



## Wilderness Park: from rocks and sand to “Green Jewel”

**W**ILDERNESS PARK IN MONTCLAIR, CA has had a fascinating history of development over the past 100 years. Beginning with citrus groves in the early 1900's followed by a rock, sand and concrete industry from the 1940's to the 1960's, it wasn't until the early 1970's that the site served as a public park.

The Chino Basin Water Conservation District (CBWCD) purchased the park area and current administrative site in the mid 60's from the Hanawalt Rock and Sand Company. Existing park facilities were crude and undeveloped as the layout was a large circular driveway from the past rock and concrete operations. It was used primarily as a bicycle track with patchy turf areas in the middle.

It was not until 1990 that Wilderness Park began its transition into a more defined user friendly recreational facility. At this time the CBWCD had the park professionally designed and constructed with an automatic irrigation system and expanded turf areas. A few trees were planted and some existing trees remained.

In 2008, the District's Board of Directors set into motion

that Wilderness Park be updated to increase active public use with an emphasis in sustainability and education. Budgets were developed, designs were completed and construction began in 2009.

### BUDGET AND CONTRACTORS

The CBWCD is an Independent Special District of California and is funded by property

taxes from its service area of six cities within the Chino Basin Watershed. The District maintains physical assets and cash reserves and it was the appropriated reserves that supported the renovation of Wilderness Park. The accepted bid of \$115,000 from Bellaire Landscape, Inc. was approved by the Directors and a 6-month timeline was given to finish the project.

There were no change orders during the original construction which kept the original bid unchanged. However, additional costs were realized as tree signage and literature were developed and purchased, replacement tees were needed and additional trees were planted. The costs for these items has totaled approximately \$10,000.

The park layout of turf, paths, mulching areas, benches, waste stations and picnic tables were designed by Claremont Environment Group, Inc. (CEDG).

The irrigation system and boulder selections and placement were designed by CBWCD staff. The tree selections and placements were selected by a team of local arborists, CEDG and CBWCD staff.

### TURF AND IRRIGATION

Two of the primary goals of the new renovation were to reduce the square footage of the turf area and reduce water use while still providing for low impact recreation. The original size of park area of 84,000 square feet was designed down to

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22,500 sq. ft., a 73% reduction of turf area. The areas of non-essential turf were sprayed with three separate applications of glyphosate. The remaining turf was left in place and subsequently repaired of damages from the heavy equipment and other vehicles. The repairs and restoration of the turf included filling in the low areas with sand, removing tree roots, lowering high spots, aeration and re-seeding with a fescue/rye mix with a quarter inch of topdressing.

There were 28 existing trees in the old turf that were removed because of disease, surface roots and the need to start new.

The new irrigation system is designed for the existing reclaimed water service, a cost saving-conservation retrofit installed in 2007. Though existing white PVC was left in place as part of the new design, all new piping installs were specified at SCH 40 and purple. All automatic valves, boxes, quick couplers and sprinklers were also marked with purple tagging. A separate potable water line was also installed with quick couplers for other functions in the park.

The irrigation system uses the existing Motorola IRRInet controller installed in 1990 with current programming updates. The Hunter I-25 and PGP rotor type sprinkler heads are used with Superior 950 – DWPRS brass globe valves. The turf area requires six individual valves for proper zoning and efficiency.

The park showcases over 65 individual trees with 38 separate species with emphasis in adaptability to the local area and for homeowner and other property installations. All trees are irrigated with the subsurface Hunter Root Watering System-RZWS-36-50-CV. The majority of the trees were 24-inch box sizes with the remaining trees being of the 15-gallon pot size. Most trees were fitted with four individual subsurface “water tubes” while the desert type lower water use trees were fitted with two water tubes. The tree zones require seven valves with trees be grouped for similar water requirements.

## WATER USE

A water conservation goal of considerable water savings was achieved with the 2009 park renovation. The potable water design of the old park turf encompassed 17 valves at 555 GPM with an approximate water use cost of \$4,500.00/year.

The recycled water retrofit was an immediate dollar savings of 25-30% for usage with District staff and the City of Montclair staff providing for the installation of the plumbing materials and connections.

The new park turf design was measured at 68% DU, uses six valves at a total 178 GPM with at an approximate cost of \$1,000/year based on soil moisture observations, weekly and seasonal run time adjustments.

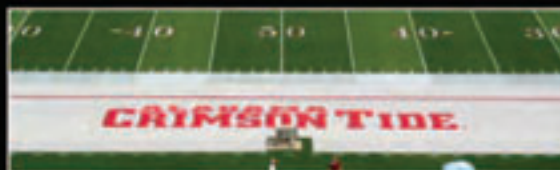
The tree irrigation system is designed at approximately 132 gpm with an approximate use of 19 gpm per zone. Based on soil moisture observations, growth rate, seasonal run time adjustments, the tree irrigation costs are approximately \$125/year.

The paths in the park are built of decomposed granite with an added binder for stability and hardness, with a barrier cloth separating the native soil and DG. All pathways are curbed and the

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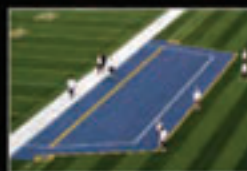


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paths provide for a comfortable walk and a close up look to all of the trees.

More than 70 rocks and boulders were trucked in and placed with some weighing several tons and as large as a Texas Longhorn steer. The boulders were at no cost to the District as the District



owns and maintains properties littered with “Big Rocks”.

A total of 50,000 square feet of the tree planting areas are mulched with approximately 700 cubic yards of locally generated chips from tree trimming contractors. The mulching depth is approximately four to 5 inches. The mulching of all bare areas provides for a great weed barrier, enhances soil building and erosion control, and retains soil moisture which lessens irrigation applications for establish trees. All mulch was provided at no cost to the District.

Each tree species are identified with a 9-inch diameter sign which includes the scientific and common names of the tree. There are two park legend signs which detail the boundaries, turf, tree locations, paths, boulders, benches and tables.

Several picnic tables and sitting benches are part of the relaxing experience when visiting the park. Each is constructed of recycled materials and provide for comfortable sitting and long wear. The park is extremely dog friendly with several ‘Doggie Stations’ providing for bio-degradable pick it up bags. There are waste and recycle receptacles along the pathway.

### CONSTRUCTION ISSUES

The biggest challenge of the project demonstrated itself during irrigation trenching and tree planting and this was due to the history of the site. As mentioned, this site had been a rock, sand concrete operation for many years. During the excavating and digging many concrete footings, driveways and slag dumps were found beneath the soil. When thick layers of concrete were encountered during the irrigation trenching, the trenches and pipes had to take a few odd turns. Several tree planting holes had to be jack hammered free of the concrete to allow proper drainage.

### MAINTENANCE

There are several grass species that are found in the turf area and they include fescue, bermuda, kikuyu, rye and bluegrass. This multi-species mix provides for a durable play area throughout the year. Within this mix are assorted broadleaf weeds which are tolerated to a degree. Recently a broad leaf weed eradication schedule has been implemented and most of these weeds are expected to be con-

trolled by August 2012. The mowing of the turf is performed by the City of Montclair on a weekly schedule.

Fertilization applications occur three times a year using a 20-0-0 in early spring and followed by two more early and late summer applications of a 16-16-16 balanced fertilizer. Though the majority of the park soil is a well drained sandy-rocky type, an annual application of gypsum is applied for some of the small clay soil areas of the park. Soil sulfur is also applied to maintain a pH around 7.2. Mechanical aeration is performed once a year.

The young trees continue to be structurally pruned for their future health and beauty. The fertilization program is twice a year using a slow release balanced fertilizer "tablet" which is dropped down the irrigation tube. Future expansion of the subsurface irrigation is planned to encourage rooting further out from the existing canopies.

The new park has provided for a multitude of recreation uses, District special events, education opportunities and an emergency helicopter landing site.

Since the park opened with its new and improved water conservation design, the use by the public has increased dramatically. Soccer, baseball, volleyball, walking including dog walking, meditation, running and picnicking are just a few of the healthy activities seen in the park.

Typically the District conducts three or four large events in the

park which include earth day for elementary schools, a plant sale and water fair, dog events and the Run for Life event. All events are supported by vendors, educators, water agencies and volunteers who all bring their expertise for water conservation.

One of the complementary adjoining features to the new Wilderness Park is the California Native Oak Grove. This section of the park was built in 2005 with eight different species of California Oaks. It was inspired by the lone existing 250-year old (estimated) Coast Live Oak. The development of this section of Wilderness Park removed one half acre of turf and eliminated supplemental irrigation after only three years of tree establishment. It too provides for educational and recreational opportunities for all to enjoy and learn from.

Education is a big part of the CBWCD's mission and with the water conservation themes and designs, the tree selections and accompanying literature, the new design continues CBWCD's educational mission. The park has received positive feedback and raves from the local public, out of town visitors, local business, dignitaries and local water agencies. ■

*David Schroeder is a conservation specialist for the Chino Basin Water Conservation District.*

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