Landscape Plan Review Packet

Your Guide to a Successful Landscape Review

Last Updated: June 20, 2016

This packet is subject to change. Please refer to MMWD's website for updates.

Contents

Applicability

After December 1, 2015, this chapter shall apply to all of the following:

1. New construction projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review;

2. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,000 square feet requiring a building or landscape permit, plan check, or design review;

3. Any project with an aggregate landscape area of less than 1,000 square feet shall comply with the performance requirements of this ordinance or conform to the requirements of the Prescriptive Compliance Option (page 12).

Review Checklist

- ☐ Complete the project datasheet and the pre-installation checklist.
- ☐ Email this Landscape Plan Review Packet and the landscape plans to the district at plancheck@marinwater.org.
- ☐ Receive stamped and approved plans and a review approval letter from the district.
- ☐ Install the project as approved by the district.
- ☐ Email the district a Certificate of Completion form and irrigation audit report.
- ☐ Schedule a final site inspection with district staff to approve the installation.
- ☐ Upon passing the final site inspection, receive a final inspection approval letter from the district.

Congratulations! You have finished your review.

Project Datasheet

District use only
Project Number:_____

Water Entitlement:_____

Please provide the following information:

Project Name:_____

Assessor Parcel Number(s):_____

Site Address:_____

Meter Numbers (if existing, as found on the meter cap):

_____

Owner Information

Name:_____

Business Name:_____

Mailing Address:_____

Email:_____

Phone Number:_____

Landscape Architect or Agent

Name:_____

Business Name:_____

Mailing Address:_____

Email:_____

Phone Number:_____

Project Description

Maximum operational flow requirement (gallons per minute):_____

Will there be any plantings in previously unplanted areas? ☐ YES ☐ NO

Pre-installation Landscape Checklist

All items on this checklist are required in order to be in compliance with the Water Conservation Code. Please complete the checklist and return it with your landscape plans.

Engineering

- ☐ A meter can provide water only to the specific parcel with which it is associated. One meter cannot irrigate multiple parcels.
- ☐ All irrigation plans must identify property to be served by parcel number and address.
- ☐ Irrigation plan must include the location of all irrigation equipment for the purpose of identifying possible conflicts with district water lines and facilities.
- ☐ All irrigation plans must show parcel lines and street names.
- ☐ Call out on the irrigation plan the existing water meter location and meter number that will serve the area, or indicate "new meter" if appropriate.
- ☐ Please complete the following Meter Location Table:

Meters (enter "NEW" or enter the existing meter number, if existing)	**Location** (ex. Along Main Street, 5 feet right of mailbox)	**Sheet No.** (ex. L.1.2)

- ☐ For new meters, select the appropriate size of the meter in accordance with the district's specifications (meter size based on maximum flow of the irrigation system):

Meter Size (inches)	Maximum Flow Allowed (GPM)
⅝ x ¾	20
¾	30
1	50
1 ½	100
2	160

For questions concerning these requirements, please call 415-945-1531.

Backflow Prevention

All irrigation systems shall have backflow protection installed as follows:

- ☐ An irrigation system having a dedicated water service shall have a reduced pressure principle assembly equal in size to the meter, installed at the water meter per MMWD backflow installation standards.
- ☐ Irrigation systems whose point-of-connection is from a consumer's domestic water service line, shall properly install atmospheric vacuum breaker(s), a pressure vacuum breaker or a reduced pressure principal backflow prevention device or assembly. This backflow protection must be installed at the point of connection to the domestic service line. All backflow preventers must be installed as required by the California Plumbing Code. Testable backflow preventers must be tested after installation and the report submitted to the Cross-Connection Control (Backflow and Reclamation) Group within seven days of testing.
- ☐ There shall be no valves, meters, connections or other items except a pressure reducing valve installed between the point of connection and the backflow preventer.
- ☐ The backflow preventer shall be no more than three (3) feet from the irrigation point of connection.
- ☐ Installation of backflow protection shall conform to the district's standard installation criteria.
- ☐ Irrigation plan must list the type, manufacturer, model and size of backflow to be used, the location where the backflow is to be installed, and an installation detail.
- ☐ Freeze and/or vandalism protection shall be by means of a manufactured enclosure or blanket.

For questions regarding Backflow Prevention, please call 415-945-1559.

Recycled Water

- ☐ The district will determine if recycled water is required. Any project fronting a recycled water main shall be designed to accommodate recycled water. Currently recycled water mains are located in the greater Terra Linda and Marinwood areas of northern San Rafael.
- ☐ Projects located in other areas of the district will be evaluated on a case-by-case basis for the future availability of recycled water.
- ☐ Refer to the recycled water information sheet and the recycled water irrigation notes.

For questions regarding recycled water availability and/or design requirements, please call 415-945-1558.

Water Features

- ☐ Recirculating water systems shall be used for water features.
- ☐ Recycled water shall be used when available and approved for use onsite.
- ☐ Surface area of a water feature shall be included in a high water use hydrozone area of the water budget calculation.

Water Conservation

- ☐ Fill out the project datasheet.
- ☐ Complete Maximum Applied Water Allowance (MAWA) & Estimated Total Water Use (ETWU) worksheet for each MMWD meter. The ETWU shall not exceed the MAWA.

Submit a *grading plan*. The grading design will minimize soil erosion, runoff, and water waste. The grading plan must clearly and accurately identify:

- ☐ Height of finished graded slopes, drainage patterns, pad elevations, and finished grade.

  It is highly recommended that, when site conditions allow, project applicants consider grading so that all irrigation and normal rainfall remains within the property lines and does not drain on to non-permeable hardscape.

Submit a *landscape planting plan* that complies with the following:

General:

- ☐ Identify and depict: new and existing trees, shrubs, groundcovers, turf and any other planting areas; property lines, new and existing building footprints, streets, driveways, sidewalks and other hardscape features; pools, fountains, and other water features.

Plant Selection and Hydrozoning:

- ☐ Provide a list of plants by botanical name and common name, plant quantities and mature plant sizes.
- ☐ Provide hydrozone and summary tables identifying project landscape areas (page 9).
- ☐ Plants with similar water use needs (see WUCOLS) shall be grouped together in distinct hydrozones and the distinct hydrozones shall be irrigated with separate valves.
- ☐ Low and moderate water use plants can be mixed, but the entire hydrozone will be classified as moderate water use for MAWA calculations.
- ☐ High water use plants shall not be mixed with low or moderate water use plants.
- ☐ All non-turf plants shall be selected, spaced, and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site.
- ☐ Invasive plants as listed by the MMWD invasive plant list are prohibited.

Turf:

- ☐ Turf shall not be planted on sloped areas which exceed a slope of one (1) foot vertical elevation change for every ten (10) feet of horizontal length.
- ☐ Turf is prohibited in areas less than ten (10) feet wide, unless adjacent to a parking strip and used to enter and exit vehicles.
- ☐ Turf and other high water use plants shall not be allowed in the following conditions: street medians, traffic islands, planter strips, and bulbouts of any size.

Soils and Mulch:

- ☐ A minimum of 8 inches of non-mechanically compacted soil shall be available for water absorption and root growth in planted areas.
- ☐ Incorporate compost or natural fertilizer into the soil to a minimum depth of 8 inches at a minimum rate of 6 cubic yards per 1000 square feet or per specific amendment recommendations from a soils laboratory report.
- ☐ A minimum 3 inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, and direct seeding applications.

Other:

- ☐ Fire Safe Landscape Practices. The requirements in this chapter are intended to support and be in compliance with all local and state requirements related to Fire Safe Landscaping practices, including, but not limited to, requirements for Wildlife Urban Interface zones as specified by local authority (see map).
- ☐ Identify location and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Appropriate stormwater best management practices are encouraged in the landscape design.

Submit an ***irrigation design plan*** that complies with the following:

General:

- ☐ Identify and depict property lines, new and existing building footprints, streets, driveways, sidewalks and other hardscape features.
- ☐ Clearly identify and depict the location of all irrigation equipment for the purpose of identifying possible conflicts with district water lines and facilities including pipes, irrigation valves and backflow prevention devices.
- ☐ Provide a water use table on the irrigation plan (see the MAWA/ETWU worksheet).

Point of Connection and Valves:

- ☐ Identify and depict the water meter serving the irrigation system and label as “New” or with the existing meter number and identify and depict the irrigation point of connection.
- ☐ High-flow sensor(s) that can detect high-flow conditions and have the capability to shut off the irrigation system are required for all landscapes of 5000 square feet or larger.
- ☐ Isolation valves shall be installed at the point-of-connection and before each valve or valve manifold.
- ☐ Designate the area irrigated by each valve and provide the station number, flow rate, precipitation rate, and design operating pressure for each station.

Hydrozoning:

- ☐ Each valve shall irrigate a hydrozone with similar site, slope, sun exposure and soil condition.
- ☐ A single valve shall not irrigate hydrozones that mix high water use plants with moderate or low water use plants.
- ☐ Trees shall be placed on separate irrigation valves except when planted in turf areas.

Water Use Efficiency and System Performance:

- ☐ High-efficiency controllers, weather-based or other sensor-based self-adjusting irrigation controllers shall be required.
- ☐ Rain sensors shall be installed for each irrigation controller.
- ☐ Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produce no runoff or overspray.
- ☐ Point source irrigation is required in mulched planting areas or where plant height at maturity will affect the uniformity of an overhead system.
- ☐ Sprinkler heads, rotors and other emission devices on a valve shall have matched precipitation rates.
- ☐ Head-to-head coverage is required unless otherwise directed by the manufacturer's specifications.
- ☐ Wherever overhead irrigation is located directly adjacent to hardscape areas, where runoff water flows into the curb and gutter, all spray heads shall be setback a minimum of 24" from hardscape edges.
- ☐ Slopes greater than 15% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour (or lower if appropriate for site conditions as determined by the district).
- ☐ Check valves shall be installed to prevent low-head drainage.
- ☐ Swing joints or other pipe protection components are required on above-ground irrigation piping.
- ☐ Pressure regulation and/or booster pumps shall be installed so that all components of the irrigation system operate at the manufacturer's recommended optimal pressure.
- ☐ Irrigation system shall be designed to prevent runoff or overspray onto non-targeted areas.

Dedicated Irrigation Meter and Sub-meter:

The following projects shall have either a district landscape water service meter or a private sub-meter. Check only one that applies, if applicable:

- ☐ A district landscape water service meter is required for all new landscapes, other than single –family and two-unit residential landscapes, for which the irrigated area is equal to or greater than 1,000 square feet.
- ☐ A private sub-meter shall be required for all rehabilitated landscapes equal to or greater than 2,500 square feet.

Other:

- ☐ Identify any applicable rain harvesting, graywater, or catchment technologies (e.g. rain gardens, cisterns, etc.). Applicants are encouraged to employ alternative irrigation techniques as appropriate and where permitted by law.

Hydrozone Table

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package. Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Zone or Valve	Hydrozone*	Irrigation Method**	Gallons Per Minute	Area (sq. ft.)
			Total	0

Summary Hydrozone Table	
Hydrozone	**Area (sq. ft.)**
High Water Use	
Moderate Water Use	
Low Water Use	
Total	0

**HW=High Water Use Plants; MW=Moderate Water Use Plants; LW=Low Water Use Plants*
***MS=Micro-spray; S=Spray; R=Rotor; B=Bubbler; D=Drip; O=Other*

Certificate of Completion

This certificate is filled out by the project applicant, landscape architect and landscape contractor upon completion of the landscape project.

Part 1. Project Information Sheet

Date:	MMWD Project Number:	
Project Name:	Project Address:	
Name of Project Applicant:	Telephone No.:	
	Fax No.:	
Title:	Email Address:	
Company:	Street Address:	
City:	State:	ZIP Code:

"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

Property Owner Signature Date

Part 2. Landscape Architect and Landscape Contractor/Installer

Landscape Architect Name:	Telephone No.:	
	Fax No:	
Title:	Email Address:	
License No. or Certification No.:	Street Address:	
Company:	City:	
	State:	ZIP Code:

Landscape Contractor Name:	Telephone No.:	
	Fax No:	
Title:	Email Address:	
License No. or Certification No.:	Street Address:	
Company:	City:	
	State:	ZIP Code:

"I/we certify that the work has been completed in accordance with the ordinance and that the landscape planting and irrigation installation conform to the criteria and specifications of the approved Landscape Documentation Package. Additionally, a landscape audit and irrigation maintenance schedule have been completed and are attached to this certificate showing that the system meets the efficiency requirements used in the Maximum Applied Water Allowance calculation".

Landscape Architect Signature Date

Landscape Contractor Signature Date

Irrigation Audit Report

This audit is required by Title 13 of the district code and shall be turned in with the *Certificate of Completion* form. The irrigation audit must document the following:

1) Operating pressure of the irrigation system.

2) Distribution uniformity of overhead irrigation stations.

3) Precipitation rate of overhead irrigation stations.

4) Report of any overspray or broken irrigation equipment.

5) Irrigation schedule including:

    A) Plant establishment irrigation schedule.

    B) Regular irrigation schedule by month including: plant type, root depth, soil type, slope factor, shade factor, irrigation interval (days per week), irrigation runtimes, number of start times per irrigation day, gallons per minute for each valve, precipitation rate, distribution uniformity and monthly estimated water use calculations.

    C) An irrigation maintenance schedule that includes: Routine inspections, adjustment and repairs to the irrigation system, aerating and dethatching turf areas, replenishing mulch, fertilizing, pruning and weeding.

Prescriptive Compliance Option

Applicability:

Any (1) new construction project with an aggregate landscape area of less than 500 square feet, or any (2) rehabilitated landscape project with an aggregate landscape area of less than 1,000 square feet.

Requirements:

1. Complete the Project Datasheet (Page 3).
2. Complete the Meter Location Table (Page 4).
3. Comply with the Prescriptive Compliance Checklist below.
4. Enter name to sign the document.
5. Upon project completion, contact MMWD to schedule a final inspection.

Prescriptive Compliance Checklist:

- ☐ Proper backflow protection shall be installed at the point of connection to the water line. The backflow preventer shall be tested upon installation and the report submitted to MMWD Reclamation and Backflow Group.
- ☐ Incorporate compost at a rate of at least six cubic yards per 1,000 square feet to a depth of eight inches into landscape area (unless contra-indicated by a soil test);
- ☐ Irrigation systems shall comply with the following:
  - ☐ Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.
  - ☐ Irrigation controllers shall be of a type which does not lose programming data (non-volatile memory) in the event the primary power source is interrupted.
  - ☐ Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the components are within the manufacturers recommended pressure range.
  - ☐ Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply and before each valve or valve manifold.
  - ☐ Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

☐ Plant material shall comply with all of the following;

- ☐ For single-family residential areas, install climate adapted plants that require occasional, little or no summer water (WUCOLS classified as Low or Very Low) for 75% of the plant area excluding edibles and areas using recycled water, graywater, and/or rainwater as the exclusive source of water for irrigation.
- ☐ For non single-family residential areas:
  - ☐ Install climate adapted plants that require occasional, little or no summer water (WUCOLS classified as Low or Very Low) for 100% of the plant area, excluding edibles and areas using recycled water, rainwater, or graywater as the exclusive source of water for irrigation;
  - ☐ Provide a list of plants by botanical name and common name;
  - ☐ Provide the total planted project area in square feet.
- ☐ A minimum three (3) inch layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
- ☐ Do not plant invasive or non-fire safe species of plants not historically found in California and/or that spread outside cultivated areas and can damage environmental or economic resources as determined by Cal-IPC (www.cal-ipc.org), the local fire agency, and the district.

☐ Turf shall comply with all of the following:

- ☐ Turf and other high water use plants shall not exceed 25% of the landscape area in residential areas, and there shall be no turf permitted in non-residential areas;
- ☐ Turf shall not be planted on sloped areas which exceed a slope of one (1) foot vertical elevation change for every ten (10) feet of horizontal length;
- ☐ Turf is prohibited in areas less than ten (10) feet wide, unless adjacent to a parking strip and used to enter and exit vehicles. Any turf in areas less than 10 feet wide must be irrigated by sub-surface irrigation or by other means that produces no overspray or runoff.

☐ At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance.

☐ I agree to comply with the requirements of the Prescriptive Compliance Option.

Name _____ Date _____

Recycled Water Irrigation System

Instruction and Information Sheet

Recycled Water Use Required – The design for and use of recycled water is required, as determined by MMWD, for all approved uses and in all areas of the district.

Every recycled water irrigation project shall comply with all requirements of the Water Conservation Code, except for these provisions:

- There shall be no restriction as to the size, area or type of project utilizing recycled water.
- Recycled water criteria will apply to all projects with or without a building permit. All recycled water projects, as determined by MMWD, shall submit the required plans for review and approval.
- All tree irrigation shall be by separate dedicated irrigation control valves including trees planted in turf areas.

Plan Submittal – Plan submittals shall include the irrigation plan, the planting plan, and the grading plan (where slopes exceed 10%) including finished grade elevations, and the drainage plan. All submitted plans shall be at the same scale. The "Recycled Water Notes – Irrigation", in their entirety, shall be displayed on the irrigation plan.

Renovated landscape designs shall clearly depict existing landscape areas which will not be altered.

Plan Review – All irrigation projects where recycled water will be used shall be subject to a comprehensive plan review by the district. Plan reviews shall include compliance with Title 13 of the district code and the requirements of the Recycled Water Irrigation Notes.

Recycled Water Meters – Where practical, a separate recycled water meter shall be required for each type of use – i.e., irrigation, dual plumbing (toilet & urinal flushing) – as determined by the district.

Recycled Water Irrigation Notes

1. **Regulations** – Prior to start of work contractors shall familiarize themselves with all State and local laws, codes, regulations, and ordinances pertaining to the installation, use, and operation of recycled water. In addition, seven days before any work is started, the installing contractor shall contact the Reclamation and Backflow Group and schedule an on-site meeting to discuss the project and the inspection process (415-945-1558).
2. **Approved Plans** – Contractor shall conduct all work from plans approved and stamped by MMWD.
3. **Temporary Connection*** – A temporary point-of-connection (POC) from the potable water system may be necessary to supply the irrigation system until final approval has been granted. When required, the temporary POC shall be removed and inspected by MMWD prior to activation of the recycled water supply.
4. **Controller** – Irrigation system(s) shall be equipped with a high-efficiency, weather based, or other sensor-based self-adjusting irrigation controller. Recycled water controllers shall be designated for recycled water use only and shall not control any potable water irrigation system. Each recycled water controller shall have a sign (supplied by MMWD) noting recycled water operating parameters. Location of this sign shall be at the direction of MMWD.
5. **Irrigation Schedule*** – The contractor shall provide MMWD a detailed irrigation schedule for each recycled water controller. Irrigation schedules shall include a color coded map depicting areas served by each control valve. Scheduling of all overhead spray irrigation systems shall be restricted to the hours of 9:00 p.m. – 6:00 a.m.
6. **Backflow Protection*** – Backflow protection is not required on recycled water services unless provisions for chemical injection i.e., in-line chemigation or other conditions exist which make backflow protection necessary as determined by MMWD. Backflow protection, when required, shall be of a type specified by MMWD and shall be installed in accordance with MMWD standards installation instructions.
7. **Pressure Regulation** – A pressure reducing valve (PRV) shall be installed between the recycled water meter and the first control valve. The PRV shall be set so that all components of the irrigation system operate at the manufacturer's recommended optimal pressure. Additional pressure compensating devices may be necessary to meet equipment manufacturer's specifications.
8. **Quick Couplers** – Quick couplers (QC) shall have locking, purple color thermoplastic covers marked with "Do Not Drink" in English and Spanish and shall include the international symbol for "do not drink". QC's shall be installed in planter areas, in round irrigation valve boxes.
9. **Irrigation Control Valves** – Use of special irrigation control valves (dirty water valves) shall not be required.
10. **Irrigation Valve Boxes** – Valve boxes shall be purple in color, shall be installed in planters, and shall be grouped whenever possible. This requirement shall not apply to subterranean emitter boxes.
11. **Piping** – All new buried irrigation pipe (PVC) shall be purple PVC with "CAUTION RECYCLED WATER DO NOT DRINK" clearly imprinted on the pipe. All copper pipe and/or irrigation pipe installed inside a structure shall comply with the provisions of the California Plumbing Code for marking recycled water piping systems.
12. **Water Waste** – Irrigation system components shall be installed and adjusted to prevent recycled water from leaving the landscape area via overspray, mist, or runoff. Check valves shall be installed at each sprinkler head where low head drainage may occur. Slopes greater than 15% shall not be irrigated by any form of spray irrigation.
13. **Appurtenance Identification*** – All appurtenances within the irrigation system, i.e., control valves, shut-off valves, quick couplers, etc. shall have attached, by nylon wire tie an identification tag as manufactured by T. Christy Enterprises. Tags shall read "WARNING RECYCLED WATER DO NOT DRINK", in English and Spanish.
14. **Signage** – Notification signs as supplied by MMWD shall be installed in locations designated by MMWD. Signs shall at all times be visible to users of the site. Additional signs may be required where recycled water is supplied to water features.
15. **Inspections** – All irrigation pipe and components installed in a recycled water irrigation system shall be inspected by the MMWD prior to burial. Contractor shall contact the MMWD Recycled Water Section at least three (3) working days prior to start of work.
16. **Separation Test** – Contractor shall perform a recycled water system separation test in the presence of an MMWD Recycled Water representative following installation of the irrigation system and prior to activation of the recycled water service.
17. **Coverage Test** – Contractor shall perform an irrigation system coverage test in the presence of an MMWD Recycled Water representative following the installation of the irrigation system prior to final approval.
18. **Final Approval** – Final project approval shall be granted following installation of all system components, a separation test and coverage test has been conducted and all codes, regulations, and ordinances have been satisfied.

*Requirement does not apply to irrigation projects where recycled water is not readily available.

Homeowner Provided Projects

For homeowner provided projects (meaning the homeowner will design the landscape and perform the installation themselves rather than hire someone), a completed homeowner's irrigation design statement may be submitted in lieu of the irrigation design plan to meet the irrigation specifications (see example on pages 17 and 18).

A signed, written statement shall be submitted to the district as part of the design review process, and shall include the following elements:

- ☐ Accurately and clearly describes the types and locations of all irrigation system point(s) of connection;
- ☐ Accurately and clearly describes the types and location of all irrigation system components by valve zone, including high-efficiency irrigation controller, pipe, valves, high and low volume irrigation devices, rain shut-off device, check valves, pressure regulating devices, backflow prevention devices, and all other irrigation devices required by the district;
- ☐ A completed hydrozone table (page 9);
- ☐ A description of plant species irrigated in each valve zone by scientific name, water use of each plant as high, moderate, or low water use according to WUCOLS (Water Use Classification of Landscape Species), and plant height at maturity for each plant. Plant height is not necessary where drip or bubbler will be used;
- ☐ Complete the Maximum Applied Water Allowance (MAWA) & Estimated Total Water Use (ETWU) worksheet. The ETWU shall not exceed the MAWA;
- ☐ A statement signed by the homeowner that includes the following certifying language:

  "The irrigation system will be installed as described in this statement, and in compliance with the requirements of the district".

Homeowner Provided Irrigation Design Statement – Example

June 15, 2017

John Doe
220 Nellen Avenue
Fairfax, CA 94930
415-945-1497

Irrigation Design Statement

To Whom It May Concern:

The irrigation system will be installed as described in this statement, and in compliance with the requirements of the district.

- The existing meter # is 0000000; the irrigation line branches off of the house on the left side of the front porch and is for irrigating the front yard only. The backyard is irrigated by way of a pipe that exits the hose bib on the back side of the house.
- No reduced pressure backflow prevention device is installed on this site. However, all automatic valves will be anti-siphon valves and will be installed according to MMWD code.
- The pressure reducer maintains pressure at 50 pounds per square inch (psi).
- Valves 1, 2, 3, and 6 will be irrigated using the following irrigation components: Rain Bird's control zone XACZ-075-PRF (includes 200 mesh filter and 30 psi pressure reducer) automatic valves, Toro's DL2000 Subsurface Dripline with 12 inch spacing between emitters designed according to manufacturer's specifications for subsurface designs, schedule 40 PVC, a manual ball valve before each control valve or valve manifold, and an air relief valve and flush valve. All trees will be irrigated on a separate zone.
- Valves 4, and 5 will be irrigated using the following irrigation components: A Hunter ¾ inch PGV-ASV automatic valve with a manual ball valve installed directly upstream of the valve or valve manifold, Rain Bird's 1806-SAM-PRS spray bodies, Hunter's MP1000 nozzles installed with head to head coverage (will not be installed within 24 inches of any hardscapes that would direct water into sewer drains, nor installed in areas less than 8 feet wide).
- A Hunter controller will be installed in the garage with a Solar Sync weather sensor installed on the fence. The sensor will be installed in a location where it can get full sun and rain exposure during any season of the year.
- A private sub-meter will be installed because the project is over 2500 square feet.
- I will design the following hydrozones:

Plant List and Irrigation Type

Zone	Irrigation[a]	Scientific Name	Common Name	WUCOLS[b]	Mature Height[c]
1	Drip	Sedum spathulifolium	Purpureum	Low	
1	Drip	Dudleya farinosa	Powdery Dudleya	Low	
1	Drip	Calochortus superbus	Superb Mariposa	Low	
2	Drip	Festuca longifolia	Hard Fescue	Low	
3	Drip	Mimulus aurantiacus	Sticky Monkeyflower	Low	
3	Drip	Carex divulsa	European Meadow Sedge	Moderate	
3	Drip	Linum lewisii	Blue Flax	Low	
3	Drip	Muhlenbergia rigens	Deergrass	Low	
4, 5	MP Rotors	Festuca arundinaceae	Tall Fescue	High	4"
6	Drip	Aesculus californica	California Buckeye	Low	
6	Drip	Prunus ilicifolia	Hollyleaf Cherry	Low	
6	Drip	Cercis occidentalis	Western Redbud	Low	

a – spray, rotor, microspray, mp rotors, bubbler, drip
b – This classification is either high, moderate, or low water use according to WUCOLS.
c – in inches; not necessary if the entire zone is irrigation with drip or bubblers

Hydrozone Table

Zone	Hydrozone	Irrigation Method	Gallons Per Minute	Area (Sq. Ft.)	% of Landscape Area
1	Low	Drip	3	200	6%
2	Low	Drip	9	1000	24%
3	Moderate	Drip	7	1000	24%
4	High	MP Rotor	8	250	6%
5	High	MP Rotor	6	250	6%
6	Low	Drip	10	1400	34%

Summary Hydrozone Table

Hydrozone	Area (Sq. Ft.)	% of Landscape Area
Low	2600	63%
Moderate	1000	24%
High	500	13%
Total	**4100**	**100%**

Customer Signature: _____