AGENDA

Meeting of the
Scotts Valley Parks and Recreation Commission
In-Person and Remote Access
Date: June 20, 2024
Time: 6:00 PM

CONTACT INFORMATION	MEETING LOCATION	POSTING
Recreation Division 361 Kings Village Road Soctts Valley, CA 95066 (831) 438-3251	City Council Chambers 1 Civic Center Drive Scotts Valley, CA 95066 Or Zoom Video Conference https://us02web.zoom.us/j/81298572447	Agenda posted on 6/13/24 at City Hall, SV Senior Center, SV Public Works Building, and on the Internet at: www.scottsvalley.gov

COMMISSIONERS	CITY STAFF MEMBERS
David Sanguinetti, Chair Gillian McGlaze,Vice Chair Heidi Denger, Commissioner Kate Kelsey, Commissioner Rebecca Sorci-Murray, Commissioner	Allison Pfefferkorn, Recreation Division Manager Brian Youmans, Administrative Assistant

MEETING NOTICE AND AGENDA PACKET MATERIALS

Notice regarding Parks and Recreation Commission Meetings:
The Parks and Recreation Commission meets regularly on the 3rd Thursday of each month at 6:00 PM in the City Hall Council Chambers located at 1 Civic Center Drive, Scotts Valley, CA 95066, and via Zoom Webinar remote access.

Agenda and Agenda Packet Materials:
The Parks and Recreation agenda packet is published at least 72 hours in advance of the regular meeting and is available for review at the Recreation Division office at 361 Kings Village Road, Scotts Valley, CA. The agenda packet is also available for viewing on the City's website at www.scottsvalley.gov.

Public Participation:
For those wishing to participate via Zoom you can join the following ways:
Zoom Webinar meeting link: https://us02web.zoom.us/j/81298572447
Or dial one of these numbers: (669) 900-9128 or (669) 444-9171
Webinar ID: 812 9857 2447

Whether attendance is in-person or remote, you will be given opportunities to provide public

comment at the appropriate times throughout the meeting. The time limit is up to 3 minutes for an individual, or 5 minutes for someone who is representing a group of three or more, at the discretion of the Chair. Please note that this is not a question-and-answer time, but simply a time to provide comments to the Commission. At the appropriate times during the meeting for public comment, on items not on the agenda, and on specific agenda items, the Chair will announce that public comment will be accepted.

How to comment via in-person attendance:
Please proceed to the public comment podium when the Chair opens the item for public comment.

How to comment via Zoom Webinar:
Use the webinar attendee option to “raise hand” when the Chair opens the item for public comment. The Clerk will unmute you when it is your turn. If you have joined via Zoom phone call, dial *9 or your phone to “raise your hand”, and the Clerk will unmute you when it is your turn.

Call to Order

Roll Call

Staff Updates

1. Staff Update - RDM Pfefferkorn

Public Comment Time
This portion of the agenda is reserved for discussion by the public of items which are NOT agendized. No action may be taken by the Commission except to refer the matter to staff and/or place it on a future agenda. It is in the best interest of the person speaking to the Commission to be concise and to the point. All speakers are requested to sign their name at the podium so their name may be accurately recorded in the minutes of the meeting. A time limit of three minutes per individual will be allowed. If speaking on behalf of a group, the speaking time limit will be 5 minutes.

Consent Agenda
(Any person wishing to speak on the consent agenda may do so by raising their hand as the item is called out by the chairperson.)

1. 02-15-24 Parks and Recreation Minutes

Additions/Deletions to Regular Agenda
(Any person wishing to speak on the consent or regular agenda may do so by raising their hand as the item is called out by the chairperson.)

Regular Agenda
(Any person wishing to speak on the regular agenda may do so by raising their hand as the item is called out by the chairperson.)

1. Siltanen Pool Update
2. Parks Master Plan 90% Draft Update
3. Update on Mitigation of Concerns Regarding the Tennis and Pickleball Courts
4. Al Shugart Park Update

Adjournment

ADA Notice

The City of Scotts Valley does not discriminate against persons with disabilities. The Commission meeting locations are accessible facilities. If you wish to attend a Commission meeting and require assistance such as sign language, a translator, or other special assistance or devices in order to attend and participate at the meeting, please call the Scotts Valley Recreation at (831) 438-3251 five to seven days in advance of the meeting to make arrangements for assistance. If you require the agenda of a Commission meeting be available in an alternative format consistent with a specific disability, please call Scotts Valley Recreation. The California State Relay Service (TDD to voice: 1-800-735-2929, voice to TDD: 1-800-735-2922), provides telecommunications devices for the Deaf and will provide a link between the TDD caller and users of telephone equipment.

Recreation Divion Manger Allison Pfefferkorn Staff Updates
June 20th, 2024

Past Events-

Wildfire Preparedness and Homeowners Insurance Event-

- In May the Recreation Division hosted a Community Wildfire & insurance workshop at the Theater. It was a packed house with an overflow to the community center.
  The evening was split into 2 parts; Fire preparedness with presentations from SV Fire, CAL Fire and a Firewise coach. The 2nd half of the event was moderated by Vice Mayor Derek Timm who asked a series of questions relating to the homeowners insurance crisis to the Community Relations representative from the CA Dept of Insurance, Richie Sayavong, Joel Laucher from United Policy Holders, Edan Cassidy and Kami Cady from Cassidy Insurance and Maggie Bar from the Real Estate Association.

Verse in the Valley

- The Arts Commission hosted a poetry reading of all the winners of the Verse in the Valley Poetry Contest. It was a wonderful evening hearing poems based on the theme "What does community mean to you".

Paint Night with Yeshe Jackson

- Our 2nd paint night event was a sold out event at the community center with local artist.

Family Dance Night

- Glow in the dark family dance night in the community center where families came and danced along with Instructor Jaylynn Horton.

Spring Break Camps

- SkateWorks held camp at our Skate park
- Challenge Island held a camp at the community center focusing on STEAM principals

Upcoming Events-

Summer Camps

- Brick Lab- hosted at the community center in the mornings focusing on Legos designs.
- Chess Wizard- hosted at Skypark
- Theater Camp- hosted at the community theater and is being run by one of our Art Commissioners, Cindy Gorski
- Skateworks- Hosted at our Skatepark

Cookie Decorating Class-hosted at the Community Center

Trails Passport- encouraging residents to explore our parks and trails and stamp their passport to enter the contest.

July is Parks Month

- Numerous free activities planned for the month of July at our parks and trails. Information is online in our activity guide

Update-

- Summer Activity guide is out and available on line.
- Public Works Director, Rodolfo Onchi started in May. We were thankful for Steve Jesberg and Scott Hamby's service as the Interim Directors.

Facility Updates-

- Staff are working on a shade grant application for possible shade structures at the bocce courts, tennis/pickleball courts and the Siltanen Field dugouts and spectator area.

MINUTES

Meeting of the
Scotts Valley Parks and Recreation Commission
Date: February 15, 2024
Time: 6:00 PM

CONTACT INFORMATION	MEETING LOCATION	POSTING
Recreation Division 361 Kings Village Road Scotts Valley, CA 95066 (831) 438-3251	City Council Chambers 1 Civic Center Drive Scotts Valley, CA 95066 Or Zoom Video Conference https://us02web.zoom.us/j/86905757283	The agenda was posted on 02-09-2023 at City Hall, SV Senior Center, SV Public Works Building, and on the Internet at www.scottsvalley.gov.

Call to Order - 6:00 pm

The meeting was called to order at 6:02 PM.

Roll Call

APPOINTED OFFICIALS PRESENT:	CITY STAFF MEMBERS PRESENT:
David Sanguinetti, Chair Heidi Denger, Commissioner Kate Kelsey, Commissioner Rebecca Sorci-Murray, Commissioner **APPOINTED OFFICIALS ABSENT**: Gillian McGlaze, Vice Chair	Allison Pfefferkorn, Recreation Division Manager Brian Youmans, Administrative Secretary

Staff Updates

1. Staff Updates - Department & Division - RDM Pfefferkorn

RDM Pfefferkorn gave a summary of recently accomplished events and activities that Parks and Recreation offered, as well as announced upcoming events and activities.

Recent Staff Updates: Staff have implemented an updated Special Event application to streamline the permitting process for event planners. Staff also met with the Parks Master Plan consultants and decided to refocus efforts on park repurposing and new opportunities.

Facilities Updates: The Skypark Tot playground is getting a final inspection. Once

completed, a ribbon cutting event will be planned. Two new information kiosks have been installed in parks. An ADA compliant door was installed at the Senior Center. Turf was installed in the infield of the Siltanen Majors field, as well as new bleacher tops being installed in the Siltanen softball field dugouts. The Santa Cruz Land Trust has installed a split rail fence at the Glenwood Preserve.

Public Comment Time

None.

Consent Agenda

1. 12-21-23 Parks and Recreation Commission Minutes

M/S: Denger/Sorci-Murray
To approve the 12-21-2023 Parks and Recreation Commission Minutes.
Carried 4/0/0 (AYES: Sanguinetti, Sorci-Murray, Denger, McGlaze; NOES: none; ABSENT: McGlaze)

Additions/Deletions to Regular Agenda

None.

Regular Agenda

1. Introduction to the Scotts Valley Volunteer Program

RDM Pfefferkorn presented this item and responded to questions from the Commission. Commissioner Denger suggested to staff for the collaboration between the Volunteer Program and local Highschool programs that require students to volunteer.

Public Comment was received by Don Hutchinson, a local resident of Scotts Valley. Mr. Hutchinson is supportive of the Volunteer Program, however, was apprehensive about allowing anyone to volunteer, and suggested that background checks be done on potential volunteers. Chair Sanguinetti agreed with this and suggested to staff a potential provision that allowed the rejection of a person from volunteering.

2. Siltanen Pool Lease

RDM Pfefferkorn presented this item and responded to questions from the Commission. Chair Sanguinetti stated that he personally worked with the potential aquatic instructor and very much in favor of the Siltanen Pool Lease to him.

Adjournment

As a future staff update, the Commission recommends that staff present updates on the Skypark Pickleball committee, updates on the dog park in Skypark, and updates on the Parks Master Plan.

The meeting adjourned at 6:32 PM.

City of Scotts Valley
PARKS AND RECREATION COMMISSION STAFF REPORT

DATE: 6/20/2024

TO: Honorable Mayor and City Council

FROM: Allison Pfefferkorn, Recreation Division Manager

APPROVED: Mali LaGoe, City Manager

SUBJECT: **Siltanen Pool Update**

SUMMARY OF ISSUE

On June 2, 2024, the Recreation Division hosted a ribbon-cutting ceremony for the re-opening of the Siltanen Pool.

City Council members Jack Dilles, Donna Lind and Mayor Randy Johnson along with Parks & Recreation commissioners Gillian McGlaze and Rebecca Sorci were all a part of the ribbon cutting and welcoming of Pacific Flow Swim School to the City of Scotts Valley.

Programming
Lessons, open swim sessions, and parties began the first week of June. Currently, five levels of swim lessons are available, with many classes nearing full capacity or already waitlisted. Weekend pool party bookings are quickly filling up, and there is high interest in open swim times. The Pacific Flow Swim School website is now fully operational, allowing the public to book classes, buy open swim punch cards and rent the pool for parties online.

Upgrades
The city has installed public and private Wi-Fi access around the pool and the gazebo at Siltanen Park. This connectivity enables Pacflow to seamlessly process credit card payments and engage with the public through email.

The pool pump room upgrades are now complete. These were not mandatory upgrades but an improvement that would better assure uninterrupted operation of the pool as well as better accommodate an increase in year-round bather load.

The upgrades included the following:
• **New Heater** - The original heater was encased in rust, did not allow for a temperature setting (it was a hot/cold dial), and caused a major natural gas leak smell when we were in the pool.
• **Computer Upgrade** - The swim school now has remote access to all units in the pump room (heater, pump, chlorine, acid, UV, filter). This allows Jeff to monitor it from home, so there is less chance of showing up in the morning and finding out something went down overnight.
• **Added UV** - UV was added to eliminate chloramines. This will be essential when the pool is enclosed and chlorine off-gassing will be prominent at the water's surface. Students' eyes and

skin will benefit, but mostly the instructors who are in the water for hours per day will feel the difference.
• **Chemical Replacements** - Switched to chemicals that reduce vapors and allow for fewer amounts of the chemicals to be used.
• **External Vacuum** - one more step for the swim school to maintain the pool themselves and not contract out a pool service.

FISCAL IMPACT

No fiscal impact.

STAFF RECOMMENDATION

Receive the staff presentation.

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None

AGENDA ITEM 2.
DATE: 6/20/2024

City of Scotts Valley
PARKS AND RECREATION COMMISSION STAFF REPORT

DATE: 6/20/2024

TO: Honorable Mayor and City Council

FROM: Allison Pfefferkorn, Recreation Division Manager

APPROVED: Mali LaGoe, City Manager

SUBJECT: **Parks Master Plan 90% Draft Update**

SUMMARY OF ISSUE

On May 1, 2024, the City Council and the Parks and Recreation Commission met in a joint session to review the 90% draft of the Parks Master Plan.

All feedback from the joint session and individual meetings with commissioners and city staff was compiled and presented to Odell Engineering.

Odell Engineering is currently reviewing the feedback and making necessary adjustments to the Parks Master Plan.

The goal for the final revision is to incorporate the corrections and address concerns raised, as well as ensure that the final plan aligns with the city's goals and Master Plan.

The final draft of the Parks Master Plan is scheduled to be presented to the City Council for final adoption in August 2024.

FISCAL IMPACT

No Fiscal Impact.

STAFF RECOMMENDATION

Receive the staff presentation

TABLE OF CONTENTS

None

City of Scotts Valley
PARKS AND RECREATION COMMISSION STAFF REPORT

DATE: 6/20/2024

TO: Honorable Mayor and City Council

FROM: Allison Pfefferkorn, Recreation Division Manager

APPROVED: Mali LaGoe, City Manager

SUBJECT: **Update on Mitigation of Concerns Regarding the Tennis and Pickleball Courts**

SUMMARY OF ISSUE

In December 2023, the Parks and Recreation commission supported moving forward with the mitigation proposed by the subcommittee to address concerns at the Skypark tennis and pickleball courts.

Below is an update on how the concerns have been mitigated.

Concern 1: Players not following court etiquette.
Solutions implemented: Court rules have now been installed at each doorway; 4 in total. Guidelines for the conduct of play are posted on the REC Skypark website.

Concern 2: People are parking in unsanctioned areas
Solutions implemented: A chain has been installed blocking parking in the dirt area to the right of the courts. Boulders have been placed blocking parking on the median. The porta potty has been moved so that more cars can park on the side of the lot.

Concern 3: The increasing number of people on the courts is causing more noise
Solutions implemented:

Hours - The court hours have been adjusted to Sunday - Thursday 8:00 AM- 8:30 PM and Friday - Saturday 8:00 AM-9:30 PM.

Court Management - The REC court management software has been up and running since the last week of April. During peak hours of court use, players make reservations to play on the courts, which will help manage the number of court users.

Joint Use - In March at the joint city and school subcommittee meeting, City Manager LaGoe and RDM Pfefferkorn began conversations with the school district to explore how a partnership with the schools to use the courts could work.

REC court management
Since the reservation system has gone live on May 1, we have had:

- 184 Court reservations
- 2 Private lessons

- 12 Classes offered

Despite the large opposition to the use of the REC court management system from the pickleball players at the launch event, the Recreation Division has received minimal complaints since implementation.

The RDM will continue to monitor the relationship between the tennis players, pickleball players, and the neighbors.

FISCAL IMPACT

No fiscal impact.

STAFF RECOMMENDATION

Receive staff presentation.

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None

AGENDA ITEM 4.
DATE: 6/20/2024

City of Scotts Valley
PARKS AND RECREATION COMMISSION STAFF REPORT

DATE: 6/20/2024

TO: Honorable Mayor and City Council

FROM: Allison Pfefferkorn, Recreation Division Manager

APPROVED: Mali LaGoe, City Manager

SUBJECT: **Al Shugart Park Update**

SUMMARY OF ISSUE

Public Works has added Al Shugart Park to the 5-Year Capital Improvement Project list, following approval by the City Council on May 15th. The city is prioritizing the use of Parks DIF revenue for this project. The original plans were recently reviewed, and the updated cost for the project is now estimated at $2.6 million. The Parks DIF currently has $1.3 million allocated for this project.

Earlier this year, City Manager LaGoe requested congressional earmarked federal funding for the remaining needed funding, but the project was not selected. The city is actively seeking additional funding to close the remaining $1.3 million gap.

The project is still planned to include a dog park and restroom facilities as per the original plans for the land.

FISCAL IMPACT

No fiscal Impact

STAFF RECOMMENDATION

Receive the staff presentation.

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1. Shugart Park Master Plan
2. 2024.04.25 - Shugart_Park - Engineer Estimate

SCHEMATIC DESIGN BOOKLET

for the

City of Scotts Valley

Al Shugart Park

Approved by the City of Scotts Valley City Council March 4, 2009

February 24, 2009

Phone (831) 438-3251
Fax (831) 438-2557
E-mail csudduth@scottsvalley.org

Mr. Conrad Sudduth
City of Scotts Valley, Recreation Division
361 Kings Village Road
Scotts Valley, CA 95066

RE: AL SHUGART PARK/schematic design booklet

Dear Conrad:

Attached are the Schematic Design Plans and Booklet for the Al Shugart Park. The plans are a testament to the City's strong determination in preparing the park for construction. Towards that end, we anticipate that the plans will assist the City in its effort to raise money to build the park, as well as being the basis for development of complete construction documents, when the City is ready to move forward. Whether the final project proceeds as a single phase or is separated into multiple phases, the plans provide a solid foundation for eventual implementation of the park.

We have enjoyed working with the City to develop the Master Plan and prepare the schematic design documents. The future 7-acre park will provide a desirable recreation area, convenient school route, an inviting greenway for the residents of Scotts Valley, and a link from Siltanen Park to the east and from the high school to the west. We look forward to any City comments and questions regarding the plans and booklet, as well as working with you in the next phases of the project.

Sincerely,

Renee Erez, Project Manager
Callander Associates
Landscape Architecture, Inc.

Attachments: Schematic Design Booklet
Schematic Design Plans

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Environmental Planning

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Mark Stichter, ASLA, Principal
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Erik Sturch, ASLA, Principal
Benjamin W. Woodside, ASLA, Principal

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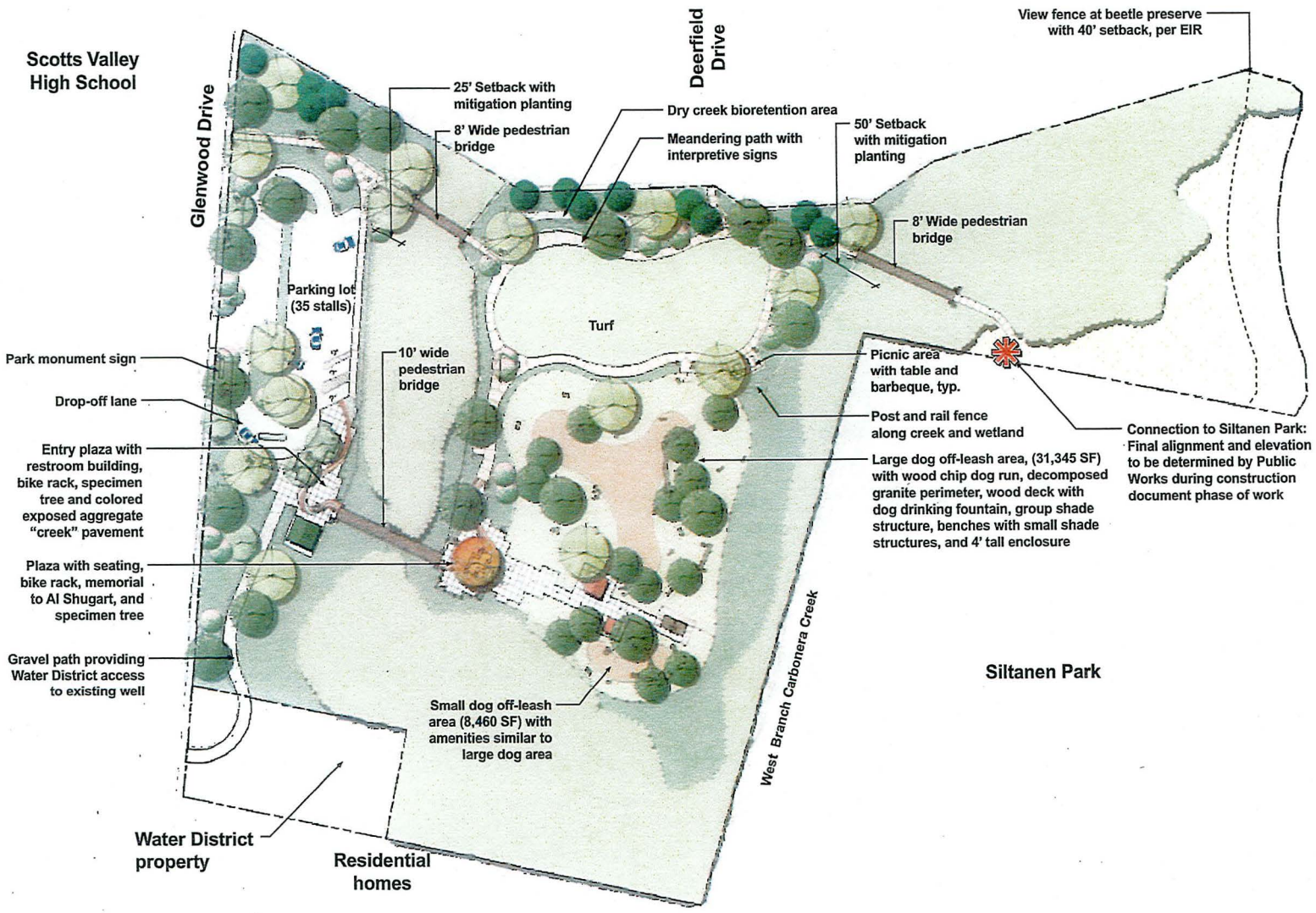

0 15' 30' 60'

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Master Plan
Al Shugart Park

City of Scotts Valley
April 16, 2008

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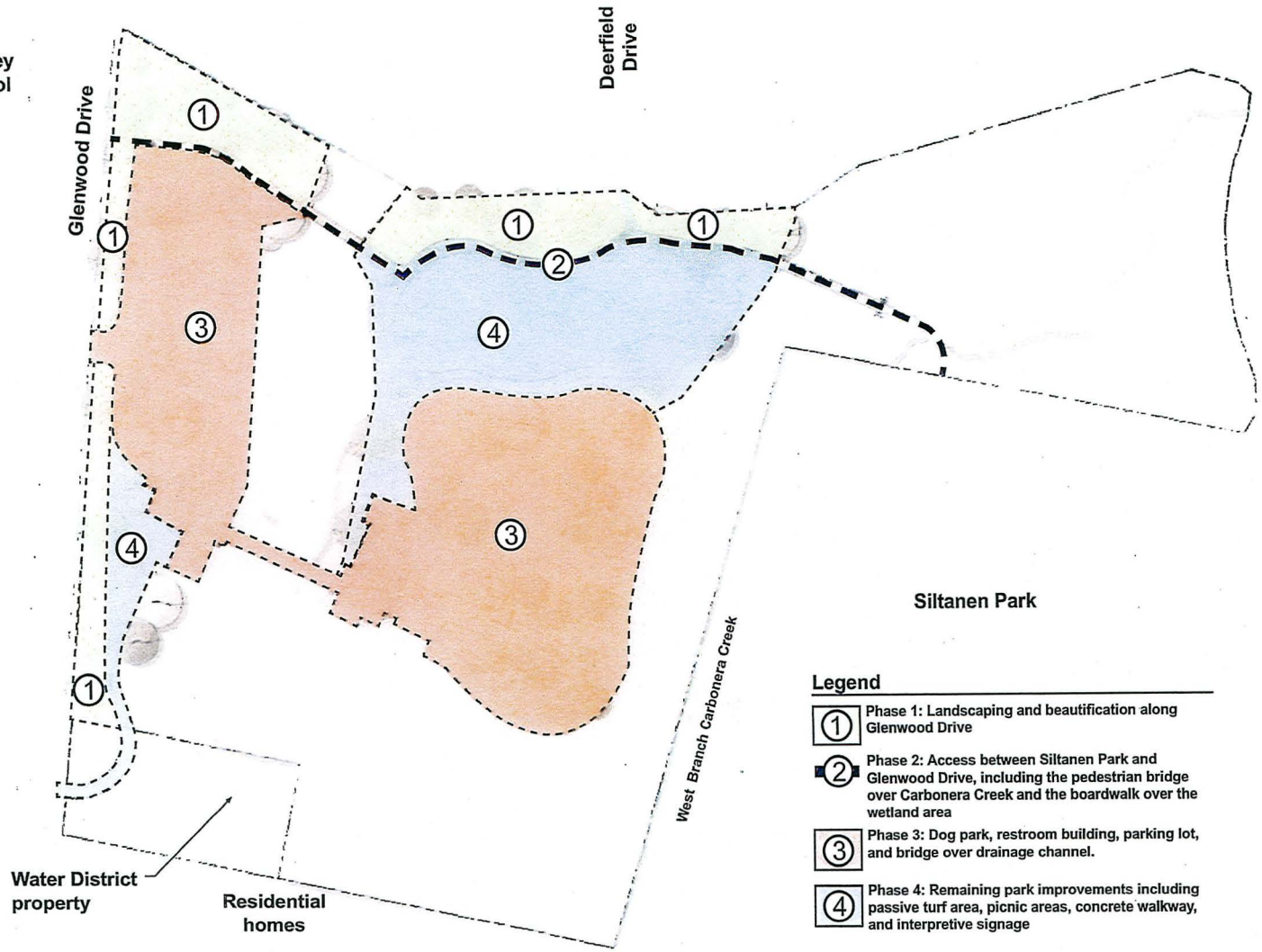

Legend

- (1) Phase 1: Landscaping and beautification along Glenwood Drive
- (2) Phase 2: Access between Siltanen Park and Glenwood Drive, including the pedestrian bridge over Carbonera Creek and the boardwalk over the wetland area
- (3) Phase 3: Dog park, restroom building, parking lot, and bridge over drainage channel.
- (4) Phase 4: Remaining park improvements including passive turf area, picnic areas, concrete walkway, and interpretive signage

0 15' 30' 60'

Callander Associates
Landscape Architecture, Inc.

Phasing Plan
Al Shugart Park

City of Scotts Valley
May 9, 2008

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Eastern Bridge

Manufacturer: Big R Bridge

Additional Notes: 85′ long x 8′ wide (clear between structural members), one-piece prefabricated Weathering Steel H Section Truss pedestrian bridge superstructure. Bridge includes horizontal safety rails 54 in. high with 4 in. maximum openings, steel toe plate, and Ipe bridge decking. Stone entry pilasters will be site built.

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Southwest Bridge

Manufacturer: Big R Bridge

Additional Notes: 90′ long x 10′ wide (clear between structural members), two-piece prefabricated Weathering Steel H Section Truss pedestrian bridge superstructure. Bridge includes horizontal safety rails 54 in. high with 4 in. maximum openings, a steel toe plate, and Ipe bridge decking. Stone entry pilasters (not shown) will be built on-site.

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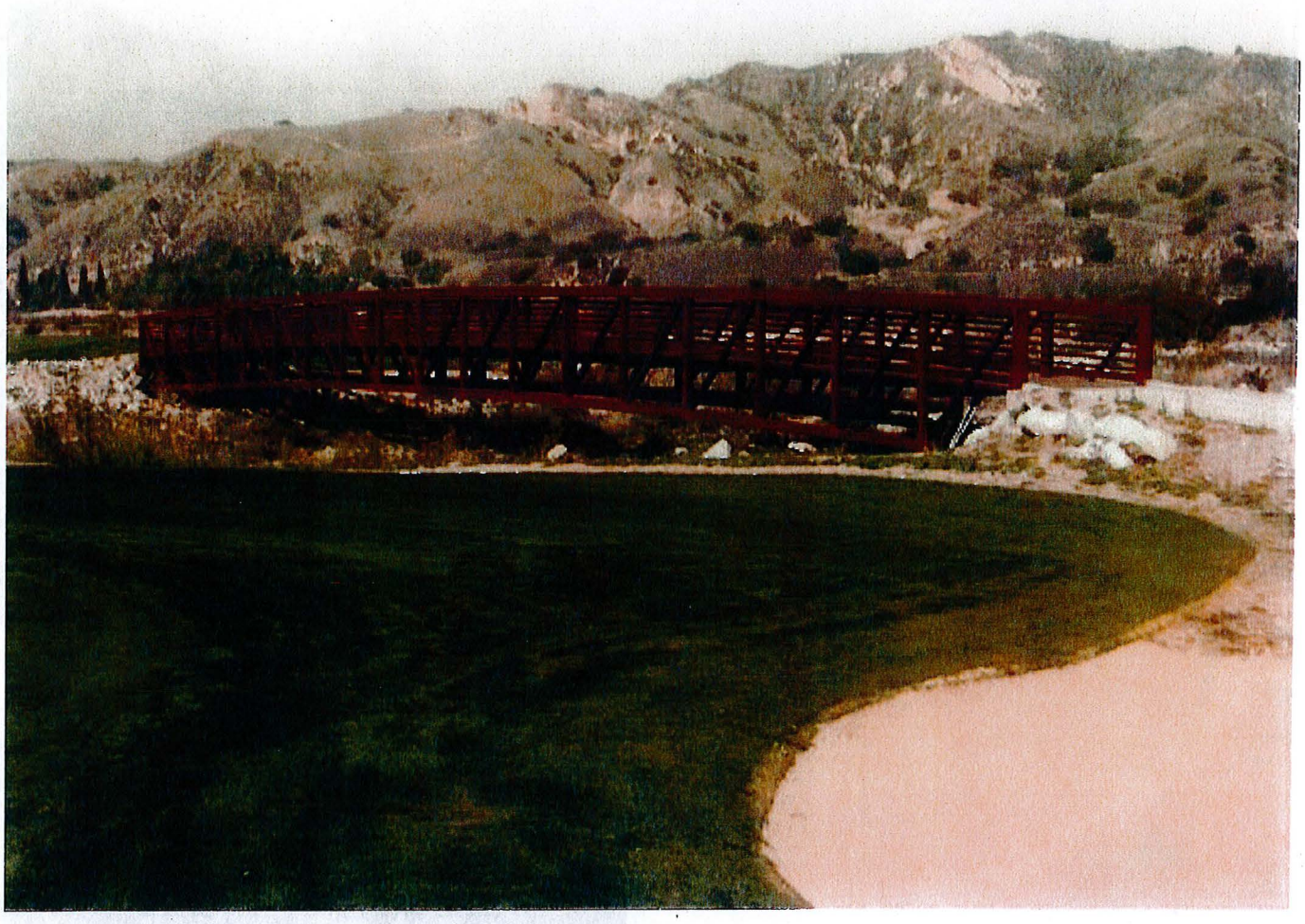
Northwest Bridge



Manufacturer: Big R Bridge

Additional Notes: 50′ long x 8′ wide (clear between structural members), one-piece prefabricated Weathering Steel H Section Truss pedestrian bridge superstructure. Bridge includes horizontal safety rails 54 in. high with 4 in. maximum openings, a steel toe plate, and Ipe bridge decking. Stone entry pilasters will be site-built.

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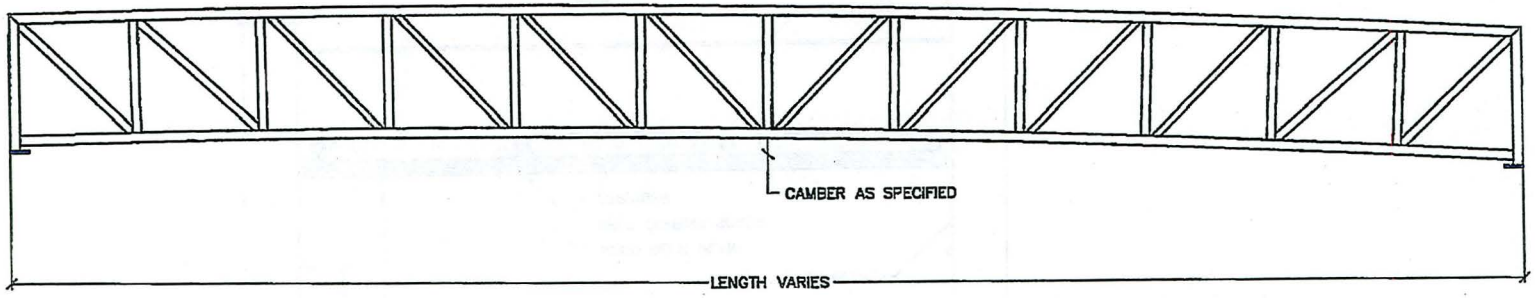
Bridges

Outside Elevation



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Al Shugart Park
Scotts Valley, California
2008-04059
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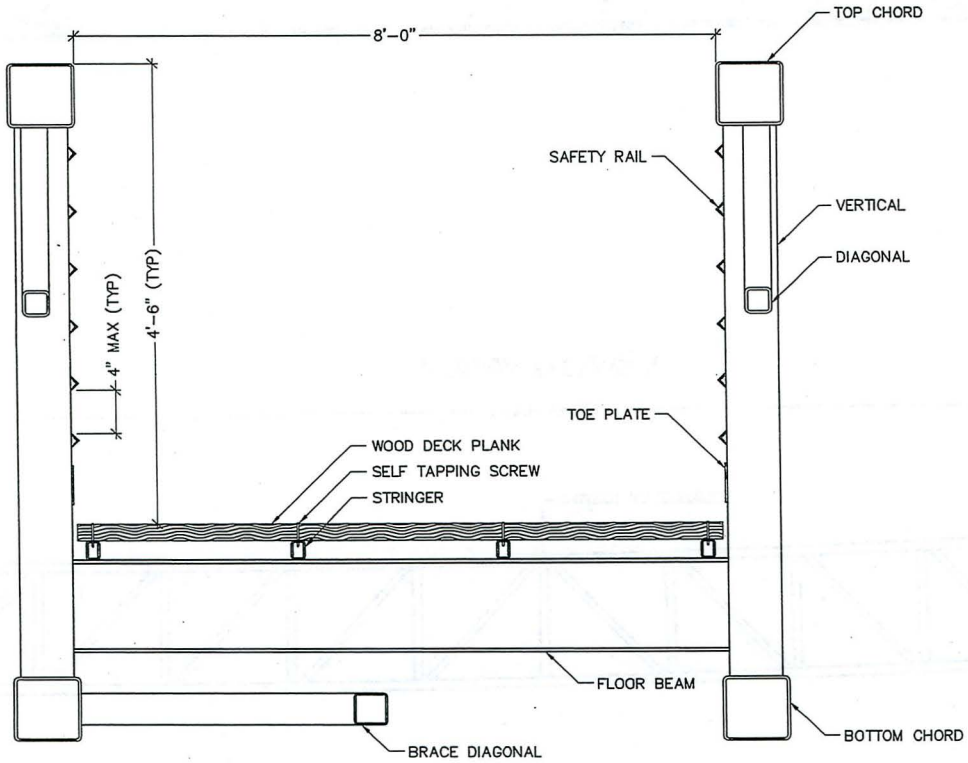
Cross Section



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Restroom Building

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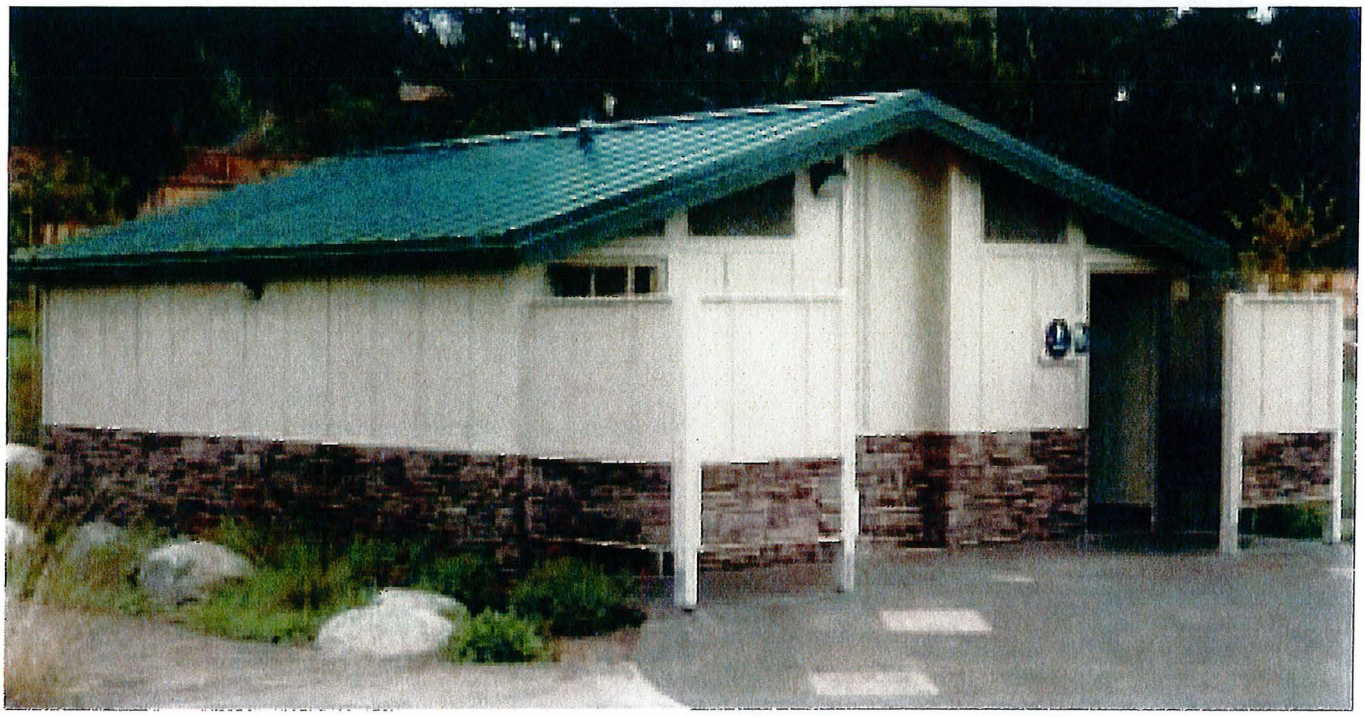
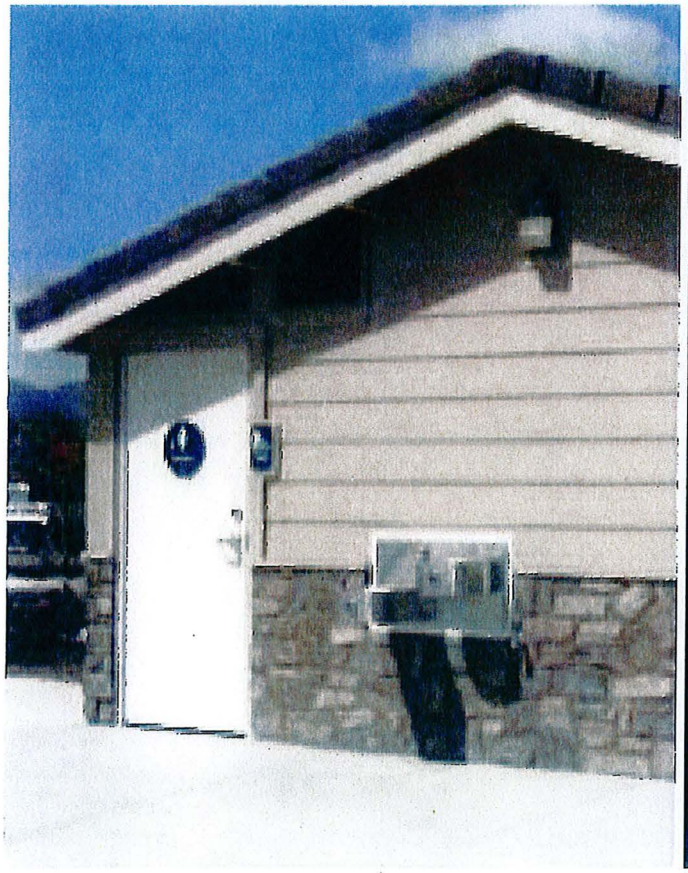
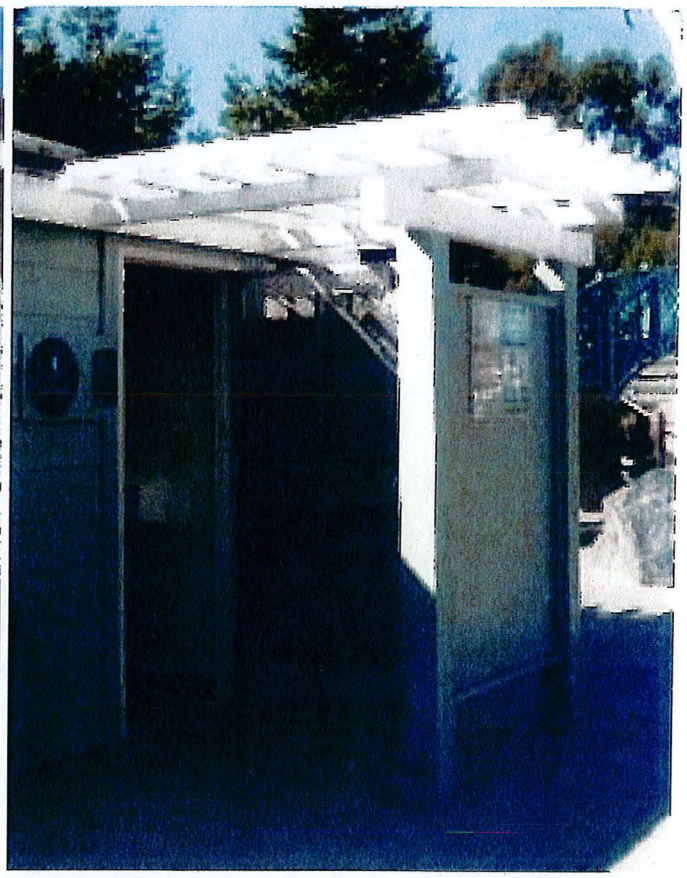
Sample Photos







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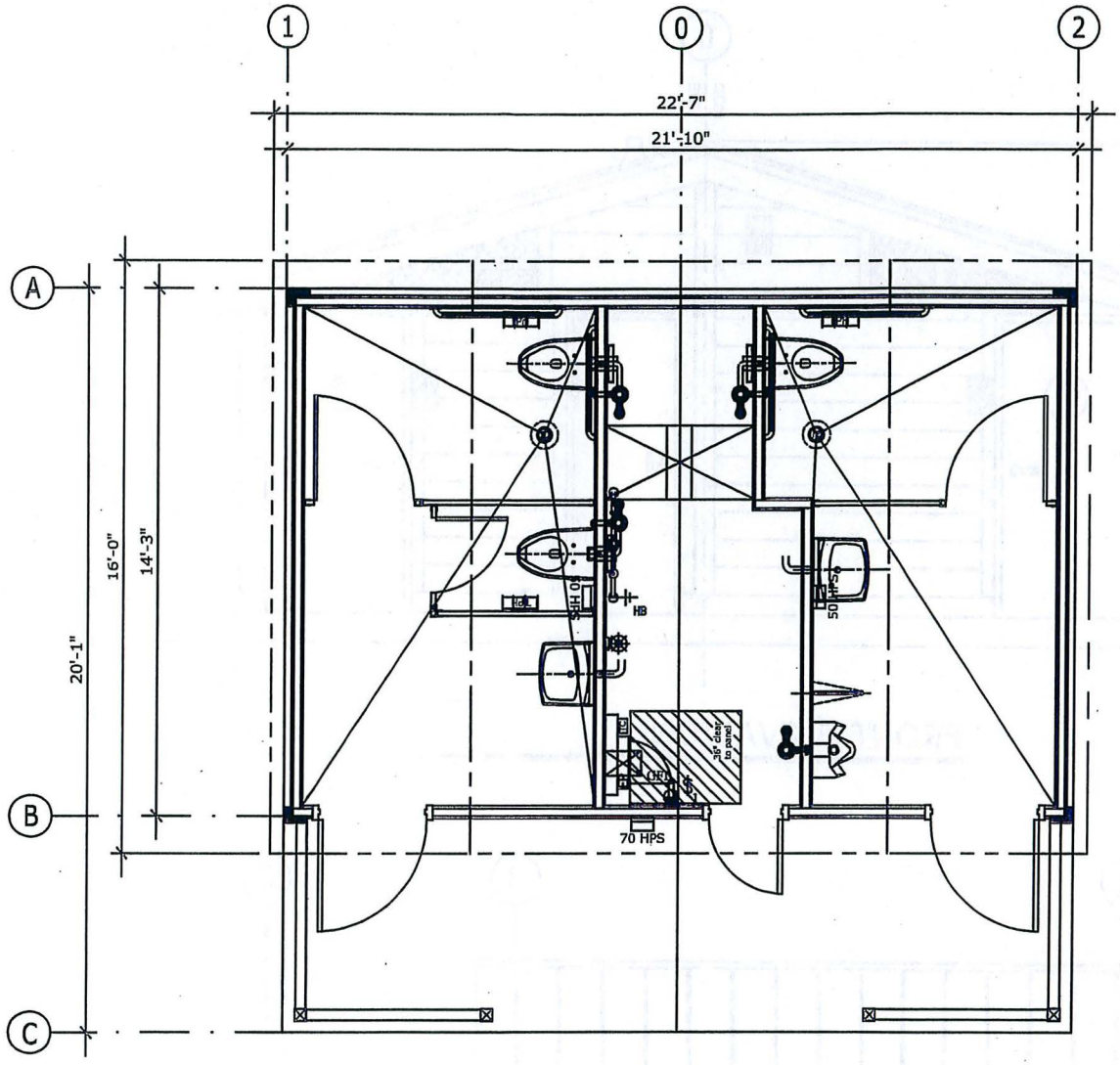
Plan View



FLOOR PLAN

Manufacturer: Restroom Facilities Limited

Dimensions: 22′-7″ x 20′-1″

Facilities: 2 stalls, women; 1 stall and 1 urinal, men; utility chase; arbor over privacy screens; fixtures to be waterless, where available

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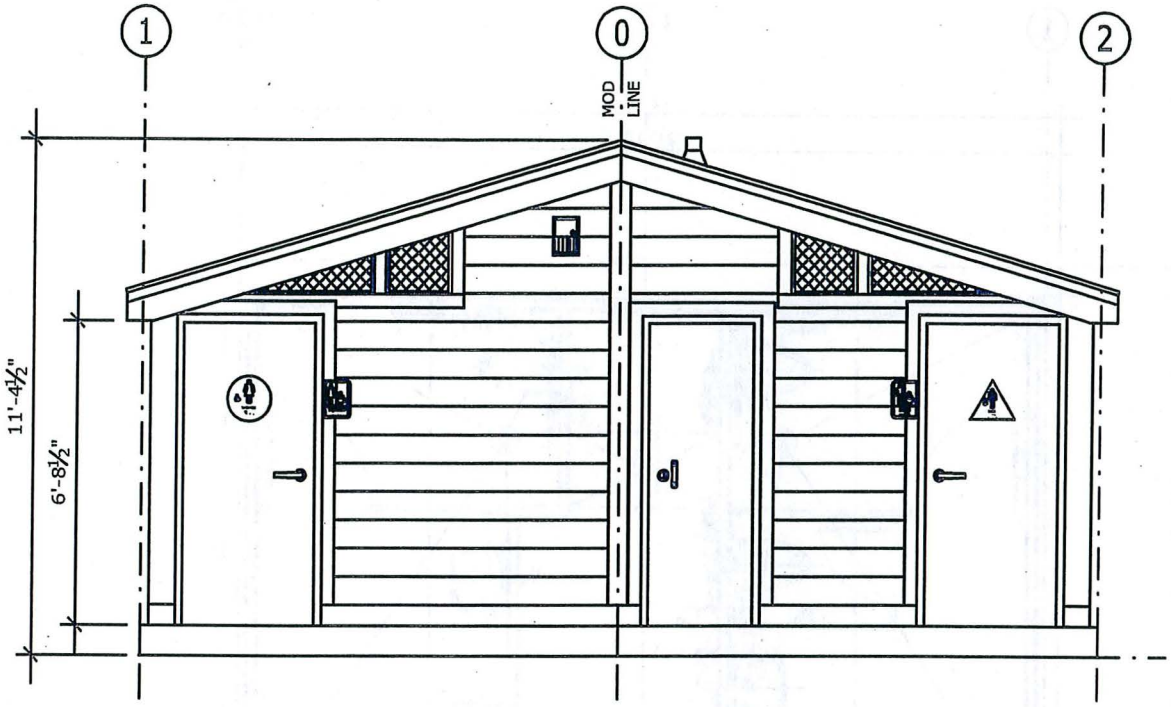
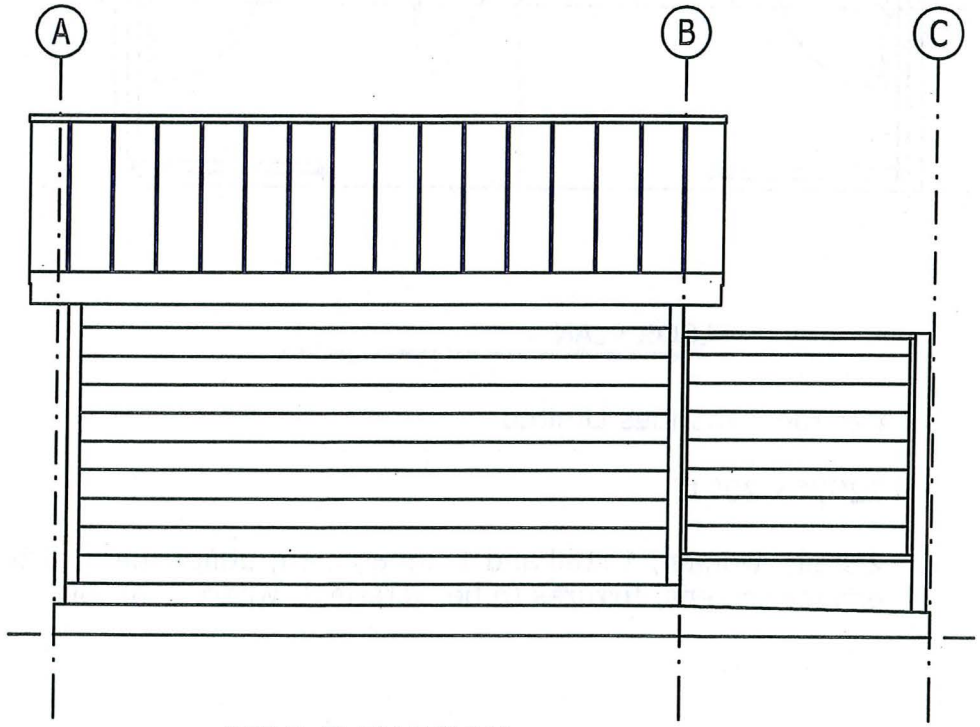
Exterior Elevations



FRONT ELEVATION



SIDE ELEVATION

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Landscape Architecture, Inc.

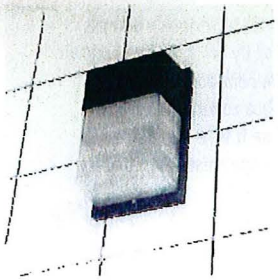
There are Reasons Why Our Restrooms Outlast all the others...

Maintenance-Free, Stainless Steel Gable Vents

We use only 9-gauge stainless steel on our gable vents. These vents require no maintenance, no costly re-painting because they won't rust. They are virtually unbreakable as well. Rugged 1/8" nominal thickness will even resist baseball bats.

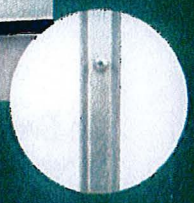
High Pressure Sodium, Vandal-Resistant Light Fixtures

Both interior and exterior light fixtures are high pressure sodium, vandal-resistant with concealed switches and outlets, and are rated for 24,000 hours. The exterior light fixtures come equipped with a photo-cell, which automatically shuts off the lights at dusk. Interior light fixtures come with a time clock, and can be set to turn on and off at any time.



Seamless Corner-to-Corner FRP

Typical FRP comes in 4' panels which require plastic seam strips. These strips need continual cleaning, and eventually yellow and crack, and have to be replaced. We use only continuous FRP which covers each wall corner-to-corner, from the floor to the top of the 8' wall, with stainless steel corners. This creates an easy-to-clean shower-stall effect which requires very little maintenance. We also use Class "A" FRP instead of the usual Class "C", because when burned, Class "C" will release toxic fumes. We heat-laminate the FRP... so no buckling, or peeling away from walls.



Our custom fabricated stainless steel corners are designed at a 93º angle. When fastened into place with stainless steel screws, they force extreme pressure against the FRP or tile, keeping moisture out.

Rugged, Water-Resistant Wall Tile

When it came to choosing a wall tile we thought "floors". Floor tile looks the same as wall tile but is harder to crack or break. Our optional stone based tile will hold up to tough conditions. We also use water-resistant epoxy grout, it doesn't absorb graffiti, is easily cleaned, resists mildew, and doesn't require maintenance.

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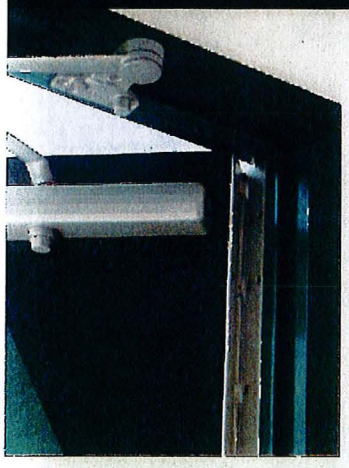
WE OFFER FEATURES YOU JUST CAN T GET ANYWHERE ELSE



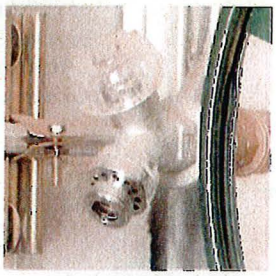
Industrial Door Closers and Continuous Hinges are Made to Last

You can count on our rugged industrial door closers to close properly time after time, even with extreme use. We use continuous geared door hinges. These hinges don't require the maintenance of typically used hinges. They are difficult to prie off, and individuals hanging on the door will not pull them loose. The entire door system is built to last.

We Even Paint Our Sheer Panels...for Added Protection

Most companies install unfinished sheer panels...they don't really show so why bother? We take the time to paint our sheer panels on both sides, before installation. It adds one more layer of protection from moisture...and that adds longer life to your building.

Hose Bibb is Located for Your Convenience.

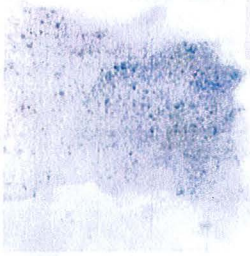


Instead of locating the hose bibb in the typical location, under the lavatory, we remote locate it in the plumbing chase. This central, easy to access location, makes hose-down maintenance easier and faster, and is vandal resistant.

Our Moisture-Resistant Concrete Floors Repel Moisture...So No Odors!

We are the only restroom manufacturer to seriously address the issue of odor, and damage, caused by urine soaked concrete. Most restroom manufacturers, or site contractors, apply a surface coating to the concrete. Surface coatings wear off, and usually the damage is done before it is re-applied. Urine not only causes odor, but it compromises the integrity of the concrete. Our moisture-resistant concrete floor is achieved with additives mixed directly into the concrete, so they can't wear off with time.

Our moisture-resistant concrete floor repels liquids, so our restrooms won t smell and concrete maintains its integrity.



A typical concrete slab will absorb moisture and urine causing odor and disintegration of the concrete.

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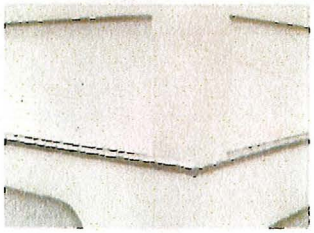
On-Site Construction Just Doesn t Measure Up

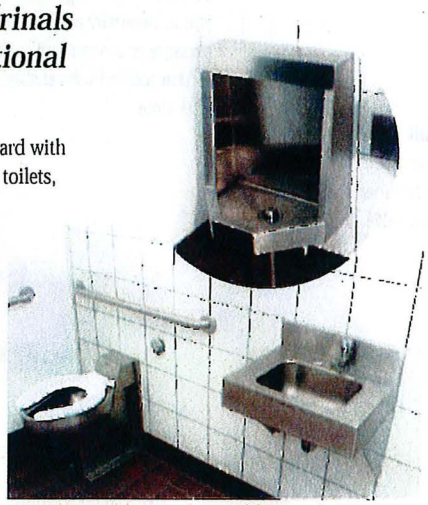


Stainless Steel Rain Flashing Won t Rust, Keeps Rain Out

We use 18-gauge stainless steel rain flashings over all doorways and belting boards. These flashings are stronger than the standard flashings most companies use. They are impervious to pitting and rust... just one more way we protect the building and extend it's life.

Toilets, Sinks and Urinals are Available in Optional Stainless Steel

All of our restrooms come standard with vitreous china fixtures. Vitreous toilets, sinks and urinals look great and hold up well in most conditions. There are many situations, however, that call for fixtures that are more rugged and that can take a lot more abuse. For those situations we offer optional stainless steel. These fixtures won't rust and can hold up under extreme conditions.



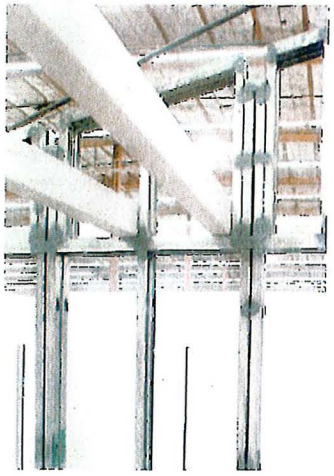
High Densit Baseboards with Stainless Steel Fasteners Can Take Abuse

We Use Onl Stainless Steel for All Exposed Metal... so No Rust!

Our 1/2" thick custom fabricated poly baseboard is grooved on the backside to hold a strong caulk bead, and are then fastened to the wall with stainless, vandal-resistant screws. We designed this baseboard system to be permanent.

Steel Framing Outlasts Wood

Most companies, especially on-site construction, use wood framing with screws and nails. Naturally this system is extremely susceptible to long-term moisture damage as well as natural deterioration. Every Restroom Facilities restroom is built with welded 16-gauge galvanized steel. Every joint is welded rather than nailed or screwed so your building is stronger, and will outlast wood frame construction.



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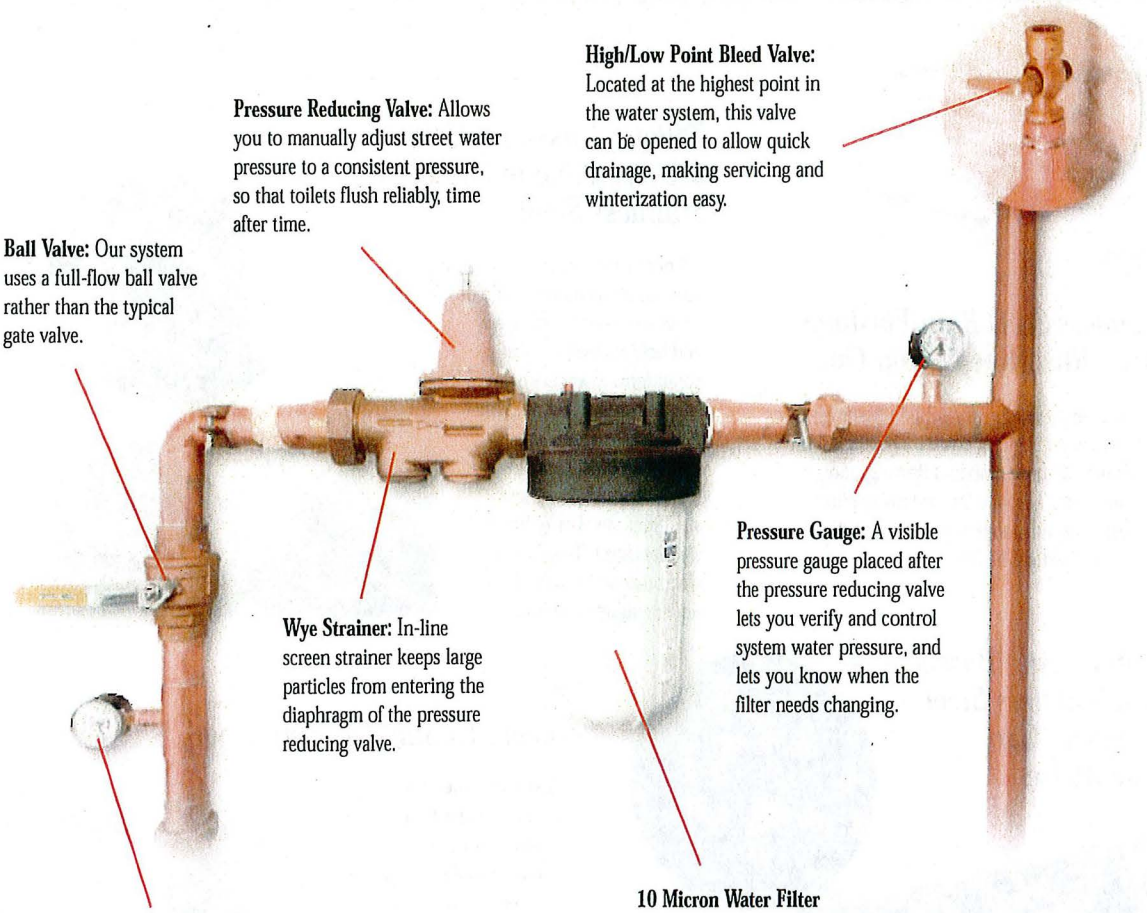
Our Valve Combo System Reduces Valve Maintenance...



High/Low Point Bleed Valve: Located at the highest point in the water system, this valve can be opened to allow quick drainage, making servicing and winterization easy.

Pressure Reducing Valve: Allows you to manually adjust street water pressure to a consistent pressure, so that toilets flush reliably, time after time.

Ball Valve: Our system uses a full-flow ball valve rather than the typical gate valve.

Pressure Gauge: A visible pressure gauge placed after the pressure reducing valve lets you verify and control system water pressure, and lets you know when the filter needs changing.

Wye Strainer: In-line screen strainer keeps large particles from entering the diaphragm of the pressure reducing valve.

10 Micron Water Filter Keeps particulate matter from clogging the flush valves and lavatory faucets.

Pressure Gauge: A visible pressure gauge, placed before the pressure reducing valve, reports street pressure.

THE NATION'S RESTROOM RESOURCE

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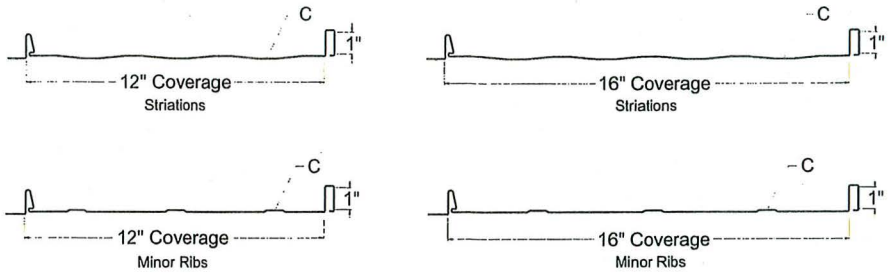
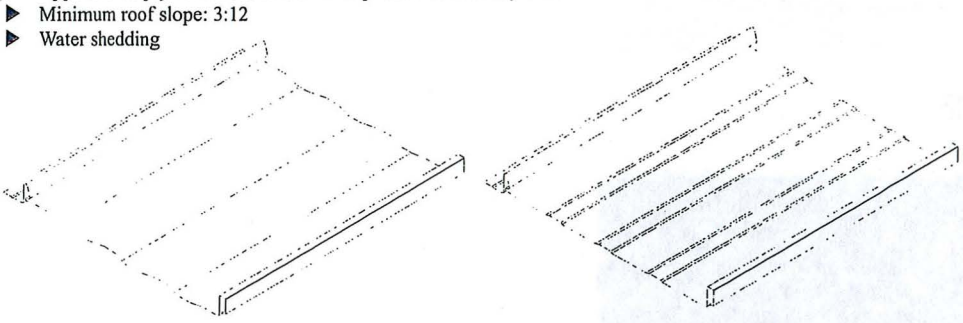
Roofing



ARCHITECTURAL RESIDENTIAL PANEL	CONCEALED FASTENERS	12" OR 16" COVERAGE	MINIMUM 3:12 SLOPE	SOLID WOOD SUBSTRATE

PANEL OVERVIEW

- Finishes: MS Colorfast45®, Kynar 500 (PVDF), and Acrylic Coated Galvalume®
- Gauge: 26ga standard
- 12" or 16" panel coverage, 1" rib height
- Architectural concealed direct fasten integral standing rib roof panel
- Applies over plywood substrate with 30 pound felt underlayment
- Minimum roof slope: 3:12
- Water shedding



With Striations

With Minor Ribs

TESTING

- Rated ASTM E-1592
- UL 2218, Class 4 Impact Resistance
- UL 790, Class A Fire Resistance Rating
- Miami-Dade Approved 05-0919.03 (80 ksi only)
- Florida Building Code Approved 5807.5 (80 ksi only)
- UL-580 Class 90 Uplift - Construction #529 over 5/8" Plywood

metal sales manufacturing corporation

Manufacturer: Metal Sales

Color: Fern Green 07

Type: Image II 26-gauge standing seam metal panels

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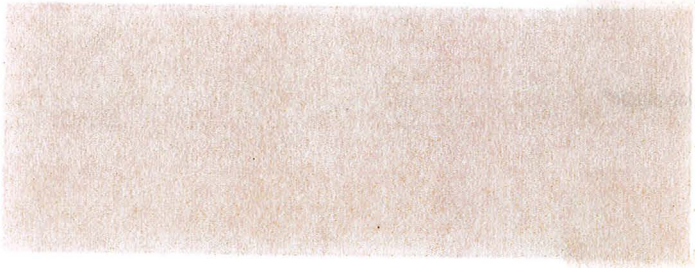
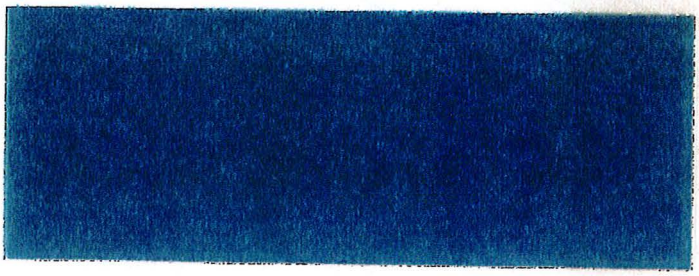
Exterior Finish

Prism White 30YY 71/073



Brown Bag 10YY 35/196



Berkeley Blue 30BG 16/133

Mushroom Cap 20YY 55/151

Manufacturer: James Hardie

Color: Mushroom Cap

Type: Hardiplank fiber reinforced cement
Horizontal lap siding with stone wainscotting

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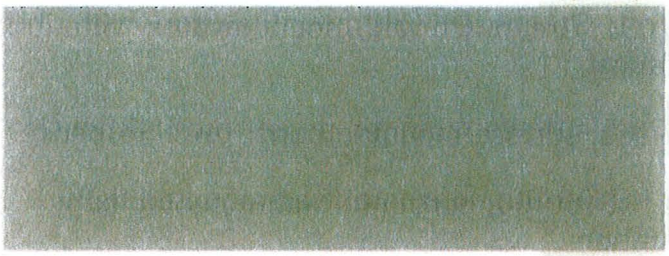
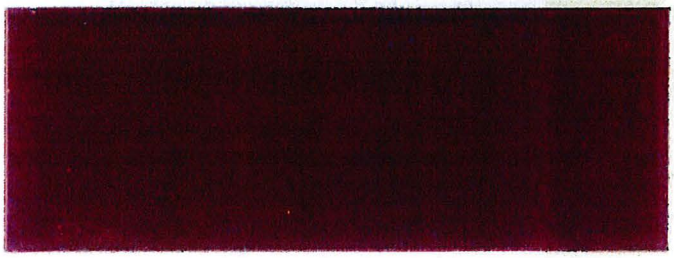
Landscape Architecture, Inc.

Interior Finish

Chardonnay White 70YY 75/124



Palo Verde 70YY 26/137



Rich Burgundy 30RR 09/187

Silent Fog 70YY 59/140

Color: Silent Fog with Palo Verde Trim

Type: Reinforced plastic wall finish with integral anti-graffiti shield

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Landscape Architecture, Inc.

Fixtures

Partitions:	1" high density polyehtylene plastic with structural steel pilasters and hardware
Grab Bars:	Bobrick, B-6806 Series, 1 1/2" diameter stainless steel grab bars with snap flange
Toilet Paper Holder:	Royce Rolls, TP Series, stainless steel paper dispenser systems with 3 rolls
Water Closet:	Kohler, K-4329, Kingston bowl with Zurn flushvalve
Urinal:	Kohler, K-4960-ER, Bardon superior urinal with Zurn flushvalve
Lavatory:	Kohler, K-2031, Greenwich wall-mount lavatory with Chicago metering faucet
Paper Towel Dispenser:	Bobrick, B-262, surface-mounted paper towel dispenser
Diaper Changing Station:	Koala Kare, KB100-00, horizontal wall-mounted baby changing station
Toilet Seat Cover Dispenser:	Bobrick, B-221, surface-mounted toilet seat cover dispenser
Trash Receptacle:	Bobrick, B-279, surface-mounted waste receptacle
Mirror:	Bobrick, B-1556 Series, frameless stainless steel mirror

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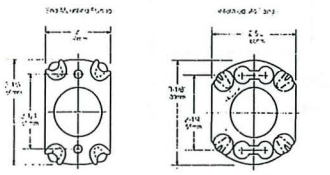
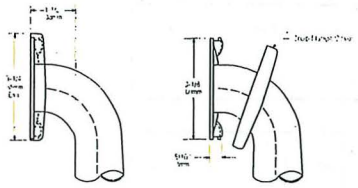
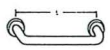
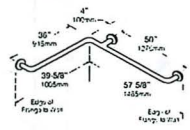
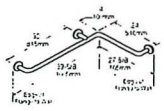
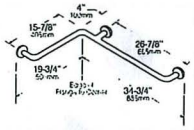
Grab Bars

BOBRICK Technical Data	1½" (38mm) DIAMETER STAINLESS STEEL GRAB BARS WITH SNAP FLANGE	B-6806 SERIES

Specify Finish Required:
- ☐ Satin finish
- ☐ Satin finish with peened gripping surface; add suffix .99 to model number





		
HORIZONTAL	VERTICAL	TWO-WALL WHEELCHAIR TOILET COMPARTMENT
B-6806 x 12, 18, 24, 30, 36, 42, 48		B-68137
		
HORIZONTAL TUB BATH 24 x 36	HORIZONTAL TWO-WALL BAR for 36 x 36 Shower Stall	
B-68616	B-6861	

continued . . .

The illustrations and descriptions herein are applicable to production as of the date of this Technical Data Sheet.
The manufacturer reserves the right to, and does from time to time, make changes and improvements in designs and dimensions.

Revised 8/07 S/B Printed in U.S.A.
© 2007 by Bobrick Washroom Equipment, Inc.

Manufacturer: Bobrick

Model: B-6806 Series

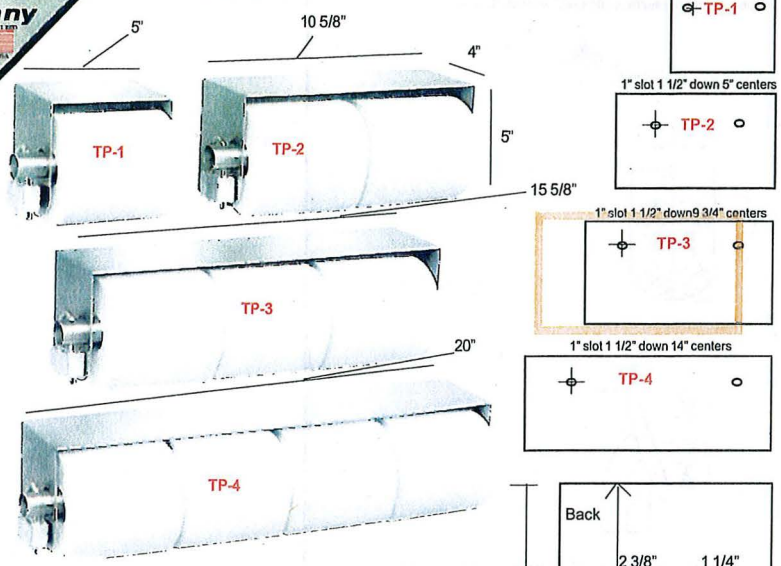
Additional Notes: 1 1/2" diameter stainless steel grab bars with snap flange

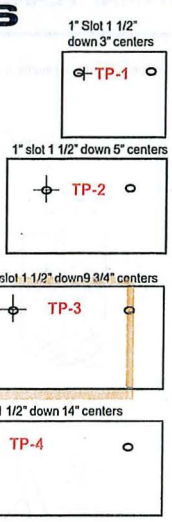
Toilet Paper Holder

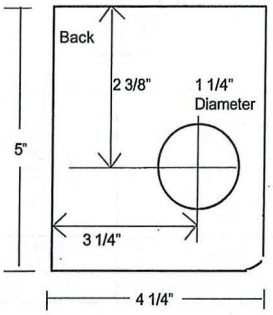
Royce Rolls Ringer Company

Stainless Steel Paper Dispenser Systems

TP series







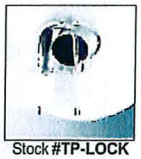
Toilet Paper Dispensers

	LENGTH	STOCK #
1	Roll 5"	TP-1
2	Roll 10 5/8"	TP-2
3	Roll 15 5/8"	TP-3
4	Roll 20"	TP-4
Replacement Tube		TP-TUBE
Master Lock® #510 (keyed alike)		TP-LOCK
Snap Ring		TP-CLIP

Durable, sturdy, 18 gauge, type 304 stainless steel frame, 20 gauge, 1 1/8" diameter stainless steel tube fits all rolls.
Locks are keyed alike. Anti theft design.
Lock and Clips sold separately

Stock #TPTUBE
1 1/8" OD stainless steel tube with flared end. 5/8" hole for TP-Lock or TP-Clip

Stock #TP-CLIP



Stock #TP-LOCK (keyed alike) Master Locks®

ROYCE ROLLS RINGER COMPANY
Grand Rapids, Michigan Since 1925 ALL PRODUCTS GUARANTEED 10 YEARS
TOLL FREE 1-800-253-9638 FAX 616-361-5976 www. RoyceRolls.net

Manufacturer: Royce Rolls Ringer

Model: TP Series

Additional Notes: Stainless steel paper dispenser systems with 3 rolls

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Water Closet

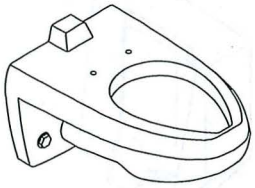
KOHLER®

KINGSTON™

BOWL
K-4329
ADA

Features

- *Vitreous china*
- *Elongated bowl*
- *Wall-mount*
- *With bedpan lugs (-L)*
- *1-1/2" rear spud*
- *12-3/8" (31.4 cm) x 11-3/8" (28.9 cm) water area*
- *ADA compliant when installed at required height of 17" (43.2 cm) -19" (48.3 cm) from floor to top of seat*
- *1.6 gpf (6 lpf)*
- *25-5/8" (65.1 cm) x 16-3/4" (42.5 cm) x 13-1/4" (33.7 cm)*



Codes/Standards Applicable

Specified model meets or exceeds the following:

- *ADA*
- *ASME A112.19.2*
- *IAPMO/UPC*
- *ICC/ANSI A117.1*
- *Energy Policy Act of 1992 (EPACT)*
- *CSA B45*

Colors/Finishes

- 0: White
- Other: Refer to Price Book for additional colors/finishes

Accessories:

- 0: White
- Other: Refer to Price Book for additional colors/finishes

Specified Model

Model	Description	Colors/Finishes	
K-4329	Elongated bowl toilet	❑ 0	❑ Other_____
K-4329-L	Elongated bowl toilet with bedpan lugs	❑ 0	❑ Other_____
Recommended Accessories			
K-4670-C	Lustra™ open front seat	❑ 0	❑ Other_____
K-4670-CA	Lustra open front seat with anti-microbial agent	❑ 0	

Product Specification

The elongated bowl shall be wall-mount with a 1-1/2" rear spud. Bowl shall be made of vitreous china. Bowl shall have 12-3/8" (31.4 cm) by 11-3/8" (28.9 cm) water area. Bowl shall be 1.6 gpf (6 lpf). Bowl shall be ADA compliant when installed at required height of 17" (43.2 cm) - 19" (48.3 cm) from floor to top of seat. Bowl shall have bed pan lugs (-L). Bowl shall be 25-5/8" (65.1 cm) in length, 16-3/4" (42.5 cm) in width, and 13-1/4" (33.7 cm) in height. Bowl shall be Kohler Model K-4329-_____-_____.

Page 1 of 2
113583-4-**BD**

USA: 1-800-4-KOHLER
Canada: 1-800-964-5590
kohler.com

Manufacturer: Kohler

Model: K-4329

Additional Notes: Kingston bowl with Zurn flushvalve

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Landscape Architecture, Inc.

Urinal

KOHLER®

BARDON™ SUPERIOR

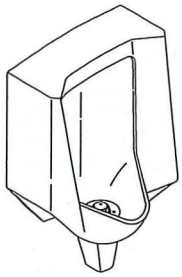
URINAL

K-4960-ER

ADA

Features

- *Vitreous china*
- *Washout*
- *3/4" rear spud*
- *Includes removable beehive strainer, inlet and outlet spuds, and hangers*
- *0.5 gpf (1.89 lpf) to 1 gpf (3.78 lpf)*
- *14-1/8" (35.9 cm) extended rim*



Codes/Standards Applicable

Specified model meets or exceeds the following:

- *ADA when rim is mounted no higher than 17" (43.2 cm) from finished floor*
- *ASME A112.19.2*
- *IAPMO/UPC*
- *ICC/ANSI A117.1*
- *Energy Policy Act of 1992 (EPACT)*
- *CSA B45*

Colors/Finishes

- 0: White
- Other: Refer to Price Book for additional colors/finishes

Accessories:

- G: Brushed Chrome

Specified Model

Model	Description	Colors/Finishes	
K-4960-ER	3/4" rear spud urinal	❑ 0	❑ Other_____
Optional Accessories			
K-13667	Touchless plug-in power supply		
K-13671	Touchless 60" (152.4 cm) extension		
K-13680	Touchless battery-powered urinal flush valve, wall mounted	❑ G	

Product Specification

The washout urinal shall be made of vitreous china with a 3/4" rear spud. Urinal shall have a 14-1/8" (35.9 cm) extended rim. Urinal shall include a removable beehive strainer, inlet and outlet spuds, and hangers. Urinal shall use 0.5 gpf (1.89 lpf) to 1 gpf (3.78 lpf). Urinal shall be Kohler Model K-4960-ER-_____.

Page 1 of 2
115945-4-**CB**

USA: 1-800-4-KOHLER
Canada: 1-800-964-5590
kohler.com

Manufacturer: Kohler

Model: K-4960-ER

Additional Notes: Bardon superior urinal with Zurn flushvalve

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Lavatory

KOHLER®

GREENWICH™

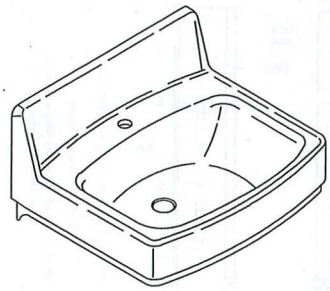
WALL-MOUNT LAVATORY

K-2031

ADA

Features

- *Wall-mount*
- *With overflow*
- *Drilled for concealed arm carrier*
- *With hanger*
- *Vitreous china*
- *Single-hole*
- *Optional soap dispenser hole on left (-L) or right (-R)*
- *20-3/4" (52.7 cm) x 18-1/4" (46.4 cm)*



Codes/Standards Applicable

Specified model meets or exceeds the following:

- *ASME A112.19.2*
- *ADA*
- *IAPMO/UPC*
- *CSA B45*
- *ICC/ANSI A117.1*

Colors/Finishes

- 0: White
- Other: Refer to Price Book for additional colors/finishes

Accessories:

- CP: Polished Chrome
- Other: Refer to Price Book for additional colors/finishes

Specified Model

Model	Description	Colors/Finishes	
K-2031	Single-hole lavatory less soap dispenser hole	❑ 0	❑ Other____
K-2031-L	Single-hole lavatory with soap dispenser hole on left	❑ 0	❑ Other____
K-2031-R	Single-hole lavatory with soap dispenser hole on right	❑ 0	❑ Other____
K-2031-N	Single-hole lavatory less overflow	❑ 0	❑ Other____
K-2031-NL	Single-hole lavatory with soap dispenser hole on left less overflow	❑ 0	❑ Other____
K-2031-NR	Single-hole lavatory with soap dispenser hole on right less overflow	❑ 0	❑ Other____

Recommended Accessory			
K-8998	Trap	❑ CP	❑ Other____

Optional Accessory		
K-1808-P	Brackets	❑ NA

Product Specification:

The single-hole wall-mount lavatory shall be 20-3/4" (52.7 cm) in length, and 18-1/4" (46.4 cm) in width. Lavatory shall be made of vitreous china. Lavatory with hanger and overflow shall be drilled for concealed arm carrier. Lavatory shall have optional soap dispenser hole on left (-L) or right (-R). Lavatory shall be Kohler Model K-2031-____.

Page 1 of 2
1007348-4-B

USA: 1-800-4-KOHLER
Canada: 1-800-964-5590
kohler.com

Manufacturer: Kohler

Model: K-2031

Additional Notes: Greenwich wall-mount lavatory with Chicago metering faucet

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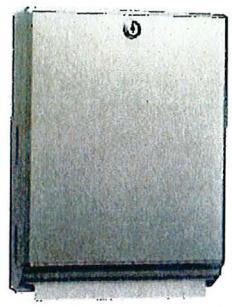
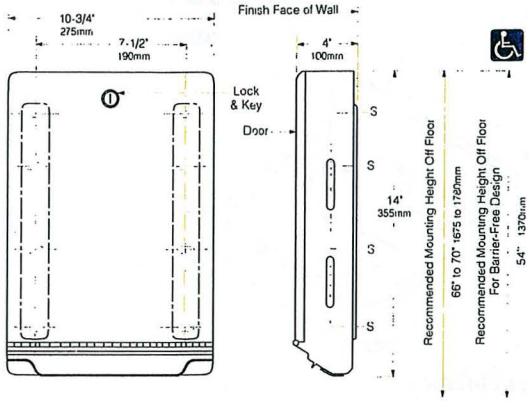
Paper Towel Dispenser

BOBRICK Technical Data	SURFACE-MOUTED PAPER TOWEL DISPENSER	B-262





MATERIALS:

Cabinet — 18-8 S, type-304, 22-gauge (0.8mm) stainless steel. All-welded construction. Exposed surfaces have satin finish. Towel tray has hemmed opening to dispense paper towels without tearing.

Door — 18-8 S, type-304, 22-gauge (0.8mm) stainless steel with satin finish. Secured to cabinet with a full-length stainless steel piano-hinge. Equipped with a tumbler lock keyed like other Bobrick washroom accessories.

OPERATION:

Unit dispenses C-fold and multifold paper towels 3-1/8" to 3-13/16" (79–97mm) deep without adjustment or use of adapters. Slots in sides of cabinet indicate refill time. Capacity: 400 C-fold or 525 multifold paper towels. To dispense narrower towels 2-1/2" to 3-1/8" (64–79mm) deep, order Bobrick Internal Towel Tray Adapter Kit, Part No. 5262-25.

INSTALLATION:

Mount unit on wall with four #10 x 1-1/4" (4.8 x 32mm) sheet-metal screws (not furnished) at four of the eight mounting holes indicated by an *S*. For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure with sheet-metal screws. For other wall surfaces, provide fiber plugs or expansion shields for use with sheet-metal screws, or provide 1/8" (3mm) toggle bolts or expansion bolts.

SPECIFICATION:

Surface-mounted paper towel dispenser shall be type-304 stainless steel with all-welded construction; exposed surfaces shall have satin finish. Door shall be secured to cabinet with a full-length stainless steel piano-hinge and equipped with a tumbler lock keyed like other Bobrick washroom accessories. Paper towel tray shall have hemmed opening to dispense paper towels without tearing. Unit shall be capable of dispensing 400 C-fold or 525 multifold paper towels without adjustment or use of adapters. Manufacturer's service and parts manual shall be provided to the building owner/manager upon completion of project.

Surface-Mounted Paper Towel Dispenser shall be Model B-262 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.

Manufacturer: Bobrick

Model: B-262

Additional Notes: Surface-mounted paper towel dispenser

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Diaper Changing Station

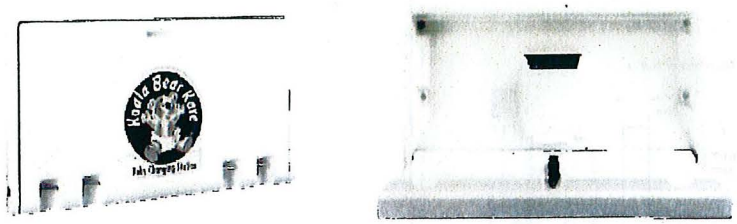
Koala Kare Products
A Division of Bobrick

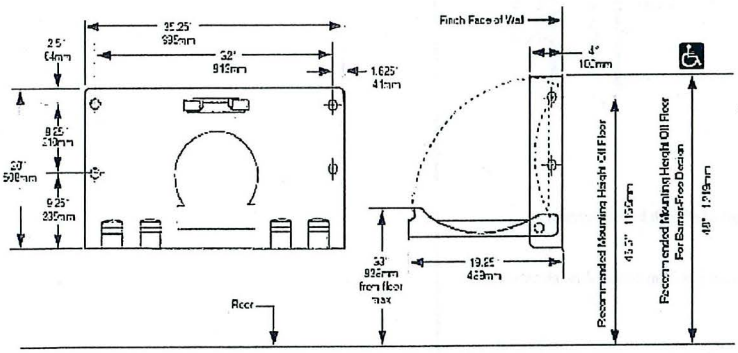
BABYCHANGINGSTATIONS.COM

1-866-465-3294

HORIZONTAL WALL-MOUNTED BABY CHANGING STATION

KB100-00 CREME





ADA Compliance
(when properly installed)
4.4.1 Max. Protruding Objects
4.2.5 Forward Reach
4.2.6 Side Reach
4.27.4 Operation

MATERIALS:

FDA approved blow-molded high-density polyethylene with Microban Antimicrobial additive. Reinforced full-length steel-on-steel hinge mechanism, with 11-gauge steel mounting plates and mounting hardware included. Molded in graphics and safety messages in six languages and Braille. Contoured changing surface area is 442 sq in (2873 sq mm) and comes complete with nylon safety straps and bag hooks.

continued ...

Manufacturer: Koala Kare

Model: KB100-00

Color: Creme

Additional Notes: Horizontal wall-mounted baby changing station

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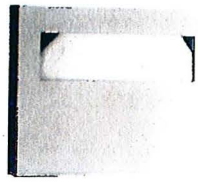
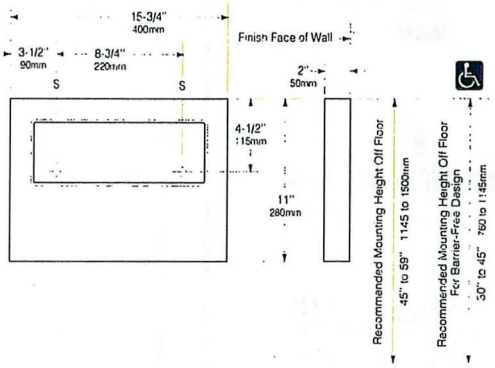
Toilet Seat Cover Dispenser

BOBRICK Technical Data	SURFACE-MOUNTED TOILET-SEAT-COVER DISPENSER	B-221





MATERIALS:

18-8 S, type-304, 22-gauge (0.8mm) stainless steel with satin finish. All-welded construction with beveled opening.

OPERATION:

Dispenses single- or half-fold paper toilet seat covers from beveled opening. Dispenser fills from bottom through concealed opening. Capacity: 250 toilet seat covers.

INSTALLATION:

Mount unit on wall or toilet partition with two flat-head screws, not furnished by manufacturer, at points indicated by an *S*. For plaster or dry wall construction, provide concealed backing that complies with local building codes, then secure unit with flat-head screws not furnished. For other wall surfaces, provide fiber plugs or expansion shields for use with screws, not furnished, or provide 1/8" (3mm) toggle bolts or expansion bolts.

Note: Provide a 2" (51mm) minimum clearance from bottom of dispenser to top of any horizontal projection to provide room for filling dispenser from bottom.

SPECIFICATION:

Surface-mounted toilet-seat-cover dispenser shall be type-304, 22-gauge (0.8mm) stainless steel with all-welded construction; exposed surfaces shall have satin finish. Dispenser shall have a concealed opening in bottom for filling. Capacity shall be 250 paper toilet seat covers.

Surface-Mounted Toilet-Seat-Cover Dispenser shall be Model B-221 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.

Manufacturer: Bobrick

Model: B-221

Additional Notes: Surface-mounted toilet seat cover dispenser

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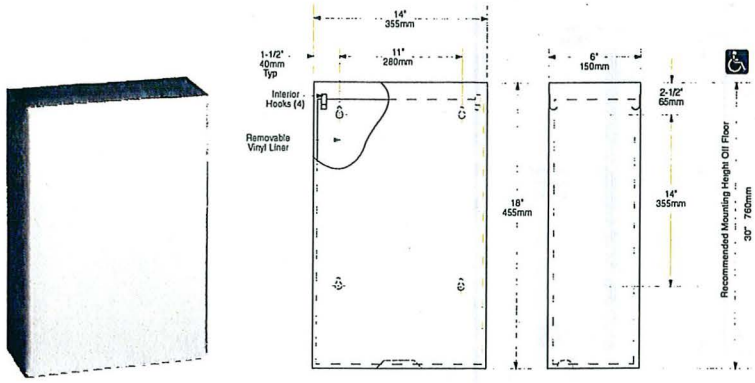
Trash Receptacle

BOBRICK
Technical Data

SURFACE-MOUNTED WASTE RECEPTACLE

B-279



MATERIALS:

Receptacle — 18-8 S, type-304 stainless steel with satin finish. Front and sides are one-piece, 22 gauge (0.8mm); back and bottom are one-piece, 26 gauge (0.5mm). All-welded construction. Top edge hemmed and bottom has recessed finger grip for safe handling. Equipped with four spot-welded interior hooks for attaching the vinyl liner. Capacity: 6.4-gal. (24.2-L).

Liner — Heavy-gauge vinyl with four grommets. Removable for servicing.

OPERATION:

Removable vinyl liner attaches to four interior hooks of waste receptacle. Space between bottom of receptacle and floor, when unit is properly mounted on wall, facilitates floor cleaning.

INSTALLATION:

Mount unit on wall with four sheet-metal screws (not furnished) at points indicated by an *S*. For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure unit with sheet-metal screws. For other wall surfaces, provide fiber plugs or expansion shields for use with sheet-metal screws, or provide 1/8" (3mm) toggle bolts or expansion bolts.

SPECIFICATION:

Surface-mounted waste receptacle shall be type-304 stainless steel with all-welded construction; exposed surfaces shall have satin finish. Front and sides of waste receptacle shall be one-piece, 22 gauge (0.8mm); back and bottom shall be one-piece, 26 gauge (0.5mm). Top edge shall be hemmed and bottom of waste receptacle shall have recessed finger grip. Waste receptacle shall be equipped with four interior hooks, furnished with a removable heavy-gauge vinyl liner, and shall have a minimum capacity of 6.4-gal. (24.2-L). Manufacturer's service and parts manual shall be provided to the building owner/manager upon completion of project.

Surface-Mounted Waste Receptacle shall be Model B-279 of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario; Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.

Manufacturer: Bobrick

Model: B-279

Additional Notes: Surface-mounted waste receptacle

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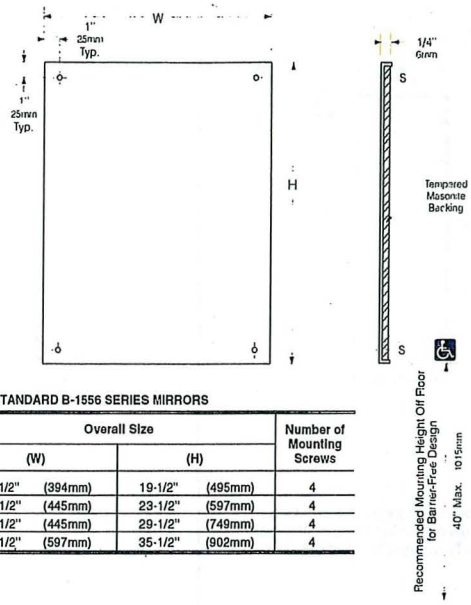
Mirror

BOBRICK
Technical Data

FRAMELESS STAINLESS STEEL MIRROR

B-1556 SERIES



STANDARD B-1556 SERIES MIRRORS

Model No.	Overall Size				Number of Mounting Screws
	(W)		(H)		
B-1556 1620	15-1/2"	(394mm)	19-1/2"	(495mm)	4
B-1556 1824	17-1/2"	(445mm)	23-1/2"	(597mm)	4
B-1556 1830	17-1/2"	(445mm)	29-1/2"	(749mm)	4
B-1556 2436	23-1/2"	(597mm)	35-1/2"	(902mm)	4

MATERIALS:

Mirror — 22-gauge (0.8mm), type-430 stainless steel with bright polished finish. Mirror has 1/4" (6mm) return.

Backing — 1/4" (6mm) thick tempered masonite.

INSTALLATION:

Mount mirror on wall with screws, furnished by manufacturer, at points indicated by an *S*. For plaster or dry wall construction, provide concealed backing to comply with local building codes, then secure unit with sheet-metal screws furnished. For other wall surfaces, provide fiber plugs or expansion shields for use with sheet-metal screws furnished, or provide 1/8" (3mm) toggle bolts or expansion bolts.

SPECIFICATION:

Frameless stainless steel mirror shall be type-430 stainless steel with bright polished finish. Mirror shall have 1/4" (6mm) return concealing 1/4" (6mm) tempered masonite backing. Mirror shall be furnished with mounting screws and finishing washers. Manufacturer's service and parts manual shall be provided to the building owner/manager upon completion of project.

Mirror shall be Model B-1556 _____ (insert width and height) of Bobrick Washroom Equipment, Inc., Clifton Park, New York; Jackson, Tennessee; Los Angeles, California; Bobrick Washroom Equipment Company, Scarborough, Ontario: Bobrick Washroom Equipment Pty. Ltd., Australia; and Bobrick Washroom Equipment Limited, United Kingdom.

Manufacturer: Bobrick

Model: B-1556 Series

Additional Notes: Frameless stainless steel mirror

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Art Tiles

Art tiles can be commissioned for installation on the shade structure support columns.

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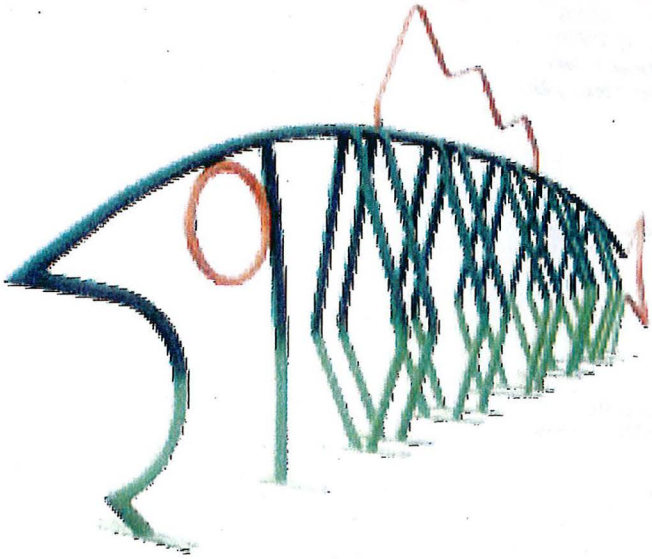
Custom Bike Racks



The Arts Commission may choose to develop a custom design for the park's bike racks.

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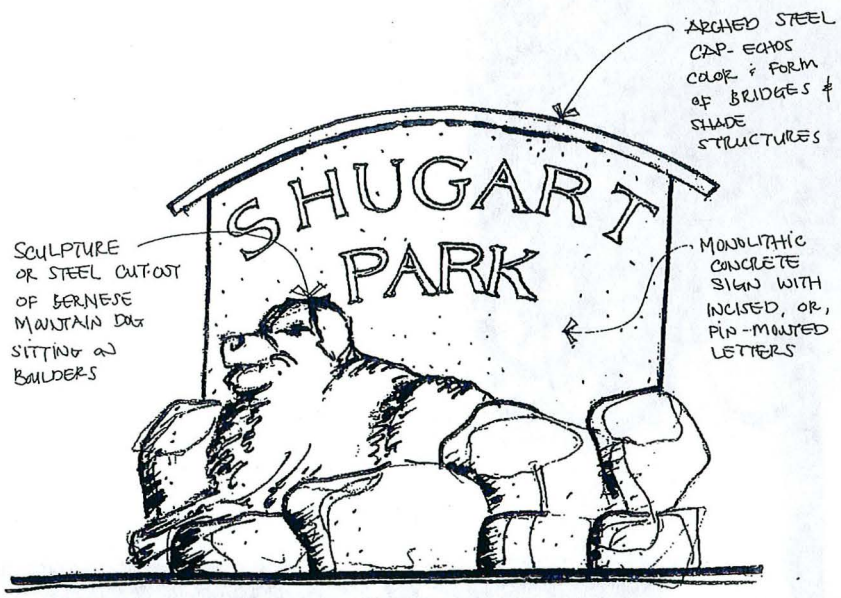
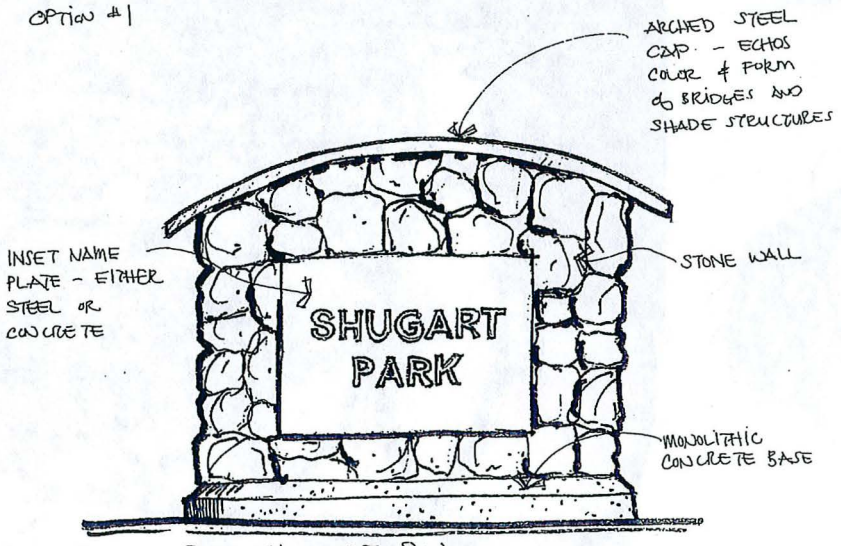
Monument Sign



AL SHUGART PARK: MONUMENT SIGN OPTION #1



AL SHUGART PARK : MONUMENT SIGN OPTION #2

A custom park monument sign could be commissioned for the park entrance.

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Site Furnishings

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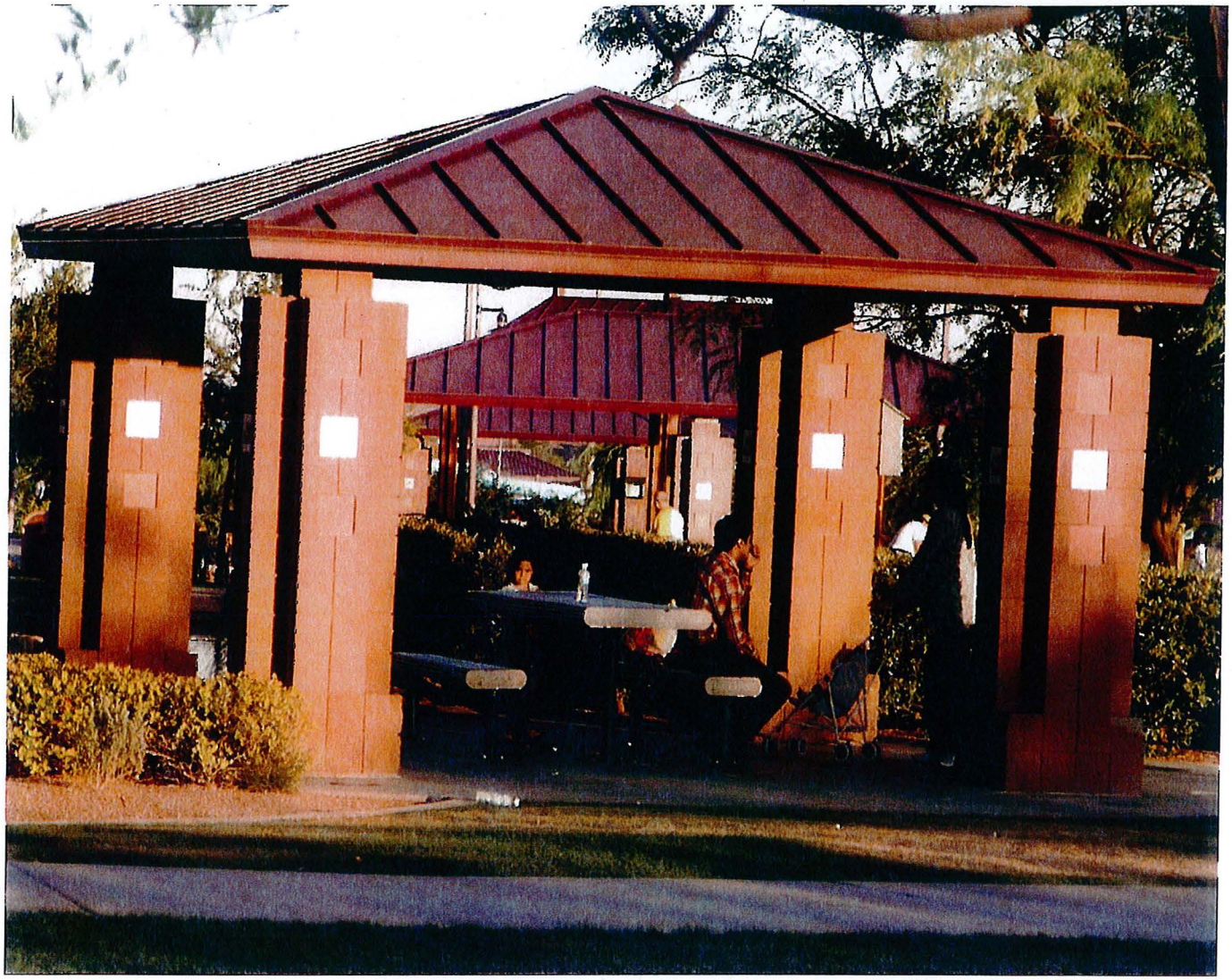
Shade Structure - Group



Manufacturer:	Classic Recreation
Model:	Denver, 16′ x 16′
Color:	Standing seam steel roof and masonry columns
Additional Notes:	Custom tile inlay optional

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Shade Structure - Bench

Manufacturer: Landscape Forms

Model: Mingus, 8′ x 10′

Color/Finish: Standing seam steal roof and columns

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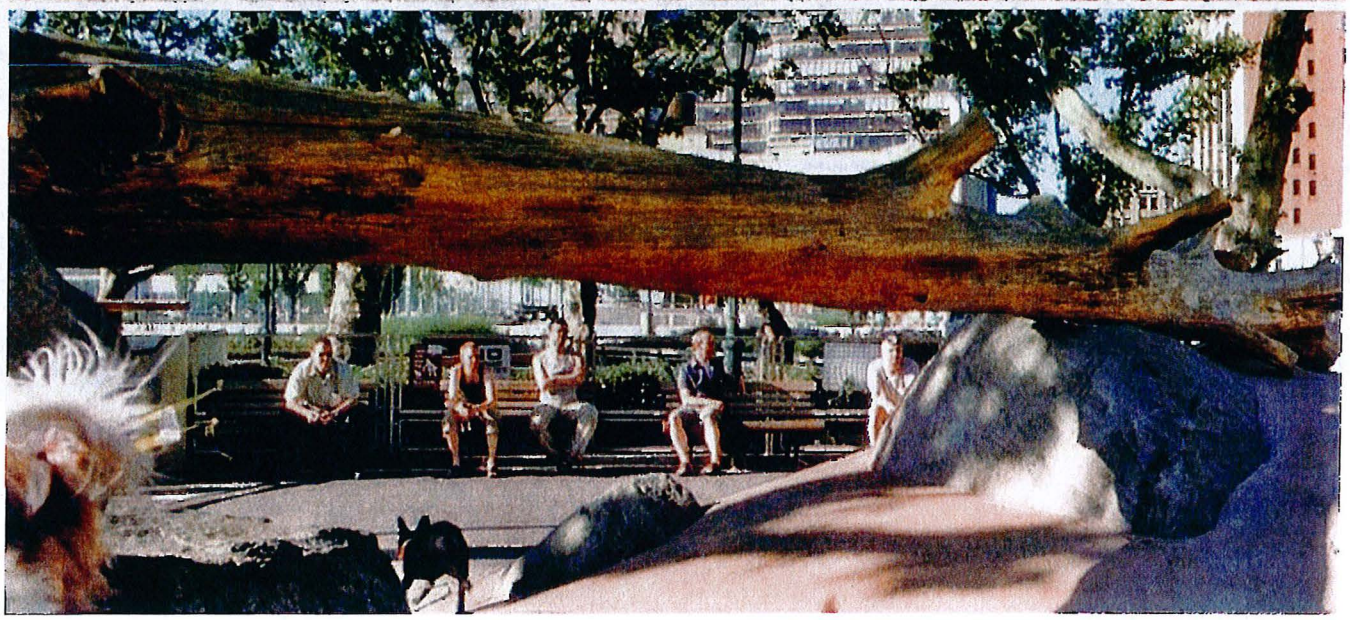
Dog Park "Play Equipment"



Description: Large boulders and tree trunks. Any tree removed from park site should first be evaluated for possible use in dog park; branches to be trimmed to 6" diameter minimum, or flush with trunk.

Additional Notes: Tree trunks are to be installed at grade; no elevated items are to be installed.

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Dog Fountain

Manufacturer: MDF

Model: Pet Fountain

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Bench, Dog Park Area

Manufacturer: Landscape Structures

Model: Recycled Polyethylene Bench, #100088A-H

Additional Notes: 100% post-consumer, UV-stabilized polyethylene 2" x 4" slats bolt to a rock-solid galvanized steel frame

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Dog Waste Bag Dispenser

Manufacturer: DogiPot or Mutt Mitt

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Bike Racks/Bollards

Manufacturer: Dumor

Bike Rack Model: 401-42, 42" high bollard with two bike loops

Bike Rack Model: 420-42, 42" high bollard

Color: Green

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Bench, Lawn Area

Manufacturer: Landscape Structures

Model: 111640A-H

Color: Recycled polyethylene planks and brown powdercoat

Additional Notes: 60" length with back; to match benches at Sky Park

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Picnic Table

Manufacturer: Landscape Structures

Model: 113139A-L

Color: Recycled polyethylene planks and brown powdercoat; to match tables at Siltanen Park

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Trash & Recycling Receptacles

Manufacturer: The Park Catalog

Color: Olive green with "Weathered Redwood" Recycled Plastic Trim

Description: Animal proof, steel, handicap accessible, single or double chute; one or two 32-gallon cans

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Fencing

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Split-Rail Fence

Manufacturer: Artisan Precast

Model: Wood Crete rail, 2-rail fence

Materials: Integrally colored concrete

Color: Buff

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View Fence

Description: 8′ high, 40′ to west of existing eastern property line

Materials: Wood construction with steel mesh panels to match

Location: Glenwood Development

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Chain Link

Description: 48" high, chain link, vinyl-coated

Color: Black

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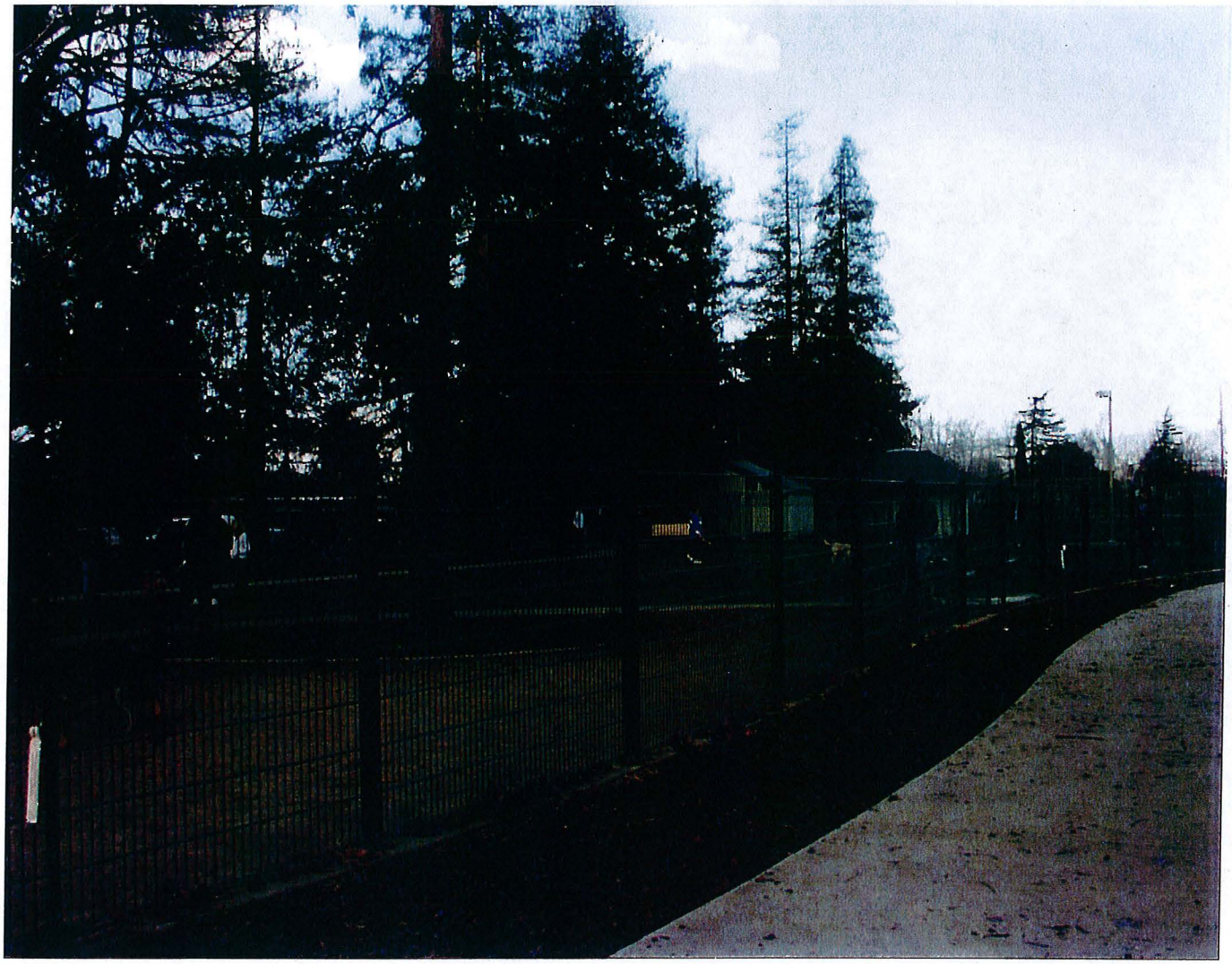
Mesh Fence



Description: Rectangular Steel Mesh, openings 3″ x 6″

Color: Black

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Lighting

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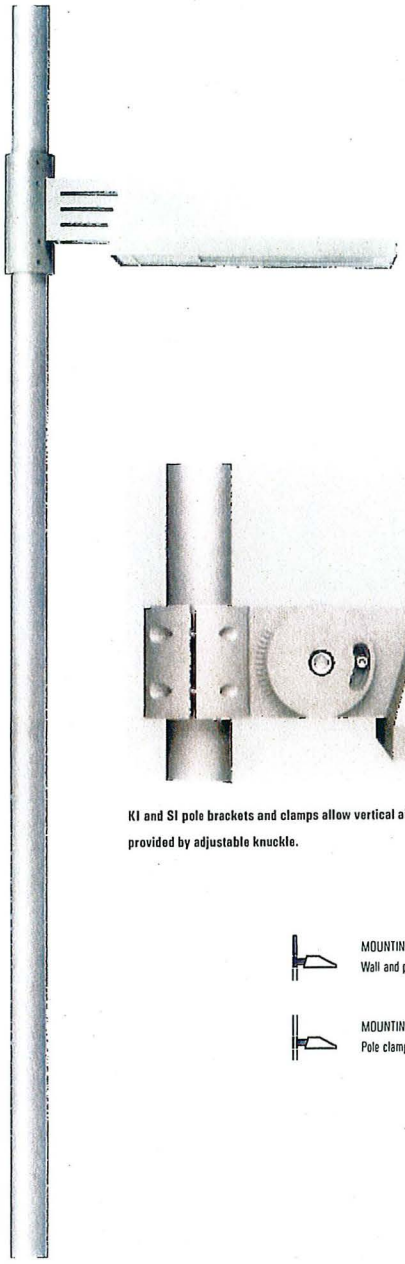
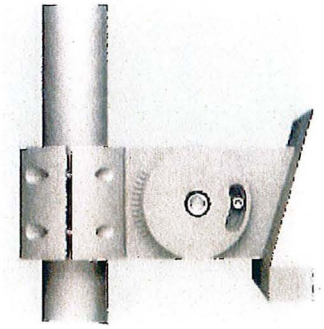
Parking Lot Lighting





KI and SI pole brackets and clamps allow vertical aiming provided by adjustable knuckle.

- Post mounted luminaire
- Type IV, forward throw distribution
- MH 70 - 175 watt
- HPS 70 - 150 watt

IP66. Marine grade die-cast aluminum construction with 5CE superior corrosion protection including PCS hardware. Silicone rubber gasket. Clear tempered glass lens. Anodized aluminum reflector. Specify voltage. Integral magnetic HPF, HID ballast in 120, 208, 240, 277 or 347 volt. Specify voltage.

No-tool removable, hinged gear tray with quick disconnect for easy maintenance. Convenient tool-less access to lamp compartment for lamp replacement. Luminaire mounts to pole, or building using PFL240 brackets. Brackets must be ordered separately.

Standard finish: Black RAL 9004 powder coat with fine texture. Optional finishes: White RAL 9016, or Grey Metallic RAL 9007.

UL, ULc listed. Suitable for Wet locations.

Suitable for the lighting of public and private areas, promenades, parks and parking areas. Recommended mounting height 12 - 24 feet depending on lamp type selected. High performance, architecturally styled Street and Area Luminaire with superior optics that address 'DARK SKIES' concerns, designed to minimize high angle glare in the 80 to 90 degree plane.

MOUNTING ACCESSORIES · · · · 294 - 296
Wall and pole brackets

MOUNTING ACCESSORIES · · · · · · · 297
Pole clamps.

MOUNTING ACCESSORIES · · · · 416 - 423
Poles

FACADE AND CEILING WASHLIGHTS · 150 - 153

FLOODLIGHTS · · · · · · · · · · 396 - 407

Manufacturer: WE-EF

Model: PFL240[S]

Color: Black KAL9004 powdercoat

Additional Notes: Compact florescent light bulbs, wooden pole, and KX mounting and rackets

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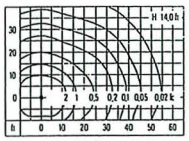
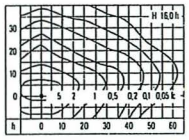
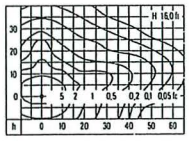
Type III Streetlighting distribution



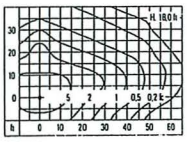
660-2431 [ECG]
PFL240 [S]
CFM57/ GX24q-5 base
4300 lm
Weight 23 5 lbs.
E.P.A.: 0 7 sq. ft



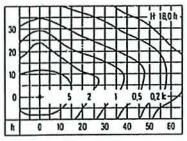
660-2440 [HPF]
PFL240 [S]
MH70 ED-17 (clear)/
Medium base
5500 lm
Weight 23 5 lbs
E.P.A.: 0 7 sq. ft



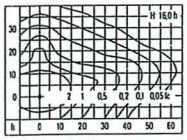
660-2441 [HPF]
PFL240 [S]
MH100 ED-17 (clear)/
Medium base
8500 lm
Weight 23.5 lbs.
E.P.A.: 0.7 sq ft.



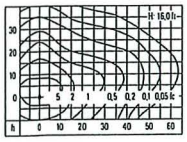
660-2442 [HPF]
PFL240 [S]
MH150 ED-17 (clear)/
Medium base
14000 lm
Weight 23 5 lbs
E.P.A.: 0.7 sq. ft.



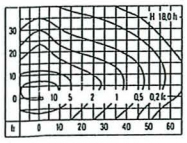
660-2443 [HPF]
PFL240 [S]
MH175 ED-17 (clear)/
Medium base
13500 lm
Weight 23.5 lbs
E.P.A : 0.7 sq. ft.



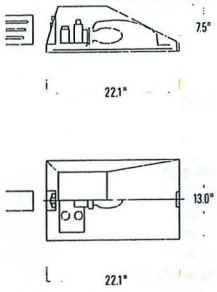
660-2470 [HPF]
PFL240 [S]
HPS70 E-17/ Medium base
6300 lm
Weight 23.5 lbs.
E.P.A.: 0.7 sq. ft



660-2471 [HPF]
PFL240 [S]
HPS100 E-17/ Medium base
9500 lm
Weight 23.5 lbs
E.P.A.: 0 7 sq. ft



660-2472 [HPF]
PFL240 [S]
HPS150 E-17/ Medium base
16000 lm
Weight 23.5 lbs.
E.P.A.. 0.7 sq ft.



Ordering guide:

Specify 7 digit code along voltage and finish. (Post top brackets and poles must be ordered separately)
Example: **660-2472 - 120 volt - Black RAL 9004**

ELECTRICAL ACCESSORIES
697-8001: Fusing (120V/ 277V) Specify
697-8006: Twist-lock photo cell receptacle. Photocell for NEMA base photocells. Photocell by others Specify

OPTICAL ACCESSORIES
683-8241:
Internal house-side shield
for Type III reflectors,
PFL240 [S] Specify

Manufacturer: WE-EF

Model: PFL240[S] with wooden pole and KX mounting and rackets

Color: Black KAL9004 powdercoat

Additional Notes: Compact florescent light bulbs

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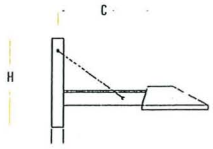
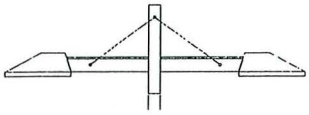
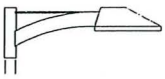
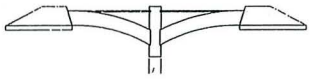
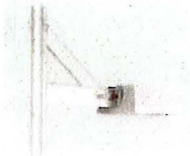
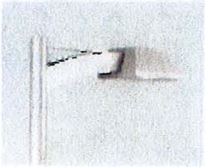
KL/KX MOUNTING ACCESSORIES - DECORATIVE POLE BRACKETS

Wall and pole brackets in Black RAL 9004,
White RAL 9016, and Grey Metallic RAL 9007.
Contact WE-EF for other finishes. Suitable for:

	PFL240	PFL260
	**660-9321** KL1-240 H = 29.5" C = 28.5" 20.0 lbs. Requires 3" o.d. x 8" long tenon.	**660-9331** KL1-260 H = 43.3" C = 44.3" 31.0 lbs Requires 3" o.d. x 8" long tenon.
	**660-9322** KL2-240 H = 29.5" C = 28.5" 31.0 lbs. Requires 3" o.d. x 8" long tenon.	**660-9332** KL2-260 H = 43.3" C = 44.3" 46.0 lbs. Requires 3" o.d. x 8" long tenon.
	**660-9361** KX1-240 H = 16.1" C = 28.5" 16.0 lbs. Requires 3" o.d. x 8" long tenon.	**660-9371** KX1-260 H = 24.8" C = 44.3" 24.0 lbs. Requires 3" o.d. x 8" long tenon.
 ø 3" long x 8" long	**660-9362** KX2-240 H = 16.1" C = 28.5" 24.0 lbs. Requires 3" o.d. x 8" long tenon.	**660-9372** KX2-260 H = 24.8" C = 44.3" 37.0 lbs. Requires 3" o.d. x 8" long tenon.





Ordering guide:

Specify 7 digit code along finish
(Area lighting luminaires and poles must be ordered separately)
Example: **660-2472 - Black RAL 9004 / 660-9321 - Black RAL 9004**

MOUNTING ACCESSORIES · · · · 416 - 423
Poles.

Manufacturer: WE-EF

Model: PFL240[S] with wooden pole and KX mounting and rackets

Color: Black KAL9004 powdercoat

Additional Notes: Compact florescent light bulbs

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Pathway Lighting

VRB

Configurations

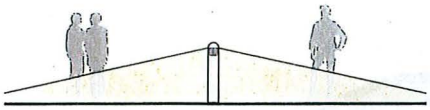
Vandal Resistant Round Bollards

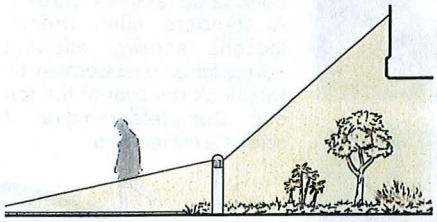
Single Function Luminaire

VRB1 and **VRB3** Horizontal louvers provide 360° of down-lighting with total lamp source cutoff above 90° horizontal. Designed for lighting walkways, entrances, courtyards, and landscaped areas where fixtures are viewable from all directions. See page **10**.

Dual Function Luminaire

VRB2 and **VRB4** Horizontal louvers provide 210° of cutoff down-lighting, and vertical louvers provide 150° of non-cutoff accent lighting. Designed for lighting walkways where adjacent building facades, walls or landscaping may be enhanced by a vertical wash of light. Fixtures should be viewable from the walkway only. See page **10**.





Manufacturer: Kim Lighting

Model: VRB1/42PL/BL-P

Color: Black

Additional Notes: Aluminum shaft with domed top and compact florescent light bulbs

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Pathway Lighting

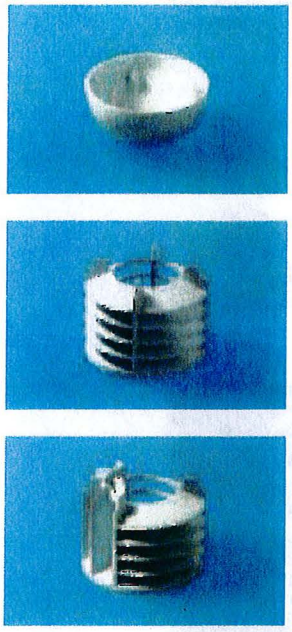
VRB

Features

Vandal Resistant Round Bollards

Vandal Resistant Construction

Luminaire components are heavy-wall aluminum castings. The top cap is available in either domed or flat-top configuration, and the louver modules are one-piece castings which provide greater strength than individually stacked louvers.

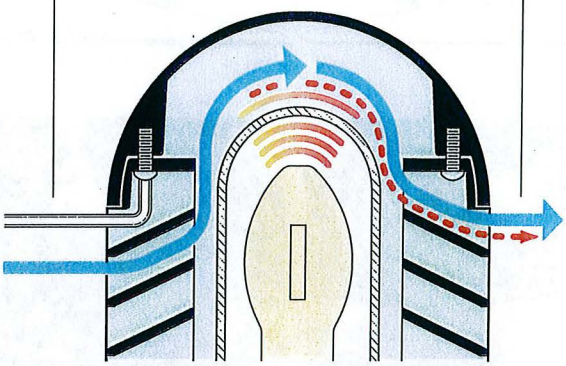


Concealed Access

Added security against vandalism is provided by concealed access screws. A standard allen wrench loosens screws, allowing access for lamp replacement by twist-lock removal of the top cap. Complete removal of screws is not required.

Air Cooling

Natural air currents provide flow-through ventilation, cooling the exterior metal surfaces and interior optical compartment, thereby minimizing excessive heat build-up.



Installation and Mounting Base Details

Aluminum Shaft

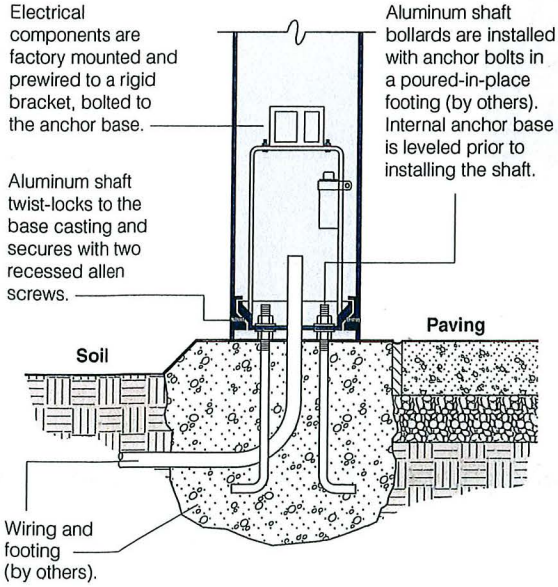
Installation in Soil

Electrical components are factory mounted and prewired to a rigid bracket, bolted to the anchor base.

Aluminum shaft twist-locks to the base casting and secures with two recessed allen screws.

Installation in Paving or Hardscape

Aluminum shaft bollards are installed with anchor bolts in a poured-in-place footing (by others). Internal anchor base is leveled prior to installing the shaft.



Concrete Shaft

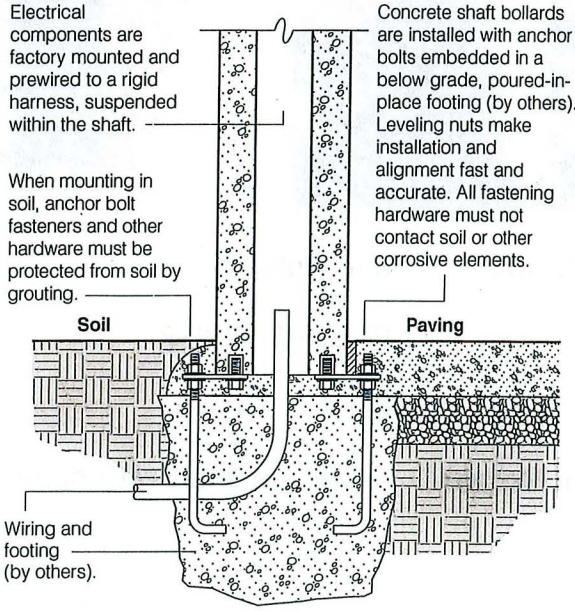
Installation in Soil

Electrical components are factory mounted and prewired to a rigid harness, suspended within the shaft.

When mounting in soil, anchor bolt fasteners and other hardware must be protected from soil by grouting.

Installation in Paving or Hardscape

Concrete shaft bollards are installed with anchor bolts embedded in a below grade, poured-in-place footing (by others). Leveling nuts make installation and alignment fast and accurate. All fastening hardware must not contact soil or other corrosive elements.



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Pathway Lighting

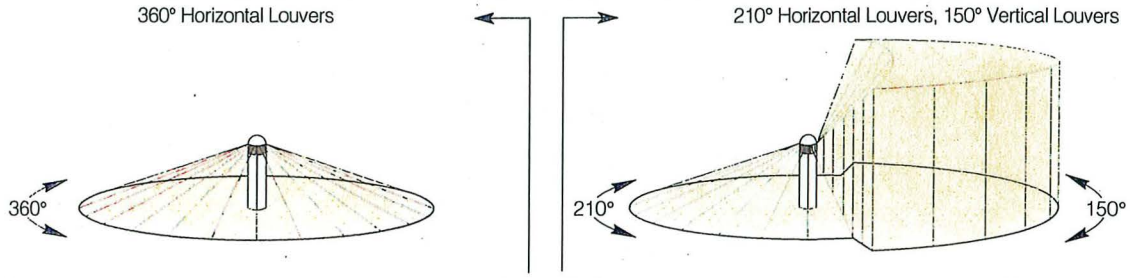
VRB

Vandal Resistant Round Bollards

Features

VRB1 and **VRB3** Single Function Luminaire
360° Horizontal Louvers

VRB2 and **VRB4** Dual Function Luminaire
210° Horizontal Louvers, 150° Vertical Louvers



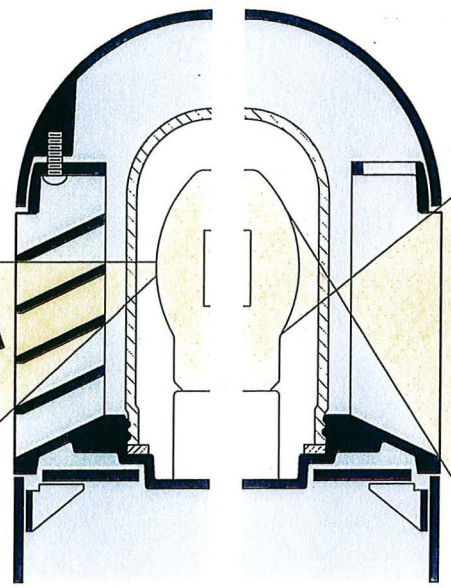
65° Louver Angle

Compact glass lamp enclosure allows deep horizontal louvers with a high angle for greater light throw. Closed vertical spacing eliminates direct viewing of the light source above horizontal, ensuring glare-free, efficient illumination.

Total Source Cutoff Above 90°

High-Angle Light Throw

Excellent light uniformity and fixture spacing is achieved as a result of the high-angle light throw. Peak candlepower is at 67.5°



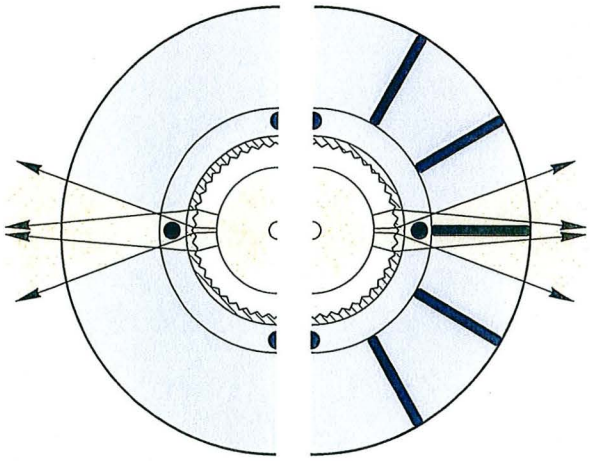
Vertical Wash Option (VRB2 and VRB4)

150° of unobstructed illumination provides accent light on building facades, walls or landscaping. Vertical louvers provide protection and shielding along this non-cutoff segment of the fixture.

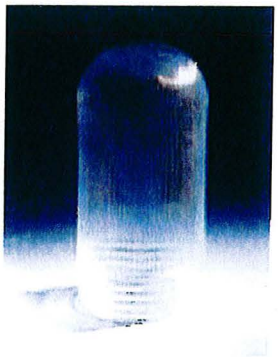
Vertical Section

Shadowless Lighting

Internal flutes in the glass lamp enclosure eliminate shadows by refracting light around structural supports and vertical louvers. Phosphor coated lamps are recommended, and **VRB2** and **VRB4** models should be located at least 10' from the vertical surface for best results.



Horizontal Section
at Light Center



Internally fluted, tempered and gasketed glass lamp enclosure.

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Paving Treatments

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Concrete Paving, Plaza

Treatment: Natural gray concrete pavement broken up with ribbons of exposed aggregate "creek" and boulders.

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Exposed Aggregate "Creek" Paving

Treatment: Ribbons of exposed aggregate concrete: small gold aggregate, medium gold aggregate, medium gray aggregate, and large grey aggregate.

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Concrete Paving, Pathways

Treatment: Sand Blasted Finish

Additional Notes: Pathway concrete to be terracotta color, similar to Sky Park
Dog "paw prints" will be stamped in pavement

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Dog Park Surfacing

Type: Decomposed Granite Paving

Pros:
Stable, slip resistant surfacing, which, if maintained, complies with ADA
Durable surface is resistant to digging
Finish and color are more 'natural' looking
Small particle size is easily brushed from dog's fur
Does not retain the smell of dog urine

Cons:
May require sprinkler system to manage dust
Must be regraded and compacted annually (or more often depending on use) to maintain ADA compliance
Can be impervious, leaving 'muddy' areas if water is left standing

Recommendations: Install stabilized decomposed granite paving around perimeter of off-leash areas

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Dog Park Surfacing

Type: Wood Fiber Surfacing

Pros:
Inexpensive and easily maintained
Natural looking surface

Cons:
Difficult to clean
Must be replenished regularly
Can be hard to walk on for both dogs and people
Dog waste may blend with color of wood fiber, making it more difficult to see
Absorbs dog urine and holds the smell; this can be mitigated with the use of a sprinkler system

Recommendations: Install engineered wood fiber surfacing in central 'dog run' areas within the off-leash areas

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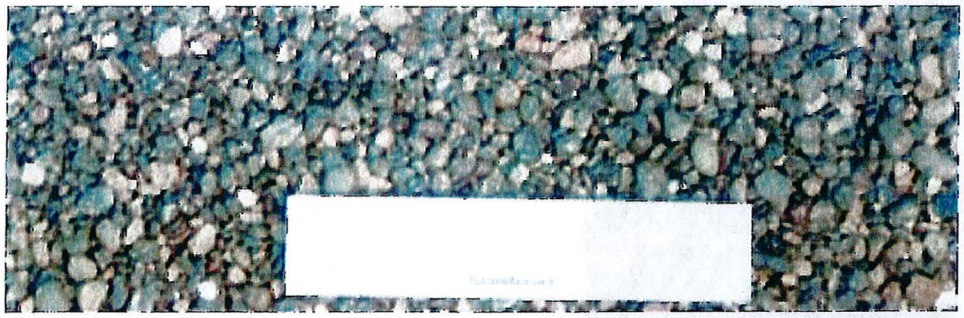
Dog Park Surfacing



Type:	Gravel Surfacing
Pros:	Easy to clean with a hose Drains quickly without leaving a 'muddy' area
Cons:	Can be hard to walk on for both dogs and people, depending on size and type of gravel
Recommendations:	Install near watering areas and at low spots of off-leash areas

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Dog Park Surfacing

Type: Wood Decking

Pros:
Easy to clean with a hose
Drains quickly without leaving a 'muddy' area
Easy to walk on for both dogs and people

Cons:
Can be slippery if water is allowed to sit for prolonged periods
Expensive

Recommendations:
Install at dog watering station only
Install with adequate spacing between planks to allow water to drain while maintaining ADA compliance

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Plant Palette

Botanical / Common Name	CA Native	Drought Tolerant	Deciduous	Evergreen	Perennial	Fall Color	Bloom Color	Bloom Season	Comments
TREES									
Cercis occidentalis / Western Redbud	X	X	X			X	M	SP	Picturesque seed pods
Platanus acerifolia 'Bloodgood' / London Plane Tree	X		X						Seed balls in Winter
Quercus agrifolia / Coast Live Oak	X	X		X					Susceptible to Sudden Oak Death
Quercus lobata / Valley Oak	X	X	X						Immune to Sudden Oak Death
Robinia x ambigua 'Idaho' / Idaho Locust		X	X				M	SP	
Sequoia sempervirens/ Redwood	X			X					
SHRUBS									
Baccharis pilularis / Dwarf Coyote Brush	X	X		X					
Carex divulosa / Berkeley Sedge	X	X		X		X	P	SP	
Cistus ladanifer / Crimson-spot Rockrose		X		X			W	SU	
Cistus x purpureus / Orchid Rockrose		X		X			P	SU	
Dendromecon harfordii / Island Bush Poppy	X	X		X			Y	SU	
Deschampsia caespitosa 'Susan's Choice / Tufted Hair Grass	X	X			X			SP	
Erigeron karvinskianus / Mexican Daisy					X		P	YR	
Heuchera micrantha / Coral Bells	X				X		W	SP	
Muhlenbergia rigens / Deer Grass	X	X		X			W	SU	
Phormium tenax / New Zealand Flax		X			X				
Pennisetum orientale / Fountain Grass		X		X					
Ribes speciosum / Fuchsia-flowering Gooseberry	X	X		X			R	W	
Symphoricarpos albus / Common Snowberry	X	X	X				P	SU	
GROUNDCOVERS									
Arctostaphylos uva-ursi 'Point Reyes' / Bearberry	X	X		X		X	P	SP	
Rosa californica 'Elsie' / California Wild Rose	X	X	X				P	SU	
TURF									
Pacific Sod Medallion Plus	90% Tall Fescue, 10% Kentucky Bluegrass								
HYDROSEED									
Pacific Coast Seed									

COLOR KEY

Y- Yellow PR- Purple W-White
R- Red P- Pink M - Magenta

SEASONS

SP- Spring F- Fall YR - Year-round
SU- Summer W - Winter

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Western Redbud

Latin Name: Cercis occidentalis

Description: Geographically this species takes over more or less where Cercis canadensis leaves off, occurring in the southwest of the USA where it grows on rocky slopes and in canyons. It is similar in growth habit and flowers to C. canadensis but usually remains shrubby. The leaves, more kidney-shaped and rounded at the apex, are bright green.

Cultivation: All 7 or 8 species are worth cultivating, though not all are easily obtained. They resent disturbance to their roots, especially transplanting. A sunny position suits them best and they thrive in hot, dry summer weather, as long as the soil moisture is adequate in winter and spring. They are easily propagated from seed, though growth is usually slow and it may take many years for them to become larger than shrub size.

Botanica on CD-ROM

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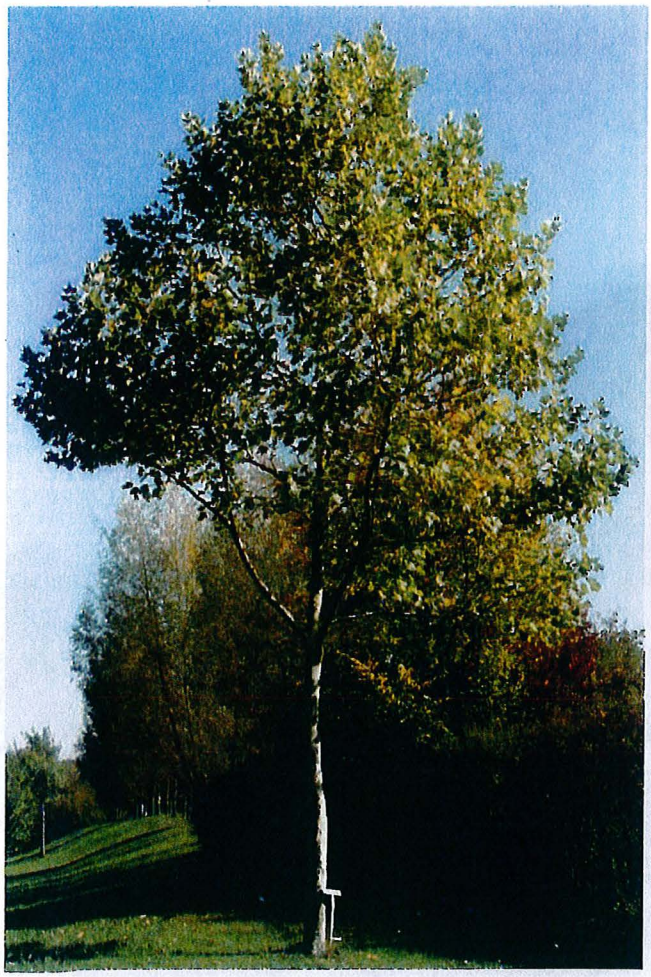
London Plane Tree

Latin Name: Platanus acerifolia

Description: Used as a street tree for many years, this fast-growing species can reach 120 ft. (36 m.). It can withstand poor conditions and is resistant to leaf blight; however, the roots can lift paving and the large, bright green, leathery leaves can block small drains. Its straight, erect trunk is attractively blotched in gray, brown and white.

Cultivation: They thrive in deep, rich, well-drained soil in a sunny site and can be transplanted. Propagate from seed or cuttings or by layering. Most tolerate severe pruning, air pollution and hard constructed substances (e.g. paving) part covering the root run.

Botanica on CD-ROM



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Coast Live Oak

Latin Name: Quercus agrifolia

Description: This oak is identified by its stiff, evergreen, spiny toothed leaves and its relatively large acorns maturing to 1 in (25 mm) long. The trunk has black bark and, growing up to 60 ft. (18 m), supports a somewhat untidy canopy. This is an important species in California and old specimens are often protected by law. It is notably resistant to dry conditions and must be kept dry in summer or its roots will rot; it is difficult to transplant.

Cultivation: Quercus species thrive in deep, damp, well-drained soil. Some like full sun; other species prefer part-shade when young. They have extensive root systems and do not like to be transplanted. Prune only to remove damaged limbs. Otherwise easy to maintain, oaks are susceptible to oak-leaf miner in humid climates, as well as oak root fungus and aphids. Propagate from fresh seed or by grafting in late winter just before new buds appear.

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Valley Oak

Latin Name: Quercus lobata

Description: This deciduous tree grows to about 100 ft. (30 m), sometimes with a spread of 30 ft. (9 m) or more of drooping branches from a central trunk. This is an adaptable tree, suiting warm and cooler climates but preferring plenty of water in summer. The leaves are oblong to oval, 3 in (8 cm) long with 5 to 6 pairs of rounded lobes, dark green with stellate hairs above, grayish and downy beneath. The young shoots are also gray and downy. The acorns are set singly or in pairs, from 1 in (25 mm) long. It is a native of California in the USA.

Cultivation: Quercus species thrive in deep, damp, well-drained soil. Some like full sun; other species prefer part-shade when young. They have extensive root systems and do not like to be transplanted. Prune only to remove damaged limbs. Otherwise easy to maintain, oaks are susceptible to oak-leaf miner in humid climates, as well as oak root fungus and aphids. Propagate from fresh seed or by grafting in late winter just before new buds appear.

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Idaho Locust

Latin Name: Robinia x ambigua 'Idaho'

Description: This hybrid of Robinia pseudoacacia and R. viscosa was selected for its deep reddish purple, fragrant flowers. Other features are similar to R. pseudoacacia, although it rarely exceeds 40 ft. (12 m) in height. It is equally tolerant of difficult soils, heat and dry conditions, and is a good tough tree for drier mountain regions.

Cultivation: Robinias prefer poor but moist soil in a sunny position sheltered from strong winds. Propagate from scarified seed, cuttings or suckers or by division. Cultivars must be grafted.

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Redwood

Latin Name: Sequoia sempervirens

Description: This single-trunked, conical tree has bright green, flattened, leaf-like needles up to 1 in (25 mm) long. The foliage is held horizontally on small side branches, with the main branches drooping slightly. The whole tree has a resinous aroma like pine wood, especially the red-brown, fibrous bark which is very thick and deeply fissured in parallel lines running straight up the trunk. 'Adpressa' is very dwarf, remaining for many years about 3 ft. (1 m) high and 6 ft. (1.8 m) wide, maturing to 20 ft. (6 m) high; 'Aptos Blue' has blue-green foliage and slightly pendulous branch tips; 'Los Altos' has deep green, heavy-textured foliage on arching branches; and 'Santa Cruz' has pale green, soft-textured, slightly drooping foliage.

Cultivation: This tree will survive in a wide range of climates; extremely cold weather may affect the foliage but not the plant itself. It grows quickly when young and needs plenty of water, and prefers full sun or part-shade and deep, well-drained soil. Suckers should be removed immediately and general pruning is tolerated. Propagate from seed or heeled cuttings; this is one of the few conifers that will sprout from the cut stump.

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Dwarf Coyote Brush

Latin Name: Baccharis pilularis

Description: A native of California and Oregon, this evergreen shrub grows to a height of 24–36 in (60–90 cm). It has small, oval, bright green leaves on spreading branches and tiny white flowers. It is adaptable to most soils in any sunny position and is resistant to frost and to very dry conditions. 'Twin Peaks' is a selected compact form under 30 in (75 cm) high with a spread of 3 ft. (1 m). It is valued as a hardy cover on dry slopes and for its fire-retardant qualities.

Cultivation: Any sunny location with reasonable soil will do. Some salt-resistant species are ideal plants for coastal gardens. Some, too, will tolerate moderate to severe frosts but most are frost tender. Propagate from small tip cuttings or seed.

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Berkeley Sedge

Latin Name: Carex tumulicola

Description: A rich green, mounding sedge 12-18" tall, Berkeley sedge creates a lush meadow appearance when massed beneath trees or large shrubs. Greenish flowers age to brownish flowers winter and spring and can be sheared off to neaten the plant and prevent reseeding - otherwise expect this plant to seed out into the irrigated areas of the garden. A great clumping plant for use in solid stands or combined with other sedges, grasses and herbaceous plants for a natural meadow look. Found naturally along streams in Northern California, it combines nicely with native ferns and perennials like Polystichum munitum and Heuchera maxima.

Cultivation: Remarkably tough once established, this sedge tolerates traffic, some drought, full sun and even boggy soils; it's an excellent choice for children's play areas or dog runs. Plants grown in shade have a more refined appearance. Evergreen in mild climates to 10F. Northern California.

nativesons.com and sanmarcosgrowers.com

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Crimson-Spot Rockrose

Latin Name: Cistus ladanifer

Description: The most upright and slender species, Cistus ladanifer grows to around 5–6 ft. (1.5–1.8 m) tall but quickly becomes sparse and leggy and does not take well to pruning. The whole plant, apart from the flower petals, is coated with a shiny resin that in the heat of the day becomes semi-liquid and very aromatic. Its leaves are narrow and dark green and the flowers, among the largest in the genus at 3–4 in (8–10 cm) across, have pure white petals each with a reddish chocolate basal blotch; they appear from mid-spring to early summer. 'Albiflorus' has pure white petals.

Cultivation: They are easily cultivated provided they are given a warm, sunny position and very well-drained, even rather dry soil; they like being among large rocks or other masonry where their roots can seek out deep moisture. If necessary they can be tip pruned to promote bushiness, or main branches shortened by about a third after flowering. Most species are marginally frost hardy; all are resistant to very dry conditions. They will thrive in countries with cool- to warm-temperate climates, but not in subtropical regions with hot, humid summers. Propagation is normally from cuttings, though seed is readily germinated.

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Orchid Rockrose

Latin Name: Cistus x purpureus

Description: This hybrid between Cistus ladanifer and the eastern Mediterranean species C. creticus has deep pink flowers with prominent, dark reddish chocolate blotches on the petals. It is frost hardy and free flowering. Several clones have been named including 'Brilliancy', with clear pink petals, and 'Betty Taudevin', a deeper reddish pink.

Cultivation: They are easily cultivated provided they are given a warm, sunny position and very well-drained, even rather dry soil; they like being among large rocks or other masonry where their roots can seek out deep moisture. If necessary they can be tip pruned to promote bushiness, or main branches shortened by about a third after flowering. Most species are marginally frost hardy; all are resistant to very dry conditions. They will thrive in countries with cool- to warm-temperate climates, but not in subtropical regions with hot, humid summers. Propagation is normally from cuttings, though seed is readily germinated.

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Island Bush Poppy

Latin Name: Dendromecon harfordii

Description: The tree poppy, native to southwestern USA and Mexico, is a genus of one species, although some authorities consider there are 2 distinct species. If we consider it a monotypic genus then the second one becomes a subspecies of the first; so what we now have is Dendromecon rigida and D. r. subsp. harfordii.

Cultivation: A frost-tender plant, the tree poppy requires a sunny, well-drained site in a climate with hot dry summers. In cool climates it is best grown in a cool greenhouse using a good potting mix. Ensure it receives direct sunlight and good air circulation. Propagate from seed or cuttings.

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Tufted Hair Grass

Latin Name: Deschampsia caespitosa 'Susan's Choice'

Description: This mound-forming, evergreen perennial reaches 24–36 in (60–90 cm) in height with a 24 in (60 cm) spread. The flowers are borne in open panicles which rise above the coarse, arching foliage. Flower colors range from pale greenish yellow to gold (in the cultivar 'Goldgehänge'), to silver and bronze ('Bronzeschleier'). Other cultivars of tufted hair grass include 'Goldschleier' ('Gold Veil'), which has silver-tinged golden yellow flower panicles; and 'Goldtau' ('Golden Dew') which is a compact form with reddish brown flowers that age to golden yellow.

Cultivation: These grasses usually do best in moist compost-enriched soil in part-shade; they are, however, quite adaptable. Species can be raised from seed; propagate named clones by division in spring.

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Mexican Daisy

Latin Name: Erigeron karvinskianus

Description: This spreading perennial native to Mexico is useful as an informal ground cover and in mild climates will bloom profusely throughout the year. The small, 1 in (25 mm) wide flowers open white, fading to pink and wine red. It grows to about 4–6 in (10–15 cm) in height with an indefinite spread, and has lax stems and narrow, lance-shaped, hairy leaves. Cut back hard from time to time.

Cultivation: Fully frost hardy, they prefer a sunny position sheltered from strong winds and moderately fertile, well-drained soil. Do not allow to dry out during the growing season. Cut back immediately after flowering to encourage compact growth and prevent unwanted self- seeding. They can become invasive. Propagate from seed or by division in spring.

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Coral Bells

Latin Name: Heuchera micrantha

Description: This cultivar is grown for its striking, purple, palmate leaves and panicles of tiny white flowers in summer. It is clump forming, with a height and spread of about 18 in (45 cm). The leaves last well as indoor decoration.

Cultivation: Mostly fully frost hardy, they grow well in either full sun or semi-shade and like well-drained, coarse, moisture-retentive soil. Propagate species from seed in fall (autumn) or by division in spring or fall; cultivars by division in fall or early spring. Remove spent flower stems and divide established clumps every 3 or 4 years.

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Deer Grass

Latin Name: Muhlenbergia rigens

Description: This grass to 5 ft. (1.5 m) tall forms small clumps of slender stems that are initially erect, but as they lengthen soon become slightly pendulous to create an attractive weeping effect. The slender spikelets to 24 in (60 cm) long is composed of masses of tiny pale gray spikelets.

Cultivation: These marginally frost-hardy grasses prefer full sun or part-shade and moderately fertile, moist but well-drained soil. In frost-prone areas overwinter in large pots in a greenhouse and place outside in summer. Propagate from seed.

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New Zealand Flax

Latin Name: Phormium tenax

Description: The largest of the New Zealand flaxes, this species has olive-green, strap-like leaves 6–10 ft. (1.8–3 m) tall in clumps about 6 ft. (1.8 m) across. It grows well by the sea. Hybrids of Phormium tenax and P. cookianum are often more compact than their parents and their foliage varies from bronze or purplish chartreuse to pink and salmon; the leaves may be variegated with vertical strIpes of 2 or more colors. 'Bronze Baby' has wide, fibrous, copper-toned leaves with sharply pointed ends and in summer bears tubular, bronze-red flowers on a strong stem from the base of the clump. 'Dazzler' has red leaves edged with plum-purple. 'Purpureum' has stiff, pointed, plum-purple to dark copper leaves and in summer bears reddish flowers on purplish blue stems. 'Variegatum' has strIped creamy yellow and white foliage. 'Maori Chief' has green and rose red-strIped leaves growing to 5 ft. (1.5 m). 'Tom Thumb' has green leaves with bronze margins growing to 24 in (60 cm). 'Coffee' is another popular cultivar.

Cultivation: They make splendid container plants as well as useful garden plants in almost any climate. They are fairly frost hardy, and respond well to generous watering and permanently moist conditions. Propagate from seed or by division in spring.

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Fountain Grass

Latin Name: Pennnisetum orientale

Description: Found in central and southwest Asia and northern India, this deciduous perennial species forms a clump of 4–8 in (10–20 cm) leaves, from which develop 3 ft. (1 m) tall plumed flower stems. The flower plumes are an attractive silvery pink shade. Cultivated plants are often far smaller than the wild species.

Cultivation: Most species are very frost hardy. They prefer full sun and fertile, well-drained soil. Dead foliage may be cut back when the plants are dormant. Propagate from seed in early spring or by division in late spring or early summer.

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Fuchsia-Flowering Gooseberry

Latin Name: Ribes speciosum

Description: This deciduous, spiny, bushy shrub from California in the USA reaches 6 ft. (1.8 m) in height and spread. Fully frost hardy, it has red juvenile shoots and oval, 3- to 5- lobed glossy green leaves. Its slender, drooping red flowers, which open in late winter, have long red stamens; they are followed by spherical red fruit.

Cultivation: Unisexual species such as this must be planted in groups to ensure vigorous flowering and fruiting. Fully frost hardy, they need moist, rich soil and full sun to semi-shade. In the USA some species host white pine blister rust. Propagate from seed or cuttings.

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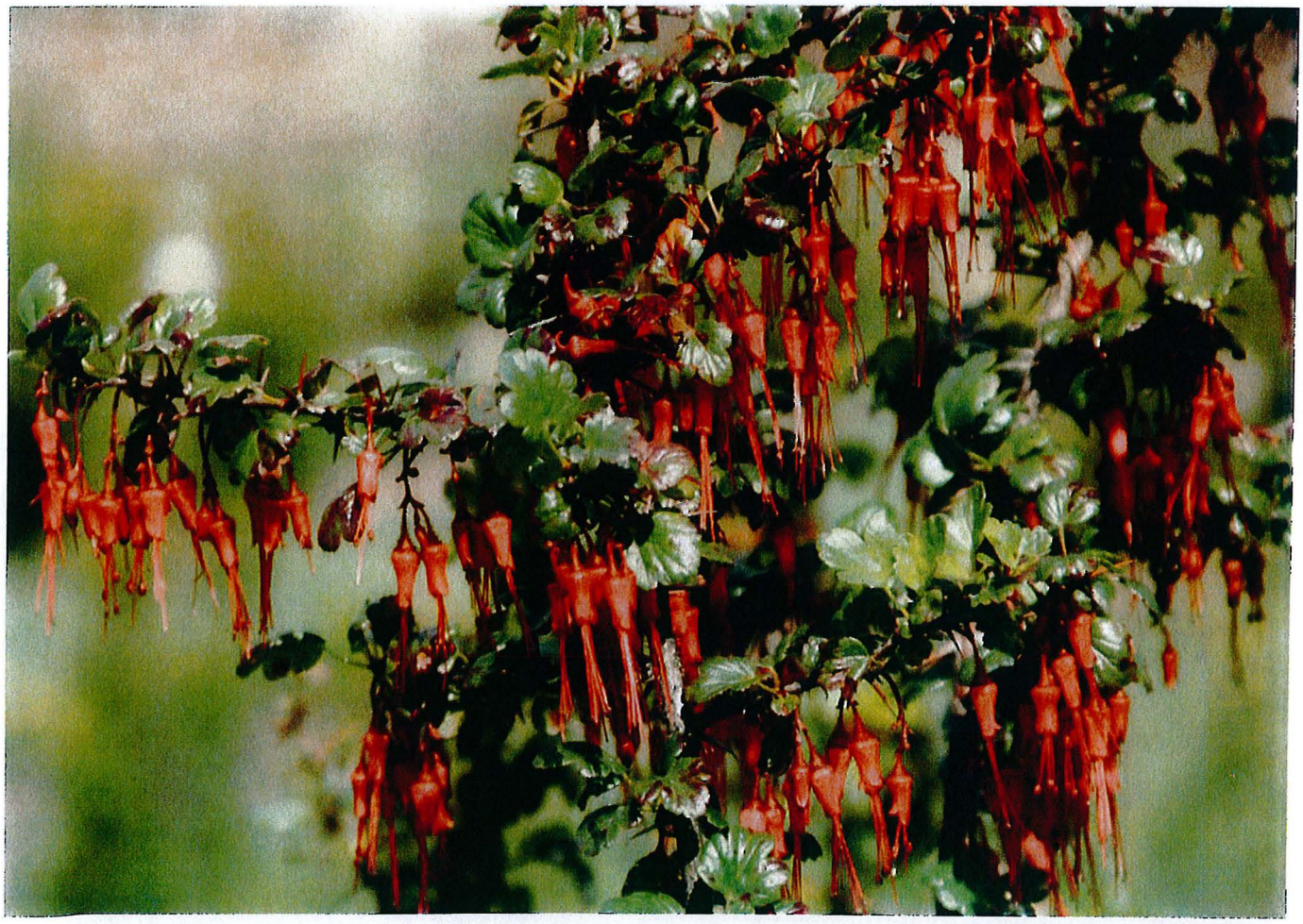

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Common Snowberry

Latin Name: Symphoricarpos albus

Description: Found east of the Rocky Mountains from Colorado to Quebec, this wiry-stemmed, suckering shrub grows to 6 ft. (1.8 m) high and wide. Its small spring flowers are followed by clusters of 1/2 in (12 mm), stark white berries that persist well after the leaves have fallen. An otherwise undistinguished shrub, its pure white berries are striking. Symphoricarpos albus var. laevigatus bears pink or white flowers and large white fruit.

Cultivation: They are easily grown in any moist, well-drained soil in sun or shade and are usually propagated from open-ground winter hardwood cuttings. Being resistant to shade, poor soil and pollution, they are very suitable for city gardens.

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Bearberry

Latin Name: Arctostaphylos uva-ursi 'Point Reyes'

Description: Found in the wild in the colder regions of the northern hemisphere, this species is best known as a completely prostrate form that can cascade over walls or embankments to form curtains of neat, dark green foliage that develops intense red tones in fall (autumn) and winter. In late spring it bears small clusters of dull pink, almost globular flowers, followed by green berries that rIpen to red. It is readily propagated from cuttings. Cultivars include 'Massachusetts', 'Radiant', 'Wood's Red' which is a dwarf cultivar, and 'Vancouver Jade' with pink flowers and glossy leaves. 'Point Reyes' is tolerant of dry conditions.

Cultivation: They need full sun or part-shade and moist but well-drained, fertile, lime -free soil. The seed, enclosed in a small fleshy fruit, is difficult to germinate, which may explain why these attractive plants are seldom cultivated; treatment with fire or acid may assist germination.

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California Wild Rose

Latin Name: ROSA CALIFORNICA 'ELSIE'

Description: The California Wild Rose, is an attractive native California shrub that can eventually form large spiny thickets to 4-8 feet tall from suckering roots. It forms broad thickets from underground shoots—a useful feature for revegetation and ground cover, as well as a potentially serious problem for the smaller garden. It has compound dark green leaves (to 7 leaflets) and beautiful 1 1/2 wide fragrant bright pink flowers that open from long pointed buds. Flowering commences here in late April and continues on through mid summer. In the cooler bay area blooming can begin as late as June. Flowering is followed by bright red hips to 1/2 inch in diameter. In fall there are often both flowers and hips on display. Although native to cool shaded canyons this plant thrives and blooms better in full sun when given adequate water. Can be also very useful in dry light shade where it requires little to no supplemental irrigation. R. californica seems immune to mildew and rust, diseases that plague cultivated roses. Hardy to USDA zones 5-10. The species grows throughout the Western United States and is quite variable; our selection was collected by Gene Leisch from wild stands near Mono Debris Dam in the Santa Barbara foothills where it is found in association with poison oak and coast live oak. It was noted for its flower color, fragrance and a long bloom period. The name 'Elsie' honors Gene's mother.

Cultivation: Best in full sun and tolerates a wide variety of soils. Hardy to 0F or less. Western North America, south into Baja California.

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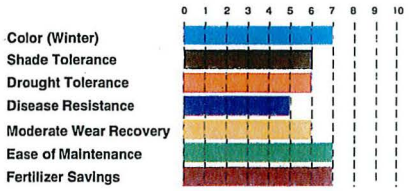
Medallion *Plus*

Closely parallels Medallion in its general form, but its foliage is of a coarser texture, with leaf tips that are more pointed. Better wear tolerance and less susceptible to common turfgrass diseases, Medallion Plus remains green all year.



Indicated air temperature is approximate. Other environmental factors and quality of maintenance may affect performance of turf grasses. This graph shows the effect of temperature on color and condition of sod: brown/dormancy, green/full color, gold/burning

SOD SPECIFICATIONS: MEDALLION PLUS

GENERAL DESCRIPTION: Medallion Plus closely parallels Medallion Tall Fescue in its general form and growth habits, but as with Medallion, its foliage is slightly coarser textured than Bluegrass. Medallion Plus also requires considerably less water than Bluegrass and Blue/Rye varieties, and is more shade and disease tolerant than these varieties. Lawns planted with Medallion Plus are dense, rich looking and stay green throughout the year. They look their best when mowed at heights of 1½ inches or more.

RECOMMENDED USES: Medallion Plus is recommended for residential, commercial and industrial landscape installations,

COMPOSITION: Medallion Plus is an outstanding mix of 90% improved, turf-type Tall Fescues and 10% Kentucky Bluegrasses which are adaptable to California's varied soil and climate conditions. It is grown in a controlled cultural environment, resulting in healthy sod that is virtually free of weeds, disease and insect infestations.

MEASUREMENTS: Medallion Plus is harvested by machine to a uniform thickness of 5/8 of an inch, plus or minus 1/4 of an inch, plus top growth.

SHIPPING STANDARDS: Prior to harvesting, Medallion Plus is mowed uniformly to a height of between 1½ to 2 inches for shipment. It is rolled/folded with the soil facing out to protect the grass from damage, and the sod is stacked on pallets. Each pallet contains approximately 500 square feet of sod. Medallion Plus is shipped sufficiently dry for transportation and handling, yet moist enough to facilitate installation. It should be installed immediately after delivery. Shipping pallets are the property of Pacific Sod. Should pallet pick-up be required, please make arrangements with the office from which the sod was ordered.

TEMPERATURE TOLERANCE: Medallion Plus has a higher temperature tolerance than Blue and Blue/Rye varieties due to its deep and extensive root system. It also grows well in a wide range of temperature conditions, from hot to cool, with very little problem.

WEAR RESISTANCE: Medallion Plus wear resistance and ability to recover from occasional heavy traffic or abuse is greater than 100% Tall Fescues, Bluegrass and Blue/Rye varieties. It is suitable for backyard play areas and similar situations where children and pets have frequent access.

SHADE TOLERANCE: Medallion Plus prefers a sunny location, but it will perform well in light shade situations. Medallion Plus is more shade tolerant than Bluegrass and Blue/Rye mixes.

COLOR: Medallion Plus has a deep, rich, blue-green color which remains fairly consistent throughout the year when properly maintained.

TEXTURE/DENSITY: Established Medallion Plus will be slightly finer in texture and denser than 100% Tall Fescue sods, though not as fine or dense as Bluegrass or Blue/Rye mixes.

SMOG TOLERANCE: Medallion Plus exhibits normal resistance to smog, and will suffer ill effects only if subjected to extreme smog conditions over prolonged periods of time.

SALT TOLERANCE: Medallion Plus has fair tolerance to saline soil conditions, and will suffer no ill effects if the soil was properly amended before the sod was installed.

ESTABLISHMENT & MAINTENANCE

WATERING: Newly planted Medallion Plus should be watered daily and soaked thoroughly for the first 10 to 14 days to avoid drying out, and to enable the rooting system to penetrate its new soil environment. Once the sod has been established, watering frequency may be reduced. Due to varying soil and climate conditions, it is difficult to recommend a definite schedule. However, because of its deep and extensive rooting system, soaking the lawn twice a week generally is considered adequate in most summer weather situations.

MOWING: Medallion Plus should be mowed regularly with a rotary mower. It should be mowed at a height of between 1½ to 2 ½ inches, depending on individual preference. Never remove more than one-third of the top growth at any one mowing.

FERTILIZATION: To maintain its beauty, dense appearance and rich color, Medallion Plus requires a consistent fertilization schedule. In most cases, a good complete fertilizer is required twice a year, with the most beneficial applications being made in the spring and fall. All other fertilizer applications may be made with a straight Nitrogen product such as Ammonium Sulfate. During the spring, fall and winter months, Medallion Plus should be fertilized at regular 4 to 6 week intervals with ½ to 1 pound of actual Nitrogen applied to each 1,000 square feet of lawn. During the hot summer months, fertilizer rates may be reduced.

WEED, INSECT AND DISEASE CONTROL: Medallion Plus is guaranteed to be free of weeds, insects, and disease when it is delivered. However, in some lawn installations, weed and insect infestations may occur from close proximity to neighboring lawns which have these problems. Various cultural practices may be used to eliminate these problems; however should chemical controls be required, they should be used in accordance with the written instructions provided by the manufacturer.

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Irrigation Equipment List

Item	Manufacturer	Model #	Size	Comments
Water Meter, Domestic	Scotts Valley Water District		1"	
Supply line, Domestic	-	Sch. 40 Galvanized		
Backflow Preventer	Febco	825Y	1-1/2"	With in-line Y-strainer and pressure regulating valve
Backflow Enclosure	Lemeur	BF-56	12" W x 24" L x 18" H	Single swing type, black
Master Valve	Griswold	2160	-	Normally open, solenoid
Flow Meter	Calsense	FM	-	
Rain Sensor	Irritrol	RS1000	-	Wireless
Controller	To match Siltanen Park			
Gate Valve	Nibco	T-133	-	Bronze
Quick Coupler Valve	Rain Bird	44DRC	size per plan	Purple Cap
Remote Control Valve	Rain Bird	EFB-CP-PRS-B	size per plan	Purple Cap
Valve Boxes	Christy	B03D	9-3/4" x 15-5/8"	Reinforced concrete lid, purple
Swing Joint	Lasco Fittings	-	size per plan	Factory assembled
Rotor	Hunter	1-40, ADS, 36S		Purple
Sprayhead	Rain Bird	1800-SAM-PRS	size per plan	Purple
Root Watering System	Rain Bird	RWS & RWS-Mini	1 GPM, .5 GPM	2 RWS per tree; 1 RWS-Mini per shrub
Mainline	-	Sch. 40 PVC	-	Purple
Lateral	-	Class 200 PVC	-	Purple
Sleeve	-	Sch. 40 PVC		
Control Wire	-	-	14 GA.	

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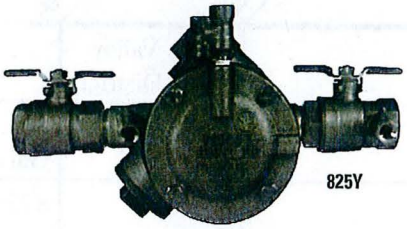
Backflow Preventer

ES-F-825Y

SPECIFICATION SHEET FEBCO®

Series 825Y

Reduced Pressure Zone Assemblies



Size: ¾" - 2" (20mm - 50mm)

The FEBCO Series 825Y Reduced Pressure Zone Assemblies are used to protect against high hazard (toxic) fluids in water services to industrial plants, hospitals, morgues, mortuaries, and chemical plants. They are also used in irrigation systems, boiler feed, water lines and other installations requiring maximum protection.

Features

- Ultimate mechanical protection of potable water, against hazards of cross-connection contamination.
- Meets all specifications of AWWA, ASSE, CSA and approved by the Foundation for Cross-connection Control and Hydraulic Research at the University of Southern California.
- Flow curve generated by the Foundation of Cross-Connection Control and Hydraulic Research at the University of Southern California.
- Modular relief valve for ease of maintenance.
- Simple Service procedures. All internal parts serviceable in line.
- Low head loss.
- Spring loaded "Y" type check valves.
- Internal relief valve pressure sensing passages.
- Replaceable seat rings on all sizes.
- End connection – NPT ANSI / ASME B1.20.1

Specifications

The reduced pressure zone assembly shall consist of two independently operating, spring loaded, "Y" pattern check valves and one hydraulically dependent differential relief valve. The assembly shall automatically reduce the pressure in the "zone" between the check valves to at least 5psi lower than inlet pressure. Should the differential between the upstream and the zone of the unit drop to 2psi, the differential relief valve shall open and maintain the proper differential.

Mainline valve body and caps including relief valve body and cover shall be bronze. Check valve moving member shall be center stem guided. All hydraulic sensing passages shall be internally located within the mainline and relief valve bodies and relief valve cover. Diaphragm to seat area ratio shall be 10:1 minimum. Relief valve shall have a removable seat ring. Check valve and relief valve components shall be constructed so they may be serviced without removing the valve body from the line. All seat discs shall be reversible. Shutoff valves and test cocks shall be full ported ball valves.

The assembly shall be rated to 175psi (12.1 bar) working pressure and water temperature range from 32°F to 140°F (0°C - 60°C).

The assembly shall meet the requirements of ASSE Standard 1013; AWWA Standard Code C511; CSA Standard B64.4; and approved by the Foundation for Cross-Connection Control and Hydraulic Hydraulic Research at the University of Southern California.

Operation

In a flow condition the check valves are open with the pressure between the checks, called the zone, being maintained at least 5.0psi lower than the inlet pressure and the relief valve is maintained closed.

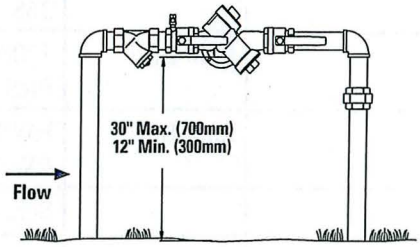
Should abnormal conditions arise under no flow or reversal of flow, the differential relief valve will open and discharge to maintain the zone at least 2psi lower than the supply.

When normal flow resumes, the zone's differential pressure will resume and the relief valve will close.

Typical Installation

Reduced pressure zone assemblies should be installed with minimum clearance of 12" (300mm) between relief valve discharge port and floor or grade. They must be installed where discharge will not be objectionable and can be positively drained away. They should be installed where easily accessible for testing and maintenance and must be protected from freezing. Thermal water expansion and/or water hammer downstream of the backflow preventer can cause excessive pressure. Excessive pressure situations should be eliminated to avoid possible damage to the system and assembly.

Refer to local codes for specific installation requirements. Some codes may prohibit vertical installation.



Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

FEBCO product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact FEBCO. FEBCO reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on FEBCO products previously or subsequently sold.

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Backflow Enclosure

Single Swing Backflow

Dual Swing Enclosures

Single Swing Backflow Preventer Valve Enclosures fabricated of barsize A36 angle, A569 Sht. 7 Ga. and A569 Sht. Expanded metal. Stock finish is acrylic enamel foliage green or desert tan (black is available at no charge, but is not stocked).

SIZES (in inches):

BF-56 12W x 24L x 18H
BF-60 12W x 24L x 24H
BF-71 12W x 30L x 24H (shown)
BF-86 18W x 30L x 30H
BF-99 18W x 42L x 30H
BF-SPL YOUR REQUIREMENT

Dual Swing Enclosures are of similar construction in the following sizes (in inches):

BF-168 24W x 60L x 36H (Shown)
BF-214 30W x 72L x 42H
BF-232 30W x 84L x 42H
BF-SPL YOUR REQUIREMENT

Special finishes and colors are beyond our scope. We will apply your paint for a consideration if your paint does not require special mixing or surface preparation.

We believe our products are the best available.
If your project requires the best, do not accept imitations, insist on product with our Le Meur Welding & Mfg. Co. serialized name plate.
Le Meur Welding & Mfg. Co., is family owned and operated since 1948

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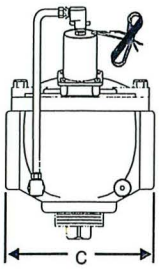
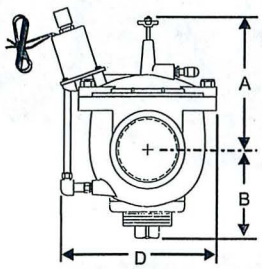
Master Valve

DIAPHRAGM VALVE **1" - 3"** **MODEL 2160**

SOLENOID

NORMALLY OPEN VALVE





SPECIFICATIONS:

Operating Pressure:	2 to 300 PSI
Material:	Cast Iron and Bronze
End Connections:	NPT (BSPT Optional)
Voltage Operating Range:	17-40 VAC
Low Current Requirement:	0.40 A at 24 VAC
Assembly:	Valve comes fully assembled

DIMENSIONS & WEIGHTS (NOMINAL)

SIZE	MODEL NO.	A (IN)	B (IN)	C (IN)	D (IN)	APPROX SHIP WT IN LBS
1"	2160H	4.25	2.50	4.50	4.50	7.75
1-1/4"	2160J	4.25	2.75	4.50	4.50	7.50
1-1/2"	2160K	6.00	3.00	5.50	5.50	12.25
2"	2160L	6.00	3.25	7.50	7.50	19
2-1/2"	2160M	6.25	3.25	7.50	7.50	22
3"	2160N	6.50	4.50	8.50	8.50	26

PRESSURE LOSS (PSI) AT VARIOUS FLOWRATES

SIZE	FLOW PATTERN	Cv	FLOWRATE (GPM)																													
			10	15	20	25	30	35	40	44	50	55	60	65	70	80	90	100	120	140	160	180	200	225	250	275	300	325	350	375	400
1"	STRAIGHT	13.50	1.0	1.24	2.2	3.4	5.0	6.7	8.8	11.1	13.7	16.6	19.7																		
	ANGLE	15.30			1.7	2.7	3.9	5.2	6.8	8.6	10.7	12.9	15.4																		
1-1/4"	STRAIGHT	16.60			1.5	2.3	3.3	4.5	5.8	7.4	9.1	11.0	13.1	15.3	17.8				CONSULT WITH FACTORY IN THIS RANGE												
	ANGLE	17.80			1.3	2.0	2.8	3.9	5.1	6.4	7.9	9.6	11.4	13.3	15.5																
1-1/2"	STRAIGHT	26.00					1.3	1.8	2.4	3.0	3.7	4.5	5.0	5.4	7.3	9.5	12.0	14.8													
	ANGLE	29.00					1.1	1.5	1.9	2.4	3.0	3.6	4.3	5.9	6.3	7.6	9.7	11.9													
2"	STRAIGHT	52.00												1.6	1.8	2.4	3.0	3.7	5.3	7.3	9.5	12.0	14.8								
	ANGLE	57.00												1.3	1.5	2.0	2.5	3.1	4.4	6.1	7.9	10.0	12.3								
2-1/2"	STRAIGHT	65.00			USE 1 PSI DROP IN THIS RANGE									1.0	1.2	1.5	1.9	2.4	3.4	4.6	6.1	7.7	9.5	12.0	14.8	17.9	21.3				
	ANGLE	72.00														1.2	1.6	1.9	2.8	3.8	4.9	6.3	7.7	9.8	12.0	14.6	17.4				
3"	STRAIGHT	83.00															1.2	1.5	2.1	2.8	3.7	4.7	5.8	7.3	9.1	11.0	13.1	15.3	17.8	20.4	23.2
	ANGLE	92.00															1.0	1.2	1.7	2.3	3.0	3.8	4.7	6.0	7.4	8.9	10.6	12.5	14.5	16.6	18.9

MODEL NUMBER SELECTION

2 1 6 0 _

Select a size (1"=H, 1-1/4"=J, 1-1/2"=K, 2"=L, 2-1/2"=M, 3"=N)

This specification © 2004 Griswold Controls

07/04
F-2667C

2803 Barranca Parkway, Irvine, CA 92606
(949) 559-6000 Fax (949) 559-6088
www.GriswoldControls.com

GRISWOLD CONTROLS

Flow Meter

FM

SENSORS

Calsense Flow Meters (FM) are used with all Calsense irrigation controllers to monitor real-time flow of potable or non-potable water. The Calsense Flow Meter features a proprietary, non-magnetic sensing mechanism and a six-bladed design. Its unique, forward-swept impeller design provides higher, more constant torque than less efficient four-blade designs, and is less prone to fouling by water-borne debris. The advanced design of the Calsense Flow Meter coupled with an absence of magnetic drag delivers improved operation and consistent repeatability at lower flow rates.

DESCRIPTION

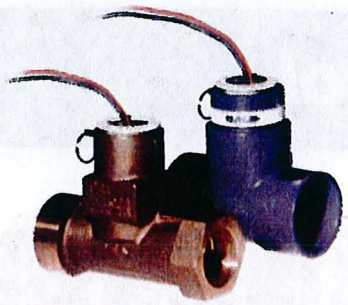
As liquid flow turns the Flow Meter impeller blades, a low impedance 9VDC signal is transmitted with a frequency proportionate to the flow rate. The signal can travel up to 2,000' between the Flow Meter and the Calsense field controller without the need of amplification. Controllers require no additional interface and supply the DC signal directly to the Flow Meter. An optional –F interface may be factory installed to read up to two additional Flow Meters.

FEATURES

- Forward curved impeller.
- Non-magnetic sensing mechanism.
- Unique six-blade design.
- Accuracy +/- 1% of full scale.

RECOMMENDED RANGE

Model	Min Flow (.5 fps)	Recommended Range Min Flow (1 fps)	Recommended Range Max Flow (15 fps)	Max Flow (15 fps)	PSI Loss @ gpm
FM-1B	2 gpm	3 gpm	50 gpm	50 gpm	0.5 psi @ 36 gpm
FM-1.25B	3 gpm	5 gpm	81 gpm	81 gpm	0.5 psi @ 69 gpm
FM-1.5B	4 gpm	7 gpm	105 gpm	106 gpm	0.5 psi @ 96 gpm
Model	**Min Flow (.5 fps)**	**Recommended Range Min Flow (1 fps)**	**Recommended Range Max Flow (15 fps)**	**Max Flow (30 fps)**	**PSI Loss @ gpm**
FM-1.5	4 gpm	7 gpm	105 gpm	212 gpm	0.5 psi @ 96 gpm
FM-2	6 gpm	11 gpm	166 gpm	333 gpm	0.5 psi @ 165 gpm
FM-2B	6 gpm	11 gpm	166 gpm	333 gpm	0.5 psi @ 165 gpm
FM-3	12 gpm	24 gpm	363 gpm	727 gpm	0.5 psi @ 390 gpm
Model	**Min Flow (.5 fps)**	**Recommended Range Min Flow (1 fps)**	**Recommended Range Max Flow (15 fps)**	**Max Flow (30 fps)**	**PSI Loss @ gpm**
FMBX	.5 fps	1 fps	15 fps	30 fps	N/A



TECHNICAL SPECIFICATIONS

PARAMETERS: FM-1B, FM-1.25B, FM-1.5B

Accuracy:	+/- 1% of full scale
Linearity:	+/- 0.7%
Repeatability:	+/- 0.7%
Flow Range:	0.5 to 15 feet/second
Max. Pressure:	400 psi@150°F (65.5°C)

PARAMETERS: FM-2B

Accuracy:	+/- 1% of full scale
Linearity:	+/- 1%
Repeatability:	+/- 1%
Flow Range:	1 to 30 feet/second
Max. Pressure:	200 psi@150°F (65.5°C)

PARAMETERS: FM-1.5, FM-2, FM-3

Accuracy:	+/- 1% of full scale
Linearity:	+/- 0.5%
Repeatability:	+/- 0.5%
Flow Range:	1 to 30 feet/second
Max. Pressure:	100 psi@68°F (20°C)

INSERT CONSTRUCTION

Impeller:	Glass reinforced nylon
Bearing:	Ultrahigh molecular weight polyethelene
Shaft:	Tungsten Carbide
Housing:	Glass reinforced polyphenylene sulfide
O-rings:	Ethylene propylene

BODY CONSTRUCTION

FM-B series:	Bronze
FM series:	Schedule 80 PVC

SIZING CHART

(See Calsense Designers Guide for more details)

2075 Corte del Nogal, Suite P • Carlsbad, CA 92011 • (760) 438-0525 • (800) 572-8608 • Fax: (760) 438-2619 • www.calsense.com

CALSENSE making water work since 1986

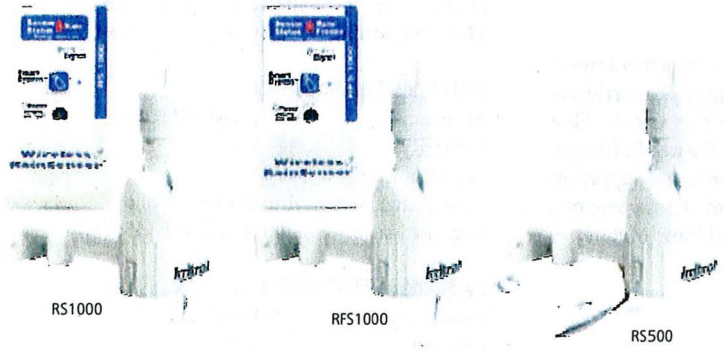
Rain Sensor

Irritrol® *Get more done™*

RAIN SENSORS

RAINSENSOR™ SERIES

WIRED/WIRELESS SENSORS



SENSORS THAT MAKE THE MOST SENSE.

Taking water conservation to the next level, Irritrol's proven RainSensor™ Series makes watering in the rain a mistake of the past. The reliable wireless and wired rain sensors conserve water by preventing irrigation during or after sufficient rainfall, while the wireless rain/freeze sensor also helps reduce vegetation damage and icing conditions. With its compact design and host of convenient features, the RainSensor Series rain and rain/freeze sensors are designed to suspend irrigation during rainfall or when the temperature drops below a predetermined set point (rain/freeze sensor only). All sensors are easy to install and work with virtually any AC-powered automatic irrigation system. This popular accessory has adjustable shutoff points from 1/8" to 3/4" of accumulated rainfall and offers a transmission range of more than 300 feet (wireless models), providing a variety of installation options. Irritrol. Get more done.

KEY FEATURES & BENEFITS

WIRELESS MODELS
Require less labor for the installer

CONSTANT COMMUNICATION BETWEEN TRANSMITTER & RECEIVER
Assures that even after a controller power outage, the controller is continually updated with the sensor's "wet" or "dry" status

VERSATILE MOUNTING OPTIONS
Requires no special tools – Quick-Clip™ gutter bracket and ½" conduit adapter included

SIGNAL STRENGTH INDICATOR
Ensures correct installation, communication link and signal integrity (wireless models)

SMART BYPASS™ FOR EASY SYSTEM OVERRIDE
Allows for temporary deactivation while automatically resetting on next activation (wireless models)

FULLY ADJUSTABLE SHUTOFF POINTS
From 1/8" to 3/4" (3-19mm) of accumulated rainfall

DRY-OUT RATE ADJUSTMENT FOR RESET DELAY
Allows for setting the ideal dryout time

PATENTED WIRELESS TECHNOLOGY
Unsurpassed by the competition

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Gate Valve

NIBCO
AHEAD OF THE FLOW

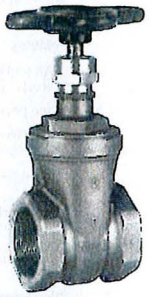
www.nibco.com
Revision 6/1/03

Class 150 Bronze Gate Valves

Screw-in Bonnet • Non-Rising Stem • Solid Wedge

Dezincification Resistant

150 PSI/10.3 Bar Saturated Steam to 366° F/185° C
300 PSI/20.7 Bar Non-Shock Cold Working Pressure

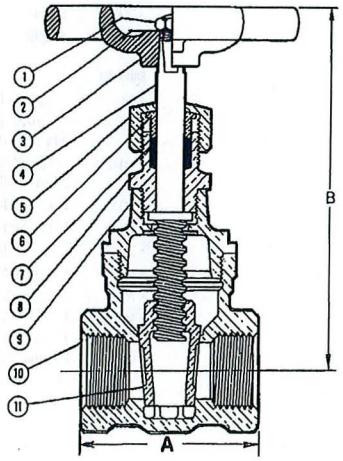


T-133
Threaded

CONFORMS TO MSS SP-80

MATERIAL LIST

	PART	SPECIFICATION
1.	Handwheel Nut	300 Series Stainless Steel
2.	Identification Plate	Aluminum
3.	Handwheel	Malleable Iron ASTM A 47
4.	Stem	Silicon Bronze ASTM B 371 Alloy C69400/C69430 or ASTM B 99 Alloy C65100
5.	Packing Nut	Bronze ASTM B 62 or ASTM B 584 Alloy C84400 or Brass ASTM B 62
6.	Packing Gland	Bronze ASTM B 62 or ASTM B 584 Alloy C84400 or Brass ASTM B 16
7.	Packing	Aramid Fibers with Graphite
8.	Stuffing Box	Bronze ASTM B 62
9.	Bonnet	Bronze ASTM B 62
10.	Body	Bronze ASTM B 62
11.	Wedge	Bronze ASTM B 62



T-133
NPT x NPT

DIMENSIONS—WEIGHTS—QUANTITIES

Size		Dimensions A		Dimensions B		Weight		Master
In.	mm.	In.	mm.	In.	mm.	Lbs.	Kg.	Ctn. Qty.
¼	8	1.96	50	3.63	92	1.02	0.46	50
⅜	10	1.96	50	3.63	92	1.05	0.48	50
½	15	2.31	59	3.63	92	0.93	0.42	40
¾	20	2.51	64	3.91	99	1.40	0.64	30
1	25	2.92	74	4.69	119	2.03	0.92	20
1¼	32	3.20	81	5.22	133	2.97	1.35	10
1½	40	3.33	86	6.25	159	4.16	1.89	10
2	50	3.44	87	7.06	179	6.75	3.07	6
2½	65	4.35	110	8.41	224	10.55	4.79	4
3	80	5.31	135	10.00	254	14.86	6.75	2

Freezing Weather Precaution – Subsequent to testing a piping system, valves should be in an open position to allow complete drainage.

◆ **For detailed Operating Pressure, refer to Pressure Temperature Chart on page 110.**

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Quick Coupler Valve

RAIN BIRD

Valves

Quick-Coupling Valve Cutaway

Quick-Coupling Valves

- [illegible]
- [illegible]
- [illegible]

Features

- [illegible]
- [illegible]
- [illegible]
- [illegible]

Operating Range

- [illegible]
- [illegible]

Dimensions

[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

3 RC

33 DRC

7

Models

- [illegible] Rubber Cover, 1-Piece Body
- [illegible] Double Hard Rubber Cover, 2-Piece Body
- [illegible] Double Hard Rubber Cover, 2-Piece Body
- [illegible] Rubber Cover, 2-Piece Body
- [illegible] Rubber Cover, 2-Piece Body
- [illegible] Rubber Cover, 1-Piece Body
- [illegible] Rubber Cover, 1-Piece Body
- [illegible] Metal Cover, 1-Piece Body
- [illegible] Rubber Cover, 1-Piece Body, BSP Threaded
- [illegible] Rubber Cover, 1-Piece Body, BSP Threaded

Valves

Manufacturer: Rain Bird

Model: Coupling Valve-44-DRC

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Remote Control Valve

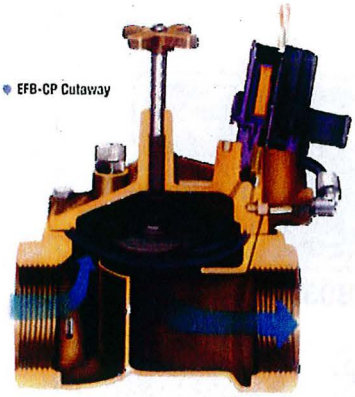
RAIN BIRD

Valves

EFB-CP Series

1", 1 1/2", 1 1/4", 2" (26-34, 33-42, 40-49, 50-60)

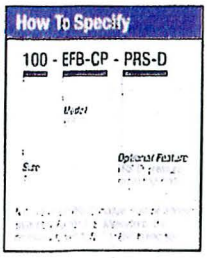
- Red brass construction for longer life and more rugged performance
- Fabric-reinforced diaphragm for longer life
- Normally closed, reverse flow design ensures valve will fail in the closed position if a tear or rip in the diaphragm occurs. Prevents flooding, water waste and landscape damage



EFB-CP Cutaway

Features

- Slow closing to prevent water hammer and subsequent system damage
- One-piece solenoid with captured plunger and spring for easy servicing. Prevents loss of parts during field service
- Flow control handle adjusts water flow as needed
- Manual internal bleed operates the valve without allowing water into the valve box. Allows pressure regulator adjustment without turning on the controller
- Manual external bleed permits flushing debris from the system. Recommended for systems start-up and other repairs
- Contamination-proof self-flushing filter screen resists debris build-up. Water flow continuously flushes the screen, dislodging particles and debris before they can accumulate and clog the filter
- Globe configuration



150-EFB-CP-NP-HAN

Manufacturer: Rain Bird

Model: FFB Series- CF Series

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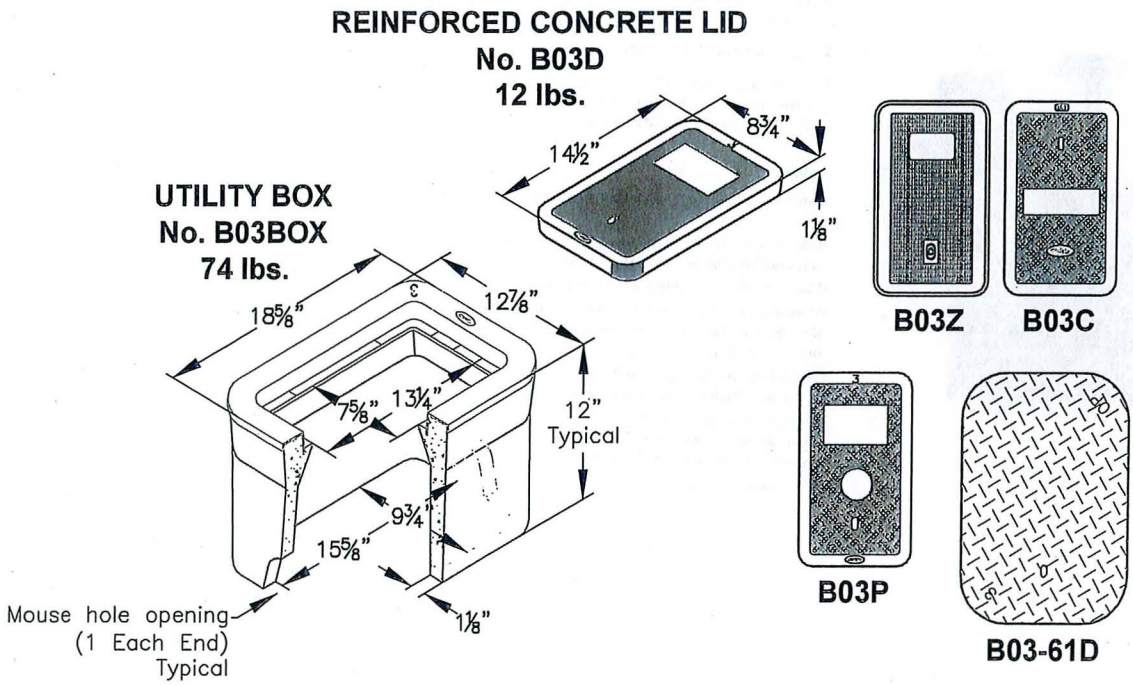
Valve Boxes

- Etched polypropylene face
- Face anchored in concrete
- Ultra–violet inhibitor
- Exceeds ASTM–D1693 Standards for Environmental Stress Cracking Resistance



A high density reinforced concrete box with non–settling shoulders positioned to maintain grade and facilitate back filling. Approximate dimensions and weight shown.

Ordering Code	Item	Approx. Shipping Weight	Description
B03BOX	BOX	74	B03 Utility Box (9¾" x 15⅝")– 28 per pallet
B03C	LID	13	Cast iron
B03D	LID	12	Reinforced concrete
B03Z	LID	12	Reinforced concrete w/ galvanized frame
B03TL	LID	15	Cast iron lid with lock
B03K	KEY	1	Key for cast iron lid with lock
B03–61D	COVER	14	Steel checker plate
B03SL	SLAB	22	Reinforced concrete (12⅛" x 18⅝")
Galvanizing available on all steel covers.			

Oldcastle Precast®
Enclosure Solutions
MADERA/TRACY/ROSEVILLE/PHOENIX
Phone: (800) 486–7070 Fax: (800) 486–6804
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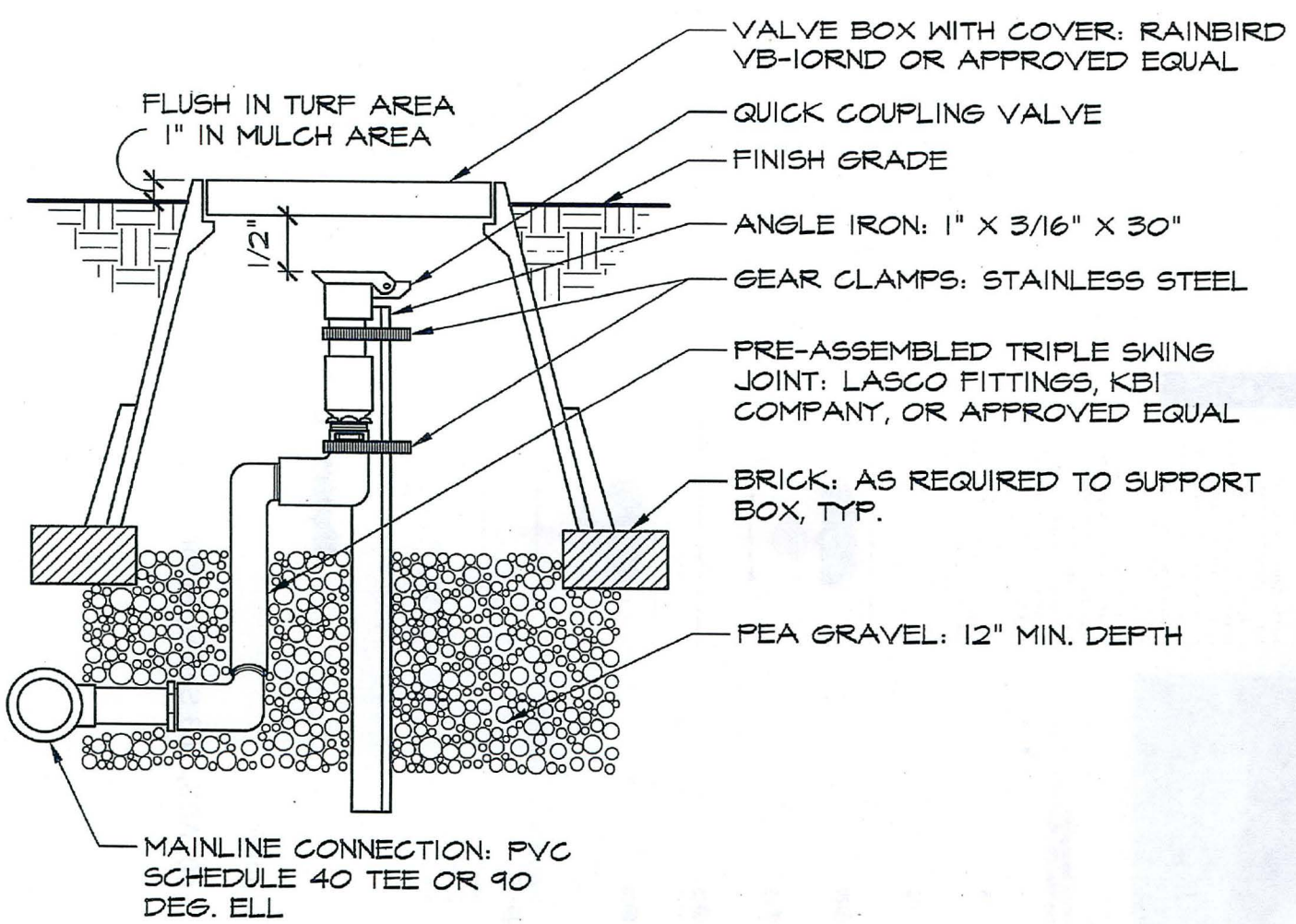
B03 BOX

FILE NAME: 036UWMB3BOX_ISO
ISSUE DATE: January, 2008
www.oldcastleprecast.com

B03 UTILITY BOX
9-3/4" x 15-5/8"

Christy

Swing Joint



N.T.S.

02810-5qcv_4.dwg

QUICK COUPLING VALVE
SECTION AND ELEVATION
CUHSD BOWLS

DATE	SCALE	DRAWN BY	CHECKED BY	CSI / PROJECT NO.
11/6/08	AS SHOWN	NR		05.015

Callander Associates
Landscape Architecture
311 Seventh Ave.
San Mateo, CA 94401
T 650.375.1313
Peter Callander
CA Lic. #1308

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Rotor

I-40-ON: You'll Favor this "Opposing" Idea

ROTORS

I-40 Dual Opposing Nozzle Performance Data

I-41 Dual Opposing Nozzle Performance Data - Metric

15 18 20 23 25 28

SPECIFICATION GUIDE

I-40 - ADS - 43

MODEL FEATURES OPTIONS

KEY TO FEATURES

Hunter 23

Manufacturer: Hunter

Model: I-40, ADS, 363 Series, Rotor

Sprayhead

Install Confidence.
Install Rain Bird.

1800 -SAM-PRS Series

4" 6" 12" (10.2 cm, 15.2 cm 30.5 cm)

- Incorporates all 1800 Series SAM and PRS features
- Meets the needs of all spray areas regardless of changing elevation or water pressures
- SAM-PRS stamped on the cap for easy identification and maintenance

Dimensions

- 1/2" (15.2) female threaded inlets
- Body height:
  1802 PRS-6" (15.2 cm)
  1806 PRS-9" (22.9 cm)
  1812 PRS-16" (40.6 cm)
- Exposed surface diameter: 2" (5.7 cm)

Models

- 1801 PRS-4" pop-up height (10.2 cm)
- 1806 PRS-6" pop-up height (15.2 cm)
- 1812 PRS-12" pop-up height (30.5 cm)

SAM

PRS

SAM-PRS

Operating Range

- Spacing: 4 to 20 feet (1.0 to 6.1 m)
- Pressure: 25 to 70 psi (1.7 to 4.8 bars)

Specifications

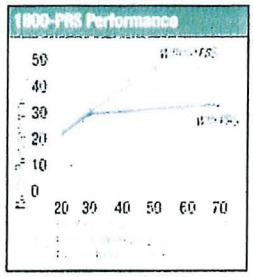
- SAM capability: holds up to 14 feet (4.2 m) of 5/8" (15 mm) pipe
- Flow: 0.4 gpm (1.5 lpm) to 0.6 gpm (2.3 lpm) or greater, 0.50 GPM (1.9 lpm) to 0.6 gpm (2.3 lpm) otherwise
- SAM installation prohibited on wide-radius bottom inlet

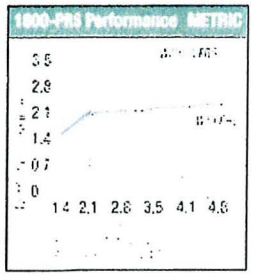
Dimensions

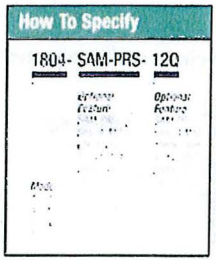
- 1/2" (15.2) female threaded inlets
- Body height:
  1802 SAM-PRS-6" (15.2 cm)
  1806 SAM-PRS-9" (22.9 cm)
  1812 SAM-PRS-16" (40.6 cm)
- Exposed surface diameter: 2" (5.7 cm)

Models

- 1801 SAM-PRS-4" pop-up height (10.2 cm)
- 1806 SAM-PRS-6" pop-up height (15.2 cm)
- 1812 SAM-PRS-12" pop-up height (30.5 cm)







Manufacturer: Rain Bird

Model: 1800 Series, Sprayhead

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Bubbler

1400 Series

Pressure Compensating Full-Circle Bubblers

Features

- Low flow rates allow water to be absorbed as needed. Reduces runoff.
- Flow will not fluctuate at pressures between 20 and 90 psi (1.4 to 6.2 bars). Maintains even flow.
- Flow is not adjustable for increased vandal resistance.
- No adjustment required.
- Corrosion-proof plastic and rubber construction for long life.
- Five-year trade warranty.
- Shipped with special SR-050 ½" (15/21) bubbler filter screen for easy installation and resistance to debris.
- Trickle pattern on models 1401 and 1402; umbrella pattern on models 1404 and 1408.

Operating Range

- Flow: 0.25 to 2.00 GPM (0.06 to 0.46 m³/h; 0.02 to 0.12 l/s)
- Spacing: 1 to 3 feet (0.3 to 0.9 m)
- Pressure: 20 to 90 psi (1.4 to 6.2 bars)

Dimensions

- ½" (15/21) female threaded inlet
- Height: 1" (2.5 cm)
- Top diameter: 1" (2.5 cm)

Models

- 1401: 0.25 GPM (0.06 m³/h; 0.02 l/s); full-circle, trickle pattern
- 1402: 0.50 GPM (0.11 m³/h; 0.03 l/s); full-circle, trickle pattern
- 1404: 1.00 GPM (0.23 m³/h; 0.06 l/s); full-circle, umbrella pattern
- 1408: 2.00 GPM (0.46 m³/h; 0.12 l/s); full-circle, umbrella pattern

1400 Series

1800 PCS

Pressure Compensating Screens

- Compensates for pressure variations.
- Eliminates fogging and water waste caused by high pressures.
- Nozzles can be matched with screens to create short-throw, reduced-radius patterns and/or flush-mounted bubblers.

Features

- New .08 GPM (0.02 m³/h; 0.01 l/s) and .25 GPM (0.06 m³/h; 0.02 l/s) screens allow greater flexibility in achieving 4', 6', and 7' radius patterns.
- Color-coded for easy identification.
- Use with all 1800 Series plastic nozzles (MPR, VAN, U-Series, Strips and Bubblers).
- Easily installed in new and retrofit applications. Simply replace standard screen with PCS screen.

With a pressure compensator, outlet pressure will be reduced, but will fluctuate as the inlet pressure changes. A pressure compensator cannot maintain outlet pressure at a constant rate. A pressure regulator establishes and maintains a constant outlet pressure of 30 psi (2.1 bars) as long as the inlet pressure at the spring head is greater than 30 psi (2.1 bars).

Manufacturer: Rain Bird

Model: 1400 Series, Pressure compensating full-circle bubbler

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Soil & Plant Laboratory, Inc

Locations:

352 Mathew St.
Santa Clara, CA 95050
(408) 727-0330

1594 North Main St.
Orange, CA 92867
(714) 282-8777

SANTA CLARA OFFICE
November 13, 2008
Report 08-305-0031

CALLANDER ASSOCIATES
325 So. First Street, Suite 300
San Jose, CA 95113

Attn: Renee Erez

RE: AL SHUGART PARK – SCOTTS VALLEY, JOB #08075

BACKGROUND

The three samples received 10/31 were identified as representing the top 6 inches of site soil from areas that will be amended for planting groundcover, trees and shrubs.

ANALYTICAL RESULTS

Particle size results show variable conditions with area 2 falling in the most favorable sandy loam classification while 1 and 3 are sandy clay loam because of higher clay content. Organic matter levels are fair at 1 and 2 and fairly good at 3. Soil structure should not be particularly problematic and infiltration rates are estimated at 0.32 inch per hour for sample 2 and 0.29 for the others.

Reaction values are slightly acidic at 1 and 2 and moderately acidic at 3 with no lime present in any. These pH levels are suitable for a wide range of plant material but a little lime is suggested for magnesium nutrition and to stabilize pH from declining due to the acid forming nature of most fertilizers. Salinity, sodium and boron levels are safely low and the SAR values show soluble sodium adequately balanced by calcium and magnesium.

Nitrogen is deficient in each of the samples with magnesium low at 1 and fairly good in the others. Sulfate is low only at 3 and otherwise all required nutrients are in sufficient ranges. Iron levels are particularly abundant but not approaching a level of excess.

RECOMMENDATIONS

The addition of lime at the rate suggested below should still leave all pH values in the neutral to slightly acidic range that most plants prefer. To improve drainage of the root zone any undisturbed or compacted areas should first be loosened to a 10-inch depth. The following materials should then be evenly spread and thoroughly incorporated with 6 inches of the soil:

Amount / 1000 Square Feet	
*4 cubic yards	Nitrogen Stabilized Organic Amendment
50 pounds	Fine Dolomite Lime

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CALLANDER ASSOCIATES
Report 08-305-0031

*Because of already higher organic content the addition rate of organic amendment at area 3 could be reduced to 2 cubic yards. The amendment rate suggested is based on an organic matter content of 250 pounds per cubic yard of amendment and this may be adjusted depending on the organic content of the amendment selected.

Surface soil that has been amended in the above manner may be used as the top foot of backfill around the sides of the rootball of trees and shrubs. Deeper backfill required around the sides of the rootball of 24-inch box or larger material should not contain the extra organic matter but should be blended with 2-1/2 pounds fine dolomite lime per cubic yard. Soil immediately below the rootball should be left undisturbed to provide support but the bottom around the sides should be cultivated to improve porosity. Slow release fertilizer tablets may be placed in the backfill at label rates.

Initial maintenance fertilization may rely on a program that applies ammonium sulfate (21-0-0) at a rate of 5 pounds per l000 square feet. The first application should be as soon as planting is complete with retreatment scheduled at 45 to 60-day intervals. Alternatively, slow release Sulfur Coated Urea (42-0-0) may be applied at a 6-pound rate with refertilization scheduled at 3-month intervals. Once the landscape has become well established the frequency of fertilization may be decreased depending on color and rate of growth desired. In the spring and fall substitute a complete fertilizer such as 16-6-8 to help insure continuing adequate phosphorus and potassium.

JIM WEST

Email 3 pages and mail.

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Callander Associates
325 S. First St.
Suite 300
San Jose CA 95113

Soil & Plant Laboratory, Inc.

Project : Al Shugart Park - Scotts Valley - 8075

Report No : **08-305-0031**
Purchase Order : Job # 8075
Date Recd : 10/31/2008
Date Printed : 11/06/2008
Page : 1 of 1

COMPREHENSIVE SOIL ANALYSIS

Sample Description - Sample ID	Half Sat % / TEC	pH / Qual Lime	ECe dS/m	NO_3-N ppm	NH_4-N ppm	PO_4-P ppm	K ppm	Ca ppm	Mg ppm	Cu ppm	Zn ppm	Mn ppm	Fe ppm	Organic % dry wt.	Lab No.
				Sufficiency Factors											
1- Site Soil 6"	21	6.8	0.9	11	7	34	286	2578	172	1.1	3.9	17	144	3.4	31241
	146	None		0.4		1.4	1.6	1.1	0.6	0.6	0.5	1.0	2.0		
2- Site Soil 6"	18	6.5	0.8	11	7	43	204	2504	224	1.2	5.5	16	133	3.1	31242
	146	None		0.6		1.9	1.3	1.2	0.8	0.7	0.9	1.0	2.1		
3- Site Soil 6"	25	5.9	0.5	15	9	35	191	3519	276	1.2	7.6	19	182	6.6	31243
	201	None		0.5		1.2	0.8	1.2	0.7	0.5	0.8	0.9	2.0		

Saturation Extract Values							Gravel %		Percent of Sample Passing 2 mm Screen							
									Sand							
Ca meq/L	Mg meq/L	Na meq/L	K meq/L	B ppm	SO_4 meq/L	SAR	Coarse 5 - 12	Fine 2 - 5	Very Coarse 1 - 2	Coarse 0.5 - 1	Med. to Very Fine 0.05 - 0.5	Silt .002-.05	Clay 0-.002	USDA Soil Classification	Lab No.
7.0	2.3	1.0	0.7	0.09	1.8	0.5	6.0	3.2	3.2	6.0	48	9.7	33.1	Sandy Clay Loam	31241
4.7	2.3	1.3	0.4	0.07	1.9	0.6	6.1	3.8	6.4	16.5	45.1	12.9	19.1	Sandy Loam	31242
3.0	1.2	0.8	0.2	0.06	0.9	0.6	2.0	2.0	3.7	8.0	35.4	25.7	27.2	Sandy Clay Loam	31243

Sufficiency factor (1.0=sufficient for average crop) below each nutrient value. N factor based on 200 ppm constant feed. SAR = Sodium adsorption ratio. Half Saturation %=approx field moisture capacity. Nitrogen(N), Potassium(K), Calcium(Ca) and Magnesium(Mg) by sodium chloride extraction. Phosphorus(P) by sodium bicarbonate extraction. Copper(Cu), Zinc(Zn), Manganese(Mn) & Iron(Fe) by DTPA extraction. Sat. ext. method for salinity (ECe as dS/m),Boron (B), Sulfate(SO_4), Sodium(Na). Gravel fraction expressed as percent by weight of oven-dried sample passing a 12mm(1/2 inch) sieve. Particle sizes in millimeters. Organic percentage determined by Walkley-Black or Loss on Ignition.

* LOW , SUFFICIENT , HIGH

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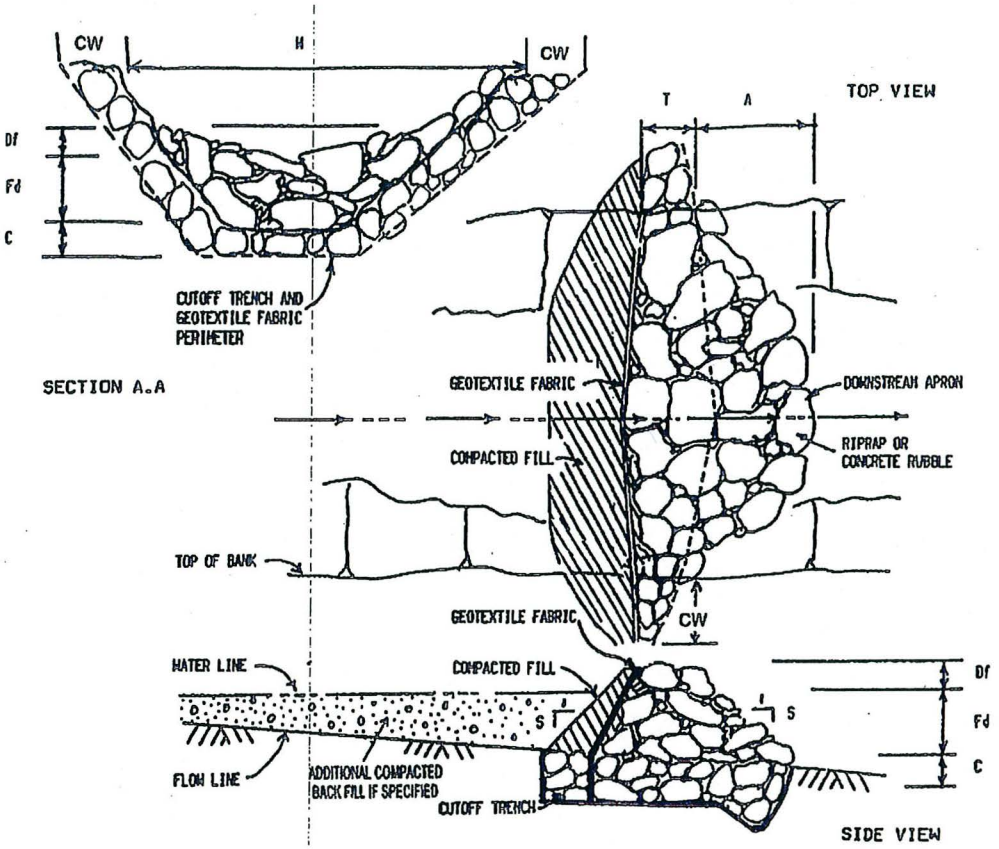
Typical Boulder Grade Control Structure



NOT TO SCALE

EMBANKMENT DIMENSIONS and SPECIFICATIONS (Job Classification based on Df and Fd as per Rock Drop Suppl., 410 Grade Stab. Structure)				
APRON LENGTH	A	=	___ ft.	
CUTOFF TRENCH DEPTH	C	=	___ ft.	(12 in min)
CUTOFF TRENCH IN BANK	CW	=	___ ft	(2 ft min)
ROCK SIZE	D75	=	___ in.	(12 in min)
WEIR DEPTH	Df	=	___ ft.	(6 ft max)
FLOW DROP HEIGHT	Fd	=	___ ft.	(4 ft max)
SIDE SLOPES	S	=	___ ft/ft	(2 ft/ft min)
TOP WIDTH	T	=	___ ft.	(3 ft min)
WIDTH	W	=	___ ft.	(varies by site)
GEOTEXTILE FABRIC	See attached specs.			

figure 11

Typical Boulder Grade Control Structure

#1197

PHILIP WILLIAMS & ASSOCIATES, LTD.

Citation: Excerpted from Appendix 5.3- Hydrology and Water Quality
Prepared by Philip Williams & Associates, LTD.
Dated October 1997

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Typical Boulder Grade Control Structure

PERFORMANCE NOTES*

1. WATER AND SEDIMENT CONTROL IS PROVIDED BY COMPACTED LOCAL BACKFILL SUPPORTED BY GEOTEXTILE FABRIC AND RIPRAP.

2. RIPRAP OR CONCRETE RUBBLE IS USED FOR MECHANICAL SUPPORT AND DISSIPATES WATER ENERGY DUE TO FLOW VELOCITY AND ELEVATION CHANGE.

CONSTRUCTION NOTES

1. SELECT AN APPROPRIATE GULLY SITE FOR THE CHECK DAM, CONSIDERING BANK STABILITY, CHANNEL CONDITION, CONSTRUCTION ACCESS, AND BACKWATER AREA.

2. PLACE RIPRAP/CONCRETE RUBBLE BY HAND/BACKHOE IN SUCCESSIVE LIFTS. WORK UPSTREAM TO PROVIDE A STAIR-STEP OR ROOF SHINGLE EFFECT FOR BEST PERFORMANCE. USE LARGER MATERIALS AS BASE. BACKFILL VOIDS WITH COMPACTED LOCAL FILL. SMALL AMOUNTS OF VEGETATIVE MATTER IN VOID AREAS WILL ACT AS A FILTER AND HELP MINIMIZE WATER PIPING THROUGH STRUCTURE.

3. DEVELOP VEE WEIR NOTCH AT TOP OF STRUCTURE AS SHOWN USING RIPRAP MATERIAL. PROVIDE STABLE CHANNEL IN DOWNSTREAM RIPRAP FACE FOR TRICKLE FLOWS. PROVIDE DOWNSTREAM RIPRAP APRON IN CHANNEL AND ON SIDEWALLS FOR PROTECTION FROM ANTICIPATED MAXIMUM WATER FLOWS. DIMENSIONS Df, A TO BE DETERMINED BY ENGINEER BASED ON AREA HYDROLOGY.

4. EXCAVATE CUTOFF TRENCH 1 - 2 FEET DEEP IMMEDIATELY UPSTREAM OF RIPRAP MATERIALS AS SHOWN. EXTEND TRENCH INTO GULLY SIDEWALLS.

5. BACKFILL VOIDS IN UPSTREAM SURFACE OF RIPRAP BY HAND WITH 0 - 6" OF COMPACTED LOCAL FILL TO PROVIDE SMOOTH, UNIFORM SUPPORT FOR GEOTEXTILE FABRIC.

6. COVER UPSTREAM SURFACE WITH GEOTEXTILE FABRIC, EXTENDING MATERIAL WELL INTO FLOW LINE AND SIDEWALL CUTOFF TRENCH. OVERLAP FABRIC AS NECESSARY TO PROVIDE COVERAGE TO TOP SURFACE OF RIPRAP STRUCTURE.

7. CONSTRUCT UPSTREAM SURFACE BY BACKFILLING CUTOFF TRENCH AND BUILDING EMBANKMENT IN SUCCESSIVE LIFTS. THOROUGHLY COMPACT EACH LIFT USING BACKHOE BUCKET OR BY HAND TO MINIMIZE PERMEABILITY OF FILL. BORROW MAY BE TAKEN FROM UPSTREAM CHANNEL AREAS AS REQUIRED TO COMPLETE BERM.

8. MINIMUM HAND WORK MAY BE REQUIRED TO SMOOTH UP CONTOURS AND COMPLETE RIPRAP PLACEMENT.

*Adapted from:
USDA-SCS Specifications by L. Erickson, 10/86

Citation: Excerpted from Appendix 5.3- Hydrology and Water Quality
Prepared by Philip Williams & Associates, LTD.
Dated October 1997

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Technical Specifications Sections

01000 General Requirements

01100 Storm Water Pollution Prevention

02220 Demolition

02230 Clearing and Grubbing

02231 Tree Protection and Pruning

02310 Earthwork and Grading

02315 Trenching and Backfilling

02630 Site Drainage

02730 Decomposed Granite Paving

02740 Asphalt Pavement

02760 Striping

02791 Wood Fiber Surfacing

02810 Irrigation

02820 Chain Link Fencing

02850 Bridge

02870 Site Furnishings

02911 Landscape Soil Preparation

02912 Topdressing

02921 Hydroseeding

02934 Planting

02935 Landscape Maintenance

03300 Site Concrete

10430 Signage

13120 Restroom Building

16520 Site Electrical

Measurement and Payment

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prepared for
City of Scotts Valley

Summary of Probable Construction Costs
Al Shugart Park Schematic Design

prepared on: 02/24/09
prepared by: CS
checked by: RE

Item #	Description	Single Phase Project	Phase 1	Phase 2	Phase 3	Phase 4	Total of Phased Project
A	Project Start-up	$67,410	$11,930	$20,460	$43,000	$19,040	**$94,430**
B	Demolition	$44,000	$6,880	$6,040	$24,930	$8,750	**$46,600**
C	Grading, Drainage, and Utilities	$133,500	$13,500	$4,000	$100,550	$20,450	**$138,500**
D	Site Construction	$971,720	$16,000	$395,200	$732,590	$81,600	**$1,225,390**
E	Site Furnishings	$282,400	$4,800	$29,700	$205,900	$44,400	**$284,800**
F	Electrical	$89,500	$0	$10,000	$47,500	$32,000	**$89,500**
G	Storm Water Pollution Prevention Provisions	$22,100	$8,850	$12,500	$16,400	$14,400	**$52,150**
H	Soil Preparation and Fine Grading	$45,000	$19,600	$0	$8,540	$16,360	**$44,500**
I	Irrigation	$82,430	$40,700	$0	$12,670	$26,830	**$80,200**
J	Planting	$147,850	$48,750	$3,110	$64,260	$31,550	**$147,670**
K	Landscape Maintenance	$6,000	$6,000	$6,000	$6,000	$6,000	**$24,000**
L	Subtotal of Construction	$1,891,910	$177,010	$487,010	$1,262,340	$301,380	**$2,227,740**
M	Allowance for Probable Design Period Changes	$151,353	$14,161	$38,961	$100,987	$24,110	**$178,219**
N	Estimating Contingency	$227,029	$21,241	$58,441	$151,481	$36,166	**$267,329**
O	Inflation, at 3% per year for 3 years	$170,272	$0	$43,831	$113,611	$27,124	**$184,566**
P	Anticipated Low Bid	$2,440,560	$212,410	$628,240	$1,628,420	$388,780	**$2,857,850**
Q	Allowance for Probable Construction Period Change Orders	$97,620	$10,300	$25,130	$59,810	$12,060	**$107,300**
R	Professional Services	$272,000	$36,500	$103,000	$134,000	$42,500	**$316,000**
S	Agency Expenses	$26,000	$0	$26,000	$26,000	$0	**$52,000**
T	**Total Estimated Costs**	$2,836,200	$259,200	$782,400	$1,848,200	$443,300	**$3,333,200**

Based on drawing entitled "Schematic Design Plan", dated February 24, 2009.

Notes:

A. Includes structural, civil, electrical, graphic design, and landscape architectural services.

B. The above items, amounts, quantities, and related information are based on CA's judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable construction costs and actual construction prices.

C. The totals of Phases 1 through 4 exceed the total of the single phase project, due to the costs associated with phased construction.

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Estimate of Probable Construction Costs
Al Shugart Park
Schematic Design
Single Phase Project

prepared for
City of Scotts Valley

prepared on: 02/24/09
prepared by: CS
checked by: RE

Item #	Description	Unit	Cost	Single Phase Project Qty	Item Total	Subtotal
A	**Project Start-up**					
1.	Bonding and mobilization	2.5%	Allow	Allow	$45,613	
2.	Traffic control	LS	Allow	Allow	$2,000	
3.	Construction staking	LS	Allow	Allow	$18,000	
4.	Construction fence	LF	$3.00	600	$1,800	
						$67,410
B	**Demolition**					
1.	Remove curb, gutter & sidewalk, including sawcut	LF	$25.00	30	$750	
2.	Clear and grub	SF	$0.25	155,000	$38,750	
3.	Off-haul trash	LS	Allow	Allow	$1,500	
4.	Remove trees at bridge crossings	LS	Allow	Allow	$3,000	
						$44,000
C	**Grading, Drainage, and Utilities**					
1.	Rough grading (assume 6" depth)	CY	$20.00	2,870	$57,400	
2.	Catch basins	EA	$1,500.00	2	$3,000	
3.	Storm line and connection to street, for overflow	LF	$35.00	120	$4,200	
4.	French drain	LF	$50.00	700	$35,000	
5.	Bioretention areas	SF	$5.00	3,660	$18,300	
6.	Backflow preventer, domestic	EA	$4,000.00	1	$4,000	
7.	Domestic water lines, PVC	LF	$10.00	450	$4,500	
8.	Sanitary sewer line, 4" VCP	LF	$40.00	70	$2,800	
9.	Sanitary sewer cleanout, 100' o.c. max.	EA	$300.00	1	$300	
10.	Dry-well at dog water fountains	EA	$2,000.00	2	$4,000	
						$133,500
D	**Site Construction**					
1.	Concrete, colored	SF	$14.00	17,280	$241,920	
2.	Concrete, exposed aggregate	SF	$14.00	1,450	$20,300	
4.	Asphalt paving, vehicular	SF	$5.00	15,300	$76,500	
5.	Asphalt paving, pedestrian	SF	$4.00	500	$2,000	
6.	Gravel drive for SVWD access, 10' wide	SF	$3.00	2,400	$7,200	
7.	Decomposed granite paving, stabilized	SF	$3.50	27,000	$94,500	
8.	Bark mulch, dog park surfacing	SF	$0.40	8,300	$3,320	
9.	Wood decking	SF	$40.00	200	$8,000	
10.	Gravel surface at dog park	SF	$3.00	225	$675	
11.	Concrete driveway apron	LF	$110.00	30	$3,300	
12.	Striping, parking lot	LS	Allow	Allow	$2,500	
13.	Headerboard	LF	$6.00	1,240	$7,440	
14.	Concrete curb	LF	$25.00	550	$13,750	
15.	Boulders	EA	$200.00	230	$46,000	
16.	Pre-fabricated restroom building	LS	Allow	Allow	$128,750	
17.	Pre-fab. steel pedestrian bridge with wood deck, 10'	LS	Allow	Allow	$92,150	
18.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow	Allow	$37,565	
19.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow	Allow	$74,850	
20.	Bridge abutment walls and footings, bridges	LS	Allow	Allow	$100,000	
21.	Concrete seatwall	LF	$275.00	40	$11,000	
						$971,720

08075CEShematicDesignMultiplePhase09.0224.xls
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Item #	Description	Unit	Cost	Single Phase Project Qty	Item Total	Subtotal
E	**Site Furnishings**					
1.	Temporary construction sign	EA	$800.00	1	$800	
2.	Shade structure, group, Denver, 16' x 16'	EA	$20,000.00	2	$40,000	
3.	Shade structure, bench, Mingus, 8' x 10'	EA	$13,500.00	5	$67,500	
4.	Park monument sign	EA	$4,000.00	1	$4,000	
5.	Information kiosk	EA	$2,000.00	1	$2,000	
6.	Bench, 6' long	EA	$1,500.00	14	$21,000	
7.	Picnic table	EA	$2,000.00	1	$2,000	
8.	Picnic table, ADA	EA	$2,500.00	2	$5,000	
9.	Interpretive sign	EA	$4,500.00	4	$18,000	
10.	Water fountain, dog	EA	$3,000.00	2	$6,000	
11.	Trash / recycling receptacle	EA	$1,500.00	14	$21,000	
12.	Bike rack	EA	$1,000.00	3	$3,000	
13.	Dog waste bag dispenser	EA	$250.00	2	$500	
14.	Dog play equipment - logs, boulders	LS	Allow	Allow	$1,000	
15.	Gate, 48" high mesh	EA	$500.00	6	$3,000	
16.	Fence, 48" high mesh	LF	$30.00	1,070	$32,100	
17.	Split-rail fence, concrete, creek and wetland edges	LF	$40.00	1,000	$40,000	
18.	View fence, 8' tall, per EIR	LF	$50.00	270	$13,500	
19.	Bollards	EA	$1,000.00	2	$2,000	
						$282,400
F	**Electrical**					
1.	Electrical service and panel	LS	Allow	Allow	$10,000	
2.	Lighting, parking lot single head (conduit, etc.)	EA	$4,500.00	3	$13,500	
3.	Lighting, parking lot double head (conduit, etc.)	EA	$5,200.00	5	$26,000	
4.	Lighting, pathway (conduit, etc.)	EA	$2,000.00	20	$40,000	
						$89,500
G	**Storm Water Pollution Prevention Provisions**					
1.	Temporary construction entrance	EA	$2,000.00	1	$2,000	
2.	Silt fence / fiber rolls	LF	$5.00	2,620	$13,100	
3.	Storm drain filters	LS	Allow	Allow	$2,000	
4.	Maintenance costs	LS	Allow	Allow	$5,000	
						$22,100
H	**Soil Preparation and Fine Grading**					
1.	Soil preparation and fine grading	SF	$0.40	65,000	$26,000	
2.	Mulch, planting areas	SF	$0.40	47,500	$19,000	
						$45,000
I	**Irrigation**					
1.	Water meter, recycled	(existing)				
2.	Point of connection	LS	Allow	Allow	$200	
3.	Controller	EA	$12,000.00	1	$12,000	
4.	Tree bubbler, two per tree	EA	$50.00	192	$9,600	
5.	Turf areas	SF	$0.75	17,500	$13,125	
6.	Shrub and groundcover areas	SF	$1.00	47,500	$47,500	
						$82,430
J	**Planting**					
1.	Trees, 24" box	EA	$300.00	75	$22,500	
2.	Trees, 36" box dog park area	EA	$1,200.00	20	$24,000	
3.	Trees, 60" box	EA	$4,000.00	1	$4,000	
4.	Groundcover / shrubs	SF	$1.50	47,500	$71,250	
5.	Turf, from sod	SF	$0.50	17,500	$8,750	
6.	Mitigation planting	LS	Allow	Allow	$8,000	
7.	Hydroseed	SF	$0.30	31,150	$9,345	
						$147,850
K	**Landscape Maintenance**					
1.	Plant establishment period	MO	$2,000.00	3	$6,000	
						$6,000
L	**Subtotal of Construction**					**$1,891,910**

08075CEShematicDesignMultiplePhase09.0224.xls
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Item #	Description	Unit	Cost	Single Phase Project Qty	Item Total	Subtotal
M	**Allowance for Probable Design Period Changes**	8%	Allow	Allow	$151,353	
N	**Estimating Contingency**	12%	Allow	Allow	$227,029	
O	**Inflation, at 3% per year for 3 years**	9%	Allow	Allow	$170,272	
P	**Anticipated Low Bid**					**$2,440,560**
Q	**Allowance for Probable Construction Period**	4%	Allow	Allow	$97,622	
						$97,620
R	**Professional Services**					
1.	Geotechnical engineering	LS	Allow	Allow	$15,000	
2.	Permitting services	LS	Allow	Allow	$10,000	
3.	Biologist	LS	Allow	Allow	$10,000	
4.	Arborist	LS	Allow	Allow	$2,000	
5.	Design development	LS	Allow	Allow	$42,000	
6.	Construction documents (see note A)	LS	Allow	Allow	$150,000	
7.	Bidding and construction administration	LS	Allow	Allow	$35,000	
8.	Testing and special inspection	LS	Allow	Allow	$8,000	
						$272,000
S	**Agency Expenses**					
1.	California Department of Fish & Game Streambed	LS	Allow	Allow	$4,000	
2.	SVWD - Water replenishment impact fee, potable	LS	Allow	Allow	$22,000	
						$26,000
T	**Total Estimated Costs**					**$2,836,200**

Based on drawing entitled "Schematic Design Plan", dated February 24, 2009.

Notes:

A. Includes structural, civil, elecrical, graphic design, and landscape architectural services

B. The above items, amounts, quantities, and related information are based on CA's judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable construction costs and actual construction prices.

C. The totals of Phases 1 through 4 exceed the total of the single phase project, due to the costs associated with phased construction.

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Estimate of Probable Construction Costs
Al Shugart Park
Schematic Design
Phase 1

prepared for
City of Scotts Valley

prepared on: 02/24/09
prepared by: CS
checked by: RE

Item #	Description	Unit	Cost	Phase 1 Qty	Phase 1 Item Total	Phase 1 Subtotal
A	**Project Start-up**					
1.	Bonding and mobilization	2.5%	Allow	Allow	$4,127	
2.	Traffic control	LS	Allow	Allow	$1,000	
3.	Construction staking	LS	Allow	Allow	$5,000	
4.	Construction fence	LF	$3.00	600	$1,800	
						$11,930
B	**Demolition**					
1.	Remove curb, gutter & sidewalk, including sawcut	LF	$25.00			
2.	Clear and grub	SF	$0.25	26,000	$6,500	
3.	Off-haul trash	LS	Allow	Allow	$375	
4.	Remove trees at bridge crossings	LS	Allow			
						$6,880
C	**Grading, Drainage, and Utilities**					
1.	Rough grading (assume 6" depth)	CY	$20.00	500	$10,000	
2.	Catch basins	EA	$1,500.00			
3.	Storm line and connection to street, for overflow	LF	$35.00			
4.	French drain	LF	$50.00			
5.	Bioretention areas	SF	$5.00	700	$3,500	
6.	Backflow preventer, domestic	EA	$4,000.00			
7.	Domestic water lines, PVC	LF	$10.00			
8.	Sanitary sewer line, 4" VCP	LF	$40.00			
9.	Sanitary sewer cleanout, 100' o.c. max.	EA	$300.00			
10.	Dry-well at dog water fountains	EA	$2,000.00			
						$13,500
D	**Site Construction**					
1.	Concrete, colored	SF	$14.00			
2.	Concrete, exposed aggregate	SF	$14.00			
4.	Asphalt paving, vehicular	SF	$5.00			
5.	Asphalt paving, pedestrian	SF	$4.00			
6.	Gravel drive for SVWD access, 10' wide	SF	$3.00			
7.	Decomposed granite paving, stabilized	SF	$3.50			
8.	Bark mulch, dog park surfacing	SF	$0.40			
9.	Wood decking	SF	$40.00			
10.	Gravel surface at dog park	SF	$3.00			
11.	Concrete driveway apron	LF	$110.00			
12.	Striping, parking lot	LS	Allow			
13.	Headerboard	LF	$6.00			
14.	Concrete curb	LF	$25.00			
15.	Boulders	EA	$200.00	80	$16,000	
16.	Pre-fabricated restroom building	LS	Allow			
17.	Pre-fab. steel pedestrian bridge with wood deck, 10'	LS	Allow			
18.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow			
19.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow			
20.	Bridge abutment walls and footings, bridges	LS	Allow			
21.	Concrete seatwall	LF	$275.00			
						$16,000

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Item #	Description	Unit	Cost	Phase 1 Qty	Phase 1 Item Total	Phase 1 Subtotal
E	**Site Furnishings**					
1.	Temporary construction sign	EA	$800.00	1	$800	
2.	Shade structure, group, Denver, 16' x 16'	EA	$20,000.00			
3.	Shade structure, bench, Mingus, 8' x 10'	EA	$13,500.00			
4.	Park monument sign	EA	$4,000.00	1	$4,000	
5.	Information kiosk	EA	$2,000.00			
6.	Bench, 6' long	EA	$1,500.00			
7.	Picnic table	EA	$2,000.00			
8.	Picnic table, ADA	EA	$2,500.00			
9.	Interpretive sign	EA	$4,500.00			
10.	Water fountain, dog	EA	$3,000.00			
11.	Trash / recycling receptacle	EA	$1,500.00			
12.	Bike rack	EA	$1,000.00			
13.	Dog waste bag dispenser	EA	$250.00			
14.	Dog play equipment - logs, boulders	LS	Allow			
15.	Gate, 48" high mesh	EA	$500.00			
16.	Fence, 48" high mesh	LF	$30.00			
17.	Split-rail fence, concrete, creek and wetland edges	LF	$40.00			
18.	View fence, 8' tall, per EIR	LF	$50.00			
19.	Bollards	EA	$1,000.00			
						$4,800
F	**Electrical**					
1.	Electrical service and panel	LS	Allow			
2.	Lighting, parking lot single head (conduit, etc.)	EA	$4,500.00			
3.	Lighting, parking lot double head (conduit, etc.)	EA	$5,200.00			
4.	Lighting, pathway (conduit, etc.)	EA	$2,000.00			
						$0
G	**Storm Water Pollution Prevention Provisions**					
1.	Temporary construction entrance	EA	$2,000.00	1	$2,000	
2.	Silt fence / fiber rolls	LF	$5.00	1,020	$5,100	
3.	Storm drain filters	LS	Allow	Allow	$500	
4.	Maintenance costs	LS	Allow	Allow	$1,250	
						$8,850
H	**Soil Preparation and Fine Grading**					
1.	Soil preparation and fine grading	SF	$0.40	24,500	$9,800	
2.	Mulch, planting areas	SF	$0.40	24,500	$9,800	
						$19,600
I	**Irrigation**					
1.	Water meter, recycled	(existing)		(existing		
2.	Point of connection	LS	Allow	Allow	$200	
3.	Controller	EA	$12,000.00	1	$12,000	
4.	Tree bubbler, two per tree	EA	$50.00	80	$4,000	
5.	Turf areas	SF	$0.75			
6.	Shrub and groundcover areas	SF	$1.00	24,500	$24,500	
						$40,700
J	**Planting**					
1.	Trees, 24" box	EA	$300.00	40	$12,000	
2.	Trees, 36" box dog park area	EA	$1,200.00			
3.	Trees, 60" box	EA	$4,000.00			
4.	Groundcover / shrubs	SF	$1.50	24,500	$36,750	
5.	Turf, from sod	SF	$0.50			
6.	Mitigation planting	LS	Allow			
7.	Hydroseed	SF	$0.30			
						$48,750
K	**Landscape Maintenance**					
1.	Plant establishment period	MO	$2,000.00	3	$6,000	
						$6,000
L	**Subtotal of Construction**					**$177,010**

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Item #	Description	Unit	Cost	Phase 1 Qty	Phase 1 Item Total	Phase 1 Subtotal
M	**Allowance for Probable Design Period Changes**	8%	Allow	Allow	$14,161	
N	**Estimating Contingency**	12%	Allow	Allow	$21,241	
O	**Inflation, at 3% per year for 3 years**	9%	Allow			
P	**Anticipated Low Bid**					**$212,410**
Q	**Allowance for Probable Construction Period**	4%	Allow	Allow	$10,296	
						$10,300
R	**Professional Services**					
1.	Geotechnical engineering	LS	Allow			
2.	Permitting services	LS	Allow			
3.	Biologist	LS	Allow			
4.	Arborist	LS	Allow			
5.	Design development	LS	Allow	Allow	$8,000	
6.	Construction documents (see note A)	LS	Allow	Allow	$19,500	
7.	Bidding and construction administration	LS	Allow	Allow	$9,000	
8.	Testing and special inspection	LS	Allow			
						$36,500
S	**Agency Expenses**					
1.	California Department of Fish & Game Streambed	LS	Allow			
2.	SVWD - Water replenishment impact fee, potable	LS	Allow			
						$0
T	**Total Estimated Costs**					**$259,200**

Based on drawing entitled "Schematic Design Plan", dated February 24, 2009.

Notes:

A. Includes structural, civil, elecrical, graphic design, and landscape architectural services

B. The above items, amounts, quantities, and related information are based on CA's judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable construction costs and actual construction prices.

C. The totals of Phases 1 through 4 exceed the total of the single phase project, due to the costs associated with phased construction.

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Estimate of Probable Construction Costs
Al Shugart Park
Schematic Design
Phase 2

prepared for
City of Scotts Valley

prepared on: 02/24/09
prepared by: CS
checked by: RE

Item #	Description	Unit	Cost	Phase 2 Qty	Phase 2 Item Total	Phase 2 Subtotal
A	**Project Start-up**					
1.	Bonding and mobilization	2.5%	Allow	Allow	$11,664	
2.	Traffic control	LS	Allow	Allow	$1,000	
3.	Construction staking	LS	Allow	Allow	$6,000	
4.	Construction fence	LF	$3.00	600	$1,800	
						$20,460
B	**Demolition**					
1.	Remove curb, gutter & sidewalk, including sawcut	LF	$25.00			
2.	Clear and grub	SF	$0.25	10,650	$2,663	
3.	Off-haul trash	LS	Allow	Allow	$375	
4.	Remove trees at bridge crossings	LS	Allow	Allow	$3,000	
						$6,040
C	**Grading, Drainage, and Utilities**					
1.	Rough grading (assume 6" depth)	CY	$20.00	200	$4,000	
2.	Catch basins	EA	$1,500.00			
3.	Storm line and connection to street, for overflow	LF	$35.00			
4.	French drain	LF	$50.00			
5.	Bioretention areas	SF	$5.00			
6.	Backflow preventer, domestic	EA	$4,000.00			
7.	Domestic water lines, PVC	LF	$10.00			
8.	Sanitary sewer line, 4" VCP	LF	$40.00			
9.	Sanitary sewer cleanout, 100' o.c. max.	EA	$300.00			
10.	Dry-well at dog water fountains	EA	$2,000.00			
						$4,000
D	**Site Construction**					
1.	Concrete, colored	SF	$14.00	3,800	$53,200	
2.	Concrete, exposed aggregate	SF	$14.00			
4.	Asphalt paving, vehicular	SF	$5.00			
5.	Asphalt paving, pedestrian	SF	$4.00	500	$2,000	
6.	Gravel drive for SVWD access, 10' wide	SF	$3.00			
7.	Decomposed granite paving, stabilized	SF	$3.50			
8.	Bark mulch, dog park surfacing	SF	$0.40			
9.	Wood decking	SF	$40.00			
10.	Gravel surface at dog park	SF	$3.00			
11.	Concrete driveway apron	LF	$110.00			
12.	Striping, parking lot	LS	Allow			
13.	Headerboard	LF	$6.00			
14.	Concrete curb	LF	$25.00			
15.	Boulders	EA	$200.00			
16.	Pre-fabricated restroom building	LS	Allow			
17.	Pre-fab. steel pedestrian bridge with wood deck, 10'	LS	Allow			
18.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow	Allow	$135,000	
19.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow	Allow	$135,000	
20.	Bridge abutment walls and footings, bridges	LS	Allow	Allow	$70,000	
21.	Concrete seatwall	LF	$275.00			
						$395,200

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Item #	Description	Unit	Cost	Phase 2 Qty	Phase 2 Item Total	Phase 2 Subtotal
E	**Site Furnishings**					
1.	Temporary construction sign	EA	$800.00	1	$800	
2.	Shade structure, group, Denver, 16' x 16'	EA	$20,000.00			
3.	Shade structure, bench, Mingus, 8' x 10'	EA	$13,500.00			
4.	Park monument sign	EA	$4,000.00			
5.	Information kiosk	EA	$2,000.00			
6.	Bench, 6' long	EA	$1,500.00			
7.	Picnic table	EA	$2,000.00			
8.	Picnic table, ADA	EA	$2,500.00			
9.	Interpretive sign	EA	$4,500.00			
10.	Water fountain, dog	EA	$3,000.00			
11.	Trash / recycling receptacle	EA	$1,500.00	2	$3,000	
12.	Bike rack	EA	$1,000.00			
13.	Dog waste bag dispenser	EA	$250.00			
14.	Dog play equipment - logs, boulders	LS	Allow			
15.	Gate, 48" high mesh	EA	$500.00			
16.	Fence, 48" high mesh	LF	$30.00			
17.	Split-rail fence, concrete, creek and wetland edges	LF	$40.00	310	$12,400	
18.	View fence, 8' tall, per EIR	LF	$50.00	270	$13,500	
19.	Bollards	EA	$1,000.00			
						$29,700
F	**Electrical**					
1.	Electrical service and panel	LS	Allow	Allow	$10,000	
2.	Lighting, parking lot single head (conduit, etc.)	EA	$4,500.00			
3.	Lighting, parking lot double head (conduit, etc.)	EA	$5,200.00			
4.	Lighting, pathway (conduit, etc.)	EA	$2,000.00			
						$10,000
G	**Storm Water Pollution Prevention Provisions**					
1.	Temporary construction entrance	EA	$2,000.00	1	$2,000	
2.	Silt fence / fiber rolls	LF	$5.00	700	$3,500	
3.	Storm drain filters	LS	Allow	Allow	$2,000	
4.	Maintenance costs	LS	Allow	Allow	$5,000	
						$12,500
H	**Soil Preparation and Fine Grading**					
1.	Soil preparation and fine grading	SF	$0.40			
2.	Mulch, planting areas	SF	$0.40			
						$0
I	**Irrigation**					
1.	Water meter, recycled	(existing)				
2.	Point of connection	LS	Allow			
3.	Controller	EA	$12,000.00			
4.	Tree bubbler, two per tree	EA	$50.00			
5.	Turf areas	SF	$0.75			
6.	Shrub and groundcover areas	SF	$1.00			
						$0
J	**Planting**					
1.	Trees, 24" box	EA	$300.00			
2.	Trees, 36" box dog park area	EA	$1,200.00			
3.	Trees, 60" box	EA	$4,000.00			
4.	Groundcover / shrubs	SF	$1.50			
5.	Turf, from sod	SF	$0.50			
6.	Mitigation planting	LS	Allow	Allow	$2,000	
7.	Hydroseed	SF	$0.30	3,700	$1,110	
						$3,110
K	**Landscape Maintenance**					
1.	Plant establishment period	MO	$2,000.00	3	$6,000	
						$6,000
L	**Subtotal of Construction**					**$487,010**

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Item #	Description	Unit	Cost	Phase 2 Qty	Phase 2 Item Total	Phase 2 Subtotal
M	**Allowance for Probable Design Period Changes**	8%	Allow	Allow	$38,961	
N	**Estimating Contingency**	12%	Allow	Allow	$58,441	
O	**Inflation, at 3% per year for 3 years**	9%	Allow	Allow	$43,831	
P	**Anticipated Low Bid**					**$628,240**
Q	**Allowance for Probable Construction Period**	4%	Allow	Allow	$25,130	
						$25,130
R	**Professional Services**					
1.	Geotechnical engineering	LS	Allow	Allow	$15,000	
2.	Permitting services	LS	Allow	Allow	$10,000	
3.	Biologist	LS	Allow	Allow	$10,000	
4.	Arborist	LS	Allow	Allow	$2,000	
5.	Design development	LS	Allow	Allow	$12,000	
6.	Construction documents (see note A)	LS	Allow	Allow	$36,000	
7.	Bidding and construction administration	LS	Allow	Allow	$10,000	
8.	Testing and special inspection	LS	Allow	Allow	$8,000	
						$103,000
S	**Agency Expenses**					
1.	California Department of Fish & Game Streambed	LS	Allow	Allow	$4,000	
2.	SVWD - Water replenishment impact fee, potable	LS	Allow	Allow	$22,000	
						$26,000
T	**Total Estimated Costs**					**$782,400**

Based on drawing entitled "Schematic Design Plan", dated February 24, 2009.

Notes:

A. Includes structural, civil, elecrical, graphic design, and landscape architectural services

B. The above items, amounts, quantities, and related information are based on CA's judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable construction costs and actual construction prices.

C. The totals of Phases 1 through 4 exceed the total of the single phase project, due to the costs associated with phased construction.

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Estimate of Probable Construction Costs
Al Shugart Park
Schematic Design
Phase 3

prepared for
City of Scotts Valley

prepared on: 02/24/09
prepared by: CS
checked by: RE

Item #	Description	Unit	Cost	Phase 3 Qty	Phase 3 Item Total	Phase 3 Subtotal
A	**Project Start-up**					
1.	Bonding and mobilization	2.5%	Allow	Allow	$30,484	
2.	Traffic control	LS	Allow	Allow	$1,000	
3.	Construction staking	LS	Allow	Allow	$6,000	
4.	Construction fence	LF	$3.00	1,840	$5,520	
						$43,000
B	**Demolition**					
1.	Remove curb, gutter & sidewalk, including sawcut	LF	$25.00	30	$750	
2.	Clear and grub	SF	$0.25	95,200	$23,800	
3.	Off-haul trash	LS	Allow	Allow	$375	
4.	Remove trees at bridge crossings	LS	Allow			
						$24,930
C	**Grading, Drainage, and Utilities**					
1.	Rough grading (assume 6" depth)	CY	$20.00	1,800	$36,000	
2.	Catch basins	EA	$1,500.00	2	$3,000	
3.	Storm line and connection to street, for overflow	LF	$35.00	120	$4,200	
4.	French drain	LF	$50.00	700	$35,000	
5.	Bioretention areas	SF	$5.00	1,350	$6,750	
6.	Backflow preventer, domestic	EA	$4,000.00	1	$4,000	
7.	Domestic water lines, PVC	LF	$10.00	450	$4,500	
8.	Sanitary sewer line, 4" VCP	LF	$40.00	70	$2,800	
9.	Sanitary sewer cleanout, 100' o.c. max.	EA	$300.00	1	$300	
10.	Dry-well at dog water fountains	EA	$2,000.00	2	$4,000	
						$100,550
D	**Site Construction**					
1.	Concrete, colored	SF	$14.00	8,700	$121,800	
2.	Concrete, exposed aggregate	SF	$14.00	1,450	$20,300	
4.	Asphalt paving, vehicular	SF	$5.00	15,300	$76,500	
5.	Asphalt paving, pedestrian	SF	$4.00			
6.	Gravel drive for SVWD access, 10' wide	SF	$3.00			
7.	Decomposed granite paving, stabilized	SF	$3.50	27,000	$94,500	
8.	Bark mulch, dog park surfacing	SF	$0.40	8,300	$3,320	
9.	Wood decking	SF	$40.00	200	$8,000	
10.	Gravel surface at dog park	SF	$3.00	225	$675	
11.	Concrete driveway apron	LF	$110.00	30	$3,300	
12.	Striping, parking lot	LS	Allow	Allow	$2,500	
13.	Headerboard	LF	$6.00	740	$4,440	
14.	Concrete curb	LF	$25.00	550	$13,750	
15.	Boulders	EA	$200.00	100	$20,000	
16.	Pre-fabricated restroom building	LS	Allow	Allow	$100,000	
17.	Pre-fab. steel pedestrian bridge with wood deck, 10'	LS	Allow	Allow	$85,000	
18.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow			
19.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow			
20.	Bridge abutment walls and footings, bridges	LS	Allow	Allow	$30,000	
21.	Concrete seatwall	LF	$275.00	540	$148,500	
						$732,590

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Item #	Description	Unit	Cost	Phase 3 Qty	Phase 3 Item Total	Phase 3 Subtotal
E	**Site Furnishings**					
1.	Temporary construction sign	EA	$800.00	1	$800	
2.	Shade structure, group, Denver, 16' x 16'	EA	$20,000.00	2	$40,000	
3.	Shade structure, bench, Mingus, 8' x 10'	EA	$13,500.00	5	$67,500	
4.	Park monument sign	EA	$4,000.00			
5.	Information kiosk	EA	$2,000.00	1	$2,000	
6.	Bench, 6' long	EA	$1,500.00	14	$21,000	
7.	Picnic table	EA	$2,000.00			
8.	Picnic table, ADA	EA	$2,500.00			
9.	Interpretive sign	EA	$4,500.00			
10.	Water fountain, dog	EA	$3,000.00	2	$6,000	
11.	Trash / recycling receptacle	EA	$1,500.00	10	$15,000	
12.	Bike rack	EA	$1,000.00	3	$3,000	
13.	Dog waste bag dispenser	EA	$250.00	2	$500	
14.	Dog play equipment - logs, boulders	LS	Allow	Allow	$1,000	
15.	Gate, 48" high mesh	EA	$500.00	6	$3,000	
16.	Fence, 48" high mesh	LF	$30.00	1,070	$32,100	
17.	Split-rail fence, concrete, creek and wetland edges	LF	$40.00	300	$12,000	
18.	View fence, 8' tall, per EIR	LF	$50.00			
19.	Bollards	EA	$1,000.00	2	$2,000	
						$205,900
F	**Electrical**					
1.	Electrical service and panel	LS	Allow			
2.	Lighting, parking lot single head (conduit, etc.)	EA	$4,500.00	3	$13,500	
3.	Lighting, parking lot double head (conduit, etc.)	EA	$5,200.00	5	$26,000	
4.	Lighting, pathway (conduit, etc.)	EA	$2,000.00	4	$8,000	
						$47,500
G	**Storm Water Pollution Prevention Provisions**					
1.	Temporary construction entrance	EA	$2,000.00	1	$2,000	
2.	Silt fence / fiber rolls	LF	$5.00	1,480	$7,400	
3.	Storm drain filters	LS	Allow	Allow	$2,000	
4.	Maintenance costs	LS	Allow	Allow	$5,000	
						$16,400
H	**Soil Preparation and Fine Grading**					
1.	Soil preparation and fine grading	SF	$0.40	10,670	$4,268	
2.	Mulch, planting areas	SF	$0.40	10,670	$4,268	
						$8,540
I	**Irrigation**					
1.	Water meter, recycled	(existing)				
2.	Point of connection	LS	Allow			
3.	Controller	EA	$12,000.00			
4.	Tree bubbler, two per tree	EA	$50.00	40	$2,000	
5.	Turf areas	SF	$0.75			
6.	Shrub and groundcover areas	SF	$1.00	10,670	$10,670	
						$12,670
J	**Planting**					
1.	Trees, 24" box	EA	$300.00	20	$6,000	
2.	Trees, 36" box dog park area	EA	$1,200.00	20	$24,000	
3.	Trees, 60" box	EA	$4,000.00	1	$4,000	
4.	Groundcover / shrubs	SF	$1.50	10,670	$16,005	
5.	Turf, from sod	SF	$0.50			
6.	Mitigation planting	LS	Allow	Allow	$6,000	
7.	Hydroseed	SF	$0.30	27,500	$8,250	
						$64,260
K	**Landscape Maintenance**					
1.	Plant establishment period	MO	$2,000.00	3	$6,000	
						$6,000
L	**Subtotal of Construction**					**$1,262,340**

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Item #	Description	Unit	Cost	Phase 3 Qty	Phase 3 Item Total	Phase 3 Subtotal
M	**Allowance for Probable Design Period Changes**	8%	Allow	Allow	$100,987	
N	**Estimating Contingency**	12%	Allow	Allow	$151,481	
O	**Inflation, at 3% per year for 3 years**	9%	Allow	Allow	$113,611	
P	**Anticipated Low Bid**					**$1,628,420**
Q	**Allowance for Probable Construction Period**	4%	Allow	Allow	$59,807	
						$59,810
R	**Professional Services**					
1.	Geotechnical engineering	LS	Allow			
2.	Permitting services	LS	Allow	Allow	$5,000	
3.	Biologist	LS	Allow			
4.	Arborist	LS	Allow			
5.	Design development	LS	Allow	Allow	$21,000	
6.	Construction documents (see note A)	LS	Allow	Allow	$78,000	
7.	Bidding and construction administration	LS	Allow	Allow	$26,000	
8.	Testing and special inspection	LS	Allow	Allow	$4,000	
						$134,000
S	**Agency Expenses**					
1.	California Department of Fish & Game Streambed	LS	Allow	Allow	$4,000	
2.	SVWD - Water replenishment impact fee, potable	LS	Allow	Allow	$22,000	
						$26,000
T	**Total Estimated Costs**					**$1,848,200**

Based on drawing entitled "Schematic Design Plan", dated February 24, 2009.

Notes:

A. Includes structural, civil, elecrical, graphic design, and landscape architectural services

B. The above items, amounts, quantities, and related information are based on CA's judgment at this level of document preparation and is offered only as reference data. CA has no control over construction quantities, costs and related factors affecting costs, and advises the client that significant variation may occur between this estimate of probable construction costs and actual construction prices.

C. The totals of Phases 1 through 4 exceed the total of the single phase project, due to the costs associated with phased construction.

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Estimate of Probable Construction Costs
Al Shugart Park
Schematic Design
Phase 4

prepared for
City of Scotts Valley

prepared on: 02/24/09
prepared by: CS
checked by: RE

Item #	Description	Unit	Cost	Phase 4 Qty	Phase 4 Item Total	Phase 4 Subtotal
A	**Project Start-up**					
1.	Bonding and mobilization	2.5%	Allow	Allow	$7,059	
2.	Traffic control	LS	Allow	Allow	$1,000	
3.	Construction staking	LS	Allow	Allow	$6,000	
4.	Construction fence	LF	$3.00	1,660	$4,980	
						$19,040
B	**Demolition**					
1.	Remove curb, gutter & sidewalk, including sawcut	LF	$25.00			
2.	Clear and grub	SF	$0.25	33,500	$8,375	
3.	Off-haul trash	LS	Allow	Allow	$375	
4.	Remove trees at bridge crossings	LS	Allow			
						$8,750
C	**Grading, Drainage, and Utilities**					
1.	Rough grading (assume 6" depth)	CY	$20.00	620	$12,400	
2.	Catch basins	EA	$1,500.00			
3.	Storm line and connection to street, for overflow	LF	$35.00			
4.	French drain	LF	$50.00			
5.	Bioretention areas	SF	$5.00	1,610	$8,050	
6.	Backflow preventer, domestic	EA	$4,000.00			
7.	Domestic water lines, PVC	LF	$10.00			
8.	Sanitary sewer line, 4" VCP	LF	$40.00			
9.	Sanitary sewer cleanout, 100' o.c. max.	EA	$300.00			
10.	Dry-well at dog water fountains	EA	$2,000.00			
						$20,450
D	**Site Construction**					
1.	Concrete, colored	SF	$14.00	4,600	$64,400	
2.	Concrete, exposed aggregate	SF	$14.00			
4.	Asphalt paving, vehicular	SF	$5.00			
5.	Asphalt paving, pedestrian	SF	$4.00			
6.	Gravel drive for SVWD access, 10' wide	SF	$3.00	2,400	$7,200	
7.	Decomposed granite paving, stabilized	SF	$3.50			
8.	Bark mulch, dog park surfacing	SF	$0.40			
9.	Wood decking	SF	$40.00			
10.	Gravel surface at dog park	SF	$3.00			
11.	Concrete driveway apron	LF	$110.00			
12.	Striping, parking lot	LS	Allow			
13.	Headerboard	LF	$6.00	500		
14.	Concrete curb	LF	$25.00			
15.	Boulders	EA	$200.00	50	$10,000	
16.	Pre-fabricated restroom building	LS	Allow			
17.	Pre-fab. steel pedestrian bridge with wood deck, 10'	LS	Allow			
18.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow			
19.	Pre-fab. steel pedestrian bridge with wood deck, 8'	LS	Allow			
20.	Bridge abutment walls and footings, bridges	LS	Allow			
21.	Concrete seatwall	LF	$275.00			
						$81,600

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Item #	Description	Unit	Cost	Phase 4 Qty	Phase 4 Item Total	Phase 4 Subtotal
E	**Site Furnishings**					
1.	Temporary construction sign	EA	$800.00	1	$800	
2.	Shade structure, group, Denver, 16' x 16'	EA	$20,000.00			
3.	Shade structure, bench, Mingus, 8' x 10'	EA	$13,500.00			
4.	Park monument sign	EA	$4,000.00			
5.	Information kiosk	EA	$2,000.00			
6.	Bench, 6' long	EA	$1,500.00			
7.	Picnic table	EA	$2,000.00	1	$2,000	
8.	Picnic table, ADA	EA	$2,500.00	2	$5,000	
9.	Interpretive sign	EA	$4,500.00	4	$18,000	
10.	Water fountain, dog	EA	$3,000.00			
11.	Trash / recycling receptacle	EA	$1,500.00	2	$3,000	
12.	Bike rack	EA	$1,000.00			
13.	Dog waste bag dispenser	EA	$250.00			
14.	Dog play equipment - logs, boulders	LS	Allow			
15.	Gate, 48" high mesh	EA	$500.00			
16.	Fence, 48" high mesh	LF	$30.00			
17.	Split-rail fence, concrete, creek and wetland edges	LF	$40.00	390	$15,600	
18.	View fence, 8' tall, per EIR	LF	$50.00			
19.	Bollards	EA	$1,000.00			
						$44,400
F	**Electrical**					
1.	Electrical service and panel	LS	Allow			
2.	Lighting, parking lot single head (conduit, etc.)	EA	$4,500.00			
3.	Lighting, parking lot double head (conduit, etc.)	EA	$5,200.00			
4.	Lighting, pathway (conduit, etc.)	EA	$2,000.00	16	$32,000	
						$32,000
G	**Storm Water Pollution Prevention Provisions**					
1.	Temporary construction entrance	EA	$2,000.00	1	$2,000	
2.	Silt fence / fiber rolls	LF	$5.00	1,080	$5,400	
3.	Storm drain filters	LS	Allow	Allow	$2,000	
4.	Maintenance costs	LS	Allow	Allow	$5,000	
						$14,400
H	**Soil Preparation and Fine Grading**					
1.	Soil preparation and fine grading	SF	$0.40	28,700	$11,480	
2.	Mulch, planting areas	SF	$0.40	12,200	$4,880	
						$16,360
I	**Irrigation**					
1.	Water meter, recycled	(existing)				
2.	Point of connection	LS	Allow			
3.	Controller	EA	$12,000.00			
4.	Tree bubbler, two per tree	EA	$50.00	30	$1,500	
5.	Turf areas	SF	$0.75	17,500	$13,125	
6.	Shrub and groundcover areas	SF	$1.00	12,200	$12,200	
						$26,830
J	**Planting**					
1.	Trees, 24" box	EA	$300.00	15	$4,500	
2.	Trees, 36" box dog park area	EA	$1,200.00	0	$0	
3.	Trees, 60" box	EA	$4,000.00			
4.	Groundcover / shrubs	SF	$1.50	12,200	$18,300	
5.	Turf, from sod	SF	$0.50	17,500	$8,750	
6.	Mitigation planting	LS	Allow			
7.	Hydroseed	SF	$0.30			
						$31,550
K	**Landscape Maintenance**					
1.	Plant establishment period	MO	$2,000.00	3	$6,000	
						$6,000
L	**Subtotal of Construction**					**$301,380**

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Item #	Description	Unit	Cost	Phase 4 Qty	Phase 4 Item Total	Phase 4 Subtotal
M	**Allowance for Probable Design Period Changes**	8%	Allow	Allow	$24,110	
N	**Estimating Contingency**	12%	Allow	Allow	$36,166	
O	**Inflation, at 3% per year for 3 years**	9%	Allow	Allow	$27,124	
P	**Anticipated Low Bid**					**$388,780**
Q	**Allowance for Probable Construction Period**	4%	Allow	Allow	$12,055	
						$12,060
R	**Professional Services**					
1.	Geotechnical engineering	LS	Allow			
2.	Permitting services	LS	Allow			
3.	Biologist	LS	Allow			
4.	Arborist	LS	Allow			
5.	Design development	LS	Allow	Allow	$7,500	
6.	Construction documents (see note A)	LS	Allow	Allow	$26,000	
7.	Bidding and construction administration	LS	Allow	Allow	$9,000	
8.	Testing and special inspection	LS	Allow			
						$42,500
S	**Agency Expenses**					
1.	California Department of Fish & Game Streambed	LS	Allow			
2.	SVWD - Water replenishment impact fee, potable	LS	Allow			
						$0
T	**Total Estimated Costs**					**$443,300**

Based on drawing entitled "Schematic Design Plan", dated February 24, 2009.

Notes:

A. Includes structural, civil, elecrical, graphic design, and landscape architectural services

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C. The totals of Phases 1 through 4 exceed the total of the single phase project, due to the costs associated with phased construction.

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City of Scotts Valley
Al Shugard Park - Phase 3
SCHEMATIC PROBABLE COST ESTIMATE

Kimley»Horn

4/25/2024

Item #	Description	Unit	Cost (2009)	Cost (2024)	Qty	Item Total (2009)	Item Total (2024)	Subtotal (2009)	Subtotal (2024)
A	**PROJECT START-UP**								
1	Bonding and mobilization	2.5%	Allow	Allow	Allow	$ 30,484.00	$ 44,770.00		
2	Traffic control	LS	Allow	Allow	Allow	$ 1,000.00	$ 1,470.00		
3	Construction staking	LS	Allow	Allow	Allow	$ 6,000.00	$ 8,810.00		
4	Construction fence	LF	$ 3.00	$ 4.50	$1,840.00	$ 5,520.00	$ 8,280.00		
							Subtotal	$43,004	$63,330
B	**DEMOLITION**								
1	Remove curb, gutter & sidewalk, including sawcut	LF	$ 25.00	$ 36.80	30	$ 750.00	$ 1,104.00		
2	Clear and grub	SF	$ 0.25	$ 0.37	95,200	$ 23,800.00	$ 35,224.00		
3	Off-haul trash	LS	Allow	Allow	Allow	$ 375.00	$ 560.00		
4	Remove trees at bridge crossings	LS	Allow	Allow	Allow	$ -	$ 4,410.00		
							Subtotal	$24,925	$41,298
C	**GRADING, DRAINAGE AND UTILITIES**								
1	Rough grading (assume 6" depth)	CY	$ 20.00	$ 29.40	1,800	$ 36,000.00	$ 52,920.00		
2	Catch basins	EA	$ 1,500.00	$ 2,203.00	2	$ 3,000.00	$ 4,406.00		
3	Storm line and connection to street, for overflow	LF	$ 35.00	$ 51.40	120	$ 4,200.00	$ 6,168.00		
4	French drain	LF	$ 50.00	$ 73.40	700	$ 35,000.00	$ 51,380.00		
5	Bioretention areas	SF	$ 5.00	$ 7.30	1,350	$ 6,750.00	$ 9,855.00		
6	Backflow preventer, domestic	EA	$ 4,000.00	$ 5,873.00	1	$ 4,000.00	$ 5,873.00		
7	Domestic water lines, PVC	LF	$ 10.00	$ 14.70	450	$ 4,500.00	$ 6,615.00		
8	Sanitary sewer line, 4" PVC	LF	$ 40.00	$ 58.70	70	$ 2,800.00	$ 4,109.00		
9	Sanitary sewer cleanout, 100' o.c. max.	EA	$ 300.00	$ 441.00	1	$ 300.00	$ 441.00		
10	Dry-well at dog water fountains	EA	$ 2,000.00	$ 2,937.00	2	$ 4,000.00	$ 5,874.00		
							Subtotal	$100,550	$147,641
D	**SITE CONSTRUCTION**								
1	Concrete, colored	SF	$ 14.00	$ 20.60	8,700	$121,800.00	$179,220.00		
2	Concrete, exposed aggregate	SF	$ 14.00	$ 20.60	1,450	$ 20,300.00	$ 29,870.00		
3	Asphalt paving, vehicular	SF	$ 5.00	$ 7.30	15,300	$ 76,500.00	$111,690.00		
4	Asphalt paving, pedestrian	SF	$ 4.00	$ 5.90	-	$ -	$ -		
5	Gravel drive for SVWD acess, 10' wide	SF	$ 3.00	$ 4.40	-	$ -	$ -		
6	Decomposed granite paving, stabilized	SF	$ 3.50	$ 5.10	27,000	$ 94,500.00	$137,700.00		
7	Bark mulch, dog park surfacing	SF	$ 0.40	$ 0.60	8,300	$ 3,320.00	$ 4,980.00		
8	Wood decking	SF	$ 40.00	$ 58.70	200	$ 8,000.00	$ 11,740.00		
9	Gravel surface at dog park	SF	$ 3.00	$ 4.41	225	$ 675.00	$ 992.25		
10	Concrete driveway apron	LF	$ 110.00	$ 161.50	30	$ 3,300.00	$ 4,845.00		
11	Striping, parking lot	LS	Allow	Allow	Allow	$ 2,500.00	$ 3,680.00		
12	Headerboard	LF	$ 6.00	$ 8.80	740	$ 4,440.00			
13	Concrete curb	LF	$ 25.00	$ 36.70	550	$ 13,750.00			
14	Boulders	EA	$ 200.00	$ 293.70	100	$ 20,000.00			
15	Pre-fabricated restroom building	LS	Allow	Allow	Allow	$100,000.00	$146,840.00		
16	Pre-fab. Steel pedestrian bridge with wood deck, 10'	LS	Allow	Allow	Allow	$ 85,000.00	$124,810.00		
17	Pre-fab. Steel pedestrian bridge with wood deck, 8'	LS	Allow	Allow	-	$ -			
18	Pre-fab. Steel pedestrian bridge with wood deck, 8'	LS	Allow	Allow	-	$ -			
19	Bridge abutment walls and footings, bridges	LS	Allow	Allow	Allow	$ 30,000.00	$ 44,050.00		
20	Concrete seatwall	LF	$ 275.00	$ 403.80	540	$148,500.00	$218,052.00		
							Subtotal	$732,585	$1,018,469
E	**SITE FURNISHINGS**								
1	Temporary construction sign	EA	$ 800.00	$ 1,175.00	1	$ 800.00	$ 1,175.00		
2	Shade structure, group, Denver, 16' x 16'	EA	$20,000.00	$29,367.00	2	$ 40,000.00	$ 58,734.00		
3	Shade structure, group, Mingus, 8' x 10'	EA	$13,500.00	$19,823.00	5	$ 67,500.00	$ 99,115.00		
4	Park monument sign	EA	$ 4,000.00	$ 5,873.00	-	$ -	$ -		
5	Information kiosk	EA	$ 2,000.00	$ 2,937.00	1	$ 2,000.00	$ 2,937.00		
6	Bench, 6' long	EA	$ 1,500.00	$ 2,203.00	14	$ 21,000.00	$ 30,842.00		
7	Picnic table	EA	$ 2,000.00	$ 2,937.00	-	$ -	$ -		
8	Picnic table, ADA	EA	$ 2,500.00	$ 3,671.00	-	$ -	$ -		
9	Interpretive sign	EA	$ 4,500.00	$ 6,608.00	-	$ -	$ -		
10	Water fountain, dog	EA	$ 3,000.00	$ 4,405.00	2	$ 6,000.00	$ 8,810.00		
11	Trash / recycling receptacle	EA	$ 1,500.00	$ 2,203.00	10	$ 15,000.00	$ 22,030.00		
12	Bike rack	EA	$ 1,000.00	$ 1,468.00	3	$ 3,000.00	$ 4,404.00		
13	Dog waste bag dispenser	EA	$ 250.00	$ 367.10	2	$ 500.00	$ 734.20		
14	Dog play equiment - logs, boulders	LS	Allow	Allow	Allow	$ 1,000.00	$ 1,470.00		
15	Gate, 48" high mesh	EA	$ 500.00	$ 734.20	6	$ 3,000.00	$ 4,405.20		
16	Fence, 48" high mesh	LF	$ 30.00	$ 44.00	1,070	$ 32,100.00	$ 47,080.00		
17	Split rail fence, concrete, creek and wetland edges	LF	$ 40.00	$ 58.70	300	$ 12,000.00	$ 17,610.00		
18	View fence, 8' tall, per EIR	LF	$ 50.00	$ 73.42	-	$ -	$ -		
19	Bollards	EA	$ 1,000.00	$ 1,468.00	2	$ 2,000.00	$ 2,936.00		
							Subtotal	$205,900	$302,282

City of Scotts Valley
Al Shugard Park - Phase 3
SCHEMATIC PROBABLE COST ESTIMATE

Kimley»Horn

4/25/2024

Item #	Description	Unit	Cost (2009)	Cost (2024)	Qty	Item Total (2009)	Item Total (2024)	Subtotal (2009)	Subtotal (2024)
F	**ELECTRICAL**								
1	Electrical service and panel	LS	N/A	N/A	Installed (Ph.1)	$ -	$ -		
2	Lighting, parking lot single head (conduit, etc.)	EA	$ 4,500.00	$ 6,608.00	3	$ 13,500.00	$ 19,824.00		
3	Lighting, parking lot double head (conduit, etc.)	EA	$ 5,200.00	$ 7,636.00	5	$ 26,000.00	$ 38,180.00		
4	Lighting, pathway (conduit, etc.)	EA	$ 2,000.00	$ 2,937.00	4	$ 8,000.00	$ 11,748.00		
							Subtotal	$47,500	$69,752
G	**STORM WATER POLLUTION PREVENTION PROVISIONS**								
1	Temporary construction entrance	EA	$ 2,000.00	$ 2,937.00	1	$ 2,000.00	$ 2,937.00		
2	Split fence / fiber rolls	LF	$ 5.00	$ 7.30	1,480	$ 7,400.00	$ 10,804.00		
3	Storm drain filters	LS	Allow	Allow	Allow	$ 2,000.00	$ 560.00		
4	Maintenance costs	LS	Allow	Allow	Allow	$ 5,000.00	$ 4,410.00		
							Subtotal	$16,400	$18,711
H	**SOIL PREPARATION AND FINE GRADING**								
1	Soil preparation and fine grading	SF	$ 0.40	$ 0.59	10,670	$ 4,268.00	$ 6,295.30		
2	Mulch, planting areas	SF	$ 0.40	$ 0.59	10,670	$ 4,268.00	$ 6,295.30		
							Subtotal	$8,536	$12,591
I	**IRRIGATION**								
1	Water meter, recycled	LS	N/A	N/A	Existing	$ -	$ -		
2	Point of connection	LS	N/A	N/A	Installed (Ph.1)	$ -	$ -		
3	Controller	LS	N/A	N/A	Installed (Ph.1)	$ -	$ -		
4	Tree bubbler, two per tree	EA	$ 50.00	$ 73.40	40	$ 2,000.00	$ 2,936.00		
5	Turf areas	SF	$ 0.75	$ 1.10	Future (Ph. 4)				
6	Shrub and groundcover areas	SF	$ 1.00	$ 1.47	10,670	$ 10,670.00	$ 15,684.90		
							Subtotal	$12,670	$18,621
J	**PLANTING**								
1	Trees, 24" box	EA	$ 300.00	$ 500.00	20	$ 6,000.00	$ 10,000.00		
2	Trees, 36" box dog park area	EA	$ 1,200.00	$ 2,000.00	20	$ 24,000.00	$ 40,000.00		
3	Trees, 60" box	EA	$ 4,000.00	$ 6,000.00	1	$ 4,000.00	$ 6,000.00		
4	Groundcover / shrubs	SF	$ 1.50	$ 2.20	10,670	$ 16,005.00	$ 23,474.00		
5	Turf, from sod	SF	$ 0.50	$ 0.73	Future (Ph. 4)	$ -	$ -		
6	Mitigation planting	LS	Allow	Allow	Allow	$ 6,000.00	$ 8,810.00		
7	Hydroseed	SF	$ 0.30	$ 0.50	27,500	$ 8,250.00	$ 13,750.00		
							Subtotal	$64,255	$102,034
K	**LANDSCAPE MAINTENANCE**								
1	Plant establishment period	MO	$ 2,000.00	$ 3,000.00	3	$ 6,000.00	$ 9,000.00		
							Subtotal	$6,000	$9,000
L	**SUBTOTAL OF CONSTRUCTION**								
							Subtotal	$1,262,325	$1,803,729
M	**ALLOWANCE FOR PROBABLE DESIGN PERIOD CHANGES**								
1	Allowance for probable design period changes	8%	Allow	Allow	Allow	$100,986.00	$144,298.33		
							Subtotal	$100,986	$144,298
N	**ESTIMATING CONTINGENCY**								
1	Estimating Contingency	12%	Allow	Allow	Allow	$151,479.00	$216,447.50		
							Subtotal	$151,479	$216,447
O	**INFLATION**								
1	Inflation, at 3% per year for 3 years	9%	Allow	Allow	Allow	$113,609.25	$162,335.62		
							Subtotal	$113,609	$162,336
P	**ANTICIPATED LOW BID**								
							Subtotal	$1,628,399	$2,326,811
Q	**ALLOWANCE FOR PROBABLE CONSTRUCTION PERIOD**								
1	Allowance for probable construction period	4%	Allow	Allow	Allow	$59,807.00	$ 93,072.42		
							Subtotal	$59,807	$93,072
R	**PROFESSIONAL SERVICES**								
1	Geotechnical engineering	LS	N/A	N/A	N/A	$ -	$ -		
2	Permitting services	LS	Allow	Allow	Allow	$ 5,000.00	$ 7,350.00		
3	Biologist	LS	N/A	N/A	N/A	$ -	$ -		
4	Arborist	LS	N/A	N/A	N/A	$ -	$ -		
5	Design development	LS	Allow	Allow	Allow	$ 21,000.00	$ 30,840.00		
6	Construction documents (see note A)	LS	Allow	Allow	Allow	$ 78,000.00	$114,540.00		
7	Bidding and construction administration	LS	Allow	Allow	Allow	$ 26,000.00	$ 38,180.00		
8	Testing and special inspection	LS	Allow	Allow	Allow	$ 4,000.00	$ 5,880.00		
							Subtotal	$134,000	$196,790
S	**SOIL PREPARATION AND FINE GRADING**								
1	California Department of Fish & Game Streambed	LS	Allow	Allow	Allow	$ 4,000.00	$ 5,880.00		
2	SVWD - Water replenishment impact fee, potable	LS	Allow	Allow	Allow	$ 22,000.00	$ 32,310.00		
							Subtotal	$26,000	$38,190
T	**TOTAL ESTIMATED COSTS**							**$1,848,206**	**$2,654,863**