



## **Rancho Mirage City Hall Site Renovation**

### **Size & Type of Project:**

6 acres/ Restoration; Greyfield

### **Location:**

Rancho Mirage, California

### **Budget:**

\$548,000

### **Project Phase:**

Completed September 2008

### **Project Overview**

The Rancho Mirage City Hall site improvement project was initiated by the city's elected officials to improve the work environment and to set an example for high quality sustainable site development within the city. The design criteria and program emphasized compatibility with the local environment, sustainable practices, and improvements to the work environment for employees and for visitors to City Hall. The program included a drastic reduction in water usage, reduced maintenance needs and environmental impacts that take advantage of the immediate and surrounding environment for greater access to nature and improved well-being of site users.

### **Site Context**

Rancho Mirage is located in the heart of the Palm Springs Valley, nestled at the base of the Santa Rosa Mountains 120 miles southeast of Los Angeles. Rancho Mirage is geographically in the Colorado Desert, in the center of the Coachella Valley, sitting above the surrounding valley at an elevation of 246 feet, 10 miles from Palm Springs to the northwest and Indio to the southeast. The average temperature is 88 degrees Fahrenheit during the daytime and 55 degrees Fahrenheit at night. The air is dry and clear with low humidity and the average rainfall is 3.4 inches per year.



## **Sustainable Practices**

Reduction in Maintenance Requirements: The previous landscape could be characterized as a "turf and trees" landscape. The new desert-oriented plantings, both native and climate appropriate vegetation, were designed to deliver significant savings in labor and maintenance costs. At the behest of the mayor a few areas of synthetic turf grass were made a part of the design. This is in recognition of the city's and local water district's initiative to encourage residents to convert home landscapes to more appropriate vegetation and, where turf cannot be given up, that those areas be waterless synthetic turf grass. The previous landscape required a three-person mowing crew and a three- to four-person shrub and clean-up crew once per week compared to the new landscape maintenance crew which is two to three people once per week. The new landscape has no mowing or wash down requirements. This helps to reduce fuel use, emissions, water use and most power-equipment requirements. Some light hand trimming, debris removal and trash pickup are the current routine weekly maintenance operations. Sweeping by hand and visual irrigation inspections are normal weekly maintenance activities. Trash blowers and mechanical sprayers are discouraged under most conditions

Reduction in water use and runoff: The new "celebrate the desert" landscape required a re-working of the water supply system that had previously been shared with the City Hall building and other site uses. The new irrigation system has eliminated runoff, a common

occurrence in the former landscape. Water use is calculated to be reduced by 80 percent. The new landscape incorporates a low precipitation, point-of-use (each shrub and tree has dedicated emitters) irrigation delivery system. This is a permanent irrigation system due to the existing on-site tree species that have been retained in the new landscape. There are more than 50 shade trees that, though normally considered desert appropriate, have matured in a frequently watered landscape and would decline without supplemental water. These are also a few non-native specimen trees, some with special historic significance that must receive supplemental water.

Runoff reduction was a major consideration in the redesigned landscape. Irrigation runoff and natural runoff from occasional desert rains was addressed through the use of permeable pavement, large areas of rock and boulder ground cover on native sandy soil, and the elimination of spray-head irrigation.

Reduction in Fertilizer and Chemical Use: Elimination of the turf grass from the project site has resulted in a great reduction in fertilizer and chemical use. The yearly turf scalping and overseeding operation required human resources, trash haul away and fertilization with the annual overseed mix. This entire operation has been eliminated.

With the elimination of all turf grass the amount of fertilizer used onsite has been reduced by 60 percent.

Waste Reduction and Reuse: In order to reduce construction waste, appropriate disposal of haul-off items to re-use facilities was a construction contract requirement. Virtually all construction waste was diverted from the regional landfill program. Green waste, after being significantly reduced by on-site dehydration where the cut grass crop was left to dry, was taken to a regional composting facility. On-site rocks and soils were re-used within the new landscape development. Miscellaneous metals, electrical equipment and wiring were sent to a recycling center. On-site garden walls, the bus stop and employee picnic areas were refurbished in place.

Local Sourcing of Construction Materials: Over 90 percent of the construction materials selected were obtained from local sources. The largest materials (by tonnage) were decorative rocks that were salvaged from a large quarry operation less than 50 miles from the project site. Ground cover for this desert landscape is an artistic emulation of the boulder-strewn, rocky foothills found in the surrounding environment. The ground cover design relied on locally selected boulders, rocks and decomposed granite. The plant materials were locally grown and, wherever practical, the contractor was encouraged to use local materials.

Use of Native and Adapted vegetation: The plant palette reflects the local ecosystem and improves the community's sense of place. The existing turf grass was replaced with drought-tolerant natives and adaptive species. The desert environment, though harsh and dry, produces several stunning and architecturally interesting plants. The new gardens incorporate Golden Barrel Cactus, (*Echinocactus grusonii*), beautiful Red Yuccas (*hesperaloe parvifolia*) and several blooming desert plants, for example, the Red Bird of Paradise (*Caesalpinia pulcherrima*).

## **Construction Cost**

An analysis of the cost of the new landscape, in terms of construction, maintenance and operations, has identified several areas of cost reduction when compared to the previous landscape requirements. The total project cost funded by the City was \$700,000, of which \$548,000 was the construction contract. Design, other services, and some on-site work were included in the overall budget.

## **Monitoring Information**

The new landscape has saved more than 50 percent of the maintenance cost over the previous planting concept. Early calculations projected water-use savings of more than 80 percent over the turf and trees landscape. The city now has the means to collect landscape water-use data through a dedicated meter. This monitoring provides monthly water-use data as a comparison and back check to ensure that the programmed use level stays within the parameters of the design projections.

Since 2008, no runoff has been detected, whereas with the previous landscape water runoff was a frequently observed occurrence. Also, the previous landscape had experienced several mainline and valve failures that contributed to some significant runoff occurrences. The new lower-pressure system with mainline shutoffs has eliminated water loss due to breakages.

In addition, a yearly soil's testing regime has been undertaken to determine the fertilization requirements and ensure soil acids are in balance with the desert landscape that is now installed. Fertilizer use has been monitored through purchase requisitions with year-to-year comparisons for the first full year at one tenth the previous use rate. Monitoring is being accomplished through acquisition records for chemicals; none were applied this past year.

## **Maintenance**

A major motivation for moving ahead with this project was maintenance reductions. The improvement plans included several elements that will be valuable tools for ongoing maintenance work.

The cost of labor and resources has been monitored and compared to pre-project cost through collection of data on maintenance contract costs and required staff hour monitoring. The new yearly maintenance contract saves the City more than \$27,000 annually. The pre-project annual maintenance contract was \$64,800; the new contract amount is \$37,440.

In addition the water savings is significant for California, as the continuing drought has brought voluntary water-reduction requests and tiered water-use cost tables from local utility providers.



### **Issues/Constraints of the Site**

This is the main civic building in this desert community of 16,800 permanent residents (seasonal counts are 35,000). The site remained open during construction with only minor inconveniences to the citizenry. There are a number of mature trees, several existing site features and improvements that were incorporated into the new site landscape. The existing trees provide significant shade cover, a welcome commodity in the desert that helps to encourage and extend visitor use of this inviting garden environment. Existing walls and picnic facilities were included in the new landscape. This reduced cost and allowed for re-use, with some refurbishment, of on-site structures. The rehabilitation of the bus stop structure required a little structure repair, and restaining of the wood elements.

### **Lessons Learned**

Now that this project is implemented, several other public sites are in line to be redeveloped in a similar manner. These include public parks, street medians and other public facilities run by the city. A "lesson learned" report to council was presented by city staff.

- In the future, existing trees will be receiving supplemental water during the first season following the project. Stress was evident on several of the existing trees that were formerly in turf areas. Drip around existing trees will be increased as an aid to encourage the development of new root structures.
- A significant amount of staff time has been needed to answer the many questions about the plants and new landscape, including inquires about materials availability and synthetic turf vendors. City staff has been happy to address these questions.

By all accounts, the new City Hall landscape has been a great success and has received many compliments for its beauty and recognizable "green" design.

### **More project details**

N/A

### **Project Consultants**

#### **Landscape Architect**

David Volz, LEED AP

David Volz Design

Project Manager

#### **Public Works Director**

Bruce Harry

City of Rancho Mirage

Client

#### **Facilities Maintenance Manager**

Bill Oppenheim

City of Rancho Mirage

Ongoing Maintenance Management