

DATE: September 21, 2017

TO: Watershed Conservation Authority Governing Board

FROM: Johnathan Perisho, Project Manager

THROUGH: Mark Stanley, Executive Officer

SUBJECT: Item 12: Consideration of a resolution to accept a grant from the Southern California Metropolitan Water District of Southern California for a pilot of Cocoon strategy for planting at Walnut Creek.

RECOMMENDATION: The WCA Board accept grant funds in the amount of \$26,875 from the Southern California Metropolitan Water District of Southern California for a pilot of Cocoon strategy for planting at Walnut Creek.

PROJECT DESCRIPTION: The Land Life Company approached the WCA with interest in a partnership to evaluate performance of the Cocoon strategy for planting to reproduce results found from studies in other regions. The planned planting at Walnut Creek (Location Exhibit A) in areas that are both irrigated and without irrigation presents an opportunity for comparison. The grant funds will support costs already planned as well as cover some monitoring.

BACKGROUND: The Innovative Conservation Program offers limited funds for development and implementation of new and developing strategies to conserve water through the Metropolitan Water District of Southern California. The Land Life Company has installed the Cocoon strategy in arid and semi-arid regions and has been developing service in the Los Angeles area with local implementers including Amigos de los Rios, and also TreePeople working together with the US Forest Service through ForestAid among others. In reaching out to the WCA about a potential grant application Walnut Creek was identified as an opportunity to support the project and study the strategy.

Even drought tolerant plants typically require water over months or even years to become established without significant mortality. The Cocoon is a biodegradable water reservoir developed by Land Life Company that is planted with a plant below ground (Images Exhibit B). The strategy is intended to assist in establishing plant material where there is lack of irrigation or interest in significantly reducing water necessary to establish plants.

Based on preliminary research in Palestine traditional methods of establishing trees are often water-intensive, using more than 4,000 gallons of water over a three year period for a single tree. Establishing moderate tree density using drip irrigation can consume over 500,000 gallons of water per acre in three years. Alternatively, trees that are planted without irrigation often suffer from low survival rates (often 5-30%). Comparatively in the 2016 pilot the Cocoon uses on average 6-7 gallons of water total and achieves survival rates of 75-95%.

The concept is to give enough water to survive but not so much that they become dependent on external water sources, however a local evaluation has yet to be conducted. Local conditions are different from previous work, and plant and tree establishment is generally considered to require three years to reach 'maturity'. These are usually the most sensitive years for plant material.

The main objective of this research is to quantify the water and energy saving potential of the Cocoon product in California's climate to establish California native species, and evaluate its applicability and reliability as a water conserving alternative to traditional methods of establishing trees and shrubs, including irrigation. The main research question to be answered is: How much water and energy can the Cocoon save in establishing trees vs traditional irrigation methods, or "no maintenance" approach? Based on data from partners, the Land Life Company hypothesizes that each Cocoon will offset 1,240 gallons of water and save 2.3 to 13.3 kWh of energy during the 6 month period of this study, assuming water pumping, conveyance, and treatment range between 600 and 3,500 kWh/acre-foot. Assuming a modest 3% market penetration across the US, they estimate annual savings of 368,000 acre-feet of water and 755,000 kWh of energy.

The WCA in operating the property will also have an opportunity to make observations beyond this limited study. As compared with other similar products and methods this may be an equitable approach in future.

FISCAL INFORMATION: The Walnut Creek Phase I implementation is funded by a Proposition A grant from the Park and Open Space District secured together with the WCA and the City of San Dimas and awarded to the City. The WCA has a contract with the City to collaborate in project development, and as a property owner of the majority of the project site. The \$26,875 from the Southern California Metropolitan Water District of Southern California will support material and planting costs, as well as limited follow-up monitoring and reporting.



Exhibit A

Territory Map Walnut Creek Habitat & Open Space

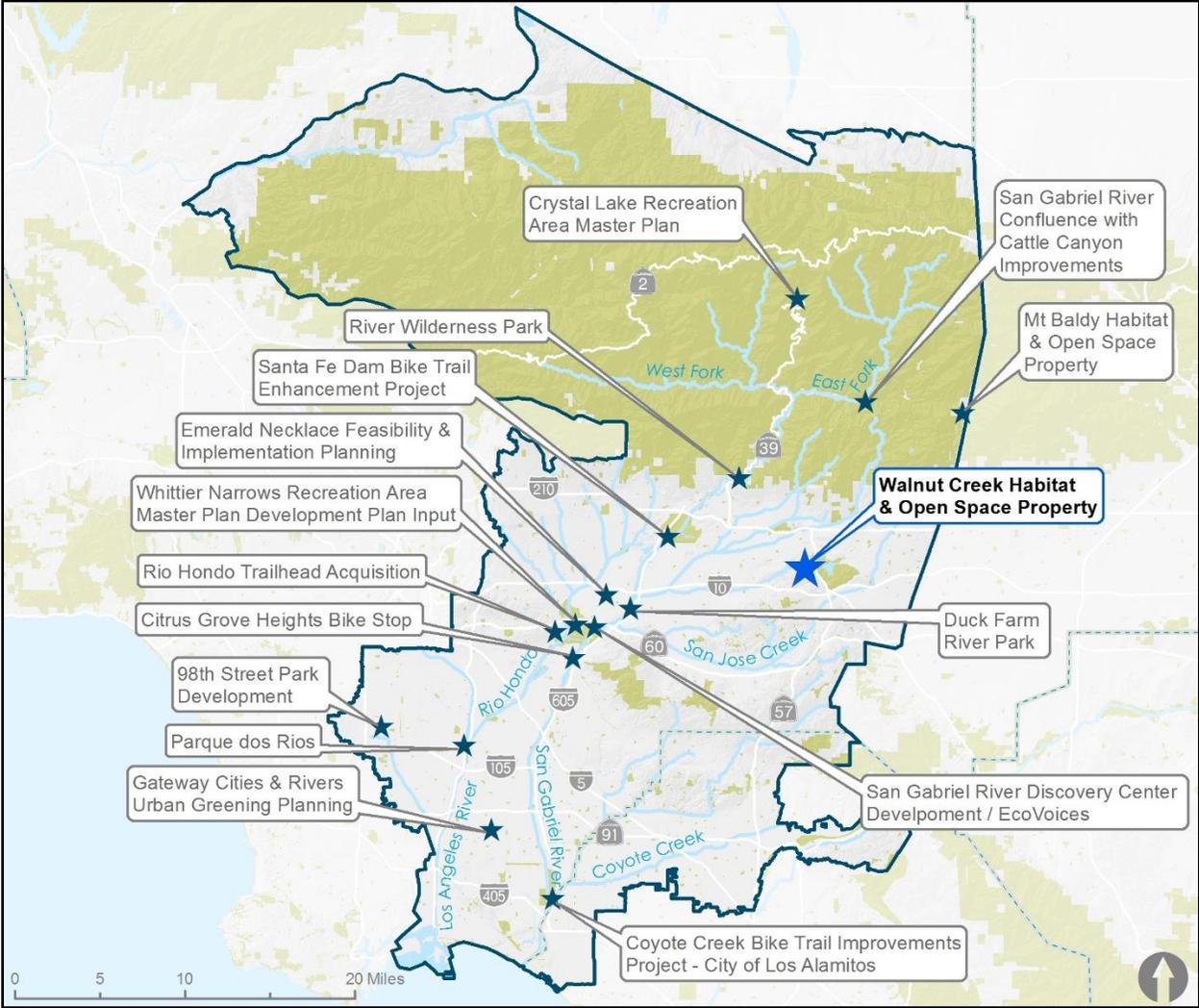


Exhibit B
Land Life Company Cocoon Images

Item 12



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RESOLUTION 2017-28

RESOLUTION OF THE WATERSHED CONSERVATION AUTHORITY TO ACCEPT A GRANT FROM THE SOUTHERN CALIFORNIA METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA FOR A PILOT OF COCOON STRATEGY FOR PLANTING AT WALNUT CREEK.

WHEREAS, the Watershed Conservation Authority (WCA) has been established as a joint powers agency between the Rivers and Mountains Conservancy and the Los Angeles County Flood Control District; and

WHEREAS, the Watershed Conservation Authority (WCA) has further been established to focus on projects which will provide open space, habitat restoration, and watershed improvement projects in both the San Gabriel and Lower Los Angeles Rivers watershed; and

WHEREAS, this action authorizes the acceptance of grant funds from the Southern California Metropolitan Water District of Southern California for a pilot of Cocoon strategy for planting at Walnut Creek; and

WHEREAS, the proposed action is exempt from the provisions of the California Environmental Quality Act (CEQA); NOW

Therefore be it resolved that the WCA hereby:

1. **FINDS** that this action is consistent with the purposes and objectives of the WCA.
2. **FINDS** that the actions contemplated by this resolution are exempt from the environmental impact report requirements of the California Environmental Quality Act (CEQA).
3. **ADOPTS** the staff report dated September 21, 2017.
4. **AUTHORIZES** the acceptance of grant funds from the Southern California Metropolitan Water District of Southern California in the amount of \$26,875 for a pilot of Cocoon strategy for planting at Walnut Creek.

~ End of Resolution ~

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Motion: _____ Second: _____

Ayes: _____ Nays: _____ Abstentions: _____

Passed and Adopted by the Board of the
WATERSHED CONSERVATION AUTHORITY
On September 21, 2017

M. Janet Chin, Governing Board Chair

ATTEST: _____
David Edsall
Deputy Attorney General