WATER SERVICE AND USE
RULES AND REGULATIONS

CITY OF SANTA CLARA

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WATER SERVICE AND USE
RULES AND REGULATIONS

CITY OF SANTA CLARA

1. GENERAL STATEMENT AND DEFINITIONS

1.A **ESTABLISHMENT OF RULES AND REGULATIONS**

The following rules and regulations, rates and charges governing Water Service furnished by the City of Santa Clara, California are hereby established.

1.B **GENERAL STATEMENT**

The City of Santa Clara shall furnish Water Service including distribution Main extensions in accordance with Municipal Services Division Rules and the regulations hereinafter set forth, and in accordance with all other applicable ordinances, to any property within the corporate limits of the City and to such areas outside the City limits as the City Council may designate.

All water used must be taken through a water meter unless a permit is first obtained in compliance with the regulations contained in these Rules and Regulations.

Applications for service to Premises for which a Service Connection has already been installed may be made in accordance with the Municipal Services Division Rules and Regulations, which are incorporated herein by reference as though set forth in full. Such applications will signify the Customer's willingness and intention to comply with all applicable Rules and Regulations and rates duly adopted, and to make payment for Water Service rendered.

1. GENERAL STATEMENT AND DEFINITIONS (Continued)

If application is made for service to property where no Service Connection has been installed, but a distribution Main is adjacent to the property, the applicant, in addition to making application for service, shall comply with the regulations governing the installation of Service Connections. Where an extension of the distribution Main is necessary or a substantial investment is required to furnish service, the applicant shall be informed by the City of the applicable provisions of the Code and these Rules and Regulations governing the extension of distribution Main and facilities.

1.C WATER USE RESTRICTIONS AND PROHIBITIONS

The following list of Water Use Restrictions and Prohibitions are specific measures which prevent water waste and achieve reasonable, yet substantial, reductions in water use by all users in the City.

The following uses of water are prohibited by the City:

(a) Wasting water, which includes but is not limited to, the flooding or runoff on City sidewalks, gutters, and streets.
(b) Cleaning of sidewalks, driveways, patios, parking lots, or other paved or hard-surfaced areas.
(c) Washing cars, buses, boats, trailers, or any vehicle by use of a hose unless that hose is fitted with an operating automatic shut-off valve.
(d) Water waste due to broken or defective plumbing, fire system, irrigation system, or any appurtenance thereto; or to open or to leave open any stopcock or faucet so as to permit water waste.
(e) Service of water by any restaurant unless requested by a patron.
(f) Installation of a single-pass cooling system.
(g) Installation and/or use of a non-recirculating, decorative fountain.
(h) Construction of a non-recirculating conveyor car wash.
(i) Watering lawns during or within 48 hours after measureable precipitation.
(j) Irrigating ornamental turf on public street medians
(k) Irrigation of landscapes outside of newly constructed homes and buildings in a manner inconsistent with regulations or other requirements established by the California Building Standards Commission and the Department of Housing and Community Development.
(l) Irrigation between the hours of 9AM and 6PM

In addition to the above water use prohibitions and to promote efficient water use, hotels/motels shall provide guests with the option of choosing not to have towels and linens laundered daily. Notice of this option shall be displayed prominently in each guestroom using easily understood terms and language.

1. GENERAL STATEMENT AND DEFINITIONS (Continued)

1.D INCORPORATION OF MUNICIPAL SERVICES DIVISION RULES AND REGULATIONS

These Rules and Regulations hereby incorporate by reference all Rules and Regulations of the Municipal Services Division of the Department of Finance of the City of Santa Clara. Rules governing the establishment of credit, rendering and payment of bills, financial aspects of temporary service or discontinuance of service for water are contained in the Municipal Services Division Rules and Regulations.

1.E DEFINITIONS

Terms appearing with an initial letter capitalized, are defined terms. The definitions set forth in the Rules and Regulations for the Municipal Services Division, Department of Finance, are incorporated by reference as set forth in full, and those definitions are not repeated here; reference should be made to Section 1.B of Municipal Services Division Rules and Regulations. Unless the particular provision or context otherwise requires, the definitions and provisions contained in the Water Service and Use Rules and Regulations Section 1.E. and the Municipal Services Division Rules and Regulations Section 1.B, shall govern the construction, meaning, and application of words and terms used in these Rules and Regulations. The singular of a word or term shall include the plural and the plural shall include the singular. Such words or terms as defined in these Rules and Regulations Section 1.B shall be initially capitalized when used in context of these Rules and Regulations.

Backflow: The reverse flow of water or any other fluid or substance or any combination or mixture thereof from the Customer's system into the City's water distribution system.

Backflow Prevention Device: A City-approved device that prevents Backflow into the City's water distribution system.

Best Management Practice ("BMP"): A policy, program, practice or rule aimed at more efficient use or conservation of the water resources of the City and State.

City: The City of Santa Clara, California, acting through its elected officials or its duly authorized officers, employees, agents, or fictitious business names.

City Equipment: Any property, facility, apparatus, or material associated with providing one or more Utility Services including, but not limited to, City's electric distributions system, water distribution system, pipes, ducts, conduits, valves, meters, backflow prevention devices, transformers, protective devices, wiring,

1. GENERAL STATEMENT AND DEFINITIONS (Continued)

switches, meters and other appurtenances required to provide a Utility Service to Customer's Premises.

City Employee: Any authorized City employee, agent or representative.

City's Operating Convenience: The utilization of facilities or practices which contribute to the overall efficiency, safety or reliability of the water utility operations. City's Operating Convenience does not refer to Customer convenience or adoption of practices required to comply with applicable ordinances, rules and regulations, or similar requirements of public authorities.

City's Water System: The water supply and distribution system and all appurtenances thereto owned and operated by the City, including all Service Connections to the City's water mains.

City Code: The Code of the City of Santa Clara, California.

Commercial Service: Provision of water to Premises where the Customer is engaged in trade.

Cross-Connection: Cross-connection means an unprotected actual or potential connection between a potable water system used to supply water for drinking purposes and any source or system containing unapproved water or a substance that is not or cannot be approved as safe, wholesome, and potable. Bypass arrangements, jumper connections, removable sections, swivel or changeover devices, or other devices through which Backflow could occur, shall be considered to be cross-connections.

Customer: The Person, Persons, firm, association, governmental agency, corporation or other legal entity who use, are entitled to use, or benefit from the use of City of Santa Clara Utilities.

Domestic Service: Water Services to single- or multiple-dwelling Premises for use by residents and residential associations, including water for irrigation and other similar and customary purposes.

Fire Service - Private: Provision of water to Premises for automatic fire sprinkler service.

Fire Service - Public: Public fire protection service through fire hydrants connected to the water distribution system and made available to the City Fire Department.

Industrial Service: Provision of water to Premises for use in manufacturing or processing activities.

1. GENERAL STATEMENT AND DEFINITIONS (Continued)

Main Extensions: Extension of distribution pipelines, exclusive of Service Connections, beyond existing facilities.

Mains: Distribution pipelines, which are used to service the general public, and are located in streets, highways, public rights of way or easements through private lands.

Meter Rate Service: Provision of water in measured quantities through metered service.

Municipal Or Public Use: Provision of water to municipal departments or for other public uses.

Owner: Property or building Owner and authorized agents

Service Connection: The connection of City of Santa Clara water, sewer or electric equipment to Customer equipment for the purpose of providing Utility Services. This includes, but is not limited to, all or any portion of the water pipe and appurtenances, including the meter, between the City distribution line and an individual Customer's system. All or any portion of the water pipe and appurtenances, including meter, between the City distribution line and an individual Customer's system.

Service Order: Customer request for the connection or discontinuance of Water Service.

Tamper: To rearrange, bypass, damage, alter, interfere with, break, prevent normal function of equipment in any way, prevent access to equipment, or hinder a City Employee in the performance of their duties.

Temporary Water Service: Service for an enterprise or activity which is temporary in character, where it is known in advance that service will be of limited duration, or the permanency of which has not been established.

Total Cost: The sum of all fully located expenses including overheads, all labor, material and use of City Equipment to complete a particular repair or addition to the system, and the cost of associated resources consumed.

Utility Connection Point: Point of delivery determined by the City Water Department.

Water Service: Provision of water, either potable or recycled, to property or Premises through a Service Connection.

2. NOTICES

2.A NOTICES TO THE CUSTOMER

Notice, under and pursuant to the effective Rules and Regulations of the City, from the City to a Customer may be given by written notice, either delivered by the City or properly enclosed in a sealed envelope and deposited in any United States Post Office postage prepaid, addressed to the Customer's last known address.

2.B NOTICES TO THE CITY

Requests for permits or licenses pursuant to the effective Rules and Regulations of the City and notices from any Water Service Customer to the City regarding a relocation of Water Service, an increase in size of Water Service, or any material change either in the amount or character of appliances or equipment installed upon the Premises may be presented by the Customer or authorized agents, in person, or sent to:

City of Santa Clara
Water and Sewer Utilities
1500 Warburton Ave.
Santa Clara, CA 95050

3. CONTRACTS

3.A Contracts will not be required as a condition prior to Water Service except:

3.A.1 As conditions in the regular schedule of rates approved or accepted by the City;

3.A.2 As may be required for water extensions for Temporary Water Service or speculative projects;

3.A.3 As may be required for construction purposes as a condition prior to Water Service;

3.A.4 Any Customer Application for Water Service which in the judgment of the City is not a standard practice;

3.A.5 A contract may be required for special operating conditions or other circumstances as may be required for the City's Operating Convenience.

4. APPLICATION FOR WATER SERVICE

4.A SERVICE ORDER APPLICATIONS

Application is required by the Municipal Services Division Office when Water Service is desired. By applying for any Water Service, an applicant indicates their willingness and intention to comply with these Rules and Regulations, and applicable rates. Application for Water Service does not in itself bind the City to serve any applicant except under reasonable conditions as determined by the City, nor does it bind the applicant to take Water Service for a longer period than the minimum requirements of the appropriate rate schedule(s).

Applications for residential, commercial, and industrial service will be accepted by telephone or in person at the Municipal Services Division.

4.B CHANGES IN WATER SERVICE

When a Customer intends to make any material change either in the amount or character of the equipment installed upon the Premises to be supplied with water by the City, the Customer shall immediately provide written notice to the City Water Utility. Failure to comply may result in a discontinuance of Water Service without notice.

Customer will be liable for damages to City Equipment and facilities resulting from the Customer's failure to provide written notification to, and approval of, the City Water Utility prior to the addition of water demand.

Customer may be subject to reassessment of rate schedule qualification as provided by these Rules and Regulations.

5. RATES

5.A **RATES**

The rates to be charged by and paid to the City for Water Service shall be the rates legally in effect and on file with the City Clerk, where they shall be available for public inspection.

5.B **TEMPORARY RATE SCHEDULE**

An Applicant for Water Service may be assigned a temporary rate schedule until qualification parameters for a customary rate schedule are met. The qualification period shall not exceed twelve (12) months and any change in rate schedule due to new Water Service qualification will apply retroactive to the date of qualification under applicable rate schedule then in effect. The selection of the temporary rate shall be made by the Municipal Services Division and based on historical usage for the Premises, historical usage of the Customer, (an estimate if historical usage is not available), or as provided for by these Rules and Regulations.

5.C **ESTABLISHMENT OF NEW OR OPTIONAL RATES**

If the City adopts new or optional schedules or rates, the City shall take such measures as may be reasonable to advise those of its Customers who may be affected by the change.

In the case where the City adopts new rate schedules, which allows a Customer to qualify for more than one rate or schedule, the Customer may request which applicable rate or schedule is desired. Upon request, the Municipal Services Division shall assist the Customer to select the most appropriate rate or schedule, or in the absence of a request, the Municipal Services Division shall have the authority to make the selection based on the available information.

5.D **REASSESSMENT OF RATE SCHEDULE QUALIFICATION**

A Customer may request a reassessment of their qualification for a particular rate schedule. A change to a different applicable schedule, as approved by the Municipal Services Division, shall become effective for service rendered after the next regular meter reading following the date of approval by the City. The effective date may be delayed if a change in Water Service hardware, watermeter or other associated equipment is required. Notices shall be served as indicated in Water Service and Use Rules and Regulations Section 2 herein.

5.E **SERVICE BY FACILITIES PURCHASED FROM OTHER UTILITIES**

Where the City has purchased Water Service facilities from other water utilities, the Customer shall be placed on the applicable City rate schedule.

6. METER TEST AND ADJUSTMENT OF BILLS FOR METER ERROR

6.A METER TEST

Each meter will be tested at regular intervals which shall be determined by the Water Utility. In no case shall the interval between tests exceed 20 years.

6.B METER TEST - CUSTOMER REQUEST

6.B.1 Any Customer may, after giving not less than one (1) week's notice, request the City to test the meter serving his/her Premises.

6.B.2 Except as provided herein, the City may require from the Customer a fee to cover the cost of the test.

6.B.3 The fee will be refunded to the Customer if the meter is found, upon test, to register more than two (2%) percent fast under conditions of normal operation. The deposit will be retained by the City to cover test costs if the meter is less than two (2%) percent fast. The Customer will be notified, not less than five (5) days in advance of the time and place of the test.

6.B.4 A Customer shall have the right to require the City to conduct the test in his presence, or in the presence of his representative. A written report giving the results of the test will be supplied to the Customer within ten (10) days after completion of the test.

6.C ADJUSTMENT OF BILLS FOR METER ERROR

6.C.1 Fast Meters

When, as a result of any test, a meter is found to be registering more than two (2%) percent fast, under conditions of normal operation, the City will make necessary adjustments to the Customer's bill (credit or charge) to correct the overcharge based on corrected meter readings (0% greater than actual consumption) for the period in which the meter was in use in accordance with Municipal Services Division Rules and Regulations Section 6.H.3.

6.C.2 Slow Meters

6.C.2.(a) Upon testing, if a meter under normal conditions is found to register less than ninety-eight percent (98%) of the actual consumption, Municipal Services Division may bill the Customer for the undercharge based on the corrected meter

6. METER TEST AND ADJUSTMENT OF BILLS FOR METER ERROR (Continued)

readings (100% actual consumption) for the period in which the meter was in use in accordance with Municipal Services Division Rules and Regulations Section 6.H.3.

6.C.2.(b) Upon testing, a meter used for other than domestic service is found to register less than ninety-eight percent (98%) of the actual consumption, Municipal Services Division may bill the Customer for the undercharge based upon the corrected meter readings (100% actual consumption) for the period in which the meter was in use in accordance with Municipal Services Division Rules and Regulations Section 6.H.3

6.C.3 Non-Registering Meters

Municipal Services Division may bill the Customer for water consumed while the meter was not registering. At Municipal Services Division's option, the bill will be computed on an estimate of consumption based on the Customer's use during the same season of the preceding year or based on an alternate method of estimation determined by Municipal Services Division, which includes, but is not limited to, the City's experience with Customer's usage on the same rate schedule; and the general characteristics of the Customer's operations.

7. APPEAL FROM THE APPLICATION, REQUIREMENTS, OR INTERPRETATION OF THESE RULES AND REGULATIONS

7.A Unless California law, this Code, or an ordinance or resolution of the City prescribes an alternative procedure, any Customer may request an appeal from an interpretation, requirement or application of the Rules and Regulations. The appeal may be made by submitting a written Request for Appeal to the Director of Water and Sewer Utilities. Upon receipt of a Request for Appeal, the Director shall review the request and notify the appellant in writing of his/her decision within forty-five (45) days of the request. Appeal from the application, requirements or interpretation of the Municipal Services Division Rules and Regulations shall be made in accordance with those Rules and Regulations.

7.B A Customer may further appeal the Director's determination regarding the appeal from the application, requirements, and/or interpretation of these Rules and Regulations to the City Manager. Such a subsequent appeal must be made in writing and received by the City Clerk within seven (7) calendar days after receipt of the written decision by the Director.

7.C The appeal to the City Manager shall consist of a written notice of the appeal, written details explaining the grounds on which the appeal is based, and the payment of an appeal fee of twenty-five dollars ($25.00) or an amount otherwise modified or set from time to time by resolution of the City Council.

7.D The appeal to the City Manager shall be heard within forty-five (45) days from the filing of said notice. If an address is not provided in the notice of appeal, such notice need not be given to the Customer.

7.E Written notice of such hearing informing the appellant of the date and time of the hearing shall be personally served upon the appellant, or on any person employed in the place where the business in question, or activity, is maintained. If service cannot be made in the foregoing manner, then a copy of such notice may be mailed to the appellant at his or her place of business or his or her last address known to the City Clerk, at least five (5) days prior to the hearing. The time of such notice may be shortened by the City Manager with the written consent of the appellant.

7.F At the hearing, an opportunity will be afforded to the appellant and the City to make statements for the record regarding the facts in dispute and the circumstances surrounding the matter being appealed. A record of the hearing will be established.

7.G The City Manager shall render his/her decision within forty-five (45) days after the conclusion of said hearing. In his/her decision, the City Manager may reverse, set aside, affirm, amend or modify the decision of the Director. The decision of the City Manager shall be final insofar as the administrative hearing process is concerned.

8. CITY DISTRIBUTION SYSTEM ON CUSTOMER PREMISES

8.A NEW DEVELOPMENTS

8.A.1. Prior to submitting any projects for Water Service, the Developer shall submit a site plan showing all existing utilities, trees, structures and easements to the Water Utility. Developer shall then contact City Electric Department and Water Utility for requirements and prepare the site plan resolving coordination of all utilities. Charges for new Service Connections are payable in advance and shall be in accordance with applicable sections of the City Code.

8.A.2 Most Water Service Connections will normally be furnished and installed by City between the street curb and the property line.

8.A.3 Subject to the approval of the Director of Water and Sewer Utilities, and providing there is no depressed-grade condition planned or existing on the Premises, water needs may be served by an on-site water distribution system and individual meters installed (either by City or Developer) and maintained by City in an easement (minimum width 15 feet) granted for that purpose. Developer must contact the Water Utility for the water infrastructure design criteria prior to designing the on-site utilities.

8.A.4 All trees, existing and proposed, shall maintain a minimum clearance of 10 feet from any existing or proposed Water facilities. Existing trees that conflict will have to be removed. Trees shall not be planted in water easements or public utility easements.

8.B RELOCATION OF EXISTING FACILITIES

Any relocation of existing City facilities shall be paid for by the requesting party.

8.C RIGHTS OF WAY

Water easements shall be provided by Customer for all City water utility facilities. City will determine the location of easements and prepare document(s) at customer's expense, for Customer's signature, unless easements are dedicated on a Tract or Parcel map.

9. ACCESS, INTERFERENCE, TAMPERING, AND THEFT

9.A CITY RIGHT OF ACCESS

The City shall have immediate and unhindered access, without notice, to and from a Customer's Premises for any purpose reasonably connected with the furnishing of Water Services, including but not limited to the abatement of water waste, inspection, reading, testing, maintenance, removal, and replacement of City Equipment. The Water Utility and Municipal Services Division jointly and singly retain the authority to enforce these provisions.

When access is not immediate and unhindered, the City may issue citations with the following graduated levels: notice of denied access, warning of impending citation, citation, warning of impending civil/criminal action, or any other enforcement remedy provided for in the City Code. The City may require the Customer to provide, without cost to the City, a new approved location for equipment or to re-establish the immediate and unhindered access to the previously approved location.

9.B WORK OUTSIDE CITY'S OPERATING CONVENIENCE

When requested by the Customer, and where circumstances permit some flexibility in scheduling of necessary repairs or improvements, the City may at its sole option perform the work during other than normal City working hours for the increased convenience of the Customer, providing that the Customer acknowledges in writing, prior to the performance of said work, their willingness to pay for any costs incurred by the City as a result of performing said work at other than during normal City working hours.

9.C INTERFERENCE

Any person preventing or interfering with any City Employee in the lawful discharge of duties is subject to penalties, prosecution, and punishment.

9.D TAMPERING

To rearranging, bypassing, damaging, altering, breaking, preventing normal function of equipment in any way, or preventing access to Service Connection or other City owned facilities may be considered Tampering. It shall be unlawful for, and the City may immediately discontinue Water Service and bring a criminal action against, any person, firm, corporation or association that commits, authorizes, solicits, aids, abets or attempts to:

9.D.1 Change the intended course or path of Water Services without authorization from the City.

9. ACCESS, INTERFERENCE, TAMPERING, AND THEFT (Continued)

9.D.2 Make, or cause to be made, any connection or restoration with property owned or used by the City to provide Water Services.

9.D.3 Prevent any water meter, or other device used to determine the amount of water consumed by a Customer, from accurately performing its measuring function.

9.D.4 Tamper with, or otherwise access without permission from the City Water Utility, any property owned or used by the City to provide Water Services.

9.D.5 Use or receive the Water Service without consent of the City or payment of all lawful charges.

9.E FRAUD

The City may discontinue the Service Connection without notice if a Customer's actions or the conditions of the Premises indicate the Customer's intent to defraud the City.

9.F LIABILITY, PENALTY, PROSECUTION AND PUNISHMENT FOR VIOLATION

9.F.1 Legal liability and responsibility, for violation of these Rules and Regulations, lies with the Customer of record and/or any additional recipient who benefits from the Water Service.

9.F.2 For violation of the Rules and Regulations set forth regarding interference, Tampering or theft, the City shall levy a charge set forth in the City of Santa Clara Municipal Fee Schedule, adopted by resolution of the City Council.

9.G CIVIL ACTION

In any civil action brought, the City may recover three times the amount of actual damages, plus the cost of the suit, reasonable attorney's fees and any other amounts allowed by law. In addition, the City may bring an action to enjoin and restrain any violation of these Rules and Regulations.

10. TEMPORARY WATER SERVICE

Temporary water service, as herein considered, refers to service of a temporary nature or of questionable permanency. The City shall, if no undue hardships result therefrom, furnish temporary service under the following conditions:

10.A **TIME LIMIT**

Temporary Service Connections shall be disconnected and terminated within twelve (12) months after installation unless an extension of time is granted in writing by the City. (See Chapter 31, Article II of the City Code for rules and regulations concerning temporary service from fire hydrants.)

10.B **CHARGE FOR WATER SERVED**

Charges for water furnished through a temporary water Service Connection shall be at the established rates for regular Customers.

10.C **INSTALLATION CHARGE AND DEPOSITS**

The applicant for temporary service will be required:

10.C.1 To pay to the City in advance the estimated cost of installing and removing all facilities necessary to furnish such service, unless other arrangements are approved by the City Council. If service is supplied through a fire hydrant and hydrant meter, the applicant will be charged in accordance with the established rate schedule in effect at the time application is made.

10.C.2 To deposit with the Municipal Services Division an amount sufficient to cover bills for water during the entire period such temporary service may be used, and as set forth in the City's Municipal Fee Schedule service deposits in effect at the time.

10.C.3 Nothing in these Rules and Regulations shall limit or affect the right of the City to collect from the Customer any other or additional sums of money which may become due and payable to the City from the Customer by reason of the Temporary Water Service furnished or to be furnished. The City may refuse Water Service if, in the judgment of the City, unsafe or hazardous conditions exist.

10.D **REFUNDS**

A refund of the Temporary Water Service deposit less applicable fees or charges will be applied to the Temporary Water Service closing bill. An Owner of a Premises, executive officer of corporation, or business, with an unpaid closing bill

can transfer the outstanding balance to any existing or future accounts without regard to Customer class.

10.E **TEMPORARY WATER PERMIT**

10.E.1 Any person or company desiring to use water drawn from a fire hydrant for the purpose of spraying, jetting or dust control or for any other reason must first obtain a temporary water permit by applying to the Water Utility. (See Section 17.E.)

10.E.2 It is specifically prohibited to operate the valve of any fire hydrant other than by the use of a spanner wrench designed for this purpose.

11. SHORTAGE OF SUPPLY AND INTERRUPTION OF DELIVERY

11.A The City will exercise reasonable diligence and care to furnish and deliver a continuous and sufficient supply of Water Services to the Customer, but does not guarantee continuity or sufficiency of supply. The City will not be liable for any damage resulting from the interruption, shortage, or insufficient supply of Water Services to the Customer.

11.B The City will have the right to suspend temporarily the delivery of Water Service whenever necessary to make repairs or improvements to its system. Reasonable notice, as circumstances permit, will be given to the Customers, and the repairs or improvements will be completed as rapidly as possible during normal City working hours, and where possible, with the least inconvenience to the Customers.

11.C If a shortage of supply occurs, the City will make an apportionment of the available supply of water among Customers as ordered or directed by the City Council. In the absence of an order or direction by the City Council, the City Manager will apportion the available supply of water among Customers in a reasonable manner.

12. DESCRIPTION OF STANDARD WATER SERVICE

12.A NUMBER OF SERVICES TO SEPARATE PREMISES

Separate Premises under single control or management shall normally be supplied through a single Service Connection. The Customer may request separate individual services, whereupon the City shall evaluate Customer's request and, at City's option, may provide separate services.

12.B SERVICE TO MULTIPLE UNITS

Separate residential houses, apartments or other multi-family accommodations, or business establishments on the same Premises or on adjoining Premises under a single control or management may be served by either of the following methods, at the option of the City, taking into consideration the Customer's preference:

12.B.1 Through a single metered Service Connection to the entire Premises, as provided in Rate Schedule.

12.B.2 Through separate metered Service Connections to each or any group of units, provided that the system from each service is independent and not interconnected with any others.

12.C SINGLE METER SERVICE TO MULTIPLE TENANTS/UNITS

When separate domestic and/or commercial services are served on the same Premises through a single-metered Service Connection, the Owner may resell water to tenants of the Premises at rates identical with the rates of the City that would apply if that Water Service was supplied to the individual tenants or units directly by the City, regardless of the rate the Owner is charged, provided the Owner complies with either 12.C.1(a) or 12.C.1(b). Within thirty (30) days upon written request by the City, the Owner must submit four (4) consecutive quarterly water billing summaries to the City for compliance auditing purpose.:

12.C.1(a) Water is separately metered to the individual tenants or units.

12.C.1(b) Water is not separately metered. The Owner shall be responsible for purchase of all water used for landscape irrigation and other common area uses. The tenants shall receive separate bills for the water used by the tenants alone without any incremental charges (service or handling) billed to tenants' accounts. For residential accounts, the charge to the tenants for water shall be derived from a consistent formula for allocation that includes the number of individuals in each household (e.g., 100% occupancy or 50% occupancy and 50% square footage). For non-residential master-metered accounts, the amount allocated to each tenant shall be consistently calculated based on a formula that includes a

12. DESCRIPTION OF STANDARD WATER SERVICE (Continued)

reasonable standard for water use at each business type and square footage of each tenant's unit.

12.C.2 The charge to the tenants for such water is absorbed in the rental charges for that individual tenant or unit with no separate identifiable charge for water, and the rent does not vary with water consumption.

12.C.3 If water is resold otherwise than provided for above, the City may Discontinue service to the Owner, or furnish water directly to the individual tenants or units through separate meters installed at the sole cost of the Owner.

12.C.4 The responsibility for payment for all Water Services furnished to individual tenants or units on the same Premises, under these Rules and Regulations and supplied through a single Service Connection, shall be the obligation of the Owner. It shall further be the responsibility of the Owner to inform individual tenants or units of the method of metering Water Services. The City will have no contractual relationship with tenants of individual units, where a Customer receives service through a single metered connection, nor a relationship created by payments made directly to the City on behalf of the Owner by tenants or other third parties.

12.C.5 As a condition of service for single metered service, the Owner has agreed to be governed by the applicable City Rules and Regulations. As a further condition of service for single metered service, the Owner has agreed that the City may inspect and examine the Owner's billing procedures from time to time to determine that such service is made in accordance with these Rules and Regulations, or as otherwise may be authorized by the City.

13. RESPONSIBILITY FOR EQUIPMENT AND PROTECTIVE DEVICES

13.A RESPONSIBILITY FOR EQUIPMENT

13.A.1 The Customer shall, at the Customer's risk and expense, furnish, install and keep in good and safe condition equipment and suitable housings that may be required for receiving, controlling, applying and utilizing water, regardless of the location of the meters, or other City Equipment, and the City shall not be responsible or liable for any loss or damage caused by the improper installation of such water equipment, or the negligence, want of proper care or wrongful act of the Customer or of any of the Customer's tenants, agents, employees, contractors, licensees or permitees in installing, maintaining, using, operating, Tampering, or interfering with such equipment. The City shall not be responsible or liable for damage to Customer's property and/or equipment, either when the water is turned on originally or when turned on after a temporary shutdown, during normal operating conditions, times of local or system trouble and/or after Restoration. The City shall not be responsible or liable for damage to, or the failure of, any component of the Customer's equipment due to a defect in Customer's equipment or failure to maintain adequate protection as described in these Rules and Regulations.

13.A.2 The Customer shall exercise reasonable care to prevent City Equipment on the Customer's Premises from being Tampered or interfered with, damaged, or destroyed. The Customer shall be liable for damage to City Equipment arising from negligence, want of proper care, or wrongful act of the Customer or Customer's tenants, agents, employees or contractors. If any defect is discovered by the Customer, the Customer shall promptly notify the City.

13.B PROTECTIVE DEVICES

13.B.1 It is the Customer's responsibility to furnish, install, inspect and keep in good and safe condition at that Customer's own risk and expense, all appropriate protective devices of any kind or character, which may be required to properly protect the Customer's facilities and equipment from any event caused without negligence by the City or from any event caused by another Customer. The City is not responsible or liable for any loss or damage occasioned or caused by the negligence, or wrongful act of the Customer, or of any of that person's agents, employees or licensees in omitting, installing, maintaining, using, operating or interfering with any such protective devices.

13. RESPONSIBILITY FOR EQUIPMENT AND PROTECTIVE DEVICES (Continued)

13.B.2 It is the Customer's responsibility to select and install such protective devices as may be necessary to coordinate properly with the City's protective devices to avoid exposing other Customers to unnecessary water service interruptions. Failure to provide appropriate protective devices or to properly coordinate said equipment with the City's protective devices may result in discontinuance of Water Service.

14. SERVICE CONNECTIONS AND METERS

14.A SERVICE CONNECTIONS

Water Service Connections will be installed in the size and at the location desired by the applicant where such requests are reasonable. Service Connections will be made only to property abutting on public streets or to such distribution Mains as may be constructed in alleys or rights-of-way at the convenience of the City. Service Connections installed in the new subdivisions prior to the construction of streets or in advance of street improvements must be accepted by the applicant in the installed location. Charges for new Service Connections are payable in advance and shall be in accordance with applicable sections of the Code.

14.B METERS

14.B.1 When an authorized service entrance has been established, meters will normally be furnished and installed between the curb and the property line. The charges for meters shall be in accordance with applicable sections of the Code.

14.B.2 No rent, or other charge, will be paid by the City for a meter or other facility, including housing and connections, located on a Customer's Premises.

14.B.3 All meters will be sealed by the City at the time of installation, and no seal shall be Tampered with or broken by the Customer at any time thereafter.

14.B.4 The City reserves the right to meter any and all services and to apply the established metered rates to the quantity of water measured by them.

14.C CHANGES IN LOCATION OF METERS AND SERVICE CONNECTIONS

Meters or services moved for the convenience of the Customer will be relocated at the Customer's expense. Meters or services moved to protect the City's property will be moved at the City's expense.

14.D CHANGES IN SIZE OF METER

Upon request of a Customer, the size of an existing meter may be changed. Charges for meter changes shall be made by applying the rates shown in the Code to the applicable situation as follows:

14. SERVICE CONNECTIONS AND METERS (Continued)

14.D.1 When an existing meter is replaced in size by a larger meter, the Customer shall be given a credit for the rate established for the existing meter. Said credit shall be applied against the rate established for the larger meter, and the differential cost shall be paid to the City by the Customer.

14.D.2 When an existing meter is replaced in size by a smaller meter, the Customer shall be given a credit for 70% of the rate established for the existing meter. Said credit shall be applied against the rate established for the smaller meter and the differential cost, if any, shall be paid to the City or refunded to the Customer as the case may be.

14.E **OWNERSHIP**

The Service Connection, whether located on public rights-of-way or easements through private property, is the property of the City, and the City reserves the right to repair, replace and maintain it, as well as to remove it upon discontinuance of service.

14.F **MAINTENANCE**

The Service Connection, including the meter and the meter box, will be repaired and maintained by the City at its expense except for damages as set forth in Section 13. The City is not responsible for the installation and/or maintenance of water lines beyond the end of its Service Connections and/or meter.

14.G **SPLIT SERVICE CONNECTIONS**

The City, in several locations, has installed in residential subdivisions two meters on a common service, known as a “split service.” In the event that a Customer wishes a single service to replace the split service, the charges will be in accordance with the City Code for a new 1" service including street opening fees.

15. MAIN EXTENSIONS

15.A **EXTENSIONS**

Main extensions and Service Connections for Applicants, sub-dividers or property developers shall be made in accordance with the applicable provisions of the Code.

15.B **RIGHT TO CHANGE POLICY**

It is understood that the policy stated herein may be changed by the City Council at such time or times as it may deem advisable or necessary. In no instance is this policy to apply retroactively to any subdivision, development, or Service Connection previously approved by the City Council and for which an agreement covering Water Service has been executed.

16. AUTOMATIC FIRE SERVICE

16.A PURPOSE

An automatic fire Service Connection of 4" diameter or larger, up to the size of the connected Main, will be furnished only if adequate provision is made to prevent the use of water from such Service Connection for purposes other than fire extinguishing.

16.B REQUEST AND APPLICATION

16.B.1 All requests for automatic fire Service Connection shall be referred to the Water Utility.

16.B.2 A location map with a job title and the date the service is needed shall accompany each request.

16.B.3 The contractor or Owner shall make application for the fire service at the Utilities Office.

16.C INSTALLATION CHARGES

The applicant will be required to make payment of the fees as specified in the Code for the automatic fire service in advance of installing the Service Connection.

16.D QUANTITATIVE CHARGES

16.D.1 Water for Fires

No charge will be made for water used to extinguish fires.

16.D.2 Water for Fire Storage Tanks

Occasionally water may be obtained from an automatic sprinkler service for filling a storage tank connected with fire service, but only if written permission is secured from the Water Utility in advance and an approved means of measurement is available. The rates for general use will be applied.

16.D.3 Other

Water lost through leakage or in unauthorized testing or used in violation of these Rules and Regulations shall result in an imposition of regular Water Service rates on the fire service account for a minimum of three billing cycles or longer, until such time as illicit use of water through the fire Service Connection is discontinued.

16. AUTOMATIC FIRE SERVICE (Continued)

16.E VIOLATION OF AGREEMENT

If water is used from a fire service in violation of the agreement or of these Rules and Regulations, the City may, at its option, discontinue and remove the service.

16.F OWNERSHIP OF CONNECTION

The Service Connection and all equipment appurtenant thereto shall be the sole property of the City, and no part of the cost thereof will be refunded to the applicant.

16.G PRESSURE AND SUPPLY

The City assumes no responsibility for loss or damage because of lack of water or pressure and merely agrees to attempt to furnish such quantities and pressures as are available in its general distribution system. The service is subject to shutdowns and variations required by the operation of the system or due to accidents beyond the ability of the City to control.

16.H RATES

Monthly charges furnished for automatic fire sprinkler service shall be at the established rates.

17. FIRE HYDRANTS

17.A USE OF AND DAMAGE TO FIRE HYDRANTS

No person or persons, other than those designated and authorized by proper authority, shall open any fire hydrant, attempt to draw water from it or in any manner damage or Tamper with it. Any violation of this regulation is punishable by law, and in accordance with City Code.

17.B INSTALLATION OF FACILITIES ON PRIVATE PROPERTY

Fire hydrants and other facilities will be installed for use on private Premises by the City under agreement entered into by the parties concerned and the City.

17.C MARKING OR COLOR CODING OF HYDRANTS

17.C.1 Public Hydrants

All public hydrants including, but not limited to, hydrants which are municipally installed, operated, controlled and maintained shall have white barrels or bodies with the color coding, marking, or stenciling as required by the State Fire Marshal.

17.C.2 Private Hydrants

All private hydrants shall have the barrel, top, and nozzle caps painted "safety yellow" to distinguish them from public hydrants.

17.D MODIFICATION OR RELOCATION OF FIRE HYDRANTS

If a property Owner, or other party of a developed or redeveloped Premises, desires a change in the size, type or location of an existing fire hydrant, said Owner or other party shall bear all costs of such changes, without refund. If a fire hydrant is installed by the City which precedes the development of the Premises and the location of said fire hydrant interferes with the development of the Premises, the City, at its sole expense, shall move the existing fire hydrant to a new location on the Premises. Any change in the location of a fire hydrant must be approved by the Fire Chief.

17. FIRE HYDRANTS (Continued)

17.E **WATER FROM FIRE HYDRANTS**

17.E.1 Permit to Extract Water Required

It shall be unlawful for any person to take water from any City fire hydrant, except the City Fire Department, without first obtaining a permit and complying with the regulations contained in these Rules and Regulations.

17.E.2 Application; Issuance and Deposit

After application to and approval of the Water Utility, permits required by the preceding section will be issued by the Municipal Services Division Office upon application and payment of a deposit, a portion of which is non-refundable. (The refundable portion of a deposit is not normally required of other public agencies or utilities.)

17.E.3 Denial or Revocation

The City shall have the right to refuse or revoke any permit issued pursuant to these Rules and Regulations when the use of same results in surging or pressure complaints due to careless operation of the fire hydrant valve or for any other cause.

17.E.4 Issuance of Equipment; Manner of Extracting Water; Water Meters Generally

The applicant filing for a permit under the preceding section shall then report to the Water and Sewer Utilities corporation yard, where a portable water meter with hose adapter for connection to the City fire hydrants and a spanner wrench will be issued. No other equipment, tools or accessories shall be furnished by the City. All water used must be taken through the water meter. The permittee shall notify the Santa Clara Fire Department upon the issuance of the water meter and before the use of the hydrants. The water meter shall be immediately removed and disconnected from the fire hydrant after hydrant use has concluded. The permittee shall notify the Santa Clara Fire Department at the time the hydrant is no longer being used.

17.E.5 Reading of Water Meters and Rendering of Accounts; Water Drawn for Use Outside City

17.E.5.(a) Meters provided for in the preceding section shall be read monthly. The meter reading can be performed during working hours at the Water and Sewer Utilities corporation yard, between

the twenty-fifth and the last day of each month. Or the meter reading can be recorded on a card issued with the meter and mailed to the Municipal Services Division Office by the twentieth of each month.

17.E.5.(b) Accounts whose meters are not read during this period shall be billed the monthly minimum for a three inch (3") meter and this amount shall not be applicable as payment toward water used, either previously or thereafter. In addition to the monthly minimum, the permittee remains responsible for the full amount of water actually used. Accounts shall be billed monthly for water used at the rates established therefore by the City. Water drawn for use in projects outside the City shall be billed and paid for at one and one-half times the established City rates.

17.E.6 Return of Equipment to City; Final Billing, etc.

When water is no longer required, the water meter and other equipment shall be returned to the Water and Sewer Utilities corporation yard and checked in. The deposit, less the cost of any damage to the meter or hydrant that was used and less the final billing on water usage, shall be returned to the permittee.

17.E.7 Additional Penalty for Violation of Article; Duties of Director of Water and Sewer Utilities

In addition to the penalty provided in the City Code, any person violating any provision of the article may be required to pay two times the rate for the water taken, based on an estimate of the quantity of water taken. Such estimate shall be made by the Director of Water and Sewer Utilities.

18. POOLS AND TANKS

18.A When an abnormally large quantity of water is desired for filling a swimming pool or for other purposes, arrangements may be required prior to taking such water. Permission to take water in unusual quantities will be given only if it can be safely delivered through the City's facilities, if other Customers are not inconvenienced, and if there is no mandatory water rationing in effect at the time of the request. All water used shall be metered and billed for in accordance with prevailing rate schedules.

19. CONTROL VALVES

19.A The Customer shall install a suitable square or a tee head stop on the riser to the building (or, for multiple buildings, as close to the meter location as practicable) which will operate to control the entire water supply from the Service Connection.

19.B Operation by the Customer of the curb stop in the meter box is not permitted except in extreme emergencies. Should the Customer damage the curb stop, they shall reimburse the City for any and all cost of repair or replacement.

20. CROSS CONNECTIONS

20.A HEALTH REGULATIONS

Regulations of the California State Department of Public Health and the Drinking Water Standards of the United States Public Health Service prohibit unprotected Cross Connections between the public water supply and any unapproved source of water.

20.B CITY REQUIREMENTS

Backflow Prevention Devices shall be required at the Service Connection or at a location approved by the City for Premises receiving water from the City and falling in one or more of the following categories:

20.B.1 Premises having an auxiliary water supply;

20.B.2 Premises on which any substance is handled under pressure in such a fashion as to permit possible entry into the City's water distribution system, including water originating in the City's system that is then boosted in pressure;

20.B.3 Premises where the Customer's system has more than one Service Connection coming from different streets, or having internal Cross-Connections that cannot be permanently corrected to meet State and local standards;

20.B.4 Premises and/or Customer's systems where, in the opinion of the City or its representative, there is the potential for pollution or contamination of the City water system in the event of Backflow or back-siphonage.

20.B.5 Premises receiving Water Service other than from the City are exempt from the requirements until they receive Water Service from the City.

20.C APPROVED BACKFLOW PREVENTION DEVICES

Only approved Backflow Prevention Devices will be accepted. An approved device is any device that has been manufactured and installed in full conformance with the standards established by the Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California and that has received the approval of the City for use in Santa Clara.

20.D PLUMBING CHANGES REQUIRED

In special circumstances, when the Customer is engaged in the handling of especially dangerous or corrosive liquids or industrial or process waters, the City may require the Customer to eliminate certain plumbing or piping connections as an additional precaution and protection to the Backflow preventive devices. In making the required plumbing connections, the Customer shall comply with local or state plumbing ordinances and codes.

20.E RELIEF VALVE REQUIRED

Suitable pressure relief valves shall be installed and maintained by the Owner in accordance with the requirements of local or state plumbing codes and ordinances.

20.F BACKFLOW PROTECTION ON ADDITIONAL WATER SUPPLY LINES

Whenever Backflow protection has been found necessary on a water supply line entering a Customer's Premises, then any and all water supply lines from the City's Main entering such Premises, buildings or structures shall be protected by an approved Backflow device unless Director of Water and Sewer Utilities determines otherwise.

20.G INSPECTION OF BACKFLOW PREVENTION DEVICES

The City will be responsible for inspecting and testing all Backflow Prevention Devices, as well as making any necessary repairs identified through inspection and testing. Inspection and testing will be done on at least an annual basis. Fees for this service will be established from time to time.

20.H INSTALLATION OF BACKFLOW PREVENTION DEVICES

20.H.1 New Service Connections. At the time an application for a new service is made by a potential Customer, in accordance with City's policies and regulations, the City will review said application to determine the need for a Backflow Prevention Device on the Customer's service. If Backflow prevention is determined to be required, the Customer shall pay the City in advance in accordance with City's established installation fee schedule.

20.H.2 Existing Service Connections without Backflow Prevention Devices. The City will inspect, from time to time, the Premises of existing Service Connections that, in the opinion of the City or its representative, may require Backflow prevention. If it is determined that a Backflow Prevention Device is required, such determination by the City shall be final, and the installation of a Backflow Prevention Device shall be a condition of continued Water Service.

20.H.3 The City will install the Backflow Prevention Device and charge the Customer the entire cost of the device and its installation. If, in the opinion of the City there was no change in the land use from when the Water Service was first installed, the City may absorb the entire installation cost.

20. CROSS CONNECTIONS (Continued)

20.H.4 Upgrading the existing Backflow Prevention Device. An existing Backflow Prevention Device that, in the opinion of the City, does not provide adequate protection, shall be upgraded at the Customer's expense following the procedures in subparagraph 2 above. Upgrading may include repair, complete replacement of the Backflow Prevention Device, or correction on-site or cross-connection hazards.

20.I INSTALLATION OF FACILITIES ON PRIVATE PROPERTY

Backflow Prevention Devices may be installed on private Premises by the City under agreement entered into by the Customer and the City.

20.J REMOVAL OR MODIFICATION OF BACKFLOW PREVENTION DEVICES

Backflow Prevention Devices shall not be removed or modified by the water user unless approved in advance by the City.

20.K DISCONTINUANCE OF SERVICE FOR DEFECTIVE APPARATUS

The service of water to any Premises may be immediately discontinued by the City if defects are found in any protective device installation, or if it is found that unprotected Cross-Connections exist. Service will not be restored until necessary corrections are made.

21. RECYCLED WATER USE

Certain uses of Recycled Water are permitted by the State of California. The requirements for such use are defined by CCR, Title 22, Division 4, of the California Administrative Code. The use of Recycled Water within the City is further defined under a permit issued by the California Regional Water Quality Control Board. Wherever the City Rules and Regulations are inconsistent or in conflict with the requirements of Title 22 or of the RWQCB permit, these Rules and Regulations shall be subordinate.

Since codes, laws, statutes and regulations can change without prior approval or knowledge of the City or South Bay Water Recycling (Program), the City, Program or Water Utility do not assume any liability for errors in this document. It is the responsibility of the Customer to check with the Program before initiating any operational or physical changes to the Recycled Water system.

21.A **ABBREVIATIONS**

Abbreviations used throughout Sections 21, 22 and 23 are listed below for reference. Definitions for terms are listed in Section 21.B (below).

AG: Air Gap

AWWA: American Water Works Association

County EHS: County of Santa Clara Environment Health Services

DC Assembly: Double Check Backflow Prevention Assembly

Program: South Bay Water Recycling Program, administered by City of San Jose for the San Jose - Santa Clara Water Pollution Control Plant

RP Device: Reduced Pressure Principal Backflow Prevention Device

State DHS: State of California Department of Health Services, Drinking Water Field Operations Branch - Monterey District

State RWQCB: California Regional Water Quality Control Board

21.B **DEFINITIONS**

Whenever the following terms, or pronouns used in their place, occur in Sections 21, 22 or 23 herein, the intent and meaning shall be interpreted as follows:

Air Gap: A physical separation between the free flowing discharge end of a water supply pipeline and an open or non-pressure receiving vessel. An approved air gap shall be at least twice the diameter of the water supply pipe measured vertically above the overflow rim of the vessel (in any case, no less than one inch).

Applicant: Any entity that applies for Recycled Water Service under terms of the appropriate regulations. The approved Customer may be a different party than the Applicant, but must be specified in the Recycled Water Use License.

Application for Recycled Water Services: An agreement issued by the Water Utility to a Recycled Water Service Applicant after the satisfactory completion of the service application procedures. This Agreement forms a service agreement between the Customer and the Water Utility that legally binds the Customer to all conditions stated in the Agreement and all applicable Regulatory Agency requirements.

Approved Backflow Prevention Assembly: A device approved by the State of California which is installed to protect any water supply (recycled, potable, Public, private, or on-site) from contamination through Backflow of a substance containing a potential hazard.

Approved Use: An application of Recycled Water in a manner, and for a purpose, designated in a Recycled Water Use License issued by the Program and in compliance with all applicable Regulatory Agency requirements.

Approved Use Area: A site with well-defined boundaries, designated on the approved On-Site Recycled Water Service Plans, to receive Recycled Water for an approved use and acknowledged by all applicable Regulatory Agencies.

Cross Connection: A physical connection between any part of a water system used or intended to supply water for drinking purposes and any source or system containing water or substance that is not or cannot be approved as safe, wholesome and potable for human consumption. This includes direct piping between the two systems, regardless of the presence of valves, Backflow Prevention Devices, or other appurtenances.

Customer: Any person, persons or firm including any Public utility, municipality or other Public body or institution issued a Recycled Water Use License by the Program. The Customer may be the Owner, tenant, or property manager as

appropriate. The City's Rules and Regulations for the Use of Recycled Water apply to all Customers located within the City's boundaries.

Customer Supervisor: The Customer shall designate a Customer Supervisor with the approval of the Program to provide a liaison with the Program, the City, and Water Utility. This person shall be available to the Program at all times, shall have the authority to carry out any requirements of the Water Utility, the City and the Program, and shall be responsible for the installation, operation and maintenance of the Recycled and Potable Water systems and also prevention of potential hazards.

Infiltration Rate: The rate at which the soil will accept water as applied during irrigation, expressed in inches per hour.

Inspector: Any person authorized by the Water Utility, the City, the Program or the local health agencies to perform inspections on or off the Customer's site before construction, during construction, after construction and during operation.

Intermittently Pressurized Line: Any irrigation piping downstream of the last valve.

Irrigation Period: The time, from start of water flow to cessation, which a specific area receives Recycled Water by direct irrigation application, no matter how often the specific area is irrigated, e.g., length of the duty cycle.

Irrigation Use: An approved use of Recycled Water for landscape irrigation as defined under the California Code of Regulations ["CCR"], Title 22, Division 4, Article 4.

Landscape Impoundment: A body of recycled used for aesthetic enjoyment or which otherwise serves a function not intended to include routine Public contact.

Non-Potable Water: Water that has not been treated for human consumption in conformance with the latest edition of the United States Public Health Service Drinking Water Standards, the California Safe Drinking Water Act, or any other applicable standards.

Off-Site: Designates or relates to Recycled Water facilities up to and including the water meter.

On-Site: Designates or relates to facilities owned and operated by a Customer.

Operations Personnel: Any employee of a Customer, whether permanent or temporary, or any contracted worker whose regular or assigned work involves the supervision, operation or maintenance of equipment on any portion of On-Site facilities using Recycled Water.

21. RECYCLED WATER USE (Continued)

Operator: Any person, persons or firm, who, by entering into an agreement with a Customer, is responsible for operating On-Site facilities.

Owner: Any holder of legal title, contract purchaser, or lessee under a lease with an unexpired term of more than one (1) year, for property for which Recycled Water Service has been requested or established.

Point of Connection: This is the point where the Customer's system ties to the Water Utility's system. This is usually at the water meter at the Service Connection.

Ponding: Retention of Recycled Water on the surface of the ground or other natural or manmade surface for a period following the cessation of an approved Recycled Water use activity.

Potable Water: That water that is pure and wholesome, does not endanger the lives or health of human beings, and conforms to the latest edition of the California Safe Drinking Water Act, or other applicable standards. Potable Water includes potable fire service without an approved Backflow prevention assembly.

Public: Any person or persons at large who may come in contact with facilities and/or areas where Recycled Water is approved for use.

Rate and Fee Schedule: The schedule of all rates, charges, fees and assessments to be made concerning the use of Recycled Water served by the Water Utility as approved or as amended by the City Council.

Recycled Water: Non-Potable Water that is highly treated to the CCR, Title 22, Division 4, of the Environmental Health Water Reclamation Criteria and used for approved purposes other than drinking water.

Recycled Water Use License: A license issued by the Program to the Customer, which outlines monitoring, self-inspection, reporting, and site-specific requirements. This license is required by the California RWQCB for the use of Recycled Water.

Reduced Pressure Principal Backflow Prevention Device: A type of Backflow Prevention Device, usually installed near a water meter, which prevents Backflow by a combination of two check valves and a pressure differential relief valve.

Regulatory Agencies: Those Public agencies legally constituted to protect the Public health and water quality, such as the State DHS, the State RWQCB and the County EHS.

Restrained Joint: Mechanically restrained pipe joint; also, solvent welded for PVC joints.

Runoff: When Recycled Water is allowed to drain outside the approved irrigation area.

Santa Clara County Environmental Health Services: This agency is the local health protection agency for most areas of Santa Clara County.

Service: The furnishing of Potable or Recycled Water to a Customer through a metered connection to the on-site facilities.

Standard Pipe Length: 18 to 20 feet.

State of California Department of Health Services. Shall be the State of California Department of Health Services, Drinking Water Field Operations Branch - Santa Clara District.

Unauthorized Discharge: Any release of Recycled Water that violates the Rules and Regulations of the Water Utility, the City, the Program or any applicable Federal, State or local statutes, regulations, ordinances, contracts or other requirements.

Violation: Non-compliance with any condition or conditions of the User Agreement by any person, action or occurrence, whether willfully or by accident.

Water Utility: The Water Utility and the City are one and the same.

Windblown Spray: Dispersed, airborne particles of Recycled Water that can be transmitted through the air to locations other than those approved for the direct application of Recycled Water.

21.C <u>SUMMARY OF ON-SITE INSTALLATION REQUIREMENTS</u>

21.C.1 On-Site installation requirements are described in detail in the Program's Rules and Regulations for Design and Operation of On-Site Recycled Water Facilities. However, the following is a summary of the basic requirements:

21.C.2 **No Cross-Connections.** No Cross-Connections are allowed between the Recycled Water system and the potable water system.

21.C.3 **Backflow Preventers.** In order to protect the Public drinking water system from accidental Cross-Connections, a reduced pressure principal Backflow Prevention Device is required at all **potable** meters on a site

where Recycled Water is present.

In most cases, Backflow Prevention Devices are **not** required on the **Recycled Water** Service. However, where there is a particular threat to the quality of the Recycled Water, such as a direct connection to an industrial process or an impoundment of water, the Program may require a Backflow Prevention Device on the Recycled Water Service.

21.C.4 **No Hose Bibs.** Generally, hose bibs are not allowed on the Recycled Water system. In most cases, hose bibs can be replaced by quick coupling valves.

21.C.5 **No Runoff.** The irrigation system must be configured and operated to prevent runoff outside the Approved Use Area (the boundaries of the site).

21.C.6 **No Ponding.** The irrigation system must be configured and operated so that Ponding does not occur. This does not apply to approved and intended impoundments.

21.C.7 **No Windblown Spray.** The irrigation system must be configured and operated to prevent Windblown Spray from passing outside the approved area.

21.C.8 **Pipe Identification.** All new Recycled Water piping below or above grade and all existing piping above grade must be labeled with purple tape with the imprinted words "CAUTION - RECYCLED WATER". Purple colored pipe with the required wording is an acceptable alternative.

21.C.9 New above grade Potable Water piping used for drinking water systems must also be labeled with blue tape and the words "**POTABLE WATER**."

21.C.10 **Horizontal Pipe Separation.** Where possible, a minimum horizontal separation of ten feet between parallel buried Recycled and Potable Water pipelines should be maintained. If a ten foot horizontal separation cannot be maintained, then four foot minimum separation is allowed with Restrained Joint pipe. In no case shall a horizontal separation of less than four feet or same trench construction be allowed.

21.C.11 **Vertical Pipe Separation.** Recycled Water constant water pressure pipelines must be a minimum of 12 inches below the Potable Water pipelines. Recycled Water constant pressure pipelines are allowed over potable pipelines with a minimum of 12 inches vertical separation if a

full standard pipe length is centered over the crossing, or the recycled pipeline is sleeved for the same length. Intermittently pressurized Recycled Water pipelines are allowed over potable pipelines with a minimum of 12 inches vertical separation.

21.C.12 **Signs.** Signs must be posted in conspicuous areas On-Site which contain the words "RECYCLED WATER - DO NOT DRINK - NO TOMAR" indicating that Recycled Water is used for irrigation (or other) purposes. Generally, signs must be located at all entrances to the facility or use area.

21.C.13 **Warning Tags, Stickers and Labels.** All valve boxes (automatic and manual), quick couplers, Recycled Water storage tanks, air/vacuum relief valves, pressure reducing valves, pumps, Backflow Prevention Devices, system controller boxes, or other appurtenances on the Recycled Water system must be labeled with warning tags, stickers or other labels. The labels, tags or stickers must include the words "RECYCLED WATER - DO NOT DRINK - NO TOMAR" on a purple background.

21.C.14 **On-Site (Land) Observation Reports.** At least once a year the site must be inspected for the items listed below while the system is in use. The observations must be submitted to the Program on a report form. The Customer may be required to perform this inspection, or, in some cases, the Program may perform the inspection. The items for the inspection are as follows:

21.C.14.(a) Is there evidence of runoff of Recycled Water from the site? Show affected area on a sketch and estimate volume.

21.C.14.(b) Is there an odor of wastewater origin at the irrigation site? If yes, indicate apparent source, characterization, direction of travel, and any Public use areas or Off-Site facilities affected by the odors.

21.C.14.(c) Is there evidence of Ponding of Recycled Water, and/or evidence of mosquitoes breeding within the irrigation due to ponded water?

21.C.14.(d) Are warning signs, tags, stickers, and above ground pipe markings properly posted to inform the Public that irrigation water is Recycled Water, which is not suitable for drinking?

21.C.14.(e) Is there evidence of leaks or breaks in the irrigation system piping or tubing?

21.C.14.(f) Is there evidence of broken or otherwise faulty drip irrigation system emitters or spray irrigation sprinklers?

21.C.14.(g) What corrective actions are being taken to correct any problems noted above?

21.C.15 The Customer may also be required to conduct a visual inspection of the system during the off-season. Specific requirements will be included in the Recycled Water Use License.

21.C.16 **Emergency Cross-Connection Response Plan.** If a Cross-Connection or Backflow incident occurs between the Potable and Non-Potable Water systems, an emergency response plan must be implemented.

21.D FEES AND LICENSE

21.D.1 **Recycled Water Use License.** The State RWQCB requires that a Recycled Water Use License be issued by the Program to all Recycled Water Customers within the Program area. The Recycled Water Use License indicates any special site-specific requirements in addition to the requirements specified in this document. The Application for a Recycled Water Use License is submitted to the City or the Program with the On-Site Recycled Water Service Plans. The Program processes the application and issues a Recycled Water Use License with final approval for the use of Recycled Water at the site. The Applicant is responsible to obtain all necessary permits and pay all associated fees. The Applicant should contact the City for information on the cost of permits.

21.D.2 **Application for Recycled Water Services.** The Water Utility also requires an Application for Recycled Water Service, similar to application for potable Water Service.

21.E THE CITY AS THE LOCAL AUTHORITY

21.E.1 The City is the entity that has the responsibility of enforcing these Rules and Regulations for the end use of Recycled Water. The City has authority to issue plumbing permits, building requirements, and planning criteria.

21.E.2 The Rules and Regulations enforced by the City are derived from those established by the State RWQCB, the State DHS, County EHS, the Program and the City. These Rules and Regulations govern certain permitted uses of Recycled Water. All facilities using Recycled Water shall be designed and operated to meet the standards of the local governing codes, rules and regulations.

21.F AUTHORIZED USES FOR RECYCLED WATER

The uses of Recycled Water may include, but not by way of limitation: landscape irrigation; agricultural irrigation; construction water; industrial process water; water for flushing toilets and urinals in high-rise buildings; replacement water in cooling towers; and recreational impoundments. Each such use must be considered for approval by the City on a case-by-case basis, and the City may determine in its discretion whether it is necessary or desirable to furnish Recycled Water for the specific use involved. Determinations as to specific uses to be allowed shall be in accordance with the standards of treatment and water quality requirements set forth in CCR, Title 22, Division 4, of the California Administrative Code. Prior to approving such uses, the City may, in its discretion, set forth specific requirements as conditions to providing such services and/or require specific prior approval from the appropriate Regulatory Agencies.

21.G NON-APPROVED USE AREAS

21.G.1 **Runoff Conditions.** The irrigation systems shall be designed, constructed and operated to prevent runoff outside the Approved Use Area.

21.G.2 **Ponding Conditions.** The irrigation systems shall be designed, constructed and operated to minimize Ponding outside or within the Approved Use Area. This does not apply to approved impoundments such as decorative water features, golf course water-hazards or lakes. At no time shall Recycled Water be applied at a rate greater than the soil infiltration rate.

21.G.3 **Windblown Spray Conditions.** The irrigation systems shall be designed, constructed and operated to minimize Windblown Spray from passing outside the Approved Use Area.

21.G.4 **Unapproved Uses.** Use of Recycled Water for any purposes other than those explicitly approved by the Water Utility in conformance with the Rules and Regulations of the Program, the State DHS, the County EHS, or the State RWQCB, or use of Recycled Water in areas other than those specifically shown on the approved plans, is strictly prohibited.

21.G.5 **Disposal in Unapproved Areas.** Disposal of Recycled Water for any purpose, including approved uses, in areas other than those explicitly approved in the current effective Recycled Water Use License issued by the Program and without the prior knowledge and approval of the appropriate Regulatory Agencies, is strictly prohibited.

21. RECYCLED WATER USE (Continued)

21.H AMENDMENTS

From time to time there may be amendments to the existing Rules and Regulations and design manual. These amendments may be made without the consent of the Customer. These amendments will be enforced upon their effective date.

21.I PROTECTION OF PUBLIC HEALTH

The Water Utility, the City and the Program reserve the right to take any action necessary with respect to the operation of the Customer's Recycled Water system to safeguard the Public health.

21.J RIGHT TO TERMINATE SERVICE

21.J.1 If at any time during construction or operation of the Recycled Water system, real or potential hazards are evidenced, such as Cross-Connections with the potable system, improper tagging, signing, or marking, or unapproved/prohibited uses, the Water Utility reserves the right and has the authority to terminate immediately, without notice, Recycled Water Service in the interest of protecting the Public health. The Water Utility may elect to temporarily replace the Recycled Water supply water with potable water only after the Customer's Recycled Water system has been disinfected and approval has been granted by the Program and the State DHS. All modifications required to replace the Recycled Water supply with Potable Water shall be at the Customer's expense.

21.J.2 The Customer has the right to terminate service if there are no longer suitable uses at that site. The Customer cannot substitute Potable Water where Recycled Water can be used.

21.K SEVERABILITY

If any section, subsection, clause, or phrase of these Rules and Regulations is for any reason held to be invalid or unconstitutional, such decision shall not affect the remaining portions of these Rules and Regulations. The City Council declares that it would have passed said Rules and Regulations by section, subsection, sentence, clause, or phrase thereof.

22. DESIGN, INSTALLATION AND INSPECTION OF SYSTEMS FOR USE OF RECYCLED WATER

22.A DESIGN APPROVAL

Before the construction of any new Recycled Water system, major modifications of an existing Recycled Water system, or retrofit of an existing system for Recycled Water use, On-Site Recycled Water Service Plans must be prepared by the Customer and approved by the Program and the State DHS. Approval shall be contingent upon evidence that all applicable design requirements, rules and regulations for a Recycled Water system are satisfied (see *Basis for Design Review Criteria* below).

22.B REQUIRED ON-SITE RECYCLED WATER SERVICE PLANS

Plans must be stamped by a registered landscape architect or civil engineer and include, but not be limited to, the following:

22.B.1 Site plan drawn to scale which clearly shows the boundaries of the intended use area, adjacent streets, and locations of all major improvements on the site, water meters (Recycled Water and Potable Water), Backflow Prevention Devices, drinking fountains, and all Public facilities supplied with Recycled or Potable Water Service. Public facilities include, but are not limited to, restrooms, outdoor eating areas, snack bars, swimming pools, wading pools, decorative fountains and showers. If there are no Public facilities located in the defined use area, then a note on the plans must indicate that no Public facilities exist. Additionally, any wells, lakes, ponds, reservoirs, or other water impoundments located On-Site or within 100 feet of the site must be shown on the site plan.

22.B.2 Piping plan which shows the complete potable and Recycled Water systems. All sources of Recycled Water and Potable Water must be indicated on the plan. The location and type of all existing and new Backflow Prevention Devices and water meters must be clearly marked on the piping plan. For existing facilities converting to Recycled Water use, the piping plan must indicate which piping and other devices are existing and which piping and other devices will be installed as part of the retrofit work. The proper separation requirements between Potable and Recycled Water lines (for new piping) must be indicated. The piping plan can be combined with the site plan if space permits.

22.B.3 Detail drawings of areas where special installation or retrofit procedures are required, such as cutting and capping to separate potable and recycled systems, installation of Backflow Prevention Devices, special construction where pipe separation criteria cannot be met, etc.

22.B.4 Any other items required by the Design, Installation, and Inspection Criteria section of the Customer On-Site Manual, and Section 24. C. of this document.

22.B.5 Preparation of On-Site Recycled Water Service Plans does not exempt the Applicant from submitting other On-Site improvement plans normally required by the City. Other improvement plans required by the City must still be submitted in accordance with the City's standard procedures.

22.C **BASIS FOR DESIGN REVIEW CRITERIA**

22.C.1 Review of On-Site Recycled Water Service Plans conducted by the Program and the State DHS will consist of checking for conformance with various regulations and guidelines governing distribution of Recycled Water. Even though the City/Program and the State DHS perform a plan check, the Applicant is not relieved of responsibility to meet all requirements. A brief description of this criteria is provided below. Copies of these criteria will be provided by the City or the Program upon request.

22.C.2 ***CCR, Title 22, Division 4, Chapter 3, "Water Reclamation Criteria".*** These regulations are written by the State DHS and specify the Approved Uses and use area requirements, such as hose bib restrictions, prohibition of irrigation near wells, etc. These regulations govern both the Water Utility's distribution system as well as the Customer's On-Site system.

22.C.3 ***CCR, Title 17, "Drinking Water Supply - Backflow Prevention"*** CCR, Title 17 specifies requirements intended to protect the Public drinking water supply from contamination. Some requirements specified in CCR, Title 17 include Backflow Prevention Devices, designation of a Customer Supervisor, and Cross-Connection testing requirements.

22.C.4 ***American Water Works Association (AWWA), California-Nevada Section, Guidelines for Distribution of Non-potable Water.*** This document provides recommended guidelines for planning, designing, constructing, and operating Non-Potable Water systems, including Recycled Water systems. The guidelines themselves are not regulations but many agencies have adopted them as general requirements. The document covers both installation of the Water Utility distribution systems and On-Site use systems.

22.C.5 **International Association of Plumbing and Mechanical Officials (IAPMO) Uniform Plumbing Code, Appendix J.** Appendix J of the Uniform Plumbing Code sets forth requirements when Recycled Water is used within buildings in a dual-plumbed system for non-potable domestic uses such as toilet and urinal flushing. This section of the Uniform Plumbing Code does not apply to irrigation sites, where the Recycled Water system is located outside buildings, or industrial sites, where the Recycled Water is used for non-domestic industrial purposes. In addition, the pipe separation regulations indicated in this Guide are different than and take precedence over the Appendix J requirements. NOTE: Appendix J has not been adopted by Santa Clara and serves only as a reference.

22.D SUMMARY OF DESIGN REVIEW CRITERIA

Although the plan review conducted by the Program, the State DHS and/or the City may include checking for compliance with any of the existing regulations or guidelines referenced above, the following summaries are provided to give the designer of the Recycled Water system a general idea of the major items which will be checked during plan review. The summary is compiled as a "punch list" so that it can easily be referenced by the plan designer. However, compliance with every item on the punch list does not guarantee that the plans will be approved without comment since regulations and policies may change and some sites may require special provisions. In addition, even though the Program, the State DHS and/or the Local Authorities perform a plan review, the Applicant is still responsible for meeting all applicable requirements, even if those requirements are not shown on the approved plans. Please note that the plan requirements are slightly different for new facilities and existing facilities converting to Recycled Water use.

22.D.1 Do plans include a site/piping plan and details of connection points as indicated under *Required Plans* (Section 22.B)?

22.D.2 Are all items listed under *Required Plans* (Section 22.B) shown on the site/piping and details plans?

22.D.3 Is the use area shown on the site an Approved Use Area?

22.D.4 Is the total Recycled Water irrigation area included to the nearest 10th of an acre?

22.D.5 At **new facilities**, are all On-Site Recycled Water pipelines located ten feet horizontally from Potable Water pipelines where possible (minimum of four foot horizontal separation allowed if special construction details are incorporated)?

22.D.6 At **new facilities**, where Recycled and Potable Water lines cross, are the

pressurized Recycled Water pipelines located at least one foot below the Potable Water lines?

22.D.7 At **existing facilities** converting to Recycled Water use, does all new piping meet the Potable/Recycled Water pipeline separation criteria indicated above?

22.D.8 Do the plans indicate that Recycled Water and Potable Water systems are completely separated and there is no common trenching?

22.D.9 At **existing facilities** converting to Recycled Water use, are all locations where future Recycled Water piping must be separated from the Potable Water piping clearly indicated on the plans?

22.D.10 Are the proper Backflow Prevention Devices shown in the proper location for protection of the Public Potable Water system? Reduced Pressure (RP) principal Backflow prevention assemblies should be shown located as close as possible to all Potable Water meters and at least 12 inches above grade.

22.D.11 If the On-Site Recycled Water system is interconnected with industrial process piping, fertilizer injection systems, or a non-potable drinking water source (such as an irrigation water storage pond), is the proper Backflow Prevention Device shown in the proper location for protection of the Public Recycled Water distribution system? In such cases, usually an RP device is required at the Recycled Water meter, at least 12 inches above grade.

22.D.12 Are the proper Backflow Prevention Devices shown in the proper locations for protection of On-Site Potable Water supply per standard UPC and CCR, Title 17 requirements? Though not specifically related to Recycled Water, these devices should be shown on the plans. Backflow Prevention Devices are required at non-air-gap Points of Connection to ponds, wading pools, swimming pools, fountains, etc., where the impoundment is supplied by the potable water on-site piping. Usually atmospheric vacuum breakers located near the Point of Connection are adequate, unless there is a valving downstream of the protection device, in which case pressure vacuum breakers are required.

22.D.13 If there are wells located On-Site or near the use site, are the wells separated from all Recycled Water irrigation use areas by at least 50 feet and from all Recycled Water impoundments by at least 100 feet?

22. DESIGN, INSTALLATION AND INSPECTION OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

22.D.14 If plans are used for construction, do plans show all necessary details to properly construct the system?

22.D.15 Do plans identify that materials are appropriate for Recycled Water use? (For example, purple pipe, proper signing and tagging, etc.)

22.D.16 Do plans identify works requiring inspection by the Program representatives?

22.D.17 Do plans include a detail for Air Gap if a backup source is used?

22.D.18 Do plans specify no hose bibs on the Recycled Water system?

22.E PRELIMINARY CROSS-CONNECTION TEST EXISTING SITES

At all existing sites which are converting to Recycled Water use, a preliminary Cross-Connection test may be required and shall be coordinated by the Customer prior to retrofit work or construction. The Customer must notify the Program prior to the Cross-Connection test so that the Program, the Water Utility, the City, and regulatory agency representatives can be present if they wish. The preliminary Cross-Connection test should follow the general cross-connection testing guidelines outlined in Section 22.I. The purpose of the test is to determine if there are any unknown connections between the existing irrigation system and the domestic water system prior to construction. If unknown connections are discovered, then further testing or potholing must be conducted in order to determine where the connections are located. The retrofit plans must be revised to reflect any changes required to eliminate the connections, and the revised plans must be resubmitted to the Program and the State DHS for review. At new development sites, a preliminary Cross-Connection test is generally not necessary since the systems have been designed for Recycled Water use.

22.F CONSTRUCTION INSPECTION

The State RWQCB requires that the Program, the City, or designated representatives conduct On-Site inspections during the construction phase to ensure that materials, installation and procedures are in accordance with the approved plans, specifications, and all applicable regulations. Accordingly, the Customer shall notify the Program of the schedule for all phases of planning, construction and start up so that inspections can be scheduled.

22.G FIELD TESTING AND INSPECTION

All systems shall conform to the requirements of the UPC Sections 103.5.1 through 103.5.4.2 except intermittent pressure piping. During the coverage test with Recycled Water, the irrigation system shall be inspected for proper use of full, half, and quarter sprinkler heads, proper atomizing, and irrigation spray on non-Approved Use Areas.

22.H TEMPORARY CONNECTION TO POTABLE SERVICE

A jumper to the potable system is allowed up to and during the final Cross-Connection test. At that time the jumper shall be replaced by the Recycled Water meter. Jumpers providing water from the Public Recycled Water system into the On-Site Recycled Water system are prohibited at all times.

22.I FINAL CROSS-CONNECTION TEST

The Customer must conduct a final Cross-Connection test before connecting the Customer's Recycled Water system to the Water Utility's Recycled Water system at any use-site where both Recycled and Potable Water are present in separate piping systems. This test is to ensure the absolute separation of the recycled and potable water systems. The Customer must notify the Program at least 48 hours prior to the test so that members of the appropriate agencies may be present. The Cross-Connection test shall be done under the supervision of the Program representatives by an AWWA-certified Cross-Connection control specialist hired by the Applicant. The Customer Supervisor (see *Designation of Customer Supervisor,* herein) must be present at the test. Periodic testing must be performed after that (see *Periodic Cross-Connection Testing Program,* herein). A written report documenting the test results shall be submitted by the certified Cross-Connection control specialist to the Customer Supervisor and the Program following completion. The following are general test guidelines and may be modified with the approval of the Program.

22.I.1 General Cross-Connection Test Procedures

Cross-Connection tests shall be performed as specified in the UPC Appendix J 8 (2) and J 8 (3), with the exception that intermittent piping will not be activated and pressurized as specified in Appendix J 8 (2)(vi), and that the required pressurization time will be one (1) hour or as otherwise specified by the Cross-Connection specialist. The City of Santa Clara's Cross-Connection test procedures are summarized as follows:

22. DESIGN, INSTALLATION AND INSPECTION OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

22.I.2 **Minimum Requirements for Cross-Connection Testing:**

The Cross-Connection test shall be done with the Customer's Site Supervisor present, under the supervision of a City representative by an AWWA-certified Cross-Connection control specialist. The Cross-Connection test shall include the following steps:

22.I.2.(a) For Premises with irrigation systems originally constructed with a potable service, all Potable Water supply points to the irrigation system are to be disconnected and capped. These points shall remain open to view until after a visual inspection by the City. This step may be deferred until after the following steps are completed, that is, the Cross-Connection test may be completed with Potable Water being supplied to the recycled piping.

22.I.2.(b) When the recycled service is ready to be activated, while still OFF: City Inspectors shall determine that there is no water being supplied to the irrigation system. This may be by use of a pressure gauge installed on the normally pressurized portion of the irrigation system, or by a visual inspection of the irrigation sprinkler heads. This procedure is to insure no potable water source is supplying water to the irrigation system.

22.I.2.(c) After the Recycled Water service is activated and turned ON, the potable service to the property is to be turned OFF and de-pressurized. A pressure gauge will be connected to the potable service at the building to measure the potable system pressure during this test. While the potable system is not in use, there shall be no observed increase in pressure for at least 15 minutes. For multi-story buildings, maximum pressure at the ground floor is not to exceed static pressure equal to elevation pressure to the top floor or roof of the building (the highest point of the internal plumbing).

22.J **FINAL INSPECTION**

The State DHS requires a final On-Site inspection to be conducted by the Program or its designated representatives. Accordingly, a final inspection will be performed by the Program or its designated representatives before the Recycled Water system is connected to ensure all requirements have been met. This inspection will be coordinated with the final Cross-Connection test so that the inspection can be done with Potable Water charging the irrigation system at Recycled Water pressure prior

to connection of Recycled Water. The Program's inspector will check to see that the proper equipment was used and that all required tags, labels, and signs are in place. This inspection shall precede the coverage test which will be performed with Recycled Water. This will allow the inspector to determine if conditions which create runoff or Windblown Spray outside the Approved Use Area, Ponding within the use area do not exist. Spray patterns will be checked to see they do not encroach upon Public facilities such as drinking fountains, outside eating areas, or areas outside the Approved Use Area.

22.K **FINAL APPROVAL**

Final approval must be granted by the Program before Recycled Water can be supplied to the site. Final approval will be granted when construction has been completed in accordance with approved plans and specifications, all Cross-Connection tests have been performed, a final On-Site inspection has been conducted, and all requirements have been met satisfactorily. After the Recycled Water Use License has been finalized by the Program, the Water Service Agreement is approved by the Water Utility, and all applicable fees have been paid, the Water Utility will authorize the installation of the Recycled Water meter. (The coverage test will be performed after the meter has been set) the State DHS will be forwarded a copy of all test and inspection reports as well as notification that Recycled Water Service has been started. During the lifetime of the Recycled Water system, the City or the Program will periodically inspect the Recycled Water system to ensure compliance with all applicable rules and regulations (see *Annual Self-Inspections*, herein). Additionally, the Customer shall conduct a Cross-Connection test every four years if required by the Recycled Water Use License.

22.L **RECORD DRAWINGS**

All conceptual or major design changes shall be approved before implementing the change in the construction contract. Record drawings shall be prepared to show the recycled system as constructed and shall include all changes in work constituting departures from the original contract drawings including those involving both constant pressure and Intermittent-Pressure Lines and appurtenances.

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER

23.A CONDITIONS OF SERVICE

All requirements outlined in this section shall be Conditions of Service, unless modified in the Recycled Water Use License. By accepting Recycled Water Service, the Customer agrees to comply with all Conditions of Service.

23.B SYSTEM RESPONSIBILITY

23.B.1 It shall be the responsibility of the Customer to maintain and operate their Recycled Water system downstream of the Service Connection. It is the responsibility of the Customer to ensure that the Recycled Water is being applied in accordance with all rules and regulations regarding the use of Recycled Water. The Customer is also responsible for the following:

23.B.1.(a) Maintaining the On-Site Recycled Water system, signs, markings, and tags in accordance with all rules and regulations.

23.B.1.(b) Ensuring all materials used during the repair and maintenance of the system are approved or recommended for Recycled Water use.

23.B.1.(c) Obtaining all permits and payment of all fees required for the operation and maintenance of the Customer's Recycled Water system. Permitting and/or fee assistance may be available from the City or the Program.

23.B.1.(d) Reporting all Violations and emergencies to the required local governing agencies.

23.B.1.(e) Obtaining prior authorization from the Water Utility and the Program before making any modifications to the approved Recycled Water system. This includes converting any piping used at any time for conveyance of Recycled Water back to Potable Water, that is switching a Recycled Water system to a backup Potable Water system. The Program will notify the Customer if approval is also required from any additional regulatory agencies and if disinfection procedures are required.

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

23.C HOURS OF OPERATION

Hours of operation shall be specified in the Recycled Water Use License.

23.D DESIGNATION OF CUSTOMER SUPERVISOR

It is the responsibility of the Customer to provide surveillance and supervision of the Recycled Water system in a way that assures compliance at all times with current regulations. In order to accomplish this, the Customer shall designate, with the approval of the Program, a Customer Supervisor to provide liaison with the City, the Water Utility and the Program. This person may represent the Owner, tenant, or property manager as appropriate; however he/she must be a permanent employee responsible for the Recycled Water system at the site who is available at all times and has the authority to carry out any requirements of the Program, the City, and the Water Utility. The Customer Supervisor should be permanently stationed at the use site, or at a minimum make frequent visits to the use site as specified in the Recycled Water Use License. Installation, operation, maintenance, and prevention of potential hazards on the Recycled and Potable Water systems are the responsibility of the Customer Supervisor. The Customer Supervisor's primary responsibility is to ensure that there are no Cross-Connections made between the Potable and Recycled Water systems. The Customer Supervisor must be present at the final cross-connection test and periodic Cross-Connection tests. The Customer Supervisor shall inform the Program of all failures, Violations, and emergencies that occur involving the Recycled or Potable Water systems. The Customer Supervisor is also responsible to be knowledgeable of the provisions contained in CCR, Title 17 and CCR, Title 22 relating to the safe use of Recycled Water and the maintenance of accurate records. The Customer Supervisor must be familiar with the basic concepts of Backflow and Cross-Connection prevention, system testing and relating emergency procedures. The Customer must notify the Program immediately of any change in personnel for the Customer Supervisor position.

23.E PERSONNEL TRAINING

It is the responsibility of the Customer to train all operations personnel, in order to be familiar with the use of Recycled Water. Any training program should include, but not limited to, the following:

23.E.1 Operations personnel must be aware of the emergency procedure.

23.E.2 Operations personnel must be aware that Recycled Water, though highly treated, is Non-Potable Water.

23.E.3 Operations personnel must understand the requirements and restrictions pertaining to Ponding, Windblown Spray and Runoff.

23.E.4 Good personal hygiene must be followed.

23.E.5 **Recycled Water shall never be used for human consumption.**

23.E.6 Operations personnel must understand that working with Recycled Water is safe if good common sense is used and appropriate regulations are followed.

23.E.7 Operations personnel must understand that there is **never** to be a connection between the Recycled Water system and the Potable Water system.

23.E.8 Operations personnel must understand the health/safety aspects of CCR, Title 17 and CCR, Title 22 requirements.

23.E.9 All new employees shall be trained in the proper use of Recycled Water. Supervisory personnel and the Customer Supervisor should be held accountable to ensure that employees are not using Recycled Water carelessly or hazardously.

23.F VEHICLE IDENTIFICATION

23.F.1 Any vehicle used to transport Recycled Water shall be clearly marked with labels or signs. These labels or signs shall contain the words "RECYCLED WATER - DO NOT DRINK - NO TOMAR" in black two-inch high minimum letters on a purple background. The Program may also require the label to include translations into foreign language(s) if appropriate, as specified in the Recycled Water Use License. One label or sign shall be placed on the tank closest to the driver's door. One label or sign shall be placed on the rear surface of the tank. All labels and signs shall be placed where they can easily be seen by the personnel using the vehicle.

23.F.2 The "Do Not Drink" symbol (refer to the Customer On-Site Design Manual) shall be present on all vehicles used to carry Recycled Water. Any vehicles use for the transportation or storage of Recycled Water must not be reused for the transportation or storage of Potable Water.

23.G MAINTENANCE

23.G.1 To ensure the Recycled Water system ways remains in compliance, the Customer shall begin a preventative maintenance program to include, but not limited to, the following:

23.G.1.(a) Regular inspections shall be conducted by the Customer of the entire Recycled Water system including sprinkler heads, drip irrigation emitters, spray patterns, lakes, piping and valves, pumps, storage facilities, controllers, etc. Immediately correct any leaks, breaks, or discrepancies in license requirements.

23.G.1. (b) All warning signs, tags, stickers, and above grade pipe markings shall be checked for their proper placement and legibility. Replace damaged, unreadable or missing signs, tags, stickers, and pipe markings.

23.G.1.(c) Special attention should be given to spray patterns to eliminate Ponding, Runoff and Windblown Spray conditions. If runoff is noted, affected areas should be indicated on a sketch and the volume should be estimated. If unauthorized Ponding is detected, evidence of mosquitoes breeding within the Ponding should be noted and immediately eliminated.

23.G.1.(d) Establish and maintain an accurate record keeping system of all inspections, modifications and repair work.

23.G.1.(e) Broken sprinkler heads, faulty spray patterns, leaking pipes or valves, or any other noted condition which violates the use requirements shall be repaired immediately after the malfunction or condition becomes apparent.

23.H <u>ANNUAL SELF-INSPECTIONS AND REPORTS</u>

23.H.1 **Standard On-Site (Land) Observation Report.** The State RWQCB requires that the Recycled Water Customers in the Program conduct a standard observation inspection at least once a year at a time when the Recycled Water system is in use. In general, the standard observations correlate with the preventative maintenance self-inspections. The Customer must submit the results of the observations along with a description of any corrective actions taken in a written report to the Program (see *Sample Forms*). The schedule and deadlines for submittal of this report is indicated in the Recycled Water Use License. The seven items for inspection are as follows:

23.H.1.(a) Is there evidence of Runoff of Recycled Water from the site? Show affected area on a sketch and estimate volume.

23.H.1.(b) Is there an odor of wastewater origin at the irrigation site? If yes, indicate apparent source, characterization, direction of travel, and any Public use areas or Off-Site facilities affected by the odors.

23.H.1.(c) Is there evidence of Ponding Recycled Water, and/or evidence of mosquitoes breeding within the irrigation area due to ponded water?

23.H.1.(d) Are warning signs, tags, stickers, and above ground pipe markings properly posted to inform the Public that irrigation water is Recycled Water, which is not suitable for drinking?

23.H.1.(e) Is there evidence of leaks or breaks in the irrigation system piping or tubing?

23.H.1.(f) Is there evidence of broken or otherwise faulty drip irrigation system emitters or spray irrigation sprinklers?

23.H.1.(g) What corrective actions are being taken to correct any problems noted above?

23.H.2 **Off-Season Inspection Report.** The State RWQCB also requires that the Program Customers conduct a thorough inspection of all irrigation lines, sprinklers, and drip system emitters at least once a year during the dormant season. The findings of this inspection, along with any significant repairs or modifications must be submitted in a report to the Program (see *Sample Forms*). The schedule and deadlines for submittal of this report are indicated in the Recycled Water Use License.

23.I PERIODIC PROGRAM INSPECTIONS

23.I.1 The State RWQCB also requires that the Program conduct periodic inspections of Customer Recycled Water use sites. These inspections shall include, at a minimum, the visual inspection of all Backflow Prevention Devices, pump rooms, exposed piping, valves, pressure reducing stations, Points of Connection, sprinklers, drip system emitters, controllers, lakes, storage facilities, signs, labeling, tags, etc. The Customer Supervisor's maintenance records shall be inspected to review all maintenance since the last inspection. The Program, the Local Authority, and RWQCB reserve the right to make unannounced inspections of the facility during reasonable hours of operation.

23.I.2 Upon completion of the inspection, a report form will be signed and dated by both the Customer Supervisor and the Program Inspector. The original shall be maintained by the Program with copies to the Customer Supervisor, the City, the Water Utility and any required regulatory agency.

23.I.3 Should a Cross-Connection be discovered during any inspection by the Customer or an outside Inspector, the **Emergency Cross-Connection Response Plan** shall be immediately invoked by the Customer Supervisor.

23.J MODIFICATIONS

23.J.1 No modifications shall be made by the Customer to any Recycled Water system without the prior approval of the Program. This includes modifications to the approved plans, or to an operational system. Detailed plans of any modifications must be submitted to the Program and the modifications inspected by the Program before being completed.

23.J.2 Emergency modifications or repairs can be made by the Customer to the system without the prior approval of the Program to prevent contamination, damage or a Public health hazard. As soon as possible after the modification but not to exceed three days, the Customer must notify the Program of the emergency modifications and file a written report.

23.K PERIODIC CROSS-CONNECTION TESTING

23.K.1 At dual-plumbed use sites (sites where the Recycled Water is used within a building in conjunction with a Potable Water system), the Customer shall be responsible for conducting a periodic Cross-Connection test as required in the Recycled Water Use License unless visual inspections reveal a requirement for more frequent testing. Generally the periodic Cross-Connection test for a dual-plumbed use site is required once every four years. This test shall be done by an AWWA-certified Cross-Connection specialist. The Program must be notified at least 48 hours in advance of the test so that a Program representative can be present. The Customer Supervisor must be present at the test. A sample Test Notification Form is located in *Sample Forms.* The following are general guidelines for periodic cross-testing and may be modified with the approval of the Program.

23.K.2 **Periodic Cross-Connection Test Procedures** Cross-connection tests shall be performed as specified in the UPC Appendix J 8 (2) and J 8 (3),

with the exception that intermittent piping will not be activated and pressurized as specified in Appendix J 8 (2)(vi), and that the required pressurization time will be one (1) hour or as otherwise specified by the Cross-Connection specialist.

23.L SYSTEM NOT IN COMPLIANCE

If at any time the Recycled Water system is found to be out of compliance, the Program shall issue an Order specifying the corrections required to bring the system into compliance. A site inspection shall be scheduled after a reasonable period of time to ensure compliance with the Order. If it is known or suspected that a Backflow incident or contamination has occurred, then the *Emergency Cross-Connection Response Plan* shall be invoked.

23.M NOTIFICATION

It is the responsibility of the Customer Supervisor to notify the Program of any failure or Cross-Connection in said Recycled Water or potable water system, whether or not he/she believes a Violation has occurred. It is also the responsibility of the Customer Supervisor to notify the Program of any violation that might occur because of any action the Customer personnel might take during the operation of said Recycled Water or Potable Water systems. If there are any doubts whether a Violation has occurred, it is the responsibility of the Customer Supervisor to report each occurrence to the Program so a decision can be made.

23.N EMERGENCY PROCEDURE

23.N.1 In case of a major earthquake, flood, fire, tornado, structural failure, or other incident which could likely damage the Recycled or Potable Water systems, the Customer Supervisor should inspect the domestic and Recycled Water systems for damage, as soon as, it is safe to do so. If either system appears damaged, the domestic or Recycled Water system with damage should be shut off at their Point of Connection. If the Customer Supervisor cannot inspect the site and damage is expected, then both water systems should be shut off at their points of connection. The Supervisor should immediately contact the Program for further instruction.

23.N.2 **Emergency Modifications.** Emergency modifications or repairs can be made by the Customer to said system without the prior approval of the Program to prevent contamination, damage or a Public health hazard. As soon as possible after the modification but not more than three days after the modification, the Customer shall notify the Program of the emergency modifications and file a written description of action taken.

23.N.3 **Unauthorized Discharge.** It is the responsibility of the Customer to report to the City all system failures that result in an unauthorized discharge of Recycled Water. An immediate oral report is required at which time the City will specify if a written report is required. The Customer must make every effort to contain the unauthorized discharge prior to discharge to the storm drains. Contact the Program for field review and disposal instructions.

23.N.4 **Contamination of Drinking Water.** In case of contamination of the Potable Water system due to a Cross-Connection on the Customer's Premises, the Program and State DHS shall be immediately notified by Customer. The Customer is to immediately invoke the *Emergency Cross-Connection Response Plan*.

23.O EMERGENCY CROSS-CONNECTION RESPONSE PLAN

In the event that a Backflow incident or Cross-Connection is suspected or occurs, the following procedures shall be implemented immediately.

23.O.1 Notify the Water Utility and the State DHS by phone. This notification is to be followed by written notice within 24 hours. The written notice is to include an explanation of the nature of the Cross-Connection, date and time discovered, and the steps taken to mitigate the Cross-Connection(s).

23.O.2 Keep the Potable Water system pressurized and post "Do Not Drink" signs at all Potable Water fixtures and outlets.

23.O.3 Immediately shut down the Recycled Water supply to the facility at the meter.

23.O.4 Provide bottled water for employees until the Potable Water system is deemed safe to drink.

23.O.5 Collect water samples from the Potable Water system and perform a 24-hour bacteriological analysis. Water samples should be collected from the closest acceptable point to the Cross-Connection. The Water Utility may supply the appropriate sample bottles, obtain the samples, and arrange for laboratory analysis. See the *Water Utility Supplementary Guidelines* for additional information.

23.O.6 Identify the cause and location of Backflow and eliminate the Cross-Connection(s).

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

23.O.7 Conduct a Cross-Connection test as outlined in Section 22.E-K to verify that all Cross-Connections were eliminated.

23.O.8 Obtain approval from the Program and the State DHS before bringing the Recycled Water system back into service.

23.O.9 If the bacteriological analysis conducted in Step 5 is positive, chlorinate the Potable Water system maintaining a chlorine residual of at least 50 mg/l for 24 hours. Otherwise proceed to Step 11.

23.O.10 Flush the Potable Water system after 24 hours and perform standard bacteriological analysis.

23.O.11 If the results from Step 10 are acceptable, proceed to Step 12. Otherwise, repeat Steps 9-10.

23.O.12 Obtain final approval from the Program and the State DHS before removing signs.

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

LOCAL CONTACTS

Site:_____
_____
_____

Location:_____
_____
_____
_____
_____
_____

Customer Supervisor:_____

Work Phone:_____

Title:_____ _____

Home Phone:_____

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

CROSS-CONNECTION TEST NOTIFICATION FORM
(Sent by the Program)

Test Date:

Test Time:

Site Name:

Site Address:

CITY OF SANTA CLARA WATER UTILITY

Contact Person:

Phone:

Agencies Notified: California Department of Health Services, Drinking Water Field Operations Branch - Monterey District

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

CROSS-CONNECTION NOTIFICATION RSVP FORM
(Returned by Customer)

Site Address:

Test Date:

Agency/Company:

Representatives Attending:

(Please return to requesting party within 48 hours prior to scheduled test)

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

ANNUAL SELF-INSPECTION REPORT

Standard On-Site (Land) Observation Report

OR

Off-Season Inspection Report

Site:
Date:
Inspected by:
Title:
==========

1. Is there evidence of runoff of recycled water from the site? Show affected area on a sketch and estimate volume:
2. Is there an odor of wastewater origin at the irrigation site? If yes, indicate apparent source, characterization, direction of travel, and any public use areas or off-site facilities affected by the odors.
3. Is there evidence of ponding of recycled water, and/or evidence of mosquitoes breeding within the irrigation area due to ponded water?
4. Are warning signs, tags, stickers, and above ground pipe markings properly posted to inform the public that irrigation is recycled water, which is not suitable for drinking?
5. Is there evidence of leaks or breaks in the irrigation system piping or tubing?
6. Is there evidence of broken or otherwise faulty drip irrigation system emitters or spray irrigation sprinklers?
7. What corrective actions are being taken to correct any problems noted above?

Signed: _____

Dated: _____

23. OPERATION AND MAINTENANCE OF SYSTEMS FOR USE OF RECYCLED WATER (Continued)

RECYCLED WATER USE LICENSE - CUSTOMER APPLICATION

Today's Date:			
Tract No./APN:			
Facility Name:			
Location or Brief Legal Description:			
Mailing Address:			
Type of Development:			
Expected date to commence recycled Water Service (Month/Year)			
Owner:		Proposed Customer Supervisor:	
Address:		Address:	
City:		City:	
State:	Zip:	State:	Zip:
Phone: (___)		Work Phone (___)	
Contact:		Home Phone (___)	
		Alternate:	
Estimated Water Requirements	Acres	Average (AF/YR)	Peak Demand (GPM)
Landscape Irrigation:			
Park:			
Open Space:			
School:			
Industrial Use:			
Athletic Field:			
Brief description of use(s):			
Brief description of proposed Customer Supervisor's current responsibilities and familiarity with the future recycled water system:			

This is a new retrofitted system.
For retrofitted systems: Water Utility: CITY OF SANTA CLARA
Account Number: _____
On-Site pumping **is not** required.
Is the potable system designed to operate as back-up: Yes No

24. WATER CONSERVATION IN LANDSCAPING

24.A **PURPOSE**

The purpose of these Rules and Regulations is to promote efficient water use in landscaping by promoting use of region-appropriate plants that require minimal supplemental irrigation, and by establishing standards for irrigation efficiency. Irrigation efficiencies are accomplished through proper landscape design, installation and management techniques appropriate to Santa Clara's growing conditions. These Rules and Regulations implement the California Water Conservation in Landscaping Act, Government Code Section 65591 et. seq.

24.B **APPLICABILITY**

24.B.1 Except as provided in Subsection 24.B.2. below, these Rules and Regulations shall apply to:

- 24.B.1.(a) 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
- 24.B.1.(b) Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review
- 24.B.1.(c) Existing landscapes limited to Sections 493, 493.1, 493.2 in Division 2, Title 23 of the California Code of Regulations; all other existing landscapes shall only be subject to the provisions for existing landscapes provided for in section 24.O
- 24.B.1.(c) New and rehabilitated cemeteries, are limited to sections 24.I, 24.L, and 24.O of these Rules and Regulations

24.B.2 Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this ordinance or conform to the prescriptive measures contained in Appendix D.

24.B.3 These Rules and Regulations shall not apply to:

- 24.B.3.(a) New construction with irrigated landscape areas less than 500 square feet, rehabilitated landscapes with irrigated landscape areas less than 2,500 square feet, or landscapes that do not require a building or landscape permit, plan check or design review, or new or expanded water service;
- 24.B.3.(b) Landscapes, or portions of landscapes, that are only irrigated for an establishment period;
- 24.B.3.(c) Registered local, state or federal historical sites;
- 24.B.3.(d) Mine reclamation projects that do not require a permanent

irrigation system;

24.B.3.(e) Any ecological restoration project that does not require a permanent irrigation system;

24.B.3.(f) Community gardens or plant collections, as part of botanical gardens and arboretums open to the public;

24.B.3.(g) Any commercial cultivation or agricultural products, including by not limited to products of farms, orchards, production nurseries and forests;

24.B.3.(h) Any project that uses, primarily, Recycled Water for irrigation purposes;

24.C **DEFINITIONS**

The terms used in this Section of these Rules and Regulations have the meaning set forth below:

Applied Water: The portion of water supplied by the irrigation system to the landscape.

Automatic (Irrigation) Controller: An automatic mechanical or solid-state timing device, capable of remotely controlling valve stations that operate an irrigation system. Automatic irrigation controllers schedule irrigation events using evapotranspirtion or soil moisture data to set days and length of time of irrigation.

Backflow Prevention Device: A City-approved device that prevents pollution or contamination of the water supply due to the reserve flow of water into the City's water distribution system.

Certificate of Completion: The document required under Section 492.9

Certified Irrigation Designer: A person certified to design irrigation systems by an accredited academic institution, a professional trade organization, or other program such as the U.S. Environmental Protection Agency's WaterSense irrigation designer certification program, or the Irrigation Association's Certified Irrigation Designer program.

Certified Landscape Irrigation Auditor: A person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WasterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor Program.

Certified Professional: A certified irrigation designer, certified landscape irrigation auditor, licensed landscape architect, licensed landscape contractor, licensed professional engineer, or any other person authorized by the State of California to design a landscape, an irrigation system or authorized to complete a water budget.

Check Valve or Anti-Drain Valve: A valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

Common Interest Developments: Community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 4000 et seq.

Compost: The safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

Conversion Factor (0.62): A number that converts the maximum applied water allowance from acre-inches per acre per year to gallons per square foot per year. The conversion factor is calculated as follows:

(325,829 gallons/43,560 sq. ft./12 inches = 0.62)
325,829 gallons = 1 acre-foot
43,560 square feet = 1 acre
12 inches = 1 foot

To convert gallons per year to 100 cubic feet per year, the City's billing unit for water, divide gallons per year by 748 (748 gallons = 100 cubic feet).

Distribution Uniformity: The measure of the uniformity of irrigation water over a defined area.

Drip Irrigation: any non-spray low volume irrigation system utilizing emission devices with a flow rate measures in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

Ecological Restoration Project: A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

Effective Precipitation (Eppt) or Usable Rainfall: The portion of total precipitation that is available for plants. Precipitation is not a reliable source of water but can contribute to some degree toward the water needs of the landscape. For the purpose of this document, "effective precipitation" is twenty-five percent (25%) of local annual mean precipitation.

Emitters: Drip irrigation fittings that deliver water slowly from the system to the soil.

Established Landscape: The point at which plants in the landscape have developed roots into the soil adjacent to the root ball.

Establishment Period: The first year after installing the plant in the landscape.

Estimated Applied Water Use: The portion of the Estimated Total Water Use that is derived from applied water. The Estimated Applied Water Use shall not exceed the Maximum Applied Water allowance. The Estimated Applied Water Use may be the sum of the water recommended through the irrigation schedule as

referenced herein.

Estimated Total Water Use (ETWU): The annual total amount of water estimated to be needed to keep the plants in the landscaped area healthy. It is based upon such factors as the local evapotranspiration (ET) rate, the size of the landscaped area, the types of plants, and the efficiency of the irrigation system, as described herein.

Evapotranspiration Adjustment Factor (ETAF): A factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.

A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. The irrigation efficiency for the purpose of the ET Adjustment Factor is 0.71.

Evapotranspiration Rate: A quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specific time.

Flow Rate: The rate at which water flows through the pipes, valves and emission devices. (gallons per minute, cubic feet per second, gallon per hour).

Flow Sensor: An inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

Friable: A soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.

Fuel Modification Plan Guideline: Guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

Graywater: Untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. “Graywater” includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing

machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.

Hardscape: Any constructed feature in a landscape built of concrete, stone, wood, or other such pervious or non-pervious durable material. Includes, but is not limited to, patios, walkways, and retaining walls.

Hydrozone: A portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A Hydrozone may be irrigated or non-irrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a non-irrigated Hydrozone.

Infiltration Rate: The rate of water entry into the soil expressed as a depth of water per unit of time (e.g. inches per hour).

Invasive Plant Species: Species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by agricultural agencies as noxious species. "Noxious weeds" means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list. List of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

Irrigation Audit: An in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency "Watersense" labeled auditing program

Irrigation Efficiency (IE): The measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency for purposes of this ordinance is 0.71. Greater Irrigation Efficiency can be expected from well-designed and well-maintained systems.

Irrigation Survey: An evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.

Irrigation Water Use Analysis: An analysis of water use data based on meter readings and billing data.

Landscape Architect: A person who holds a license to practice landscape architecture in California as defined by the California Business and Professions Code, Section 5615.

Landscape Area: The entire parcel less the building footprint, driveways, sidewalks, gravel or stone walks, non-irrigated portions of the parking lot, hardscape such as decks and patios, and other pervious or nonpervious hardscapes. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants such as orchards or vegetable gardens are not included. Landscape area does not include other non-irrigated areas designated for non-development (e.g., open spaces and existing wildland vegetation).

Landscape Contractor: A person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

Landscape Irrigation Audit: A process to perform site inspection, evaluate irrigation systems, and develop efficient irrigation schedules.

Landscape Installation Report: The report, per section 24.K of these rules and regulations, documenting the landscape installation assessment for new and rehabilitated landscape and irrigation system(s) have been installed.

Landscape Project: An undertaking of landscape design and installation on a particular area of land. A landscape project may be associated with an individual lot, a building project, or a multi-phased development. It may also be a larger, comprehensive landscape scheme that is not coupled with an individual building project.

Lateral Line: The water delivery pipeline that supplies water from the water source to the valve or outlet.

Local Mean Precipitation: The State Department of Water Resources' 20-year historical rainfall data.

Local Water Purveyor: Any entity, including a public agency, city, county, or private water company that provides retail water service

Low-volume Irrigation: The application of irrigation water through a system of tubing or lateral lines and low-volume emitters such as drip and bubblers. Certain rotary emitters designed for highly efficient water distribution, and situated to

irrigate low water use plants, may also be included in this definition at the discretion of the City.

Low Water Use Plant: A plant species whose demonstrated water needs are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established. Any species classified as "very low water use" and "low water use" by WUCOLS, having a regionally adjusted plant factor of 0.0 through 0.3, shall be categorically deemed a low water use plant.

Main Line: The pressurized pipeline that delivers water from the water source to the valve or outlet.

Master Shut-off-Valve: An automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.

Maximum Applied Water Allowance (MAWA): For design purposes, the upper limit of annual applied water for the established landscaped area as specified in Section 24I., Water Budget Calculation. It is based upon the area's reference Evapotranspiration rate, the ET Adjustment Factor, and the size of the landscaped area. The Estimated Applied Water Use shall not exceed the Maximum Applied Water allowance (gallons per year).

Median: Area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

Microclimate: The climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.

Mined Reclamation Projects: Any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

Mulch: Any material such as leaves, bark, straw, or other materials left loose and applied to the soil surface to reduce evaporation, suppressing weeds, moderating soil temperature and preventing soil erosion.

Native Plant: A plant indigenous to a specific area of consideration. For the purposes of these Rules and Regulations division, the term will refer to plants indigenous to the costal ranges of Centeral and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic

natural community of the project's vicinity.

New Construction: For the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

Non-Residential Landscape: Landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas and multifamily homes where landscaping is managed by a homeowners association or other common interest development.

No-Water Using Plant: A plant species with water needs that are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established.

Operating Pressure: The pressure at which a system of sprinklers is designed to operate, usually indicated at base of sprinkler.

Overhead sprinkler irrigation system: A system that delivers water through the air (e.g., spray heads and rotors).

Overspray: The water which is delivered beyond the landscape area, wetting pavements, walks, structures, or other non-landscaped areas.

Permit: An authorizing document issued by local agencies for new construction or rehabilitated landscapes.

Pervious: Any surface or material that allows the passage of water through the material and into the underlying soil.

Plant Factor: A factor that, when multiplied by reference Evapotranspiration, estimates the amount of water used by plants. For purposes of these Rules and Regulations, the average plant factor of very low water use plants is 0 to 0.1, the plant factor range for low water-using plants ranges from 0.1 to 0.3; for average water-using plants the range is 0.4 to 0.6, and for high water-using plants the range is 0.7 to 1.0. Plant Factors are based on the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species" (WUCOLS).

Project Applicant: The individual or entity submitting a Landscape Documentation Package required to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee

Precipitation Rate: means the rate of application of water measured in inches per hour.

Rain Sensing Device: A system which automatically shuts off the irrigation system when it rains.

Record Drawing or As-Builts: A set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

Recreational Areas: Areas of active play or recreation, such as sports fields, school yards, picnic grounds, or other areas with intense foot traffic.

Recycled Water or Reclaimed Water: Treated or recycled wastewater of a quality suitable for non-potable uses, such as landscape irrigation and water features; not intended for human consumption.

Reference Evapotranspiration or **ETo**: A standard measurement of environmental parameters, which affect the water use of plants. ETo is given in inches per day, month, or year (as represented in Section 24.I Water Budget Calculation) and is an estimate of the Evapotranspiration of a large field of four to seven inch tall, cool-season grass that is well watered. Reference Evapotranspiration is the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.

Regional Water Efficient Landscape Ordinance: A local Ordinance adopted by two or more local agencies, water suppliers and other stakeholders for implementing a consistent set of landscape provisions throughout a geographical region. Regional ordinances are strongly encouraged to provide a consistent framework for the landscape industry and applicants to adhere to.

Rehabilitated Landscape: Any re-landscaping project that requires a permit.

Residential Landscape: Landscapes surrounding single family homes or multifamily homes where landscapes are managed by individual homeowners.

Runoff: Water that is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a severe slope.

Soil Moisture Sensing Device: A device that measures the amount of water in the

soil. The device may also initiate or suspend irrigation.

Soil Texture: The classification of soil based on the percentage of sand, silt, and clay in the soil.

Special Landscape Area (SLA): An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play or high-volume foot traffic such as parks, cemeteries, sports fields, golf courses, and where turf provides a playing surface.

Sprinkler Head or Spray Head: A device which delivers water through a nozzle.

Static Water Pressure: The pipeline or municipal water supply pressure when water is not flowing.

Station: An area served by one valve or by a set of valves that operate simultaneously.

Swimming Pool: Any structure intended for swimming, recreational bathing or wading that contains water over 24 inches (610 mm) deep. This includes in-ground, above ground, and on-ground pools; hot tubs; spa and fixed in place wading pools

Submeter: A metering device to measure water applied to the landscape that is installed after the primary utility water meter.

Turf: A ground cover surface of mowed grass. Some examples of turf include annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.

Valve: A device used to control the flow of water in the irrigation system.

Water Conserving Plant Species: A plant species identified as having a very low or low plant factor.

Water Feature: A design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.

Watering Window: The Time of day irrigation is allowed.
Wet Surface Area: The surface area of that portion of a water feature that functions to contain water, such as the water surface of a swimming pool, spa or garden pond. For a fountain or other feature with flowing water, wet surface area shall be measured as a two dimensional plane bounded by the perimeter of the area where water has been designed to flow.

WUCOLS: The current version of the Water Use Classification of Landscape Species current edition published by the University of California Cooperative Extension and the Department of Water Resources, available at: http://ucanr.edu/sites/WUCOLS/Download_WUCOLS_IV_List/

24.D WATER-EFFICIENT DESIGN CHECKLIST

24.D.1 A water-efficient design checklist shall serve as a preliminary summation of select landscape components to determine whether a proposed landscape is generally consistent with the water efficiency goals of these rules and regulations.

24.D.1.(a) All Landscape Projects identified in Santa Clara City Code Section 18.88, Landscaping Permit, shall include a completed water efficient design checklist. Building permits for new dwellings shall also include a completed water efficient design checklist.

24.D.1.(b) The checklist shall be completed by a property owner or certified landscape professional, and shall be submitted to the Planning Division along with the associated Planning Application.

24.E COMPONENTS OF A LANDSCAPE PROJECT SUBMITTAL

24.E.1 Landscape project submittal consists of the following items.

24.E.1.(a) Water-Efficient Design Checklist (section 24.D).

24.E.1.(b) Landscape and Irrigation Design Plans which are required for landscape projects greater than 500 square feet (see section 24.H).

24.E.1.(c) Landscape and Irrigation Maintenance Schedule (section 24.L).

24.E.1.(d) Landscape Installation Report (section 24.K). Shall be submitted following installation of landscaping materials and irrigation hardware.

24.E.1.(e) Water Budget Calculations (Section 24.I). Not required if plant type restriction option (section 24.F.1.(a)) is utilized.

24.E.1.(f) Soil Analysis Report (section 24.J). Only required when requested by City as a condition of permit approval.

24.E.1.(g) Landscape Audit Report (Section 24.O)

24.E.1.(h) Grading Design Plan

24.E.1.(i) Landscape Permit Fee is required when submitting a Landscape Permit.

24.E.1.(j) Application with Project information, Date, Project applicant name, telephone, and mailing address, project address, project type, total landscape area in square feet, water supply type, checklist of all documents in the Landscape Documentation Package, project contacts to include in contact information for the project applicant and property owner, and Applicant signature with the statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package"

24.E.2 The City shall:

24.E.2.(a) Provide the project applicant with the Landscape Project Application and Documentation Package requirements

24.E.2.(b) Provide procedures for permits, plan checks, design reviews, or new or expanded water service;

24.E.2.(c) Review the Landscape Project Application;

24.E.2.(d) Approve or deny the project applicant's Landscape Project Application submittal;

24.E.2.(e) Issue or approve a permit, plan check or design review that complies with the approved Landscape Project Application or approve a new or expanded water service application that

complies with the approved Landscape Project Application;

24.E.3 The Project Applicant shall:

24.E.3.(a) Prior to construction, submit all portions of the Landscape Project Application, except the Landscape Audit Report

24.E.3(b) Upon approval of the Landscape Project Application by the City, (1) receive a permit or approval of the plan check or design review and record the date of the permit in the Certificate of Completion; and (2); submit a copy of the approved Landscape Documentation Package along with the record drawings, and other information to the property owner or his/her designee

24.F **DEMONSTRATION OF LANDSCAPE WATER EFFICIENCY**

24.F.1 Applicants of projects subject to these rules and regulations may choose one of the following two options to demonstrate that a landscape proposal meets water-efficiency goals.

24.F.1.(a) Plant Type restriction option: The plan, checklist and any accompanying documentation must demonstrate all of the following as a means of achieving water efficiency.

24.F.1.(a)(i) The total turf area shall not exceed 25% of the landscape area, or 1,250 square feet, whichever is lesser in area.

24.F.1.(a)(ii) Turf or high-water using plants are prohibited outside of the allowed turf area.

24.F.1.(a)(iii) Within non-turf areas, at least 80% of the plants shall be native, low water-using or no-water using.

24.F.1.(a)(iv) All other applicable design criteria of Section 24.G, Water-Efficient Design Elements, shall be met.

24.F.1.(b) Water Budget option: Project applicants may elect to prepare a water budget calculation, per the provisions of Section 24.I, Water Efficient Design Checklist, as a means of demonstrating water efficiency.

24.G **WATER EFFICIENT DESIGN ELEMENTS**

24.G.1 The elements of a landscape project shall be designed to achieve water efficiency consistent with the intent of these Rules and Regulations.

24.G.1.(a) Plant Material:

24.G.1.(a)(i) Plants shall be chosen and arranged appropriately based upon the site's climate, soil characteristics, sun exposure, wildfire susceptibility, topographical conditions and other factors. Plants with similar water needs shall be grouped within hydrozones. Methods to achieve water efficiency shall include one or more of the following: use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate; recognize the horticultural attributes of plants to minimize damage to property or infrastructure, allow for adequate soil volume for healthy root growth; consider the solar orientation for plant placement to maximize summer share and winter solar gain.

24.G.1.(a)(ii) The turf area shall not be more than 25% of the landscape area, or 1,250 square feet, whichever is lesser in area, unless the project applicant develops a water budget per Section 24.I Water Budget Calculation.

24.G.1.(a)(iii) Turf shall not be planted on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent)

24.G.1.(a)(iv) No portions of turf areas shall be less than eight feet wide.

24.G.1.(a)(v) At least 80% of the plants in non-turf landscape areas shall be native plants, or low water using plants, unless the project applicant develops a water budget

and the ETWU of the landscaped area does not exceed the MAWA.

24.G.1.(a)(vi) The horticultural attributes of plant species (e.g., mature plant size, invasive roots, structural attributes) shall be considered, in order to minimize the potential for damage to property or infrastructure (e.g., buildings, septic systems, sidewalks, power lines).

24.G.1.(a)(vii) Fire-prone plant materials and highly flammable mulches are strongly discouraged. In designated wildland urban interface areas, plants shall be selected, arranged and maintained to provide defensible space for wildfire protection, in conformance with Public Resources Code Section 4291.

24.G.1.(a)(viii) Installation of invasive plant species shall be prohibited.

24.G.1.(a)(ix) Existing invasive plants and noxious weeds within or adjacent to the proposed landscape area shall be removed prior to installation, to minimize potential for spread into installation area.

24.G.1.(a)(x) The architectural guidelines, conditions, covenants or restrictions of a common interest development shall not supersede this division. For example, a common interest development may not prohibit low water use plants, or include conditions that have the effect of restricting the use of low water use plants.

24.G.1.(a)(xi) High water use plants, characterized by a plant factor of 0.7 to 1.0 are prohibited on street medians

24.G.1.(a)(xIi) Methods to achieve water efficiency shall include one or more of the following: Protection and preservation of native species and natural vegetation; selection of water-conserving plant, tree and turf species, especially local native plants; selection of plants based on local climate suitability, disease, and pest resistance; selection of trees based on applicable local

tree ordinances or tree shading guidelines; size at maturity as appropriate for the planting area; and selection of plants from local and regional landscape program lists; and selection of plants from local Fuel Modification Plan Guidelines.

24.G.1.(b) Irrigation System: An irrigation system shall meet all of the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance. In addition:

24.G.1.(b)(i) The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.

24.G.1.(b)(ii) Irrigation systems shall be designed, maintained and managed to meet or exceed an average landscape irrigation efficiency of 70%.

24.G.1.(b)(iii) Low-volume irrigation shall be required in mulched areas, in areas with slope greater than 25%, or in any narrow or irregularly shaped areas that are less than ten (10) feet in width in any direction. Irrigation emitters within 24 inches of a non-permeable surface shall be either low-volume, or designed to preclude wasteful overspray and runoff.

24.G.1.(b)(iv) The irrigation hardware for each hydrozone shall include a separate valve. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and other plant types.

24.G.1.(b)(v) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data for irrigation scheduling are required.

24.G.1.(b)(vi) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems.

24.G.1.(b)(vii) Whenever possible, landscape irrigation shall occur between the hours of 6:00 p.m. and 10:00 a.m., unless climatic conditions or unfavorable weather (e.g. high wind, extreme temperature) prevents it or otherwise renders irrigation unnecessary. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

24.G.1.(c) Soil, conditioning, and mulching:

24.G.1.(c)(i) At the time of installation, a minimum of eight (8) inches of non-compacted topsoil shall be available for water absorption and root growth in planted areas. The City may waive this requirement where a landscape professional has determined that practical limitations (e.g., slope, other geotechnical factors) necessitate a lesser soil depth that is viable for the chosen plant materials.

24.G.1.(c)(ii) Soil amendments, such as compost or fertilizer, shall be appropriately added according to the soil conditions at the project site and based on what is appropriate for the selected plants.

24.G.1.(c)(iii) A minimum three (3)-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, except in areas of direct seeding application (e.g. hydro-seed).

24.G.1.(c)(iv) Stabilizing mulching products shall be used on slopes that meet current engineering standards.

24.G.1.(d)(v) Organic mulch materials made from recycled or post-consumer shall take precedence over inorganic materials or virgin forest products unless recycled or post-consumer material is not locally available. Organic mulches are not required where prohibited by local Fuel Modification Plan Guidelines or other applicable local ordinance

24.G.1.(c)(v) Prior to planting of any materials, compacted soils

shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.

24.G.1.(d) Hydrozones:

24.G.1.(d)(i) Hydrozones shall group plant materials of similar water use, and shall generally demarcate areas of similar slope, sun exposure, soil, and other site conditions appropriate for the selected plants.

24.G.1.(d)(ii) The flow of water to each hydrozone shall be controlled by a separate valve.

24.G.1.(d)(iii) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

24.G.1.(d)(iv) Within a hydrozone, low and moderate water use plants may be mixed, but all plants within that hydrozone shall be classified as moderate water use for MAWA calculations. High water use plants shall not be mixed with low or moderate water use plants.

24.G.1.(e) Water Features:

24.G.1.(e)(i) Recirculating water systems shall be used for water features.

24.G.1.(e)(ii) The wet surface area of a water feature shall be counted as an area of high water use plants for purposes of a water budget calculation, except as provided in 24.G.1.(e)(iii), below.

24.G.1.(e)(iii) The wet surface area of a pool or spa with a cover shall be counted as an area of medium water use plants for purposes of a water budget calculation.

24.G.1.(e)(iv) Pool and spa covers are required on any newly constructed pool or spa.

24.G.1.(e)(v) Recycled water shall be used for decorative water features where recycled water is made available,

meets all applicable standards for those uses and is determined to be suitable and economically feasible.

24.H **LANDSCAPE AND IRRIGATION DESIGN PLANS**

24.H.1 Landscape and irrigation design plans are required of landscape projects larger than 500 square feet when associated with applications for [major project permit types, e.g., design review, grading permit, or use permit], and building permits for new dwellings. The landscape and irrigation design plan shall be prepared as follows:

24.H.1.(a) The landscape and irrigation design plans shall incorporate all applicable elements of Section 24.G Water-Efficient Design Elements.

24.H.1.(b) The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or any other person authorized by the State of California to design a landscape.

24.H.1.(c) The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized by the State of California to design an irrigation system.

24.H.1.(d) The landscape design portion of the landscape and irrigation design plan, at a minimum, shall:

24.H.1.(d)(i) Provide basic project information, such as applicant name, site address, total landscape area and turf area (square feet), irrigation water source (e.g. municipal, well, recycled), and project contacts.

24.H.1.(d)(ii) Identify, in tabular form, all plants to be installed as part of the project. The table shall include the following:

(1) Symbol (representing the plant on the plan).

(2) Common name.

(3) Botanical name.

(4) Container size.

(5) Quantity.

(6) Type (e.g. grass, forb, succulent, vine, shrub, tree).

(7) Water-efficient species identification. All "Native" and "Low Water Use" plant species (defined in section 24.C Definitions) shall be so labeled.

(8) Unique physical specifications of plants (e.g., bare-root, field-potted, multi-trunk), if applicable.

24.H.1.(d)(iii) The landscape and irrigation design plan shall include the following:

(1) General notes, planting notes, plant layout based on size at maturity, species, and symbol legend.

(2) Spacing of proposed plantings.

(3) Topography

(4) Trunk diameter of all existing trees whose trunk circumference is greater than 18.5 inches, measured 54 inches above grade.

(5) Existing features to remain, such as trees, fencing, hardscape, etc.

(6) Existing features to be removed.

(7) Identification of pertinent site factors such as sun exposure, microclimate, property lines, buildings, underground/above-ground utilities, existing drainage features, etc.

(8) Proposed grading. For earthwork exceeding 150 cubic yards, or for cuts or fills exceeding five vertical feet, a grading permit will be required.

(9) Seed mix, if applicable.

24.H.1.(d)(iv) Delineate and label each hydrozone; Designate the areas irrigated by each valve and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Appendix B Section A).

24.H.1.(d)(v) Identify each hydrozone as low water, moderate water, high water, or mixed (low/moderate) water use, as defined by WUCOLS;

24.H.1.(d)(vi) Identify special landscape areas;

24.H.1.(d)(vii) Identify type of mulch and application depth;

24.H.1.(d)(viii) Identify soil amendments, type and quantity;

24.H.1.(d)(ix)Identify type and wet surface area of water features;

24.H.1.(d)(x) Identify hardscapes (pervious and non-pervious); and

24.H.1.(d)(x) Contain the following statement: "I have complied with the criteria of the Water Service and Use Rules and Regulations for Water Conservation in Landscaping and applied them for the efficient use of water in the landscape design plan."

24.H.1.(e) The design of the irrigation system shall conform to the hydrozones of the landscape design plan. The irrigation design portion of the landscape and irrigation design plan, at a minimum, shall contain:

24.H.1.(e)(i) Location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;

24.H.1.(e)(ii) Static water pressure at the point of connection to the public water supply;

24.H.1(e)(iii) Manual shut-off valves as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency or routine repair;

24.H.1(e)(iv) Landscape water meters shall be installed at all non-residential irrigated landscapes and residential irrigation landscapes of 5,000 square feet or larger.

24.H.1(e)(v) Flow sensors that detect high flow conditions created by system damage or malfunction (for non-residential landscapes and residential landscapes of 5,000 square feet or larger)

24.H.1.(e)(vi)Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;

24.H.1.(e)(vii) Master shut-off valves for all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shutdown features.

24.H.1.(e)(viii)Irrigation schedule;

24.H.1.(e)(ix)Location and size of separate water meters for landscape (if applicable); and,

24.H.1.(e)(x)The following statement: "I have complied with the criteria of the Water Service and Use Rules and Regulations for Water Conservation in Landscaping and applied them accordingly for the efficient use of water in the irrigation design plan."

24.H.1.(f) Grading. If the landscape project area will be graded, then, at a minimum, grading contours and quantities shall be shown on the landscape design plan. Grading shall meet all applicable requirements of the City. A geotechnical engineer should be consulted prior to the installation of landscaping materials and irrigation hardware on slopes greater than 50%, or in any areas where slope stability may be compromised.

24.H.1.(g) Storm Water Management. Storm water best management practices shall be incorporated as appropriate into the landscape installation, the details of which shall be shown on the landscape design plan. Practices that increase rainwater capture and retention are encouraged. Installation shall be subject to the City's National Pollutant Discharge

Elimination System (NPDES) storm water discharge permit requirements.

24.I **WATER BUDGET CALCULATION**

24.I.1. A Project applicant shall complete a water budget calculation for the landscape project as required per section 24.F Demonstration of Landscape Efficiency A water budget must be completed by a certified professional who is authorized by the State of California to complete a water budget. Water budget calculations shall adhere to the following requirements:

24.I.1.(a) The plant factor used shall be from WUCOLS. The plant factor ranges from 0.0 to 0.1 for very low water using plants, 0.1 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

24.I.1.(b) The wet surface area of a water feature shall be counted as an area of high water using plants for purposes of a water budget calculation, except as provided in section 24.I.1(c), below.

24.I.1.(c) The wet surface area of a pool or spa with a cover shall be counted as an area of medium water using plants for purposes of a water budget calculation.

24.I.1.(d) Where low and moderate water use plants are be mixed within a single hydrozone, the entire hydrozone area shall be classified as moderate water use for purposes of a water budget calculation. All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the flow water use hydrozone. High water use plants shall not be mixed with low or moderate water use plants.

24.I.1.(e) All special landscape areas shall be identified and their water use included in the water budget calculations.

24.I.1.(f) The reference evapotranspiration adjustment factor (ETAF) for special landscape areas shall not exceed 1.0. The ETAF for the remaining landscaped area shall not exceed 0.55 for residential areas and 0.45 for non-residential areas.

24.I.1.(g) Irrigation system efficiency shall be greater than or equal to 70%.

24.I.1.(h) Maximum Applied Water Allowance (MAWA) shall be calculated

using the equation below:
For Residential Areas:
MAWA = (ETo) (0.62) [(0.55 x LA) + (0.45 x SLA)]
For Non-Residential Areas:
MAWA = (ETo) (0.62) [(0.45 x LA) + (0.55 x SLA)]
Where:
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (acre-inches to gallons)
0.55 = Reference Evapotranspiration Adjustment Factor for residential areas
0.45 = Reference Evapotranspiration Adjustment Factor for non-residential areas
LA = Landscape Area including SLA (square feet)
0.45 = Additional Water Allowance for SLA in residential areas
0.55 = Additional Water Allowance for SLA in non-residential areas
SLA = Special Landscape Area (square feet)

24.I.1.(i) A project applicant may consider effective precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate the MAWA:
MAWA = (ETo - Eppt) (0.62) [(0.55 x LA) + (0.45 x SLA)] for residential areas
MAWA = (ETo - Eppt) (0.62) [(0.45 x LA) + (0.45 x SLA)] for non-residential areas

ETo values from the Reference Evapotranspiration Table in Appendix A shall be used in calculating the Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use (ETWU)

24.I.1.(j) Estimated Total Water Use (ETWU) shall be calculated for each hydrozone using the equation below. The sum of the ETWU calculated for all hydrozones shall not exceed the MAWA.

$$ETWU = (ETo)(0.62)\left(\frac{PF\,x\,HA}{IE} + SLA\right)$$

Where:
ETWU = Estimated Total Water Use per year (gallons)
ETo = Reference Evapotranspiration (inches)
PF = Plant Factor from WUCOLS

HA = Hydrozone Area
[high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor
IE = Irrigation Efficiency (minimum 0.70)

24.J **SOIL ANALYSIS**

24.J.1. In order to reduce runoff and encourage healthy plant growth, The City shall have discretion to require soil analysis as a condition of approval for any [major project permit types, e.g., grading permit, or use permit], where a landscape project submittal is required (Appendix E).

24.J.2 A soil analysis report shall document the various characteristics of the soil (e.g. texture, infiltration rate, pH, soluble salt content, percent organic matter, etc), and provide recommendations for amendments as appropriate to optimize the productivity and water-efficiency of the soil. Soil samples shall be submitted to a laboratory for analysis and recommendations. Sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants. The soil analysis report shall be made available to the professionals preparing the landscape and irrigation design plans in a timely manner either before or during the design process. A copy of the soils analysis report shall be submitted to the City as part of the landscape documentation package.

24.J.3 In projects with multiple landscape installations (i.e. product home developments) a soil sampling rate of 1in 7 lots or approximately 15% will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots.

24.J.4 The project applicant or his/her designee shall comply with one of the following:

24.J.4.(a) If significant mass grading is not planned, the soil analysis report shall be submitted to the local agency as part of the Landscape Documentation; or

24.J.4.(b) If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the Certificate of Completion

24.J.4.(c) The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.

24.J.4.(d) The project applicant, or his/her designee, shall submit

documentation verifying implementation of soil analysis report recommendations to the local agency with the Certificate of Completion.

24.K. LANDSCAPE INSTALLATION REPORT

24.K.1. A Landscape installation assessment for new or rehabilitated landscapes shall be conducted by a certified landscape professional after the landscaping and irrigation system have been installed. The findings of the assessment shall be consolidated into a Landscape Installation Report.

24.K.1.(a) The Landscape Installation Report shall include, but is not limited to: inspection to confirm that the landscaping and irrigation system were installed as specified in the landscape and irrigation design plan, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.

24.K.1.(b) The Landscape Installation Report shall include the following statement: "The landscape and irrigation system has been installed as specified in the landscape and irrigation design plan and complies with the criteria of the Water Service Rules and Regulations for Water Conservation in Landscaping."

24.K.1.(c) The City of Santa Clara shall administer ongoing programs that may include, but not be limited to, post-installation landscape inspection, irrigation water use analysis, irrigation audits, irrigation surveys and water budget calculations to evaluate compliance with the MAWA.

24.L LANDSCAPE AND IRRIGATION MAINTENANCE

24.L.1. Landscapes shall be maintained to ensure successful establishment following installation, and to ensure water use efficiency consistent with these Rules and Regulations. A maintenance schedule shall be established and submitted to the City either with the landscape application package, with the Landscape Installation Report, or any time before the landscape installation report is submitted. Maintenance contract documentation shall be provided to the City if so requested.

24.L.1.(a) Maintenance shall include, but not be limited to the following: routine inspection; pressure testing, adjustment and repair of the irrigation system; aerating and de-thatching turf areas; replenishing mulch; fertilizing; pruning; replanting of failed plants; weeding; pest

control; and removing obstructions to emission devices.

24.L.1.(b) Failed plants shall be replaced with the same or functionally equivalent plants that may be size-adjusted as appropriate for the stage of growth of the overall installation. Failing plants shall either be replaced, or be revived through appropriate adjustments in water, nutrients, pest control or other factors as recommended by a landscaping professional.

24.L.2. For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission devices, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current evapotranspiration data or soil moisture sensor data.

24.L.3. Parameters used to set the automatic controller shall be developed and submitted for each of the following:

24.L.3.(a) Plant establishment period; established landscape; and temporarily irrigated areas

24.L.4. Each irrigation schedule shall consider for each station all of the following that apply:

24.L.4.(a) irrigation interval; irrigation run times,; number of cycle starts required for each irrigation event to avoid run off; amount of applied water scheduled to be applied on a monthly basis; application rate setting; root depth setting; plant type setting; soil type; slope factor setting; shade factor setting; and irrigation uniformity or efficiency setting.

24.M **LANDSCAPE PROJECT REFERRAL**

24.M.1. The City shall refer the landscape project documents to any City department or outside agency whose interests or area of expertise warrants their participation in the review process. Referral agencies may include, but are not limited to, Santa Clara Valley Water District and Santa Clara Fire Department.

24.N **LANDSCAPE PROJECT REVIEW FEE**

24.N. A landscape project review fee shall be required by the schedule of fees established by resolution of the City Council.

24.O **AUDIT OF EXISTING LANDSCAPES**

24.O.1. This section shall apply to all existing landscapes that were installed before the effective date of this Ordinance and are over one acre in size. The City shall be authorized to require audits to evaluate water use on established landscapes larger than one acre. Such audit may be also be initiated as a coordinated effort between the City and a water purveyor (e.g., Santa Clara Valley Water District, as part of the Water District's established outdoor water conservation programs). When such audit is required, it must be completed by a certified landscape irrigation auditor. All existing landscapes over one acre in size, even if installed before the enactment of this Ordinance, shall maintain landscape irrigation facilities to prevent water waste and runoff.

24.O.2. Following the findings and recommendations of the certified landscape irrigation auditor, the City may require adjustments to irrigation usage, irrigation hardware, and/or landscape materials to reduce irrigation water use. Landscape renovation or rehabilitation resulting from such audit activity shall be considered a Landscape Project, and shall be subject to applicable document submittal requirements of Section 24.E Components of Landscape Project Submittal.

24.O.3. For established landscapes that have dedicated irrigation meters, the maximum applied water allowance (MAWA) shall be calculated as follows:
MAWA= (ETo) (0.62) (LA) (0.8)

Where:
MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
0.62 = Conversion Factor (acre-inches to gallons)
LA = Landscape Area (square feet)
0.7 = Reference Evapotranspiration Adjustment Factor (ETAF)

24.O.4 Water Waste Prevention

24.O.4.(a) Restrictions regarding overspray and runoff may be modified if:

24.O.4.(a)(i) The landscape area is adjacent to permeable surfacing and no run off occurs; or

24.O.4.(b)(ii) the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.

24.O.5. The Landscape Audit Report shall include the following statement: "The landscape and irrigation system has been installed as specified in the Landscape and Irrigation Design Plan and complies with the criteria of the

Ordinance and the permit."

24.P **CERTIFICATE OF COMPLETION**

24.P.1 The Certificate of Completion (see Appendix C for sample certificate) Project Information sheet shall include the following six (6) elements:

24.P.1.(a) Project Information sheet contains:

24.P.1.(a)(i) Date

24.P.1.(a)(ii) Project name

24.P.1.(a)(iii) Project applicant name, telephone, and mailing address;

24.P.1.(a)(iv) Project address and location; and

24.P.1.(a)(v) Property owner name, telephone, and mailing address;

24.P.1.(b) Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;

24.P.2.(b)(i) Where there have been significant changes made in the field during construction, these "as-built" or record drawings shell be included with the certification;

24.P.2.(b)(ii) A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes

24.P.1.(c) Irrigation scheduling parameters used to set the controller

24.P.1.(d) Landscape Irrigation Maintenance Schedule (Section 24.L)

24.P.1.(e) Irrigation Audit Report (Section 24.O)

24.P.1.(f) Soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (Section 24.J)

24.P.2 The project applicant shall:

24.P.2.(a) Submit the signed Certificate of Completion to the City for review;

24.P.2.(b) ensure the copies of the approved Certificate of Completion are submitted to the local water purveyor and property owner for his or her designee

24.P.3 The City of Santa Clara shall:

24.P.3.(a) Receive the signed Certificate of Completion from the applicant;

24.P.3.(b) approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the City of Santa Clara shall provide information to the project applicant regarding reapplication, appeal; or other assistance.

24.Q **RECYCLED WATER**

24.Q.1. The installation of recycled water irrigation systems shall allow for the current and future use of recycled water

24.Q.2. All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and state laws

24.Q.3 Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0

24.R **ENVIRONMENTAL REVIEW**

24.R.1. The City must comply with the California Environmental Water Quality (CEQA), as appropriate

24.S **PUBLIC EDUCATION**

24.S.1. Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management, and maintenance to save water is encouraged in the community. The City shall provide information to all applicants regarding the design, installation, management and maintenance of water-efficient landscapes and irrigation systems. This shall include, and is not limited to, promoting the use of recycled water and the efficient use of water through water conservation incentive programs offered by the City or the Santa Clara Valley Water District.

24.S.2. All model homes that are landscaped shall have signs installed that provide information on the principles of water-efficient landscaping.

24.T **PENALTIES**

24.T.1 Non-compliance with any applicable provision of the Water Service and Use Rules and Regulations shall constitute a violation of the City Code shall be subject to enforcement action and/or permit revocation.

24. WATER CONSERVATION IN LANDSCAPING (Continued)

APPENDIX A: REFERENCE ETO TABLE

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
ALAMEDA													
Fremont	1.5	1.9	3.4	4.7	5.4	6.3	6.7	6.0	4.5	3.4	1.8	1.5	47.0
Livermore	1.2	1.5	2.9	4.4	5.9	6.6	7.4	6.4	5.3	3.2	1.5	0.9	47.2
Oakland	1.5	1.5	2.8	3.9	5.1	5.3	6.0	5.5	4.8	3.1	1.4	0.9	41.8
Oakland Foothills	1.1	1.4	2.7	3.7	5.1	6.4	5.8	4.9	3.6	2.6	1.4	1.0	39.6
Pleasanton	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
Union City	1.4	1.8	3.1	4.2	5.4	5.9	6.4	5.7	4.4	3.1	1.5	1.2	44.2
ALPINE													
Markleeville	0.7	0.9	2.0	3.5	5.0	6.1	7.3	6.4	4.4	2.6	1.2	0.5	40.6
AMADOR													
Jackson	1.2	1.5	2.8	4.4	6.0	7.2	7.9	7.2	5.3	3.2	1.4	0.9	48.9
Shanandoah Valley	1.0	1.7	2.9	4.4	5.6	6.8	7.9	7.1	5.2	3.6	1.7	1.0	48.8
BUTTE													
Chico	1.2	1.8	2.9	4.7	6.1	7.4	8.5	7.3	5.4	3.7	1.7	1.0	51.7
Durham	1.1	1.8	3.2	5.0	6.5	7.4	7.8	6.9	5.3	3.6	1.7	1.0	51.1
Gridley	1.2	1.8	3.0	4.7	6.1	7.7	8.5	7.1	5.4	3.7	1.7	1.0	51.9
Oroville	1.2	1.7	2.8	4.7	6.1	7.6	8.5	7.3	5.3	3.7	1.7	1.0	51.5
CALAVERAS													
San Andreas	1.2	1.5	2.8	4.4	6.0	7.3	7.9	7.0	5.3	3.2	1.4	0.7	48.8
COLUSA													
Colusa	1.0	1.7	3.4	5.0	6.4	7.6	8.3	7.2	5.4	3.8	1.8	1.1	52.8
Williams	1.2	1.7	2.9	4.5	6.1	7.2	8.5	7.3	5.3	3.4	1.6	1.0	50.8
CONTRA COSTA													
Brentwood	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
Concord	1.1	1.4	2.4	4.0	5.5	5.9	7.0	6.0	4.8	3.2	1.3	0.7	43.4
Courtland	0.9	1.5	2.9	4.4	6.1	6.9	7.9	6.7	5.3	3.2	1.4	0.7	48.0
Martinez	1.2	1.4	2.4	3.9	5.3	5.6	6.7	5.6	4.7	3.1	1.2	0.7	41.8
Moraga	1.2	1.5	3.4	4.2	5.5	6.1	6.7	5.9	4.6	3.2	1.6	1.0	44.9
Pittsburg	1.0	1.5	2.8	4.1	5.6	6.4	7.4	6.4	5.0	3.2	1.3	0.7	45.4
Walnut Creek	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
DEL NORTE													
Crescent City	0.5	0.9	2.0	3.0	3.7	3.5	4.3	3.7	3.0	2.0	0.9	0.5	27.7
EL DORADO													
Camino	0.9	1.7	2.5	3.9	5.9	7.2	7.8	6.8	5.1	3.1	1.5	0.9	47.3
FRESNO													
Clovis	1.0	1.5	3.2	4.8	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Coalinga	1.2	1.7	3.1	4.6	6.2	7.2	8.5	7.3	5.3	3.4	1.6	0.7	50.9
Firebaugh	1.0	1.8	3.7	5.7	7.3	8.1	8.2	7.2	5.5	3.9	2.0	1.1	55.4
FivePoints	1.3	2.0	4.0	6.1	7.7	8.5	8.7	8.0	6.2	4.5	2.4	1.2	60.4
Fresno	0.9	1.7	3.3	4.8	6.7	7.8	8.4	7.1	5.2	3.2	1.4	0.6	51.1
Fresno State	0.9	1.6	3.2	5.2	7.0	8.0	8.7	7.6	5.4	3.6	1.7	0.9	53.7
Friant	1.2	1.5	3.1	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Kerman	0.9	1.5	3.2	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.2
Kingsburg	1.0	1.5	3.4	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.6
Mendota	1.5	2.5	4.6	6.2	7.9	8.6	8.8	7.5	5.9	4.5	2.4	1.5	61.7
Orange Cove	1.2	1.9	3.5	4.7	7.4	8.5	8.9	7.9	5.9	3.7	1.8	1.2	56.7
Panoche	1.1	2.0	4.0	5.6	7.8	8.5	8.3	7.3	5.6	3.9	1.8	1.2	57.2
Parlier	1.0	1.9	3.6	5.2	6.8	7.6	8.1	7.0	5.1	3.4	1.7	0.9	52.0

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
FRESNO													
Reedley	1.1	1.5	3.2	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Westlands	0.9	1.7	3.8	6.3	8.0	8.6	8.6	7.8	5.9	4.3	2.1	1.1	58.8
GLENN													
Orland	1.1	1.8	3.4	5.0	6.4	7.5	7.9	6.7	5.3	3.9	1.8	1.4	52.1
Willows	1.2	1.7	2.9	4.7	6.1	7.2	8.5	7.3	5.3	3.6	1.7	1.0	51.3
HUMBOLDT													
Eureka	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Ferndale	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Garberville	0.6	1.2	2.2	3.1	4.5	5.0	5.5	4.9	3.8	2.4	1.0	0.7	34.9
Hoopa	0.5	1.1	2.1	3.0	4.4	5.4	6.1	5.1	3.8	2.4	0.9	0.7	35.6
IMPERIAL													
Brawley	2.8	3.8	5.9	8.0	10.4	11.5	11.7	10.0	8.4	6.2	3.5	2.1	84.2
Calipatria/Mulberry	2.4	3.2	5.1	6.8	8.6	9.2	9.2	8.6	7.0	5.2	3.1	2.3	70.7
El Centro	2.7	3.5	5.6	7.9	10.1	11.1	11.6	9.5	8.3	6.1	3.3	2.0	81.7
Holtville	2.8	3.8	5.9	7.9	10.4	11.6	12.0	10.0	8.6	6.2	3.5	2.1	84.7
Meloland	2.5	3.2	5.5	7.5	8.9	9.2	9.0	8.5	6.8	5.3	3.1	2.2	71.6
Palo Verde II	2.5	3.3	5.7	6.9	8.5	8.9	8.6	7.9	6.2	4.5	2.9	2.3	68.2
Seeley	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2	75.4
Westmoreland	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Yuma	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
INYO													
Bishop	1.7	2.7	4.8	6.7	8.2	10.9	7.4	9.6	7.4	4.8	2.5	1.6	68.3
Death Valley Jct	2.2	3.3	5.4	7.7	9.8	11.1	11.4	10.1	8.3	5.4	2.9	1.7	79.1
Independence	1.7	2.7	3.4	6.6	8.5	9.5	9.8	8.5	7.1	3.9	2.0	1.5	65.2
Lower Haiwee Res.	1.8	2.7	4.4	7.1	8.5	9.5	9.8	8.5	7.1	4.2	2.6	1.5	67.6
Oasis	2.7	2.8	5.9	8.0	10.4	11.7	11.6	10.0	8.4	6.2	3.4	2.1	83.1
KERN													
Arvin	1.2	1.8	3.5	4.7	6.6	7.4	8.1	7.3	5.3	3.4	1.7	1.0	51.9
Bakersfield	1.0	1.8	3.5	4.7	6.6	7.7	8.5	7.3	5.3	3.5	1.6	0.9	52.4
Bakersfield/Bonanza	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Bakersfield/Greenlee	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Belridge	1.4	2.2	4.1	5.5	7.7	8.5	8.6	7.8	6.0	3.8	2.0	1.5	59.2
Blackwells Corner	1.4	2.1	3.8	5.4	7.0	7.8	8.5	7.7	5.8	3.9	1.9	1.2	56.6
Buttonwillow	1.0	1.8	3.2	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.5	0.9	52.0
China Lake	2.1	3.2	5.3	7.7	9.2	10.0	11.0	9.8	7.3	4.9	2.7	1.7	74.8
Delano	0.9	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.4	0.7	52.0
Famoso	1.3	1.9	3.5	4.8	6.7	7.6	8.0	7.3	5.5	3.5	1.7	1.3	53.1
Grapevine	1.3	1.8	3.1	4.4	5.6	6.8	7.6	6.8	5.9	3.4	1.9	1.0	49.5
Inyokern	2.0	3.1	4.9	7.3	8.5	9.7	11.0	9.4	7.1	5.1	2.6	1.7	72.4
Isabella Dam	1.2	1.4	2.8	4.4	5.8	7.3	7.9	7.0	5.0	3.2	1.7	0.9	48.4
Lamont	1.3	2.4	4.4	4.6	6.5	7.0	8.8	7.6	5.7	3.7	1.6	0.8	54.4
Lost Hills	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
McFarland/Kern	1.2	2.1	3.7	5.6	7.3	8.0	8.3	7.4	5.6	4.1	2.0	1.2	56.5
Shafter	1.0	1.7	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.5	0.9	52.1
Taft	1.3	1.8	3.1	4.3	6.2	7.3	8.5	7.3	5.4	3.4	1.7	1.0	51.2
Tehachapi	1.4	1.8	3.2	5.0	6.1	7.7	7.9	7.3	5.9	3.4	2.1	1.2	52.9
KINGS													
Caruthers	1.6	2.5	4.0	5.7	7.8	8.7	9.3	8.4	6.3	4.4	2.4	1.6	62.7

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
KINGS													
Corcoran	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Hanford	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.2	5.4	3.4	1.4	0.7	51.5
Kettleman	1.1	2.0	4.0	6.0	7.5	8.5	9.1	8.2	6.1	4.5	2.2	1.1	60.2
Lemoore	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.4	0.7	51.7
Stratford	0.9	1.9	3.9	6.1	7.8	8.6	8.8	7.7	5.9	4.1	2.1	1.0	58.7
LAKE													
Lakeport	1.1	1.3	2.6	3.5	5.1	6.0	7.3	6.1	4.7	2.9	1.2	0.9	42.8
Lower Lake	1.2	1.4	2.7	4.5	5.3	6.3	7.4	6.4	5.0	3.1	1.3	0.9	45.4
LASSEN													
Buntingville	1.0	1.7	3.5	4.9	6.2	7.3	8.4	7.5	5.4	3.4	1.5	0.9	51.8
Ravendale	0.6	1.1	2.3	4.1	5.6	6.7	7.9	7.3	4.7	2.8	1.2	0.5	44.9
Susanville	0.7	1.0	2.2	4.1	5.6	6.5	7.8	7.0	4.6	2.8	1.2	0.5	44.0
LOS ANGELES													
Burbank	2.1	2.8	3.7	4.7	5.1	6.0	6.6	6.7	5.4	4.0	2.6	2.0	51.7
Claremont	2.0	2.3	3.4	4.6	5.0	6.0	7.0	7.0	5.3	4.0	2.7	2.1	51.3
El Dorado	1.7	2.2	3.6	4.8	5.1	5.7	5.9	5.9	4.4	3.2	2.2	1.7	46.3
Glendale	2.0	2.2	3.3	3.8	4.7	4.8	5.7	5.6	4.3	3.3	2.2	1.8	43.7
Glendora	2.0	2.5	3.6	4.9	5.4	6.1	7.3	6.8	5.7	4.2	2.6	2.0	53.1
Gorman	1.6	2.2	3.4	4.6	5.5	7.4	7.7	7.1	5.9	3.6	2.4	1.1	52.4
Hollywood Hills	2.1	2.2	3.8	5.4	6.0	6.5	6.7	6.4	5.2	3.7	2.8	2.1	52.8
Lancaster	2.1	3.0	4.6	5.9	8.5	9.7	11.0	9.8	7.3	4.6	2.8	1.7	71.1
Long Beach	1.8	2.1	3.3	3.9	4.5	4.3	5.3	4.7	3.7	2.8	1.8	1.5	39.7
Los Angeles	2.2	2.7	3.7	4.7	5.5	5.8	6.2	5.9	5.0	3.9	2.6	1.9	50.1
Monrovia	2.2	2.3	3.8	4.3	5.5	5.9	6.9	6.4	5.1	3.2	2.5	2.0	50.2
Palmdale	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
Pasadena	2.1	2.7	3.7	4.7	5.1	6.0	7.1	6.7	5.6	4.2	2.6	2.0	52.3
Pearblossom	1.7	2.4	3.7	4.7	7.3	7.7	9.9	7.9	6.4	4.0	2.6	1.6	59.9
Pomona	1.7	2.0	3.4	4.5	5.0	5.8	6.5	6.4	4.7	3.5	2.3	1.7	47.5
Redondo Beach	2.2	2.4	3.3	3.8	4.5	4.7	5.4	4.8	4.4	2.8	2.4	2.0	42.6
San Fernando	2.0	2.7	3.5	4.6	5.5	5.9	7.3	6.7	5.3	3.9	2.6	2.0	52.0
Santa Clarita	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Santa Monica	1.8	2.1	3.3	4.5	4.7	5.0	5.4	5.4	3.9	3.4	2.4	2.2	44.2
MADERA													
Chowchilla	1.0	1.4	3.2	4.7	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Madera	0.9	1.4	3.2	4.8	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.5
Raymond	1.2	1.5	3.0	4.6	6.1	7.6	8.4	7.3	5.2	3.4	1.4	0.7	50.5
MARIN													
Black Point	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
Novato	1.3	1.5	2.4	3.5	4.4	6.0	5.9	5.4	4.4	2.8	1.4	0.7	39.8
Point San Pedro	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
San Rafael	1.2	1.3	2.4	3.3	4.0	4.8	4.8	4.9	4.3	2.7	1.3	0.7	35.8
MARIPOSA													
Coulterville	1.1	1.5	2.8	4.4	5.9	7.3	8.1	7.0	5.3	3.4	1.4	0.7	48.8
Mariposa	1.1	1.5	2.8	4.4	5.9	7.4	8.2	7.1	5.0	3.4	1.4	0.7	49.0
Yosemite Village	0.7	1.0	2.3	3.7	5.1	6.5	7.1	6.1	4.4	2.9	1.1	0.6	41.4
MENDOCINO													
Fort Bragg	0.9	1.3	2.2	3.0	3.7	3.5	3.7	3.7	3.0	2.3	1.2	0.7	29.0
Hopland	1.1	1.3	2.6	3.4	5.0	5.9	6.5	5.7	4.5	2.8	1.3	0.7	40.9

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
MENDOCINO													
Point Arena	1.0	1.3	2.3	3.0	3.7	3.9	3.7	3.7	3.0	2.3	1.2	0.7	29.6
Sanel Valley	1.0	1.6	3.0	4.6	6.0	7.0	8.0	7.0	5.2	3.4	1.4	0.9	49.1
Ukiah	1.0	1.3	2.6	3.3	5.0	5.8	6.7	5.9	4.5	2.8	1.3	0.7	40.9
MERCED													
Kesterson	0.9	1.7	3.4	5.5	7.3	8.2	8.6	7.4	5.5	3.8	1.8	0.9	55.1
Los Banos	1.0	1.5	3.2	4.7	6.1	7.4	8.2	7.0	5.3	3.4	1.4	0.7	50.0
Merced	1.0	1.5	3.2	4.7	6.6	7.9	8.5	7.2	5.3	3.4	1.4	0.7	51.5
MODOC													
Modoc/Alturas	0.9	1.4	2.8	3.7	5.1	6.2	7.5	6.6	4.6	2.8	1.2	0.7	43.2
MONO													
Bridgeport	0.7	0.9	2.2	3.8	5.5	6.6	7.4	6.7	4.7	2.7	1.2	0.5	43.0
MONTEREY													
Arroyo Seco	1.5	2.0	3.7	5.4	6.3	7.3	7.2	6.7	5.0	3.9	2.0	1.6	52.6
Castroville	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Gonzales	1.3	1.7	3.4	4.7	5.4	6.3	6.3	5.9	4.4	3.4	1.9	1.3	45.7
Greenfield	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
King City	1.7	2.0	3.4	4.4	4.4	5.6	6.1	6.7	6.5	5.2	2.2	1.3	49.6
King City-Oasis Rd.	1.4	1.9	3.6	5.3	6.5	7.3	7.4	6.8	5.1	4.0	2.0	1.5	52.7
Long Valley	1.5	1.9	3.2	4.1	5.8	6.5	7.3	6.7	5.3	3.6	2.0	1.2	49.1
Monterey	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Pajaro	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.1
Salinas	1.6	1.9	2.7	3.8	4.8	4.7	5.0	4.5	4.0	2.9	1.9	1.3	39.1
Salinas North	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9
San Ardo	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
San Juan	1.8	2.1	3.4	4.6	5.3	5.7	5.5	4.9	3.8	3.2	2.2	1.9	44.2
Soledad	1.7	2.0	3.4	4.4	5.5	5.4	6.5	6.2	5.2	3.7	2.2	1.5	47.7
NAPA													
Angwin	1.8	1.9	3.2	4.7	5.8	7.3	8.1	7.1	5.5	4.5	2.9	2.1	54.9
Carneros	0.8	1.5	3.1	4.6	5.5	6.6	6.9	6.2	4.7	3.5	1.4	1.0	45.8
Oakville	1.0	1.5	2.9	4.7	5.8	6.9	7.2	6.4	4.9	3.5	1.6	1.2	47.7
St Helena	1.2	1.5	2.8	3.9	5.1	6.1	7.0	6.2	4.8	3.1	1.4	0.9	44.1
Yountville	1.3	1.7	2.8	3.9	5.1	6.0	7.1	6.1	4.8	3.1	1.5	0.9	44.3
NEVADA													
Grass Valley	1.1	1.5	2.6	4.0	5.7	7.1	7.9	7.1	5.3	3.2	1.5	0.9	48.0
Nevada City	1.1	1.5	2.6	3.9	5.8	6.9	7.9	7.0	5.3	3.2	1.4	0.9	47.4
ORANGE													
Irvine	2.2	2.5	3.7	4.7	5.2	5.9	6.3	6.2	4.6	3.7	2.6	2.3	49.6
Laguna Beach	2.2	2.7	3.4	3.8	4.6	4.6	4.9	4.9	4.4	3.4	2.4	2.0	43.2
Santa Ana	2.2	2.7	3.7	4.5	4.6	5.4	6.2	6.1	4.7	3.7	2.5	2.0	48.2
PLACER													
Auburn	1.2	1.7	2.8	4.4	6.1	7.4	8.3	7.3	5.4	3.4	1.6	1.0	50.6
Blue Canyon	0.7	1.1	2.1	3.4	4.8	6.0	7.2	6.1	4.6	2.9	0.9	0.6	40.5
Colfax	1.1	1.5	2.6	4.0	5.8	7.1	7.9	7.0	5.3	3.2	1.4	0.9	47.9
Roseville	1.1	1.7	3.1	4.7	6.2	7.7	8.5	7.3	5.6	3.7	1.7	1.0	52.2
Soda Springs	0.7	0.7	1.8	3.0	4.3	5.3	6.2	5.5	4.1	2.5	0.7	0.7	35.4
Tahoe City	0.7	0.7	1.7	3.0	4.3	5.4	6.1	5.6	4.1	2.4	0.8	0.6	35.5
Truckee	0.7	0.7	1.7	3.2	4.4	5.4	6.4	5.7	4.1	2.4	0.8	0.6	36.2

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
PLUMAS													
Portola	0.7	0.9	1.9	3.5	4.9	5.9	7.3	5.9	4.3	2.7	0.9	0.5	39.4
Quincy	0.7	0.9	2.2	3.5	4.9	5.9	7.3	5.9	4.4	2.8	1.2	0.5	40.2
RIVERSIDE													
Beaumont	2.0	2.3	3.4	4.4	6.1	7.1	7.6	7.9	6.0	3.9	2.6	1.7	55.0
Blythe	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Cathedral City	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Coachella	2.9	4.4	6.2	8.4	10.5	11.9	12.3	10.1	8.9	6.2	3.8	2.4	88.1
Desert Center	2.9	4.1	6.4	8.5	11.0	12.1	12.2	11.1	9.0	6.4	3.9	2.6	90.0
Elsinore	2.1	2.8	3.9	4.4	5.9	7.1	7.6	7.0	5.8	3.9	2.6	1.9	55.0
Indio	3.1	3.6	6.5	8.3	10.5	11.0	10.8	9.7	8.3	5.9	3.7	2.7	83.9
La Quinta	2.4	2.8	5.2	6.5	8.3	8.7	8.5	7.9	6.5	4.5	2.7	2.2	66.2
Mecca	2.6	3.3	5.7	7.2	8.6	9.0	8.8	8.2	6.8	5.0	3.2	2.4	70.8
Oasis	2.9	3.3	5.3	6.1	8.5	8.9	8.7	7.9	6.9	4.8	2.9	2.3	68.4
Palm Desert	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
Palm Springs	2.0	2.9	4.9	7.2	8.3	8.5	11.6	8.3	7.2	5.9	2.7	1.7	71.1
Rancho California	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
Rancho Mirage	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Ripley	2.7	3.3	5.6	7.2	8.7	8.7	8.4	7.6	6.2	4.6	2.8	2.2	67.8
Salton Sea North	2.5	3.3	5.5	7.2	8.8	9.3	9.2	8.5	6.8	5.2	3.1	2.3	71.7
Temecula East II	2.3	2.4	4.1	4.9	6.4	7.0	7.8	7.4	5.7	4.1	2.6	2.2	56.7
Thermal	2.4	3.3	5.5	7.6	9.1	9.6	9.3	8.6	7.1	5.2	3.1	2.1	72.8
Riverside UC	2.5	2.9	4.2	5.3	5.9	6.6	7.2	6.9	5.4	4.1	2.9	2.6	56.4
Winchester	2.3	2.4	4.1	4.9	6.4	6.9	7.7	7.5	6.0	3.9	2.6	2.1	56.8
SACRAMENTO													
Fair Oaks	1.0	1.6	3.4	4.1	6.5	7.5	8.1	7.1	5.2	3.4	1.5	1.0	50.5
Sacramento	1.0	1.8	3.2	4.7	6.4	7.7	8.4	7.2	5.4	3.7	1.7	0.9	51.9
Twitchell Island	1.2	1.8	3.9	5.3	7.4	8.8	9.1	7.8	5.9	3.8	1.7	1.2	57.9
SAN BENITO													
Hollister	1.5	1.8	3.1	4.3	5.5	5.7	6.4	5.9	5.0	3.5	1.7	1.1	45.1
San Benito	1.2	1.6	3.1	4.6	5.6	6.4	6.9	6.5	4.8	3.7	1.7	1.2	47.2
San Juan Valley	1.4	1.8	3.4	4.5	6.0	6.7	7.1	6.4	5.0	3.5	1.8	1.4	49.1
SAN BERNARDINO													
Baker	2.7	3.9	6.1	8.3	10.4	11.8	12.2	11.0	8.9	6.1	3.3	2.1	86.6
Barstow NE	2.2	2.9	5.3	6.9	9.0	10.1	9.9	8.9	6.8	4.8	2.7	2.1	71.7
Big Bear Lake	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Chino	2.1	2.9	3.9	4.5	5.7	6.5	7.3	7.1	5.9	4.2	2.6	2.0	54.6
Crestline	1.5	1.9	3.3	4.4	5.5	6.6	7.8	7.1	5.4	3.5	2.2	1.6	50.8
Lake Arrowhead	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Lucerne Valley	2.2	2.9	5.1	6.5	9.1	11.0	11.4	9.9	7.4	5.0	3.0	1.8	75.3
Needles	3.2	4.2	6.6	8.9	11.0	12.4	12.8	11.0	8.9	6.6	4.0	2.7	92.1
Newberry Springs	2.1	2.9	5.3	8.4	9.8	10.9	11.1	9.9	7.6	5.2	3.1	2.0	78.2
San Bernardino	2.0	2.7	3.8	4.6	5.7	6.9	7.9	7.4	5.9	4.2	2.6	2.0	55.6
Twentynine Palms	2.6	3.6	5.9	7.9	10.1	11.2	11.2	10.3	8.6	5.9	3.4	2.2	82.9
Victorville	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
SAN DIEGO													
Chula Vista	2.2	2.7	3.4	3.8	4.9	4.7	5.5	4.9	4.5	3.4	2.4	2.0	44.2
Escondido SPV	2.4	2.6	3.9	4.7	5.9	6.5	7.1	6.7	5.3	3.9	2.8	2.3	54.2
Miramar	2.3	2.5	3.7	4.1	5.1	5.4	6.1	5.8	4.5	3.3	2.4	2.1	47.1

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
SAN DIEGO													
Oceanside	2.2	2.7	3.4	3.7	4.9	4.6	4.6	5.1	4.1	3.3	2.4	2.0	42.9
Otay Lake	2.3	2.7	3.9	4.6	5.6	5.9	6.2	6.1	4.8	3.7	2.6	2.2	50.4
Pine Valley	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7	54.8
Ramona	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1	51.6
San Diego	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0	46.5
Santee	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0	51.1
Torrey Pines	2.2	2.3	3.4	3.9	4.0	4.1	4.6	4.7	3.8	2.8	2.0	2.0	39.8
Warner Springs	1.6	2.7	3.7	4.7	5.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3	56.0
SAN FRANCISCO													
San Francisco	1.5	1.3	2.4	3.0	3.7	4.6	4.9	4.8	4.1	2.8	1.3	0.7	35.1
SAN JOAQUIN													
Farmington	1.5	1.5	2.9	4.7	6.2	7.6	8.1	6.8	5.3	3.3	1.4	0.7	50.0
Lodi West	1.0	1.6	3.3	4.3	6.3	6.9	7.3	6.4	4.5	3.0	1.4	0.8	46.7
Manteca	0.9	1.7	3.4	5.0	6.5	7.5	8.0	7.1	5.2	3.3	1.6	0.9	51.2
Stockton	0.8	1.5	2.9	4.7	6.2	7.4	8.1	6.8	5.3	3.2	1.4	0.6	49.1
Tracy	1.0	1.5	2.9	4.5	6.1	7.3	7.9	6.7	5.3	3.2	1.3	0.7	48.5
SAN LUIS OBISPO													
Arroyo Grande	2.0	2.2	3.2	3.8	4.3	4.7	4.3	4.6	3.8	3.2	2.4	1.7	40.0
Atascadero	1.2	1.5	2.8	3.9	4.5	6.0	6.7	6.2	5.0	3.2	1.7	1.0	43.7
Morro Bay	2.0	2.2	3.1	3.5	4.3	4.5	4.6	4.6	3.8	3.5	2.1	1.7	39.9
Nipomo	2.2	2.5	3.8	5.1	5.7	6.2	6.4	6.1	4.9	4.1	2.9	2.3	52.1
Paso Robles	1.6	2.0	3.2	4.3	5.5	6.3	7.3	6.7	5.1	3.7	2.1	1.4	49.0
San Luis Obispo	2.0	2.2	3.2	4.1	4.9	5.3	4.6	5.5	4.4	3.5	2.4	1.7	43.8
San Miguel	1.6	2.0	3.2	4.3	5.0	6.4	7.4	6.8	5.1	3.7	2.1	1.4	49.0
San Simeon	2.0	2.0	2.9	3.5	4.2	4.4	4.6	4.3	3.5	3.1	2.0	1.7	38.1
SAN MATEO													
Hal Moon Bay	1.5	1.7	2.4	3.0	3.9	4.3	4.3	4.2	3.5	2.8	1.3	1.0	33.7
Redwood City	1.5	1.8	2.9	3.8	5.2	5.3	6.2	5.6	4.8	3.1	1.7	1.0	42.8
Woodside	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
SANTA BARBARA													
Betteravia	2.1	2.6	4.0	5.2	6.0	5.9	5.8	5.4	4.1	3.3	2.7	2.1	49.1
Carpenteria	2.0	2.4	3.2	3.9	4.8	5.2	5.5	5.7	4.5	3.4	2.4	2.0	44.9
Cuyama	2.1	2.4	3.8	5.4	6.9	7.9	8.5	7.7	5.9	4.5	2.6	2.0	59.7
Goleta	2.1	2.5	3.9	5.1	5.7	5.7	5.4	5.4	4.2	3.2	2.8	2.2	48.1
Goleta Foothills	2.3	2.6	3.7	5.4	5.3	5.6	5.5	5.7	4.5	3.9	2.8	2.3	49.6
Guadalupe	2.0	2.2	3.2	3.7	4.9	4.6	4.5	4.6	4.1	3.3	2.4	1.7	41.1
Lompoc	2.0	2.2	3.2	3.7	4.8	4.6	4.9	4.8	3.9	3.2	2.4	1.7	41.1
Los Alamos	1.8	2.0	3.2	4.1	4.9	5.3	5.7	5.5	4.4	3.7	2.4	1.6	44.6
Santa Barbara	2.0	2.5	3.2	3.8	4.6	5.1	5.5	4.5	3.4	2.4	1.8	1.8	40.6
Santa Maria	1.8	2.3	3.7	5.1	5.7	5.8	5.6	5.3	4.2	3.5	2.4	1.9	47.4
Santa Ynez	1.7	2.2	3.5	5.0	5.8	6.2	6.4	6.0	4.5	3.6	2.2	1.7	48.7
Sisquoc	2.1	2.5	3.8	4.1	6.1	6.3	6.4	5.8	4.7	3.4	2.3	1.8	49.2
Solvang	2.0	2.0	3.3	4.3	5.0	5.6	6.1	5.6	4.4	3.7	2.2	1.6	45.6
SANTA CLARA													
Gilroy	1.3	1.8	3.1	4.1	5.3	5.6	6.1	5.5	4.7	3.4	1.7	1.1	43.6
Los Gatos	1.5	1.8	2.8	3.9	5.0	5.6	6.2	5.5	4.7	3.2	1.7	1.1	42.9
Morgan Hill	1.5	1.8	3.4	4.2	6.3	7.0	7.1	6.0	5.1	3.7	1.9	1.4	49.5
Palo Alto	1.5	1.8	2.8	3.8	5.2	5.3	6.2	5.6	5.0	3.2	1.7	1.0	43.0

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
SANTA CLARA													
San Jose	1.5	1.8	3.1	4.1	5.5	5.8	6.5	5.9	5.2	3.3	1.8	1.0	45.3
SANTA CRUZ													
De Laveaga	1.4	1.9	3.3	4.7	4.9	5.3	5.0	4.8	3.6	3.0	1.6	1.3	40.8
Green Valley Rd	1.2	1.8	3.2	4.5	4.6	5.4	5.2	5.0	3.7	3.1	1.6	1.3	40.6
Santa Cruz	1.5	1.8	2.6	3.5	4.3	4.4	4.8	4.4	3.8	2.8	1.7	1.2	36.6
Watsonville	1.5	1.8	2.7	3.7	4.6	4.5	4.9	4.2	4.0	2.9	1.8	1.2	37.7
Webb	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.2
SHASTA													
Burney	0.7	1.0	2.1	3.5	4.9	5.9	7.4	6.4	4.4	2.9	0.9	0.6	40.9
Fall River Mills	0.6	1.0	2.1	3.7	5.0	6.1	7.8	6.7	4.6	2.8	0.9	0.5	41.8
Glenburn	0.6	1.0	2.1	3.7	5.0	6.3	7.8	6.7	4.7	2.8	0.9	0.6	42.1
McArthur	0.7	1.4	2.9	4.2	5.6	6.9	8.2	7.2	5.0	3.0	1.1	0.6	46.8
Redding	1.2	1.4	2.6	4.1	5.6	7.1	8.5	7.3	5.3	3.2	1.4	0.9	48.8
SIERRA													
Downieville	0.7	1.0	2.3	3.5	5.0	6.0	7.4	6.2	4.7	2.8	0.9	0.6	41.3
Sierraville	0.7	1.1	2.2	3.2	4.5	5.9	7.3	6.4	4.3	2.6	0.9	0.5	39.6
SISKIYOU													
Happy Camp	0.5	0.9	2.0	3.0	4.3	5.2	6.1	5.3	4.1	2.4	0.9	0.5	35.1
MacDoel	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
Mt Shasta	0.5	0.9	2.0	3.0	4.5	5.3	6.7	5.7	4.0	2.2	0.7	0.5	36.0
Tule lake FS	0.7	1.3	2.7	4.0	5.4	6.3	7.1	6.4	4.7	2.8	1.0	0.6	42.9
Weed	0.5	0.9	2.0	2.5	4.5	5.3	6.7	5.5	3.7	2.0	0.9	0.5	34.9
Yreka	0.6	0.9	2.1	3.0	4.9	5.8	7.3	6.5	4.3	2.5	0.9	0.5	39.2
SOLANO													
Benicia	1.3	1.4	2.7	3.8	4.9	5.0	6.4	5.5	4.4	2.9	1.2	0.7	40.3
Dixon	0.7	1.4	3.2	5.2	6.3	7.6	8.2	7.2	5.5	4.3	1.6	1.1	52.1
Fairfield	1.1	1.7	2.8	4.0	5.5	6.1	7.8	6.0	4.8	3.1	1.4	0.9	45.2
Hastings Tract	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Putah Creek	1.0	1.6	3.2	4.9	6.1	7.3	7.9	7.0	5.3	3.8	1.8	1.2	51.0
Rio Vista	0.9	1.7	2.8	4.4	5.9	6.7	7.9	6.5	5.1	3.2	1.3	0.7	47.0
Suisun Valley	0.6	1.3	3.0	4.7	5.8	7.0	7.7	6.8	5.3	3.8	1.4	0.9	48.3
Winters	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
SONOMA													
Bennett Valley	1.1	1.7	3.2	4.1	5.5	6.5	6.6	5.7	4.5	3.1	1.5	0.9	44.4
Cloverdale	1.1	1.4	2.6	3.4	5.0	5.9	6.2	5.6	4.5	2.8	1.4	0.7	40.7
Fort Ross	1.2	1.4	2.2	3.0	3.7	4.5	4.2	4.3	3.4	2.4	1.2	0.5	31.9
Healdsburg	1.2	1.5	2.4	3.5	5.0	5.9	6.1	5.6	4.5	2.8	1.4	0.7	40.8
Lincoln	1.2	1.7	2.8	4.7	6.1	7.4	8.4	7.3	5.4	3.7	1.9	1.2	51.9
Petaluma	1.2	1.5	2.8	3.7	4.6	5.6	4.6	5.7	4.5	2.9	1.4	0.9	39.6
Santa Rosa	1.2	1.7	2.8	3.7	5.0	6.0	6.1	5.9	4.5	2.9	1.5	0.7	42.0
Valley of the Moon	1.0	1.6	3.0	4.5	5.6	6.6	7.1	6.3	4.7	3.3	1.5	1.0	46.1
Windsor	0.9	1.6	3.0	4.5	5.5	6.5	6.5	5.9	4.4	3.2	1.4	1.0	44.2
STANISLAUS													
Denair	1.0	1.9	3.6	4.7	7.0	7.9	8.0	6.1	5.3	3.4	1.5	1.0	51.4
La Grange	1.2	1.5	3.1	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Modesto	0.9	1.4	3.2	4.7	6.4	7.7	8.1	6.8	5.0	3.4	1.4	0.7	49.7
Newman	1.0	1.5	3.2	4.6	6.2	7.4	8.1	6.7	5.0	3.4	1.4	0.7	49.3
Oakdale	1.2	1.5	3.2	4.7	6.2	7.7	8.1	7.1	5.1	3.4	1.4	0.7	50.3

24. WATER CONSERVATION IN LANDSCAPING (Continued)

Appendix A - Reference Evapotranspiration (ETo) Table*

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
STANISLAUS													
Patterson	1.3	2.1	4.2	5.4	7.9	8.6	8.2	6.6	5.8	4.0	1.9	1.3	57.3
Turlock	0.9	1.5	3.2	4.7	6.5	7.7	8.2	7.0	5.1	3.4	1.4	0.7	50.2
SUTTER													
Nicolaus	0.9	1.6	3.2	4.9	6.3	7.5	8.0	6.9	5.2	3.4	1.5	0.9	50.2
Yuba City	1.3	2.1	2.8	4.4	5.7	7.2	7.1	6.1	4.7	3.2	1.2	0.9	46.7
TEHAMA													
Corning	1.2	1.8	2.9	4.5	6.1	7.3	8.1	7.2	5.3	3.7	1.7	1.1	50.7
Gerber	1.0	1.8	3.5	5.0	6.6	7.9	8.7	7.4	5.8	4.1	1.8	1.1	54.7
Gerber Dryland	0.9	1.6	3.2	4.7	6.7	8.4	9.0	7.9	6.0	4.2	2.0	1.0	55.5
Red Bluff	1.2	1.8	2.9	4.4	5.9	7.4	8.5	7.3	5.4	3.5	1.7	1.0	51.1
TRINITY													
Hay Fork	0.5	1.1	2.3	3.5	4.9	5.9	7.0	6.0	4.5	2.8	0.9	0.7	40.1
Weaverville	0.6	1.1	2.2	3.3	4.9	5.9	7.3	6.0	4.4	2.7	0.9	0.7	40.0
TULARE													
Alpaugh	0.9	1.7	3.4	4.8	6.6	7.7	8.2	7.3	5.4	3.4	1.4	0.7	51.6
Badger	1.0	1.3	2.7	4.1	6.0	7.3	7.7	7.0	4.8	3.3	1.4	0.7	47.3
Delano	1.1	1.9	4.0	4.9	7.2	7.9	8.1	7.3	5.4	3.2	1.5	1.2	53.6
Dinuba	1.1	1.5	3.2	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Lindcove	0.9	1.6	3.0	4.8	6.5	7.6	8.1	7.2	5.2	3.4	1.6	0.9	50.6
Porterville	1.2	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.3	3.4	1.4	0.7	52.1
Visalia	0.9	1.7	3.3	5.1	6.8	7.7	7.9	6.9	4.9	3.2	1.5	0.8	50.7
TUOLUMNE													
Groveland	1.1	1.5	2.8	4.1	5.7	7.2	7.9	6.6	5.1	3.3	1.4	0.7	47.5
Sonora	1.1	1.5	2.8	4.1	5.8	7.2	7.9	6.7	5.1	3.2	1.4	0.7	47.6
VENTURA													
Camarillo	2.2	2.5	3.7	4.3	5.0	5.2	5.9	5.4	4.2	3.0	2.5	2.1	46.1
Oxnard	2.2	2.5	3.2	3.7	4.4	4.6	5.4	4.8	4.0	3.3	2.4	2.0	42.3
Piru	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Port Hueneme	2.0	2.3	3.3	4.6	4.9	4.9	4.9	5.0	3.7	3.2	2.5	2.2	43.5
Thousand Oaks	2.2	2.6	3.4	4.5	5.4	5.9	6.7	6.4	5.4	3.9	2.6	2.0	51.0
Ventura	2.2	2.6	3.2	3.8	4.6	4.7	5.5	4.9	4.1	3.4	2.5	2.0	43.5
YOLO													
Bryte	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
Davis	1.0	1.9	3.3	5.0	6.4	7.6	8.2	7.1	5.4	4.0	1.8	1.0	52.5
Esparto	1.0	1.7	3.4	5.5	6.9	8.1	8.5	7.5	5.8	4.2	2.0	1.2	55.8
Winters	1.7	1.7	2.9	4.4	5.8	7.1	7.9	6.7	5.3	3.3	1.6	1.0	49.4
Woodland	1.0	1.8	3.2	4.7	6.1	7.7	8.2	7.2	5.4	3.7	1.7	1.0	51.6
Zamora	1.1	1.9	3.5	5.2	6.4	7.4	7.8	7.0	5.5	4.0	1.9	1.2	52.8
YUBA													
Browns Valley	1.0	1.7	3.1	4.7	6.1	7.5	8.5	7.6	5.7	4.1	2.0	1.1	52.9
Brownsville	1.1	1.4	2.6	4.0	5.7	6.8	7.9	6.8	5.3	3.4	1.5	0.9	47.4

* The values in this table were derived from:

1) California Irrigation Management Information System (CIMIS);
2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999; and
3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922;
4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426

24. WATER CONSERVATION IN LANDSCAPING (Continued)

APPENDIX B: WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) _____

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq, ft,)	ETAF x Area	Estimated Total Water Use (ETWU)[e]
Regular Landscape Areas							
				Totals	(A)	(B)	
Special Landscape Areas							
				1			
				1			
				1			
				Totals	(C)	(D)	
						ETWU Total	
						Maximum Allowed Water Allowance (MAWA)[e]	

[a]***Hydrozone #/Planting Description***
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b]***Irrigation Method***
overhead spray or drip

[c]***Irrigation Efficiency***
0.75 for spray head
0.81 for drip

[d]***ETWU*** **(Annual Gallons Required) =** *Eto x 0.62 x ETAF x Area*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e]***MAWA (Annual Gallons Allowed) =*** *(Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet,
and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)
Total Area	(A)
Average ETAF	**B ÷ A**

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)
Total Area	(A+C)
Sitewide ETAF	**(B+D) ÷ (A+C)**

24. WATER CONSERVATION IN LANDSCAPING (Continued)

APPENDIX C: CERTIFICATE OF COMPLETION

CITY OF SANTA CLARA
CERTIFICATE OF COMPLETION & INSTALLATION

SUBMIT TO THE WATER DEPARTMENT UPON COMPLETION OF THE LANDSCAPE PROJECT:
1500 WARBURTON AVENUE, SANTA CLARA, CA 95050

Project Information	
Date:	Telephone
Project Name	Email
Applicant Name (print):	Street Address
Title	State
Company	Zip

Project Owner - Declaration of Completion	
Project Owner Name or Designee:	
Title	
Company	
I certify that I have received copies of all the documents associated with the landscape project 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**

Licensed Professional - Declaration of Installation	
I certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package.	
Print Name and Company of Landscape Architect or Irrigation Designer	**Signature***
Email Address	**Phone Number**

*Signer of the landscape design plan, signer of the irrigation plan, or a licensed landscape contractor.

REQUIRED ATTACHMENTS:

IRRIGATION SCHEDULING
Attach parameters for setting the irrigation schedule on controller as required by the ordinance.

SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE
Attach schedule of Landscape and Irrigation Maintenance.

LANDSCAPE IRRIGATION AUDIT REPORT
Attach Landscape Irrigation Audit Report as required by the MWELO ordinance.

SOIL MANAGEMENT REPORT/SOIL MANAGEMENT AND GRADING DESIGN SURVEY
Attach soil analysis report OR Soil Management and Grading Design Survey, if not previously submitted with the Landscape Documentation Package as required by the ordinance. Attach documentation verifying implementation of recommendations from soil analysis report as required.

24. WATER CONSERVATION IN LANDSCAPING (Continued)

APPENDIX D: PRESCRIPTIVE COMPLIANCE OPTION

(a) This appendix contains prescriptive requirements which may be used as a compliance option to the Model Water Efficient Landscape Ordinance.

(b) Compliance with the following items is mandatory and must be documented on a landscape plan in order to use the prescriptive compliance option:

(1) Submit a Landscape Documentation Package which includes the following elements:

(A) date

(B) project applicant

(C) project address (if available, parcel and/or lot number(s))

(D) total landscape area (square feet), including a breakdown of turf and plant material

(E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)

(F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well

(G) contact information for the project applicant and property owner

(H) applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the MWELO".

(2) Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test);

24. WATER CONSERVATION IN LANDSCAPING (Continued)

(3) Plant material shall comply with all of the following;

(A) For residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;

(B) A minimum three inch (3″) 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.

(4) Turf shall comply with all of the following:

(A) Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas;

(B) Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length;

(C) Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

(5) Irrigation systems shall comply with the following:

(A) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.

(B) Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.

(C) Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.

24. WATER CONSERVATION IN LANDSCAPING (Continued)

(D) 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.
\

(E) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. "Landscape Irrigation Sprinkler and Emitter Standard," All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(F) 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.

(6) For non-residential projects with landscape areas of 1,000 sq. ft. or more, a private submeter(s) to measure landscape water use shall be installed.

(c) 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.

24. WATER CONSERVATION IN LANDSCAPING (Continued)

APPENDIX E: SOIL AND GRADING DESIGN SURVEY

Project Name:
Project Location:
Project Lot Size:
Site Analysis Completed By:

Signature Date

This soil analysis and grading report form is designed to assist the applicant in reviewing existing conditions at their project site and evaluate opportunities to maximize benefits. Respond to the following questions, and submit a report detailing geographic features surrounding the site, topography, vegetation and other site features as directed below.

Soil Management Survey

☐ Laboratory soil analysis results are attached.

OR answer the following questions:

1. What is the infiltration rate in inches per hour for the site soil type?
(Instructions – in a minimum of three distinct locations dig a hole that would accommodate planting a 5-gallon plant. Fill hole with water and let drain. Fill hole again and measure the depth of the water in the hole and record the time it takes to infiltrate totally into the soil with no remaining standing water. Note the time of year and the level of existing soil saturation by touch).

2. What is the primary project site soil texture? (Example – clay, loam, silt, sand, etc)

3. What is the soil color at 2 inches depth? What is the color at 6 inches? What is the color at 12 inches? (Example – black, dark or light brown, red, gold, gray, blue, etc)

4. Has the site been previously or historically contaminated with toxic materials?

Comments:

Grading Design Survey

☐ Grading Design Plan is attached.

OR answer the following questions:

1. Does the stormwater runoff from the site discharge to (check all that apply):
   - ☐ Indirectly to waters of the U.S. (i.e. discharge flows overland across adjacent properties or rights-of-way prior to discharging into water of the United States)
   - ☐ Storm drain system
   - ☐ Directly to the water of the U.S. (e.g. river, lake, creek, stream, bay, ocean, etc.)

2. Has a stormwater pollution prevention plan been prepared for this site?
   - ☐ Yes
   - ☐ No

3. Is there potential for filtering or infiltrating stormwater in the landscape areas (e.g. grassy swales, infiltration planters, bioretention areas)?
   - ☐ Yes
   - ☐ No

4. Is there potential to store rainwater for future use?
   - ☐ Yes
   - ☐ No

5. Is the proposed site within a 100 year floodplain?
   - ☐ Yes
   - ☐ No

6. Is a creek protection plan required for this site?
   - ☐ Yes
   - ☐ No

Comments: