

PROCEDURES FOR RECYCLED WATER USE

DESIGN, INSTALLATION & OPERATION
OF RECYCLED WATER SYSTEMS

city of san luis obispo
Utilities Department



**With Questions on the City's
Water Reuse Program, please contact**

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USE OF RECYCLED WATER IN THE CITY

Availability, Approved Uses and Obtaining Service

COMMITMENT TO THE AVAILABILITY & USE OF RECYCLED WATER

The City of San Luis Obispo adopted a mandatory use ordinance for recycled water in 2001. The policy, codified in the City's Municipal Code as Chapter 13.24, allows the City to require the use of recycled water on parcels when considered feasible. The code language is as follows:

When in the judgment of the city, reclaimed water service can be feasibly provided to a particular parcel for particular uses, the utilities director shall require the use of reclaimed water in lieu of potable water for those uses. As used herein, the term "feasible" means reclaimed water is available for delivery to the property in compliance with all applicable federal, state, and local laws, ordinances and regulations and such reclaimed water can be delivered to the property at an overall cost to the user which does not exceed the overall cost of potable water service (Ord. 1403 § 1,2001).

The City's Water Reclamation Facility (WRF) is located on Prado Road, adjacent to U.S. 101. The WRF underwent an upgrade in 1994 to meet strict effluent quality criteria set forth by the Regional Water Quality Control Board (RWQCB) to protect fish and sensitive habitat in San Luis Obispo Creek. The City operates under Waste Discharge/Master Reclamation Requirements Order No. R3-2003-081 (Master Reclamation Permit), which was amended in 2003 to allow for implementation of the City's recycled water program. Consistent with the requirements of the Master Reclamation Permit, each recycled water user must obtain a Recycled Water Use Permit or Construction Water Permit prior to utilizing recycled water. This manual is also a requirement of the City's permit.

Completed in 2006, the City's Water Reuse Project provides recycled water to users along the easterly city limits on Tank Farm Road and to the westerly city limits on Los Osos Valley Road. The distribution system extends east, west and south from the WRF in the southern portion of the City. The distribution system was designed to deliver recycled water to large volume customers and sized to allow for future expansion to the north and south. The system is

designed to provide a maximum of approximately 2.5 million gallons per day.

The City's Water Reuse Master Plan identifies a portion of the City (see Figure 1, Reclaimed Water Use Area) to be served with recycled water. The City completed construction of the initial eight miles of the recycled water distribution system in 2006. At build out, the system will provide its customers approximately 1,000 acre feet per year of recycled water.

Both public and private users are connected to the distribution system with recycled water being utilized for irrigation of City parks, a golf course, school grounds, landscaped medians, and landscaped areas of commercial developments. More customers are interested in retrofitting existing irrigation systems in order to be connected to the recycled water distribution system. Future uses include additional City parks, landscaped areas maintained by CalTrans, and additional commercial and multi-family residential water customers in the City.

APPROVED USES OF RECYCLED WATER

The State of California regulates the use of recycled water, as directed under Title 22. Local authorities, at their discretion, can require or specify what sites and/or uses of recycled water are to be utilized in their service area, consistent with State requirements. Approved uses include:

- Landscape irrigation,
- Construction water,
- Agricultural irrigation,
- Water for industrial purposes,
- Impoundments (fountains) and indoor toilet and urinal flushing.

OBTAINING RECYCLED WATER SERVICE

The procedures for obtaining recycled water service for landscape irrigation purposes and for use as construction water are described in this document. The City is not providing specific procedures at this time for the use of recycled water for industrial or agricultural irrigation. Projects where recycled water use is proposed for industrial or agricultural uses will be reviewed on a case by case basis by the City Utilities Department.

Landscape Irrigation Permit Procedures

Every site where recycled water is to be used for landscape irrigation must obtain a Recycled Water Use Permit prior to receiving recycled water from the City. There is **no fee** for the Recycled Water Use Permit. Permits will be issued after the applicant has met the City's permit requirements including:

1. Submittal of Recycled Water Use Permit application (See Sample Forms, Appendix B),
2. Irrigation Plan preparation consistent with City requirements described here,
3. Irrigation Plan approval by the City, California Department of Public Health (DPH), and the RWQCB,
4. Installation or retrofit of irrigation system consistent with approved Irrigation Plans,
5. Site inspection and coverage test,
6. Cross-connection test and certification,
7. Attendance at City-sponsored site supervisor training, and
8. Submittal of a schedule of the hours that the irrigation system would be utilized.

Requirements for the design of recycled water irrigation systems are provided in Part 2 of this manual. Requirements for system operation and maintenance are provided in Part 3. Approval is contingent upon evidence that applicable permit requirements are satisfied and that the irrigation system as designed can be operated in accordance with these Procedures. Following Permit issuance, a site may receive recycled water in accordance with these Procedures. If the system is found to be inconsistent with these Procedures, the City will advise the customer on corrective actions. A site inspection will be scheduled after a reasonable period to ensure compliance.

Construction Water Permit Procedures

Through the recycled water distribution system and the Construction Water Permit Program, recycled water is available to permitted water haulers for construction purposes at four locations in the City. To

utilize these facilities, water haulers must obtain a Construction Water Permit. Annual permits will be issued after the applicant has met the following permit requirements:

1. Submittal of Construction Water Permit application (See Sample Forms, Appendix B),
2. Attendance at City-sponsored Construction Water Supervisor training,
3. City verification of air gap on water hauling vehicle(s), and
4. Payment of annual Construction Water Permit and vehicle identification fees.

For annual permit renewal, customer will attend City-sponsored training, pay permit fee, and receive permit and vehicle identification sticker(s). Additional information on the Construction Water Permit Program is provided in Part 4 of this procedures manual.

PROTECTION OF PUBLIC HEALTH

The City reserves the right to take any action necessary with respect to the operation of a customer's recycled water system or in association with the use of construction water to safeguard the public health. If hazards are evidenced any time during construction or operation of a recycled water system, the City reserves the right and has the authority to terminate recycled water service immediately, without notice. These hazards include, but are not limited to:

- Cross-connections with the potable system,
- Improper tagging or signing, or
- Unapproved/prohibited uses.

The City 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 City and DPH. All modifications required to replace the recycled water supply with potable water will be at the customer's expense.

EXCEPTIONS/EXEMPTIONS

The City Utilities Department may grant an exemption to these Procedures for a site within the Reclaimed Water Use Area if recycled water will not be available to serve the area in the foreseeable future.

LEGEND

- Water Reuse Distribution Line
- Reclaimed Water Use Area

City of San Luis Obispo Utilities Department, 2009.

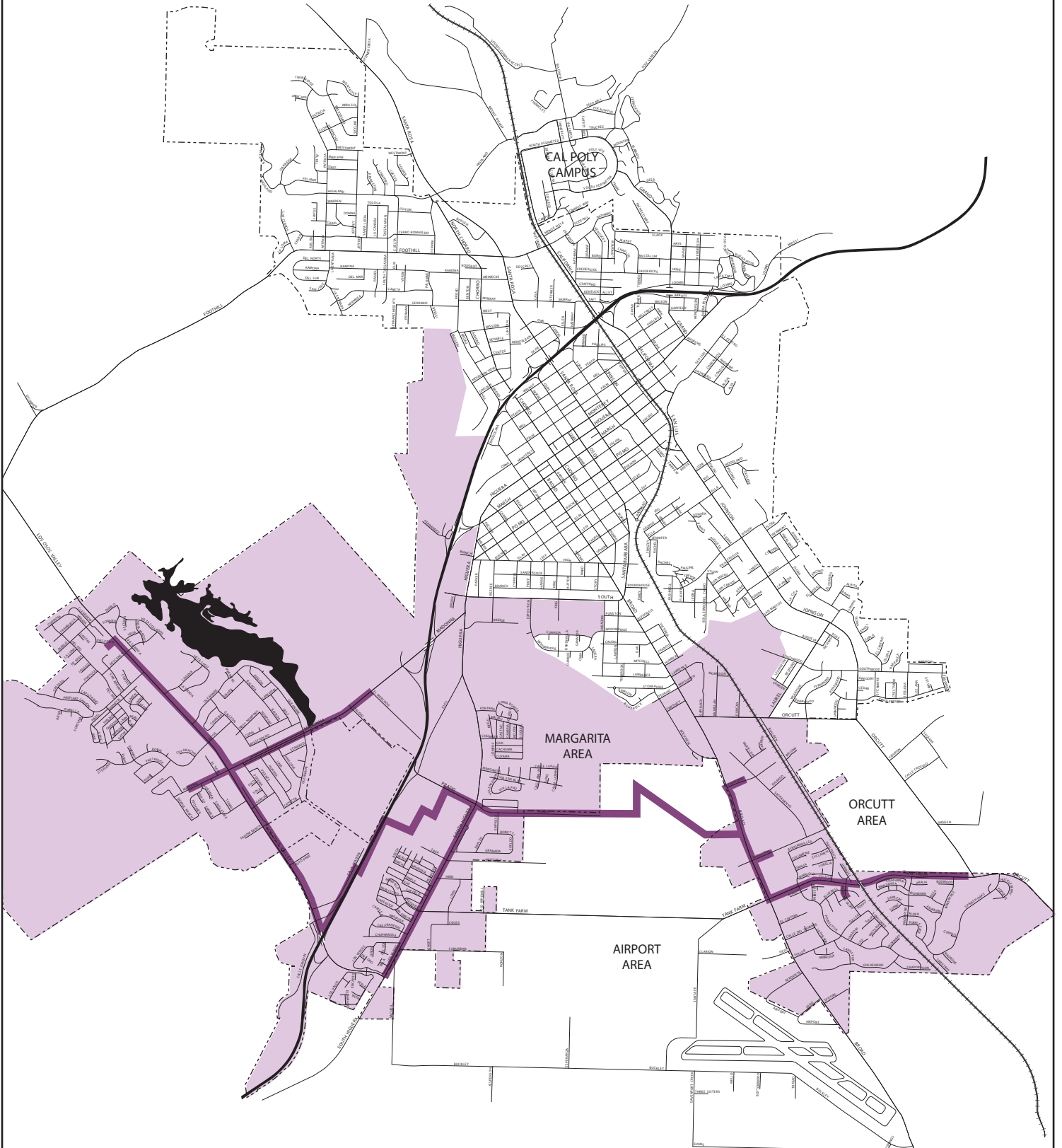


Figure 1: Reclaimed Water Use Area

Procedures for Recycled Water Use
Use of Recycled Water in the City

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SYSTEM DESIGN, INSTALLATION & INSPECTION

Requirements for the Design of Recycled Water Irrigation Systems

This section provides irrigation system designers the requirements for the design, installation and inspection of new recycled water irrigation systems and existing irrigation systems that are being converted/retrofitted from using potable water to utilize recycled water.

SYSTEM DESIGN REQUIREMENTS

Recycled Water Distribution System Pressure

The City's recycled water distribution system provides recycled water at pressures that range up to 135 psi depending on where the line is in the City. Irrigation system designers should contact the City Utilities Department to determine the pressure available at their specific point of connection.

Wye Strainer and Pressure Regulator

Unless otherwise directed by the City Utilities Department, recycled water services must be equipped with a wye-strainer (20-mesh or finer screen) installed as close as practicable to the meter box, and a pressure regulating valve installed downstream of the strainer. Both of these devices must be installed in an underground box or boxes. Prior to determining available pressure, designers should take into account the pressure losses incurred by these components.

Point of Connection Location

Irrigation system designers should contact the City Utilities Department to verify the water meter location, the size of the service line, and meter available to serve their facility.

Separation Requirements

Designers should check to see that the service lines and meters that serve their site meet the following requirements.

Horizontal Pipe Separation. A minimum horizontal separation of ten feet between parallel, buried recycled and potable water pipelines should be maintained. If a ten-foot horizontal separation is not practical, a separation of at least four feet may be allowed subject to special construction conditions. In no case is horizontal separation of less than four feet or construction in the same trench as potable

facilities allowed. Designers should consult the City Engineering Standards for specific requirements (#6110 and 6140).

Vertical Pipe Separation at Crossings. Where a buried constant pressure recycled water pipeline crosses a buried potable water pipeline, it must be located a minimum of 12 inches below the potable water pipeline. Constant pressure recycled water pipelines are allowed over potable water pipelines with a minimum of 12 inches vertical separation if a full standard pipe length is centered over the crossing, or the recycled water pipeline is installed in a pipe sleeve which extends a minimum of 10 feet on either side of the potable water piping. NOTE: Intermittently pressurized irrigation service lines may be located a minimum of 12 inches above potable water pipelines without sleeving.

Backflow Prevention

The City may require backflow protection on the customer's recycled water system if it is determined that there is a backflow hazard on-site which threatens the integrity of the City's distribution system. Examples of sites that may be required to install backflow protection devices are:

- Irrigation sites where direct chemical fertilizer injections systems are installed on the irrigation system,
- Irrigation sites where recycled water impoundment may cause a backflow hazard.



Procedures for Recycled Water Use
System Design, Installation & Inspection

Backflow prevention devices are required at potable water service connections to sites where recycled water is used. At premises where both recycled water and potable water are present in separate piping systems with no interconnection, a reduced pressure (RP) principal backflow prevention device must be located as close as practical to the downstream side of every potable water meter consistent with City standards. All RP devices must be inspected quarterly and tested at least annually. The customer is responsible for the coordinating the testing. An AWWA-certified backflow prevention device tester must do the device testing.

Prevent Overspray, Runoff and Ponding

Irrigation systems should be designed and operated to minimize overspray, runoff and ponding. Designers must specify appropriate irrigation devices to prevent overspray in narrow areas. In the event that, during a coverage test, noticeable overspray, runoff and/or ponding is observed, facilities will be adjusted or removed and relocated as needed. This requirement does not apply to landscape impoundments such as fountains, ponds or lakes.

Protection of Drinking Fountains & Outdoor Eating Areas

Drinking fountains, outdoor eating areas and other similar facilities (e.g. snack bars) on a site irrigated with recycled water must be protected from overspray or contact with recycled water. Protection may be accomplished by modifying the irrigation system or relocating the protected facilities.

Protection of Aquifers

Irrigation systems must be designed to prevent irrigation of recycled water within 50 feet of any potable well. In addition, impoundments using recycled water must be located at least 100 feet (horizontal separation) from these wells.

Hose Bibs

Hose bibs are not allowed on recycled water systems. Requirements for quick couplers are identified on page 8.

INFORMATION REQUIRED ON PLANS

The following is a list of the information required on the irrigation plans for every recycled water system. Compliance with this list does not guarantee plan approval since some sites may require additional information.

- Indicate all sources of water.
- Show the location and size of all water meters.
- Show location and type of all backflow prevention devices for potable water systems (generally, backflow prevention devices are not used on recycled water systems).
- Show location and type of all strainers, pressure regulating valves, and master valves.
- Show location of all water pipelines (including potable, recycled, and well lines) crossing the site. If space does not permit this information to be placed on the irrigation plans, then a separate site or utility plan can be used to show this information.

Some exceptions apply for an existing irrigation system using potable water converting to using recycled water. It may not be possible to show the location of all water pipelines at this type of site, all locations where future recycled water piping must be separated from the potable water piping must be clearly indicated.

Supply the **General Site Information for Recycled Water Use** box (see next page) for each recycled water system with its own meter. Place this information on the same sheet as the meter/point of connection it pertains to. Fill out the items as applicable, but do not delete any of them.

Regulations may change. Some sites may require additional information.

1. Identify all adjacent streets, and locations of all major improvements on the site.
2. Show the location of all drinking fountains, outdoor eating areas, and other public facilities supplied with recycled or potable water service. Public facilities include, but are not limited to, restrooms, snack bars, swimming pools, wading pools, decorative fountains and showers. Show the pipelines feeding all of these facilities.
3. Show the location of any wells, lakes, ponds, reservoirs, or other water impoundments located on the site or within 100 feet of the site, and indicate the type of water source.
4. Indicate that potable and recycled water line separation meets minimum requirements (See Design Requirements). Show sleeving where recycled water lines cross potable water lines.
5. When potable water piping is not present on the site, state in a note that the cross-connection test required by the Program is waived for sites where potable water piping is not present.

GENERAL SITE INFORMATION FOR RECYCLED WATER USE

1.	Landscaped Recycled Water Irrigation Use Area: (in square feet)		
2.	Public Access to Site Grounds Is: (Indicate: Unrestricted or Restricted)		
3.	Owner: (Legal Property Owner's Name)		
4.	Property Manager Contact: (Name, Title, and Telephone Number)		
5.	Tenant(s): [Name(s) & Phone Number(s); If Not Applicable, State Not Applicable]		
6.	On-Site Well Locations: (For Example, One; if no wells are present, state "None")		
7.	Wells on Adjacent Sites Located within 50 Ft. of Recycled Water Approved Use Area or Within 100 Ft. of any Recycled Water Impoundment: (For Example, "One;" if no wells are present on adjacent sites, state "None")		
8.	Outdoor Drinking Fountains In/Near The Recycled Water Approved Use Area: (For Example, "One;" If no outdoor drinking fountains are included in the project, state "None")		
9.	Outdoor Eating Area(s) in/near the Recycled Water Use Area: (For Example, One; If none, State "None")		
10.	Water Features On-site: (Examples Below; If none, State "None")		
	<u>Type:</u>	<u>Quantity:</u>	<u>Water Source:</u>
	Fountain	One (1)	Recycled
	Pond	One (1)	Potable

6. Show all details necessary to properly construct the system, including the details conforming to the requirements of the agency responsible for reviewing the plans. The purpose of the details is to show the materials and methods necessary to clearly identify all water systems on the site.
7. Include an **Irrigation Equipment Legend** specifying all materials of construction for the system, including:
 - A pipe schedule listing pipe sizes, materials of construction, and type of water conveyed by the piping.
 - A listing of valve types, including quick coupling valves.
 - All pertinent information for each type of sprinkler head and/or emitter.
 - Indication of purple-colored pipe with recycled water stenciling and quick coupling valves with purple covers where recycled water is used.
8. Include the Standard Notes specified by the City (See Appendix C – Standard Notes).
9. All sites using recycled water must post clearly visible signs conforming to the City's Standards. Show proposed sign locations on irrigation plans.
10. For many sites, typical locations for signs are at the property line near crosswalks, at driveway entrances, and at outdoor eating areas.
11. For streetscapes (parkways, frontage or backup landscaping), place signs at street corners and entranceways as appropriate to notify passersby. In any case, signs must be placed no further than 1,000 feet apart.

12. For medians, a sign should be placed at the beginning and end of every median, and another approximately equidistant from the ends of the median for longer median areas.
13. For decorative fountains, ponds, and other water features, see the Decorative Fountains, Ponds and Other Water Features section on page 13 for more information.

SYSTEM EQUIPMENT, IDENTIFICATION & SIGNAGE REQUIREMENTS

Identification & Marking for Recycled Water Lines and Other Equipment

All new piping, whether for a new or retrofitted system, must be installed according to the approved irrigation plans and marked per these requirements to clearly distinguish between recycled water and potable water systems.

Identification of Buried Recycled Water Lines.

Consistent with City standards, the use of purple colored pipe with continuous wording "Recycled Water – Do Not Drink" printed on opposite sides of the pipe is the preferred method for identification of new buried recycled water piping (constant-pressure mainlines and intermittent-pressure lines). Pipe must be laid with wording facing upwards. As an acceptable alternative, all new buried recycled water lines (constant pressure mainlines/intermittent-pressure lines) must be identified by continuous lettering on three inch (3") minimum width, purple marking tape with one inch black or white contrasting



lettering bearing the continuous wording **Recycled Water - Do Not Drink**. This tape must run continuously on top of all piping and must be attached to piping with plastic tape banded around the marking tape and the pipe every five feet on center. Marking tape must extend to all valve boxes and/or vaults and exposed piping.

Identification of Existing Buried Recycled Water Lines. Existing buried piping which will be converted to recycled water use need not be marked unless the piping becomes exposed, such as during installation of new pipeline or maintenance of existing pipe. The exposed section must be marked as indicated above for new piping.

Identification of Above Grade Recycled Water Lines. All above grade recycled water pipelines, whether new or existing, must be labeled with the wording **Recycled Water - Do Not Drink** and color coded purple to differentiate recycled water pipelines from potable water pipelines. If purple identification tape is used to label the pipe and/or color code the pipe, the tape must be adhesive, permanent, and resistant to environmental conditions. Purple bands may also be painted around the circumference of the pipe at ten-foot intervals for color-coding. Purple PVC pipe is not an acceptable alternative for color-coding because the purple color will fade when exposed to sunlight.

Identification of Recycled Water Lines Inside Structures. Exposed (not buried) constant pressure recycled water irrigation pipelines, such as copper or galvanized pipelines, that might be used in a structure such as a parking garage to route recycled water, must be identified per the requirements in the Uniform Plumbing Code (UPC), with the exception that the labeling on the piping must read **Recycled Water - Do Not Drink**. Intermittent-pressure lines inside a structure must be identified by affixing decals

to this piping at ten-foot intervals and wherever the piping changes directions. These decals must be purple in color and must be imprinted in nominal one-inch-high, black, uppercase letters, with the wording **Recycled Water - Do Not Drink**, and must be adhesive, permanent, and resistant to environmental conditions.

Valve Boxes. All remote control valves, isolation valves, pressure reducing valves, and strainers for on-site recycled water systems must be installed below grade in a valve box. Purple valve boxes and lids are required. Tagging is required on all equipment must be constructed of a purple weatherproof material with the wording **Recycled Water - Do Not Drink** permanently stamped or molded into the label. See City Engineering Standard #8620.

Quick Coupling Valves. New quick coupling valves must be made specifically for recycled water use. The covers on all new quick coupling valves must be permanently attached and made of purple rubber or vinyl with the words "Recycled Water" imprinted on the locking cover. To prevent unauthorized use, the valve must only be operated by a special coupler key for opening and closing the valve. New quick coupling valves must be installed approximately 12 inches from walks, curbs, header boards or paved areas. Quick coupling valves used in the recycled water system must be installed in a valve box, where applicable, and a recycled water identification tag must be permanently attached to the quick coupling valve or the inside of the box so that it is clearly visible when the box lid is removed. See City Engineering Standard #8630.

Any wands, sprinkler heads, fittings, or other attachments used in conjunction with the quick coupling valves must be labeled with the words, **Recycled Water - Do Not Drink**. Attachments used in a recycled water system must not be used in a potable water system.

Quick coupling valves on a potable water system in the vicinity of a recycled water irrigation system must be of a different type to prevent accidental cross-connection or contamination by accidentally interconnecting or interchanging attachments. Keys and attachments must not be interchangeable. Retrofitted potable water system quick coupling valves must be modified to meet standards for new recycled water quick coupling valves.

Isolation Valves. New and existing isolation valves must be installed in a purple valve box with a purple



lid with a recycled water identification tag on the valve operator or, if the valve operator is too deep to reach, at the top of the valve box extension.

Remote Control Valves. New and existing remote control valves must be installed in a purple valve box with a purple lid with a recycled water identification tag on the valve. See City Engineering Standard #8620.

Pressure Regulating Valves and Strainers. New and existing pressure regulating valves and strainers must be installed in a purple valve box with a purple lid with a recycled water identification tag on the valve/strainer.

Water Meters, Pumps, Pump Control Valves, Air/Vacuum Relief Valves. All of these recycled water devices must be tagged with a recycled water identification tag.

Recycled Water Backflow Prevention Devices. If applicable, these devices must be tagged with a recycled water identification tag. See City Engineering Standard #8560.

Potable Water System Devices. At recycled water use sites where potable water is used, all potable water meters and above grade water devices, such as backflow prevention devices and hose bibs, must be tagged or labeled with potable water identification tags, or labels.

Identification Tags and Stickers. Identification tags and stickers must be weatherproof and durable, such as plastic or plastic coated and must contain wording in English and Spanish. Recycled water identification tags and stickers must have a purple background with permanent black lettering stating **Recycled Water - Do Not Drink**. Potable water identification tags and labels must have a blue background with

"POTABLE WATER" in permanent black lettering. See City Engineering Standard #8810.

Irrigation Controllers. New recycled water system controllers must be automatic with multiple start/stop times for any 24-hour period and installed according to the approved plans and local codes. All recycled water system controllers must include identification indicating that the controller is for a recycled water system. See City Engineering Standard #8520.

Advisory Sign Requirements

All sites using recycled water must post clearly visible signs conforming to the City's standards and installed per the locations indicated on the approved plans. Advisory signs must include the wording **Irrigated with Recycled Water - Do Not Drink**. For irrigation systems at fenced facilities, advisory signs indicating the use of recycled water must be installed at all entrances to the customer's facility. The City may require additional signing on a case by case basis.

For irrigation systems at facilities not surrounded by fences, advisory signs must be placed where they can be easily seen. To the extent necessary to advise a passerby, signs must be posted at the property line near crosswalks, at driveway entrances, at outdoor eating areas, or as otherwise determined by the City. For streetscapes (parkways, frontage or backup landscaping), place signs at street corners as appropriate to notify passerby. Signs must be placed no further than 1,000 feet apart. For medians, a sign is usually placed at the beginning and end of every median, and another approximately equidistant from the ends of the median for longer median areas.

Temporary Connection to Potable Water Service

To prevent cross-connections, an irrigation system is not allowed to receive recycled water until its site has passed a required cross-connection test. This means that this irrigation system must be supplied with water from a jumper (temporary connection) to an on-site potable water system up to and during the cross-connection test. After passing this test, the jumper must be removed and the system connected to 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. Irrigation systems not needing a temporary potable water source are usually systems where there is no potable water at the site, such as some streetscapes and medians.

SYSTEM INSPECTION REQUIREMENTS

Prior to issuing a Recycled Water Use Permit, the City Utilities Department will conduct on-site inspections during the installation of the system to ensure compliance with the approved plans, City standards, and all applicable regulations. The customer must notify the City of the construction schedule so that inspections can be scheduled. The constant-pressure mainline piping portion of all systems must conform to the requirements of the UPC Sections 103.5.1 through 103.5.4.2.

Final Inspection & Permit Approval

Before the irrigation system is connected to the recycled water service, the City will perform a final inspection to ensure compliance with all permit procedures. This inspection may be coordinated with the cross-connection test. The City's inspector will check to see that the proper equipment was used and that all required tags, labels, and site signage are in place.

The City must grant final approval before recycled water can be supplied to the site. Final approval will be granted when construction is complete in accordance with the approved plans, following the cross-connection test, a final on-site inspection, and when all requirements are met. After the Recycled Water Use Permit is finalized by the City and all applicable fees have been paid, the City will authorize the installation of the recycled water meter.

During the lifetime of the recycled water system, the City will periodically inspect a Customer's irrigation system to ensure compliance with all applicable Recycled Water Use Permit Procedures.

Coverage Test

The customer is responsible for minimizing overspray, runoff and ponding from their new or converted recycled water irrigation systems. To ensure that any overspray, runoff, or ponding is in accordance with these Procedures, the City Utilities Department will conduct an inspection of the system. After the system begins receiving recycled water, the customer must contact the City to schedule a coverage test walk through of the system. The Site Supervisor must be in attendance to make necessary system adjustments. If modifications to the system (other than minor adjustments) are required, the customer will be notified in writing of the changes required. Any required modifications to the system must be made in a timely manner. All modifications to the system are the responsibility of the customer, and the customer must pay all costs associated with such modifications.

Cross-Connection Test

The customer must conduct a cross-connection test (and the customer's site must pass this test) before connecting the customer's irrigation system to the City'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 City at least 48 hours prior to the test so that members of the City may be present. The cross-connection test must be done under the supervision of the City's representatives and performed by an AWWA-certified cross-connection control specialist hired by the customer. The Site Supervisor must be present at the test. The test must be done with potable water charging the irrigation system (see description above of Required Temporary Connection to Potable Water Service). A written report documenting the test results must be submitted by the certified cross-connection control specialist to the Site Supervisor and the City following test completion. Cross-connection test procedures are contained in Appendix D.

Record Drawings

The customer must prepare record drawings to show the recycled water irrigation system as constructed. These drawings must include all changes in the work constituting departures from the original contract drawings including those involving both constant-pressure and intermittent-pressure lines and appurtenances. All conceptual or major design changes must be approved by the City before implementing the changes in the construction contract. The recycled water irrigation system record drawings must be submitted to the City within ninety (90) days of the site receiving recycled water.

3

SYSTEM OPERATION & MAINTENANCE

Requirements for Operation & Maintenance of Recycled Water Irrigation Systems

CUSTOMER RESPONSIBILITIES

Site Supervisor

Prior to receiving recycled water service, the Customer must designate a representative to be the Site Supervisor of the recycled water use site. The Site Supervisor represents the owner, tenant, or property manager as a liaison to the City Utilities Department. The Site Supervisor must have the authority to carry out any requirements of the City Utilities Department. It is recommended that the Site Supervisor be an employee who is permanently stationed at the use site or at a minimum, makes frequent visits to the site.

The designated Site Supervisor must attend a Site Supervisor Training Workshop provided by the City, before receiving recycled water service. Once a Site Supervisor has attended the training, and all other conditions have been met, the City Utilities Department will issue the customer a Recycled Water Permit.

The customer must notify the Program immediately of any change in personnel for the Site Supervisor position. Upon a change in personnel, the new Site Supervisor must attend a Site Supervisor Training Workshop. Failure to attend the Site Supervisor Training Workshop may result in the termination of recycled water service.

The Site Supervisor is responsible for the site's recycled water system including operation and maintenance. More specifically, the Site Supervisor:

1. Must ensure that there are no cross-connections made between the potable and recycled water systems.
2. Must be present at all cross-connection tests.
3. Must inform the City of any system failure or other emergency that occurs involving the recycled or potable water systems.
4. Is expected to know the provisions contained in California Code of Regulations Title 17 and Title 22, relating to the safe use of recycled water and the maintenance of accurate records.
5. Is expected to know the basic concepts of backflow and cross-connection prevention,

system testing, and related emergency procedures.

6. Is responsible for training personnel at the use site on the proper uses of recycled water.
7. Must conduct quarterly self-inspections of the use site and provide a written report to the City.

The City will provide the forms to the Site Supervisor. The Site Supervisor must submit the results of the observations, along with a description of any corrective actions taken (see Appendix B – Sample Forms). Upon completion, the Site Supervisor must keep a copy of the report for their records and must return the original to the City Utilities Department.

Personnel Training

The Site Supervisor is responsible for training all personnel involved with recycled water so they are familiar with these Procedures. At a minimum, the training program should convey the following information:

1. Recycled water, although highly treated, is non-potable and must never be used for human consumption.
2. Regulations prohibit ponding, windblown spray and runoff of recycled water.
3. Working with nonpotable recycled water is safe, if common sense is used and appropriate regulations are followed.
4. State law prohibits a connection between the recycled water and the potable water systems.

Training programs should also instruct personnel in proper reporting procedures for identifying and reporting potential cross connections, and modifying the system in the event of an earthquake or other disaster.

Maintenance

The Site Supervisor is required to perform preventative maintenance to ensure that the irrigation system utilizing recycled water always remains in compliance with these Procedures. As part of a preventative maintenance program, the Site Supervisor should:

1. Perform regular inspections of the entire recycled water system, including sprinkler heads, drip

Procedures for Recycled Water Use
System Operation & Maintenance

irrigation system emitters, spray patterns, piping and valves, pumps, storage facility, controllers, etc.. Immediately repair all broken sprinkler heads, faulty spray patterns, leaking pipes or valves, or any other noted condition that violates the recycled water use requirements.

2. Check all recycled water identification signs, tags, stickers, and above grade pipe markings for their proper placement and legibility. Replace damaged, unreadable, or missing signs, tags, stickers, and pipe markings.
3. Check spray patterns to eliminated ponding, runoff and wind blown spray conditions. If evidence of ponding or runoff is noted, affected areas should be indicated on a sketch and sprinkler heads should be adjusted to prevent further ponding or runoff. County Health regulations require that evidence of mosquitoes breeding should be noted and immediately eliminated.
4. Establish and maintain an accurate record keeping system of all inspections, modifications and repair work.

Recycled Water Use Permit Updates

If the property is transferred to a new owner or tenant, or a new Site Supervisor or landscape company becomes responsible for system maintenance, the recycled water customer must notify the City Utilities Department within 30 days to receive a new Recycled Water Use Permit.

SYSTEM OPERATION

Responsibilities

The City Utilities Department provides high quality recycled water at the appropriate pressure and quantity to customers. The City is responsible for the operation and maintenance of the recycled water system upstream of and including the recycled water meter.

The Customer is responsible for maintaining and operating the on-site recycled water irrigation system downstream of the recycled water meter including the following:

1. Obtain all Permits required for the operation and maintenance of the on-site recycled water irrigation system.
2. Apply recycled water in accordance with these Procedures.
3. Maintain the on-site recycled water irrigation system, including signs, markings, and tags in accordance with all City and State regulations.

4. Ensure all materials used during the repair and maintenance of the system are approved or recommended for recycled water use.
5. Obtain prior authorization from the City before making any modifications to the approved recycled water irrigation system.
6. Report all emergencies to the City Utilities Department.
7. Site Supervisor to submit quarterly Site Inspection Reports (see Appendix B – Sample Forms).

Watering Window

A “watering window” is the window of time which irrigation water can be applied to a landscape. Like water demand, a watering window can vary seasonally as influenced by weather conditions, evapotranspiration, and the use of a site. Irrigation scheduling within an available watering window is influenced by plant types, soil conditions, number of stations, run time, and system constraints (including water pressure, mainline size, controller capability, etc.). Regulations related to the use of recycled water may influence an available watering window as well.

The City’s Master Reclamation permit for the use of recycled water states:

Use of recycled water shall be accomplished at a time and in a manner that minimizes ponding and the possibility of public contact with sprayed materials; and

Recycled water shall be applied when the grounds have maximum opportunity to dry before use by the public unless provisions are made to exclude the public from areas during irrigating with recycled water and while the areas are drying.

To comply with these requirements, the City and its recycled water users must provide reasonable protection to the public from unnecessary exposure through contact with recycled water.

As it is not generally the intent for the public to be present during the irrigation of a site, the requirements for a system utilizing recycled water may not dictate changes to a site’s irrigation system operation. For parks and playgrounds, it is fairly common to schedule irrigation between the hours of 9pm and 6am when the public is typically not present, and to give an area reasonable time to dry prior to use. At sites with both evening and early morning users, watering times may be further constrained to

10pm until 5am, or a minimum seven-hour summertime watering window. Other sites may have a longer watering window available, depending on the extent of public use.

The Site Supervisor role in the operation of a site's irrigation system is important with respect to the flexibility and interpretation of the above requirements. A Site Supervisor may be able limit public access to an area to operate an irrigation system during daytime hours. The Site Supervisor at a controlled-access golf course may also operate the irrigation system recognizing while the course is not in use. In most cases, areas where recycled water is used for drip irrigation applications would not be limited by these requirements, as there is little opportunity for public contact.

System Modifications

The customer must receive authorization from the City Utilities Department before making modifications to the approved recycled water irrigation system. This includes converting any piping used for recycled water back to potable water, such as switching from a recycled water system to a backup potable water system. The City will notify the customer if any additional approval is required from other regulatory agencies and if disinfections procedures are required.

Emergency Procedures

In case of earthquake, flood, fire, nearby construction, or other incident, which could cause damage to the recycled or potable water systems, the Site Supervisor must inspect the domestic and recycled water systems for damage as soon as it is safe to do so. In the event of a break in the system, low pressure, low flow or poor water quality, the customer should notify the City.

If either system appears damaged, both the domestic and recycled water systems should be shut off at their points of connection. The Site Supervisor must immediately contact the City for further instruction. To prevent contamination, damage, or a public health hazard, the customer may make emergency modifications or repairs without the prior approval of the City. As soon as possible after the modification, the customer must notify the City of the emergency modifications and file a written report.

CROSS CONNECTIONS

A cross connection is any physical connection between any part of 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 for human consumption. This included direct piping between the two systems, regardless of the presence of valves, backflow prevention devices, or other appurtenances.

If contamination of the potable water system is suspected or known, due to a cross-connection on the customer's premises, the customer must immediately notify the City. The customer is to immediately implement the notification and response procedures described here.

Cross Connection Notification / Response

The Site Supervisor must notify the City Utilities Department of any suspected cross-connection between the recycled water and potable water system. In the event that a cross-connection is suspected or occurs, the following procedure must be implemented.

1. The Customer must notify the City Utilities Department by telephone immediately. This notification must be followed by a written notice within 24 hours that includes an explanation of the nature of the cross-connection, date and time discovered, and the contact information of the person reporting the cross-connection.
2. The City Utilities Department will notify the San Luis Obispo County Public Health-Environmental Health Division (County Public Health) and DPH of the reported cross-connection.
3. The customer must immediately shut down the recycled water supply to the irrigation system.
4. The customer must keep the potable water system pressurized and post "Do Not Drink" signs at all potable water fixtures and outlets.
5. The customer must provide bottled water for employees until the potable water system is deemed safe to drink.
6. The customer must follow the procedures outlined by the County Public Health, DPH, and the City Utilities Department.
7. After final approval has been obtained from the County Public Health and DPH, the City will bring the recycled water system back into service and inform the customer to remove the "Do Not Drink" signs from all potable water fixtures and outlets.

Scheduling Cross Connection Tests

Periodic cross-connection tests must be performed by an AWWA certified cross connection specialist and the Site Supervisor must be in attendance during the test. These tests must be performed according to the procedure described in Appendix D.

Procedures for Recycled Water Use

System Operation & Maintenance

4

RECYCLED WATER FOR CONSTRUCTION USES

Procedures for the City's Construction Water Program

Water is used at construction sites for controlling dust including spraying water on disturbed areas, pre-watering areas to be disturbed, spraying water on material storage piles, and spraying water in uncovered trucks transporting material. Water is also used at construction sites for soil compaction. The City of San Luis Obispo does not allow the use of potable water for these construction purposes.

Under the City's Master Reclamation permit, construction water is a permitted use of recycled water within City limits. Potable water must still be used at construction sites for other uses i.e. water to construction trailers, hand washes, hose bibs and temporary sprinklers. The Contractor/Customer must obtain an approved potable connection from the City Utilities Department to serve these uses.

Through the recycled water distribution system and the Construction Water Permit Program, recycled water is available to permitted water haulers for construction purposes at four locations along the City's recycled water distribution system as shown on Figure 2. These wharf-head hydrants offer 24-hour access to recycled water to Construction Water Permit holders. The wharf-head hydrants are metered and read monthly by the City to record recycled water usage. Permit holders will have access to an unlimited supply of recycled water for use consistent with these Procedures.

To utilize these facilities, water haulers must obtain a Construction Water Permit. Annual permits will be issued after the applicant meets the following permit requirements:

1. Applicant submits Construction Water Permit application (See Sample Forms, Appendix B),
2. Applicant identifies a Construction Water Supervisor and attends City-sponsored Construction Water Supervisor training,
3. City verifies air gap on water hauling vehicle(s), and
4. Applicant provides payment of applicable Construction Water Permit fees.

For annual permit renewal, customer will attend City-sponsored training, pay permit fee, and receive

permit and vehicle identification sticker(s). Annual Construction Water Permits will be issued to interested water haulers or contractors on July 1 and run through June 30. Annual permit fees will be adopted by the City Council by resolution.

Additional detail on Construction Water Permit holders responsibilities are provided below.

CUSTOMER RESPONSIBILITIES

Construction Water Supervisor

As part of the Construction Water Permit application, the permit holder must designate a representative to be the Construction Water Supervisor. The Supervisor represents the water hauler/contractor as a liaison to the City Utilities Department and must attend specialized training prior to City granting the Construction Water Permit. The City will instruct the Construction Water Supervisor orally and in writing as to the procedures for use of recycled water and the potential health hazards involved with the use of recycled water.

Personnel Training

The Construction Water Supervisor is responsible for training all personnel involved with the use of recycled water, including each water tank truck driver, so they are familiar with these Procedures. At a minimum, the training program should convey the following information:

- Recycled water, although highly treated, is non-potable and must never be used for human consumption.
- Working with recycled water is safe, if common sense is used and appropriate regulations are followed.
- Recycled water shall be applied so as to insure that no ponding or runoff occurs.
- Recycled water shall be applied so as to minimize aerosol formation spraying.
- Recycled water shall be applied so as to prevent public or employee contact with the water.

Procedures for Recycled Water Use

Recycled Water for Construction Uses



Recycled water is available from four wharf head s around the City

Training programs should also instruct personnel in proper procedures for wharf-head hydrant use, vehicle identification, cross connection and contamination issues as described in these Procedures

Wharf-head Hydrant Use

The Construction Water Permit is valid for access to four recycled water wharf-head hydrants identified on Figure 2. No recycled water shall be taken from a wharf-head hydrant until Construction Water Permit has been issued. All water trucks carrying recycled water must have an air gap to be part of the Construction Water Permit Program.

Tank filling shall be carried out from the roadside of the wharf-head hydrant. The water truck shall be parked on the roadway or pull out area. Recycled water shall not be allowed to overflow water tank. Hoses and tanks shall be kept in good condition free from any leaks.

Wharf-head hydrant locations shall be left in a clean state. Permit holders shall immediately report a leaking wharf-head hydrant to the City's Utilities Department.

Vehicle Identification Requirements

Construction Water Permit holders shall ensure that tank trucks and other equipment which contain or contact recycled water are clearly identified with warning signs which state, for example, "Recycled Water – Do Not Drink."

The City's annual Construction Water Permit vehicle identification sticker shall be prominently displayed on the water hauling vehicle. The name and telephone number of the Construction Water Permit holder must also be prominently displayed on the water hauler tank/vessel.

Cross Connection/Contamination

State law prohibits a connection between the recycled water and the potable water systems. Therefore, no fittings, hose or pipe, or any other appurtenance using recycled water shall connect to a potable water source. Furthermore, recycled water cannot be introduced into any permanent piping system and that no connection can be made between the tank truck and any part of a domestic water system.



Water trucks, water tanks, or any other receptacle, including but not limited to pipe or hose used for storage or conveyance of recycled water, shall be dedicated solely to that use. Any use other than recycled water must be approved by the County Health Department.

Any water truck, water tank or other storage receptacle to be converted from recycled water to potable water shall be thoroughly cleaned and disinfected to the satisfaction of the City Utilities Department and the County Health Department.

PROGRAM MONITORING

City staff will monitor water haulers accessing the wharf-head hydrants to verify compliance with these Procedures. A Construction Water Permit may be withdrawn if it is known that the permit holder is using the recycled water at sites outside the City or in a manner otherwise inconsistent with these Procedures.

LEGEND

-  Water Reuse Distribution Line
-  Construction Water Program Hydrant Locations
 - Calle Joaquin
 - Prado Road
 - Industrial Way
 - Tank Farm Road

City of San Luis Obispo Utilities Department, 2009.

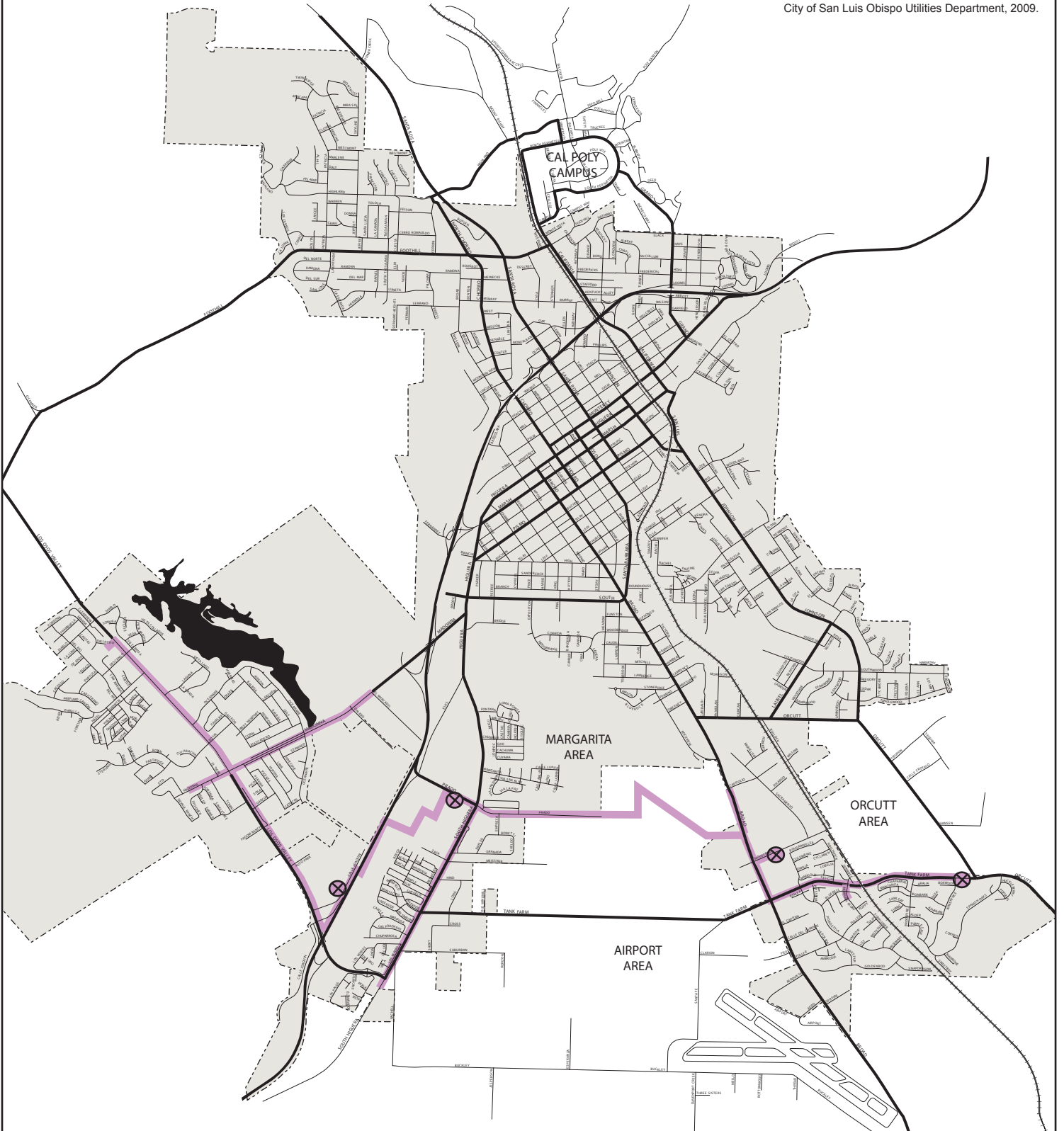


Figure 2: Construction Water Program Wharf-head Hydrant Locations

Procedures for Recycled Water Use

Recycled Water for Construction Uses

APPENDIX A – DEFINITIONS / ABBREVIATIONS

Whenever the following terms (or pronouns used in their place) occur in these regulations, the intent and meaning shall be interpreted as follows:

Approved Use	An application of recycled water in a manner, and for a purpose, designated in a Recycled Water Use Permit issued by the City and in compliance with all applicable Regulatory Agency requirements.
Approved Use Area	A site with well-defined boundaries designated on the approved Site Drawings, to receive recycled water for an approved use and acknowledged by all applicable Regulatory Agencies.
Cross-Connection	Any 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 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 Permit by the City. They may be the owner, tenant, or property manager as appropriate.
DHS, DPH	California Department of Health Services (DHS), changed name to California Department of Public Health (DPH) in 2007.
Inspector	Any person authorized by the City to perform inspections on or off the customer's site before construction, during construction, after construction and during operation.
Intermittently Pressurized Line	Also known as a "lateral," it is the pipe section(s) between the control valve and the sprinkler head or drip emitters.
Landscape Impoundment	A body of recycled water used for aesthetic enjoyment or which otherwise serves a function not intended to include public contact.
Lateral	See "Intermittently Pressurized Line"
Nonpotable Recycled Water or Recycled Water	Water that meets California Administration Code Title 22, Division 4 of the Environmental Health Water Reclamation Criteria and is approved for purposes other than human consumption. For the purpose of these Procedures, "recycled water" refers to "nonpotable recycled water."
Nonpotable 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 facilities including and upstream of the recycled water meter.
On-site	Designates or relates to all irrigation facilities downstream of the recycled water meter.
Overspray	The spray of recycled water outside of the approved irrigation area.

Procedures for Recycled Water Use
Appendix A - Definitions

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 City's system. This is usually at the water meter.
Ponding	Unauthorized retention of recycled water on the surface of the ground or other natural or manmade surface for a period following the cessation of approved recycled water use activity.
Potable Water	Water that is authorized for human consumption according to the latest edition of the California Safe-Drinking Water Act, or other applicable standards.
Potable Water Facility	Any facility, including fire service, used to convey potable water.
Public	Any person or persons other than the site owner or employees who may come in contact with facilities and/or areas where recycled water is approved for use.
Recycled Water Use Permit	A permit issued to the customer by the City Utilities Department (as required by DPH and the RWQCB) that outlines monitoring, self-inspection, reporting, and site-specific requirements.
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 double check valves and a pressure differential relief valve, with a resilient seated shutoff valve on each end of the device.
Regulatory Agencies	Those public agencies legally constituted to protect the public health and water quality, and whose rules govern the use of recycled water, such as the DPH, the RWQCB and the San Luis Obispo County Public Health-Environmental Health Division.
Restrained Joint	Mechanically restrained. Solvent welded for PVC joints 4-inch diameter and smaller.
Runoff	Recycled water that is allowed to drain outside the approved use area.
Service	The furnishing of recycled water to a customer through a metered connection to the onsite facilities.
Site Supervisor	The responsible person designated by the customer to provide liaison with the City. This person must have the authority to carry out program requirements and/or the City, must be responsible for the operation and maintenance of the recycled water system.
Standard Pipe Length	A section of pipe 18 to 20 feet in length that has no joints.
Unauthorized Discharge	Any release of recycled water that violates the Procedures of the City, the Program or all applicable Federal, State or local statutes, regulations, ordinances, contracts or other requirements.
Wharf-head hydrant	A 4-inch standpipe with a 2 ½-inch outlet located on the City's recycled water distribution system. Construction Water Permit holders may access four wharf-head hydrants to utilize recycled water for construction purposes.

APPENDIX B – SAMPLE FORMS

1. Application for Recycled Water Service
2. Quarterly Site Inspection Form
3. Application for Construction Water Permit

Procedures for Recycled Water Use

Appendix B – Sample Forms



SITE NAME _____

APPLICATION FOR RECYCLED WATER SERVICE

IRRIGATION

INDUSTRIAL

AGRICULTURAL

Property Information	SITE NAME _____					
	SITE ADDRESS _____			CITY _____		ZIP _____
	SITE MANAGER _____		PHONE _____	APN _____		SQUARE FOOTAGE _____

Site Owner	NAME _____					
	CONTACT NAME _____			TITLE _____		
	ADDRESS _____		CITY _____	STATE _____		ZIP _____
	PHONE _____		FAX _____	EMAIL _____		

Design Contact	DESIGNER _____					
	CONTACT NAME _____			TITLE _____		
	PHONE _____		FAX _____	EMAIL _____		

Site Supervisor	NAME _____			CERTIFICATION NUMBER _____		
	ORGANIZATION _____					
	ADDRESS _____		CITY _____	STATE _____		ZIP _____
	PHONE _____		FAX _____	EMAIL _____		

City Review	RETROFIT	NEW DEVELOPMENT	NUMBER OF WELLS _____	POTABLE	YES	NO
	OUTDOOR EATING AREAS/ PICNIC TABLES	YES	NO	DRINKING FOUNTAINS	YES	NO
	TOTAL IRRIGATED AREA _____	SQ/FT	METER SIZE _____			

City Use Only	SERVICE NUMBER _____	ISSUED BY _____									
	APPROVED BY _____	DATE _____	DUAL-PLUMBING	COOLING TOWER							
	SITE SUPERVISOR CERTIFICATION/ENROLLMENT VERIFIED (INITIAL) _____		<table border="1"> <tr> <td colspan="3">SITE INFORMATION CHECKED BY:</td> </tr> <tr> <td>PLAN REVIEW</td> <td>INSPECTION</td> <td>PROGRAM</td> </tr> </table>			SITE INFORMATION CHECKED BY:			PLAN REVIEW	INSPECTION	PROGRAM
	SITE INFORMATION CHECKED BY:										
	PLAN REVIEW	INSPECTION	PROGRAM								
DATABASE ENTRY COMPLETED BY _____											

Procedures for Recycled Water Use

Appendix B – Sample Forms



SITE NAME
SERVICE ADDRESS
SITE SUPERVISOR OF RECORD
EAST
NORTH

SERVICE NUMBER
METER NUMBER
METER NUMBER
METER NUMBER
METER GPS COORD.

SITE INSPECTION REPORT WR004

<input type="checkbox"/> Initial	<input type="checkbox"/> Quarterly	<input type="checkbox"/> Annual	<input type="checkbox"/> Program
Yes	No		
<input type="checkbox"/>	<input type="checkbox"/>	1.	Is there evidence of recycled water runoff from this site? (If yes, please show affected area with a sketch on the back of this sheet, and estimate runoff volume.
<input type="checkbox"/>	<input type="checkbox"/>	2.	Is there an odor due to recycled within the irrigation site? If yes, describe apparent source, characterization, direction of travel, and any public use or off-site facilities impacted by the odor.
<input type="checkbox"/>	<input type="checkbox"/>	3.	Is there evidence of ponding of recycled water, and/or evidence of mosquitoes breeding within the irrigation area due to ponded water?
<input type="checkbox"/>	<input type="checkbox"/>	4.	Are there breaks or leaks in the recycled water system piping or tubing on this site?
<input type="checkbox"/>	<input type="checkbox"/>	5.	Are advisory signs, tags, stickers, above ground piping markings, etc., posted or attached to equipment, consistent with approved site plans, to inform the public that recycled water is in use.
<input type="checkbox"/>	<input type="checkbox"/>	6.	Is there evidence of plugged, broken or otherwise faulty drip irrigation system emitters or spray irrigation sprinklers on this site?
<input type="checkbox"/>	<input type="checkbox"/>	7.	In the past year, or since the last site inspection report, have there been any modifications of the piping for the recycled water system approved by DHS?
		8.	Describe actions being taken to correct the problems noted above:
		9.	Any additional comments/observations.

Current Site Supervisor Contact Information: Please provide information or attach your business card.

Site Supervisor Name
Company Name/Title
Mailing Address
City State Zip
Company Phone Fax
Cell Phone
E-mail

I certify that the information in this report, to the best of my knowledge, is correct and true.

Certified Site Supervisor Signature

Date of Inspection

SLOWR Certificate Number

Mail or fax forms to:
City of San Luis Obispo
Utilities Department
879 Morro Street
San Luis Obispo, CA 93401
Fax: 805.781.7218
Phone: 805.781.7215



Water Reuse Program
 879 Morro St SLO CA 93401
 805- 781-7239 (ph) 805-781-7218 (fx)

_____ Annual Permit
 Year _____

This Construction Water Permit must be available for inspection at all times. Copies must be retained in the transport vehicle.

Annual Permit #:	Approved:
Fees Paid:	

CONSTRUCTION WATER PERMIT- RECYCLED WATER

Water Carrier Information	Name of Recycled Water Carrier _____ Address _____ City _____ Zip _____ Phone _____
Vehicle Description	Vehicle Type: <input type="checkbox"/> TANK TRUCK <input type="checkbox"/> SPRAY <input type="checkbox"/> OTHER _____ Make/Description: _____ License _____
Construction Water Supervisor	Name _____ Address _____ City _____ Zip _____ Phone _____
Site/ Use Location	<u>Site(s) / Location of Recycled Water Use</u> _____ _____
Certification	I HEREBY CERTIFY UNDER PENALTY OF PERJURY THAT THE INFORMATION PROVIDED ON THIS APPLICATION AND IN ANY ATTACHMENT IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE. I ALSO CERTIFY THAT I HAVE READ AND AGREE TO ABIDE BY ALL APPLICABLE PROCEDURES FOR USE OF RECYLCED WATER IN THE CITY. _____ <div style="display: flex; justify-content: space-between;"> Signature of Water Carrier/Distributor Title Date </div>

APPENDIX C – STANDARD NOTES

STANDARD NOTES FOR NEW IRRIGATION SYSTEMS

1. The City must inspect and/or verify:
 - Presence of proper backflow prevention device at all potable water points of connection.
 - New underground piping (materials, burial depth, clearances, labeling, sleeving).
 - Installation of signs, tags, and controller decals.
 - Required temporary connection to potable water service. In most cases, the site's irrigation system must be connected to a temporary source of potable water in order to conduct required cross-connection test.
2. Site must pass a required cross-connection test performed by a certified AWWA cross-connection specialist. If potable water is not present and/or used at the site, the cross-connection test may be waived. Contact the City Utilities Department to discuss testing requirements at (805) 781-7239.
3. New Meter Installation – prior to receiving recycled water, the City must inspect the disconnection of the site's irrigation system from the temporary potable water supply, and then inspect the connection of the system to the recycled water supply.
4. All on-site buried recycled water piping shall be identified by one of the following methods:
 - Using purple-colored PVC pipe with continuous wording: "Caution – Recycled Water" or "Caution – Reclaimed Water" printed on opposite sides of the pipe. Pipe shall be laid with wording facing upwards.
 - Using purple-colored polywrap sleeve over the pipe. Polywrap sleeve shall have continually repeating wording: "Caution – Recycled Water" or "Caution – Reclaimed Water" printed on opposite sides.
 - Warning tape with a minimum width of three inches (3") reading, "Caution – Recycled Water" or "Caution – Reclaimed Water" (in black or white lettering on purple background) shall run continuously on top of piping and shall be attached to piping with plastic tape banded around the warning tape and the pipe every five feet (5') on center.
5. All on-site recycled water piping shall be buried to a minimum depth from finished grade to top of pipe (minimum cover) of:
 - Pressurized lines 3 inches and larger – 24 inches
 - Pressurized lines 2 ½ inches and smaller – 18 inches
 - Intermittent pressure lines – 12 inches
6. All recycled water piping other than PVC piping with solvent welded joints shall be protected against movement with thrust blocks or restrained joints or other approved method per City of San Luis Obispo requirements.
7. Maintain a 10-foot horizontal separation between buried pressurized recycled water irrigation piping and buried potable water piping unless otherwise noted. At pipe crossings, buried pressurized recycled water irrigation piping must be 12 inches below potable water lines. Pressurized recycled water pipelines are allowed over potable water pipelines with a minimum of 12 inches of vertical separation if a full standard pipe length is centered over the crossing, or the recycled water pipeline is installed in a pipe sleeve which extends a minimum of 10 feet on either side of the potable water piping. Intermittently pressurized irrigation lines may be located a minimum of 12 inches above potable water pipelines without sleeving.
8. All recycled water system remote control valves, isolation valves, quick coupling valves, strainers, and pressure-regulating valves shall be installed below grade in valve boxes (with purple-colored boxes and lids). Valve boxes shall have a warning label or nameplate permanently molded into or

Procedures for Recycled Water Use

Appendix C – Standard Notes

attached onto the lid with rivets, screws, or bolts. Warning labels shall be per City of San Luis Obispo standard details.

9. No hose bibs are allowed on the recycled water irrigation system.
10. All recycled water meters, devices, and valves (e.g. isolation valves, irrigation controllers, remote control valves, pressure regulating valves, quick coupling valves, etc.) shall be tagged per City of San Luis Obispo standard details.
11. Recycled water advisory signs conforming to the details and specifications on the City of San Luis Obispo-approved irrigation plans shall be posted per locations shown on those irrigation plans.
12. Installation of direct injection systems on the recycled water irrigation system is not permitted.
13. No drinking fountains or eating areas are allowed in the approved recycled water use area unless adequately protected from overspray.
14. All recycled water meters will be set by the City after the site's owner, developer, or contractor has applied for recycled water service with the City, the water service agreement has been approved (if applicable), and all applicable fees have been paid.
15. No overspray or runoff of recycled water is allowed on any non-approved use area. Ponding of recycled water due to irrigation is not allowed in any area. Upon receiving recycled water, the on-site recycled water irrigation system must pass a coverage test conducted by the City of San Luis Obispo inspector or designee.
16. Contractor shall submit as-built irrigation plans to the City of San Luis Obispo inspector within 90 days of site receiving recycled water.

STANDARD NOTES FOR THE RETROFIT OF IRRIGATION SYSTEMS

1. Prior to the initiation of recycled water service, the City of San Luis Obispo must inspect and/or verify the presence of proper backflow prevention device at all potable water points of connection.
2. Prior to the initiation of recycled water service, the site must pass a cross-connection test performed by a certified AWWA cross-connection specialist. No cross-connections between the potable and recycled water systems are permitted. If potable water is not present and/or used at the site, the cross-connection test may be waived. Contact the City Utilities Department to discuss testing requirements at (805) 781-7239.
3. Prior to the initiation of recycled water service, the City must inspect the disconnection of the site's irrigation system from the temporary potable water supply, and then inspect the connection of the system to the recycled water supply.
4. All remote control valves, isolation valves, quick coupling valves, strainers, and pressure-regulating valves shall be retrofitted with purple-colored valve box lids/covers. Valve boxes shall have a warning label or nameplate permanently molded into or attached onto the lid with rivets, screws, or bolts. Warning labels shall be per City standard details.
5. No hose bibs are allowed on the recycled water irrigation system.
6. All recycled water meters, devices, and valves (e.g. isolation valves, irrigation controllers, remote control valves, pressure regulating valves, quick coupling valves, etc.) shall be tagged per City of San Luis Obispo standard details.
7. Recycled water advisory signs conforming to the details and specifications on the approved irrigation plans shall be posted per locations shown on those irrigation plans.

8. Installation of direct injection systems on the recycled water irrigation system is not permitted.
9. No drinking fountains or eating areas are allowed in the approved recycled water use area unless adequately protected from overspray.
10. No overspray or runoff of recycled water is allowed on any non-approved use area. Ponding of recycled water due to irrigation is not allowed in any area. Upon receiving recycled water, the on-site recycled water irrigation system must pass a coverage test conducted by the City of San Luis Obispo inspector or designee.

Procedures for Recycled Water Use

Appendix C – Standard Notes

APPENDIX D - CROSS-CONNECTION TEST PROCEDURES

The City uses a certified AWWA Cross-Connection Specialist to perform required cross connection tests. The following general method is used for conducting these tests on all sites where both recycled water and potable water are intended to be used in separate piping systems.

PART I:

1. The potable water system shall be activated and pressurized. The recycled water irrigation system shall be shut down at its point of connection and depressurized. This is usually done by manually bleeding an irrigation control valve and/or quick-coupling valve that is located at the lowest point of elevation in the irrigation system.
2. The potable water system shall remain pressurized for a minimum period of time specified by the Cross-Connection Control Specialist while the irrigation system is depressurized. The minimum period of time the recycled water irrigation system is to remain depressurized shall be determined on a case by case basis, taking into account the size and complexity of the potable water and recycled water irrigation systems, but in no case shall that period be less than one hour.
3. All recycled water irrigation control valves and quick-coupling valves, and any site features that are approved to be supplied with recycled water from the on-site irrigation system (such as decorative fountains) shall be tested and inspected for flow. Continuous flow from any part of the recycled water system-irrigation system or decorative fountains, etc. indicates a cross-connection.
4. All potable water fixtures (interior and exterior), such as faucets, hose bibs, drinking fountains, toilets and urinals, supply lines to decorative fountains, etc., shall be tested and inspected for flow. No flow from any potable water outlet indicates that it may be connected to the recycled water irrigation system.
5. If no cross-connections are discovered, proceed to Part II of the test. If any cross-connections are found, they must be disconnected, and the site must be retested by an AWWA Cross-Connection Specialist per these procedures.

PART II:

1. The potable water system shall be shut down at its point of connection (usually the meter) and completely drained-usually at its drain valve or at the reduced pressure principle backflow device.
2. The recycled water irrigation system shall then be activated and pressurized.
3. The recycled water irrigation system shall remain pressurized for a minimum period of time specified by the Cross-Connection Control Specialist while the potable water system is depressurized. The minimum period of time the potable water system is to remain depressurized shall be determined on a case by case basis, but in no case shall that period be less than one (1) hour.
4. All potable water fixtures (interior and exterior)-faucets, hose bibs, drinking fountains, toilets and urinals, supply lines to decorative fountains, etc.-shall be tested and inspected for flow. Some flow may occur from water breaking loose from an air lock in an overhead water line. The amount of flow to cause a concern is a judgment call by the Cross-Connection Specialist.

Procedures for Recycled Water Use

Appendix D – Cross Connection Test Procedures

Continuous flow from any part of the potable water system (that is beyond the drainage generated by an air lock breaking free) indicates a cross-connection.

5. All recycled water irrigation control valves and quick-coupling valves, and any other site features that are approved to be supplied with recycled water from the on-site irrigation system (such as supply lines to decorative fountains) shall be tested and inspected for flow. No flow from a recycled water irrigation control valve, quick-coupling valve, or any other recycled water fixture indicates that it may be connected to the potable water system.
6. If no cross-connections are discovered, then the potable water system shall be re-pressurized. If any cross-connections are found, they must be disconnected, and the site must be retested by an AWWA Cross-Connection Specialist per these procedures.
7. The certified AWWA Cross-Connection Specialist responsible for completing the above test will indicate the results on a Cross-Connection Certification Form and provide the form to the City Utilities Department.

Procedures for Recycled Water Use
Design, Installation & Operation of Recycled Water Systems

