.
- 8) USS receives check in 3-4 weeks.
- 9) USS delivers check to customer.

Here are 5 projects that were completed with pre and post photographs:

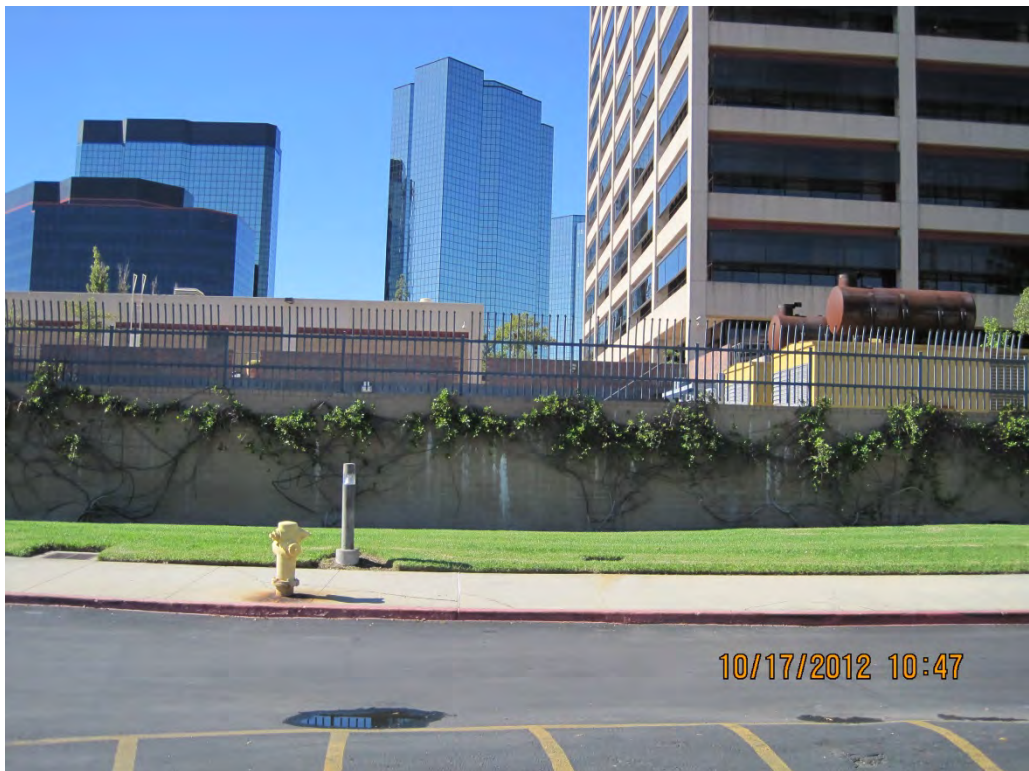
I. **Office Building Customer – Woodland Hills**

PRE Photographs









I. Office Building Customer – Woodland Hills
POST Photographs













II. **Hospital customer** – Woodland Hills
PRE Photographs





II. Hospital customer – Woodland Hills
POST Photographs













III. **Multifamily Customer #1 – Los Angeles**
PRE Photographs





III. **Multifamily Customer #1 – Los Angeles**
POST Photographs





IV. **Multifamily Customer#2 – North Hollywood**
PRE Photographs





IV. **Multifamily Customer #2 – Los Angeles**
POST Photographs





V. **Multifamily Customer #3 – San Pedro**
PRE Photographs





V. **Multifamily Customer #3 – San Pedro**
POST Photographs



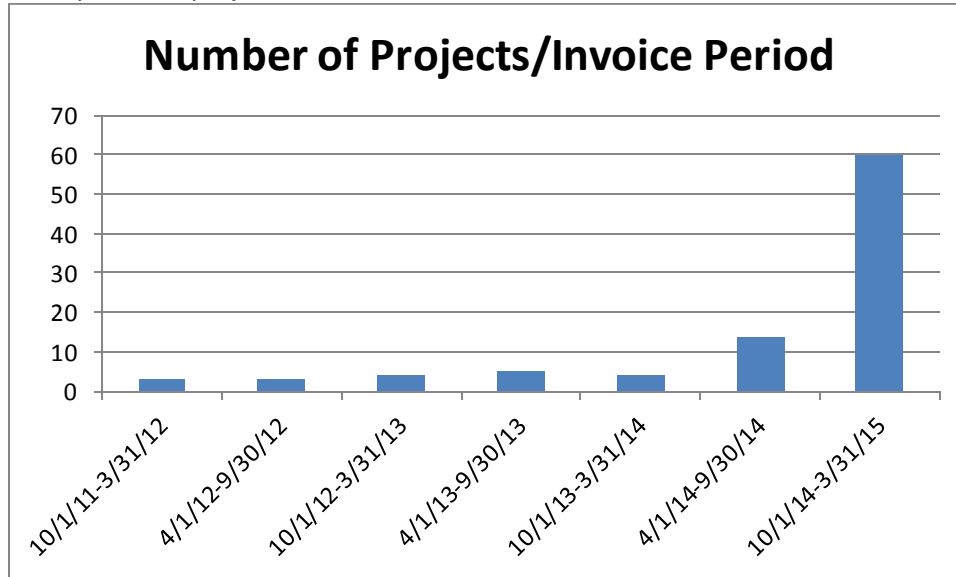






5. Accomplishment of Project Goals: The goals of this project can be distilled down to the following:

- A. Convert 1.5M square feet/per year, for two years, of Commercial/Industrial/Institutional/Multifamily turf to California Friendly plants, mulch, and permeable hardscapes. This goal was met with the extension granted. The invoice-by-invoice project total is seen in the chart below:



- B. Saved in excess of 229.34 AF of water. This goal was met and exceeded. See “6B” below for details.
- C. The goals of this project were met and exceeded. Both the square footage of turf removed and the savings goals were achieved and exceeded within cost.

6. Discussion of Amount of Water Conserved, Marketed or Better Managed:

A. LADWP’s total water supply

	Potable Water Production (AF)	Recycled Water Production (AF)	Total Water Production (AF)
2011	527,301	7,708	535,009
2012	550,907	5,965	556,872
2013	571,900	9,253	581,153
2014	545,615	11,307	556,922
2015	485,128	9,829	494,957
2016*	441,447	8,714	450,161

**To date. December 2016 data not available.*

B. Amount of water conserved, marketed or better managed as a result of the project (in acre-feet per year): Using the 10 projects in Chart 6.1 below, the savings were found to exceed the theoretical savings anticipated in the proposal for this Grant. Therefore, the theoretical saving of 3.33 AF/Acre of turf removed is a conservative number that can certainly be expected for all of the projects that were completed. Over the term of the Grant 3,690,550 square feet of turf was removed, while LADWP was reimbursed a total of \$1,000,000. This total square footage removed is above and beyond the Grant requirements and the savings calculation, using the 3.33 AF/Acre, would be 282.12 AF. This is significantly higher than the proposed 229.34 AF.

C. Describe how the amounts stated in response to 6.B were calculated or estimated:

To demonstrate metered savings, the following analysis was completed:

- i. 10 projects were randomly selected.
- ii. At least 3 years of pre-project usage history was tallied from all of the meters on each customer's property. The vast majority of these meters were mixed-use.
- iii. At least 2 years of post-project usage history was recorded for the same meters as above.
- iv. The calculation of estimated savings, on an AF basis, used for this program was the following:

Chart 6.0

Amount of irrigation water applied per year in feet	Acre feet* of water consumed per year per acre	80% will be saved with drought-resistant plants and drip water system	Life of project	Total Savings over life (AF)
4.17	4.17	3.33	15	50

For 4.17 feet (50") of irrigation/year over one Acre would be 4.17 AF/year. 80% savings expected for installing drip irrigation, replacing overhead, and for replacing all of the turf with 30% plant coverage, at maturity.

- v. In the chart below, the (10) projects are listed with property details excluded to protect customer privacy.

Chart 6.1

Customer Type	# projects	Check paid date(s)	Total Square Footage	Savings Program goal (HCF/Yr)	Savings Program goal (AFY)	Actual Savings (HCF/Yr)	Actual Savings (AF/Yr)
Commercial#1	2	2/6/14 & 2/27/15	555,846	18,511	42.49	21,503	49.36
Multifamily#1	1	1/26/2015	4,000	133	0.31	1,069	2.45
Multifamily#2	1	10/9/2014	475	16	0.04	31	0.07
Church	1	9/2/2014	15,122	504	1.16	512	1.18
Multifamily#3	1	3/9/2015	1,150	38	0.09	306	0.70
Shopping Center	1	2/13/2013	23,629	787	1.81	2	0.00
Multifamily#4	1	1/13/2015	800	27	0.06	-17	-0.04
Restaurant	1	3/16/2015	7,144	238	0.55	492	1.13
Multifamily#5	1	3/17/2015	1,085	36	0.08	230	0.53
Multifamily#6	2	2/18/15 & 3/10/15	2,635	88	0.20	135	0.31
	12		611,886	20,377	46.78	24,261	55.69

- 1) Actual metered savings for the 10 projects are significantly greater than expected savings per Chart 6.0.
 - 2) This randomized test confirms that the savings calculation used is a conservative estimate to determine program savings.
- D. **Use of Conserved Water:** Water that was conserved for this project is considered to decrease purchase imported water from the Metropolitan Water District. This leads to cost savings for customers on their water bill. In addition, the water conserved also helps decrease LADWP's average water supply needs from the Metropolitan Water District, which helps make more water available to other member agencies who may need it to address drought or shortage conditions.
- E. **Future tracking of project benefits:** Future tracking of projects will continue by using the 10 projects randomly selected and entering the LADWP-metered usage numbers on a yearly basis.

7. There was no Renewable Energy added for this project.

8. Collaboration: In some turf reduction projects there was significant collaboration between LADWP and other organizations. One such example is the City Hall North and South projects. LADWP Water Conservation staff worked with the L.A. Mayor's staff, LA Recreation and Parks, L.A. Department of Public Works Engineering, California Conservation Corps, The Turf Company and Environmental groups to plan, design, and install these projects.

- The plant palette design was provided by an L.A. Recreation and Park's landscape designer. Various environmental group reviewed the designs before they were finalized.
- The mulch and soil amendments were provided by Home Depot and Scott's (Miracle Grow).

- Some of the irrigation supplies were provided by Hunter
- The North City Hall project was installed mainly by the L.A. Conservation Corps, supervised by L.A. Recreation and Parks personnel. The L.A. Conservation Corps provides jobs for at-risk youth who are interested in learning the landscape trade.
- The South City Hall project was installed by the Turf Company. This is a private company whose majority of their workers are Veterans.
- After the Turf Company completed their part of the South project, a community event was held to plant the rest of the areas around existing tree wells. LADWP and community volunteers helped plant the remaining areas.

After the projects were completed, the L.A. Mayor and other notables were invited to a press event that highlighted the many participants in this endeavor.

9. Describe any other pertinent issues regarding the project:

LADWP staff found out that in cases where the project is professionally installed, the cooperation and knowledge of the landscape company is integral to each project's success in complying with the terms & conditions of the program. In one instance, a large project was completed and the customer was not satisfied with the maintenance that was being done by their existing landscape company. Many of the plants were not thriving, some were becoming diseased, and others were not being pruned properly. The customer was initially satisfied with the landscape company's performance for the turf removal portion but was not satisfied with the California Friendly landscape installation portion.

To rectify the issues, the customer brought a smaller landscape company on board that specialized in low-water-use landscapes. They removed diseased plants, fixed drainage that were not draining properly, and pruned plants properly. Significant improvement was observed in the landscape a year after these remedies were implemented.

This situation highlighted the specialized landscaping knowledge lacking in some parts of the landscaping industry that is necessary to successfully maintain California Friendly gardens. Going forward, LADWP will use the lessons learned from these projects to improve its outreach & education programs.

10. Feedback for WaterSMART Program:

The program was very beneficial to the LADWP's overall water conservation plan.

The program is not too difficult to participate in and reporting is reasonable.