



SMWSA REGIONAL LANDSCAPE CERTIFICATION PROGRAM

TOOLBOX OVERVIEW

PREPARED FOR
SOUTH METRO WATER SUPPLY AUTHORITY

MARCH 16, 2018



SMWSA Regional Landscape Certification Program Toolbox Overview

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SMWSA REGIONAL LANDSCAPE CERTIFICATION PROGRAM BACKGROUND

HOW WE GOT HERE

The South Metro Water Supply Authority (SMWSA) is a regional authority formed from the Douglas County Water Resource Authority, which started in 1992, and the South Metro Water Supply Study Board, formed in January 2000, when other larger water providers requested to work with one regional entity. Today, SMWSA's 13 water provider members represent about half of Douglas County and 10% of Arapahoe County, based on land area. Together, SMWSA and its members are executing a plan to provide a secure and sustainable water future for the region.

In 2014, SMWSA staff met with each member (see Table 1) individually to discuss regional conservation and what that could optimally entail. Resoundingly, individual members stressed the importance of local, independently operated water conservation plans and systems. However, there was also a strong desire for regional collaboration on larger-scale conservation projects, sharing of information and experience, potential for funding opportunities, and benefits from economies of scale through partnering. From this, a Regional Conservation Subcommittee (Conservation Subcommittee or Subcommittee) was formed to be led by SMWSA staff and include participation from member staff. The primary purpose of this Subcommittee is to identify and pursue water conservation and efficiency projects and programs that are more feasible and impactful on a regional basis.

Table 1. SMWSA Members.

Member Name
Arapahoe County Water and Wastewater Authority
Castle Pines North Metropolitan District
Centennial Water & Sanitation District (Serving Highlands Ranch)
Cottonwood Water & Sanitation District
Dominion Water & Sanitation District
East Cherry Creek Valley Water & Sanitation District
Inverness Water & Sanitation District
Meridian Metropolitan District
Parker Water & Sanitation District
Pinery Water & Wastewater District
Rangeview Metropolitan District
Stonegate Village Metropolitan District
Town of Castle Rock

SMWSA REGIONAL LANDSCAPE CERTIFICATION TOOLBOX OVERVIEW

In 2015, SMWSA partnered with Douglas County to identify outdoor water conservation and water efficiency efforts that could benefit the region as a whole, to promote regional partnering, and to better understand the nexus between water and land use planning. From this effort, a Regional Model Landscape Ordinance (Model Ordinance) was developed by the Subcommittee to support consistent, locally vetted landscape and irrigation practices for utilization by any of the SMWSA member organizations, in whole or in part, under their own local ordinance. At the same time, the concept of developing a landscape and irrigation contractor certification program was broadly recommended by SMWSA and its members, as well as Douglas County, with the directive to focus the program on education and training to implement a standardization of agreed-upon best management practices. Water providers indicated that a statewide, or at least regional, certification program would be preferable over utility-specific programs to promote standardized messaging and reduce utilities' administrative requirements to maintain the program. A standardized certification program could also provide opportunities to leverage enforcement and potentially increase compliance across the region.

QWEL PROGRAM SELECTION

Through a regional conservation program planning process, SMWSA evaluated different landscape and irrigation professional certification programs, specifically the Irrigation Association certification (IA), Qualified Water Efficient Landscaper (QWEL), and a locally developed program. QWEL was selected over other certification programs due to the ability to modify curriculum to provide a greater overview of local water supply and demand details, the broad perspective of how landscape and irrigation techniques work together to optimize efficiencies, and practical training and application of irrigation installation audits. An additional training of design and installation of graywater systems has recently been added as a specialty certification for an additional program cost. Certification through the IA focuses almost entirely on irrigation systems, not incorporating landscaping considerations, and these certifications are very specialty-based, providing a certification in a specific irrigation area as opposed to the broader landscape and irrigation design, operations, and maintenance training offered through QWEL. Locally developed certification programs like those operating in the Town of Castle Rock and Meridian Metropolitan District, while most adaptable and locally-focused, require large up-front costs and efforts in the curriculum development, exam creation, and development of programmatic structure and operation. QWEL requires some level of local modification to the curriculum up front, but the bulk of the materials are already available for use upon being accepted into the QWEL program. It also offers nationally recognized accreditation which is attractive to some professionals and contractors.

After carefully considering the options, the Subcommittee recommended moving forward with the QWEL program, as further described below. A Water Conservation Implementation and Public Education and Outreach Programs grant request was subsequently approved by Colorado Water Conservation Board (CWCB) to develop an Administrative Plan and Pilot Program Implementation, Evaluation, and Monitoring Plan to support initiation of a QWEL certification pilot program.

As of March of 2018, there are no approved Professional Certifying Organizations (PCOs) in the state of Colorado.

QWEL OVERVIEW

The QWEL program¹ provides landscape professionals and contractors with approximately 20 hours of education on principles of landscape water management including proper plant selection for the local climate, irrigation system design and maintenance, and irrigation system programming and operation. The curriculum is intended to provide practical resources to contractors with varying degrees of experience. To obtain the QWEL certification, an individual must demonstrate their ability to perform an irrigation system audit as well as pass the QWEL exam. QWEL certified professionals are required to complete annual Continuing Education (CEUs) to submit in an online registry database. The QWEL certification is currently offered in six states across the nation; however, SMWSA would be the first entity to offer the program in Colorado.

The Sonoma-Marín Saving Water Partnership (Sonoma-Marín) in California sponsors the QWEL program. Sonoma-Marín is a partnership between 11 water utilities in California that was formed to implement regional water efficiency projects. QWEL is recognized as an EPA WaterSense-labeled Professional Certification Program for Irrigation System Audits. Upon successful completion, graduates will be listed both as a certified QWEL professional and as a Certified Professional on the EPA WaterSense website, which provides a nationally-recognized level of certification.

Sonoma-Marín is the Parent Professional Certifying Organization (PCO) for the QWEL professional certification in irrigation system audits. SMWSA will be required to become an “Adopting” PCO that agrees to adhere to all QWEL Policies and Procedures (included in the Toolbox that is described in the next section of this document). Sonoma-Marín is responsible for maintaining the certification database, supporting materials, and coordinating with EPA.

Benefits of a regional certification program include: 1) promoting regional consistency between SMWSA members and providing support for implementing parts of the Model Ordinance; 2) reducing administrative time and cost requirements; 3) improved landscaping practices and benefits to contractors to be nationally certified; and 4) training targeted towards locally vetted and focused landscape and irrigation practices (reflected also in the Model Ordinance) for the south metro Denver conditions.

The following section provides a description of an approach and supporting tools for SMWSA to implement a pilot QWEL certification program.

¹ Website with program background and public resources: <https://www.qwel.net/>

APPROACH AND TOOLBOX OVERVIEW

APPROACH

SMWSA received a Water Conservation Implementation and Public Education and Outreach Programs grant to develop an Administrative Plan and Pilot Program Implementation, Evaluation, and Monitoring Plan to support initiation of a QWEL certification pilot program. The grant was used to develop a program structure and administrative plan to support the initial start-up and plan for implementation of the regional certification program. Efforts included the preparation of application materials for SMWSA to apply for approval as an Adopting PCO through QWEL and EPA WaterSense, initial refinement of local curriculum content, and development of budget worksheets, operational schedule, and program structure for initial program pilot implementation and ongoing program operations. To facilitate the initiation and evolution of the program, ELEMENT prepared the project deliverables in a toolbox format that allows SMWSA to adapt the information into the future.

There are multiple aspects to creating, implementing, and operating a successful regional program for certification of landscaping professionals. As this project proceeded, it became clear that a “Toolbox” approach would better support a successful outcome than a report-based approach. It also supports a scalable program that can meet SMWSA members’ current needs and be easily expanded into the future as the regional program grows. The Toolbox concept is the notion that, with a complete set of simple, targeted, working “tools”, SMWSA can “build” a successful program that meets its current goals and is adaptable over time. Interactive workbooks act as ongoing support for SMWSA to effectively implement and operate this program, allowing for future flexibility and innovation. The information below provides a guide for the use of the Toolbox and outlines decision points that will impact the program implementation.

QWEL PROGRAM TOOLBOX

The QWEL Program Toolbox has been prepared in three key topic areas:

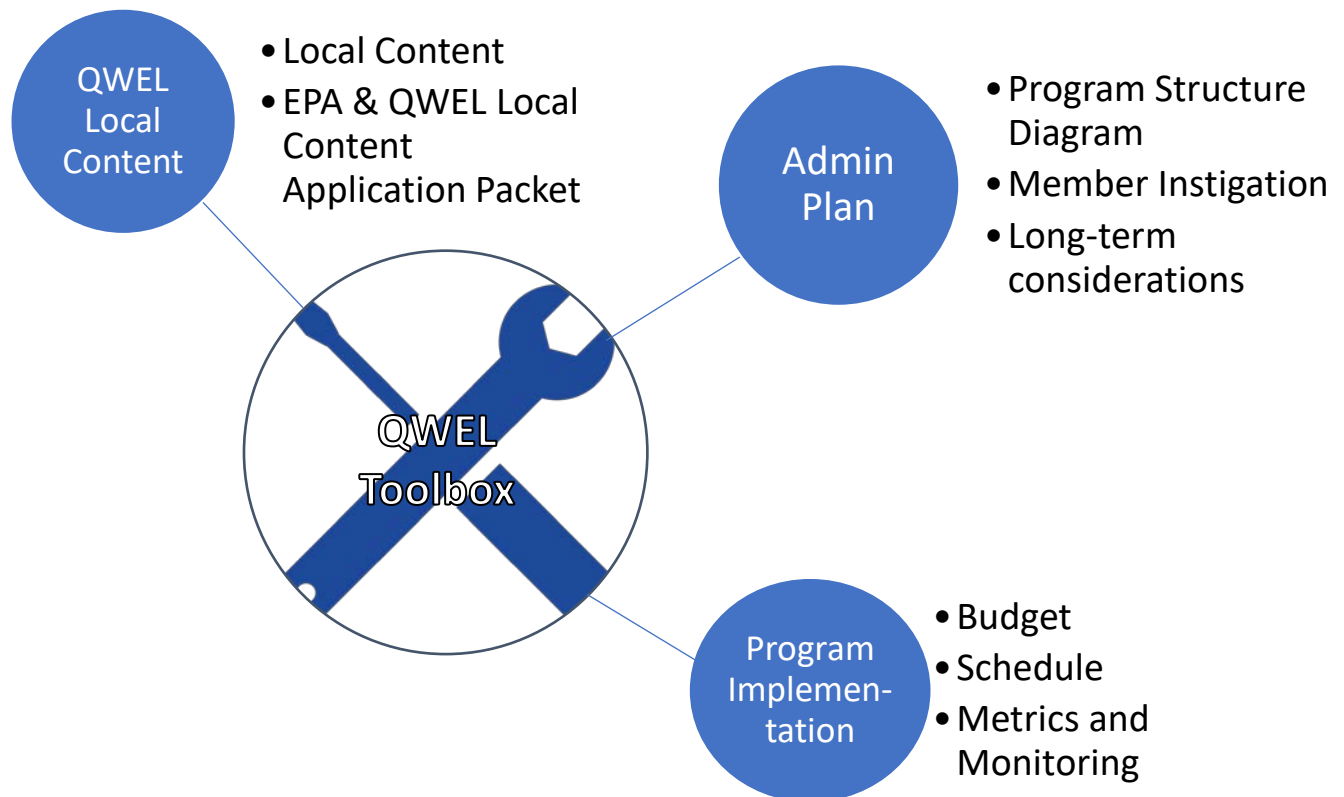
- **QWEL Training Materials:** Some of the QWEL training materials (curriculum and Reference Manual) need to be updated with local content. The most significant content update has been prepared, adapting California-specific information to Colorado and SMWSA specifically; however, periodic content updates can be expected as the Parent PCO makes updates to the QWEL program.
 - **Tools:**
 - “Where Your Water Comes From” Module 1 PowerPoint revised with local content
 - “Where Your Water Comes From” Module 1 training content revised with local content for inclusion/modification of Reference Manual
 - “Landscape Water” Module 4 training content revised with local content for inclusion/modification for PowerPoint and Reference Manual²

² PowerPoint files not made available until organization is approved as an Adopting PCO. Modifications to be made at that time.

SMWSA REGIONAL LANDSCAPE CERTIFICATION TOOLBOX OVERVIEW

- QWEL Adopting PCO/EPA WaterSense Application supporting documents
- **Administration Plan:** A program administrative structure for operation on a regional scale was developed with key decision opportunities described for future consideration. Considerations for member enforcement and local instigation are also described.
 - **Tools:**
 - *Program Structure Diagram*
- **Pilot Program:** A framework for the pilot implementation of the certification program addresses cost, schedule, and logistical approach considerations. The Program will need ongoing monitoring and evaluation following training cycles for continued program improvement.
 - **Tools:**
 - Budget worksheet with simple user input summary page for pilot implementation and ongoing operation
 - Operational Schedule worksheet allowing flexibility based on SMWSA operational goals, from start-up through ongoing operations

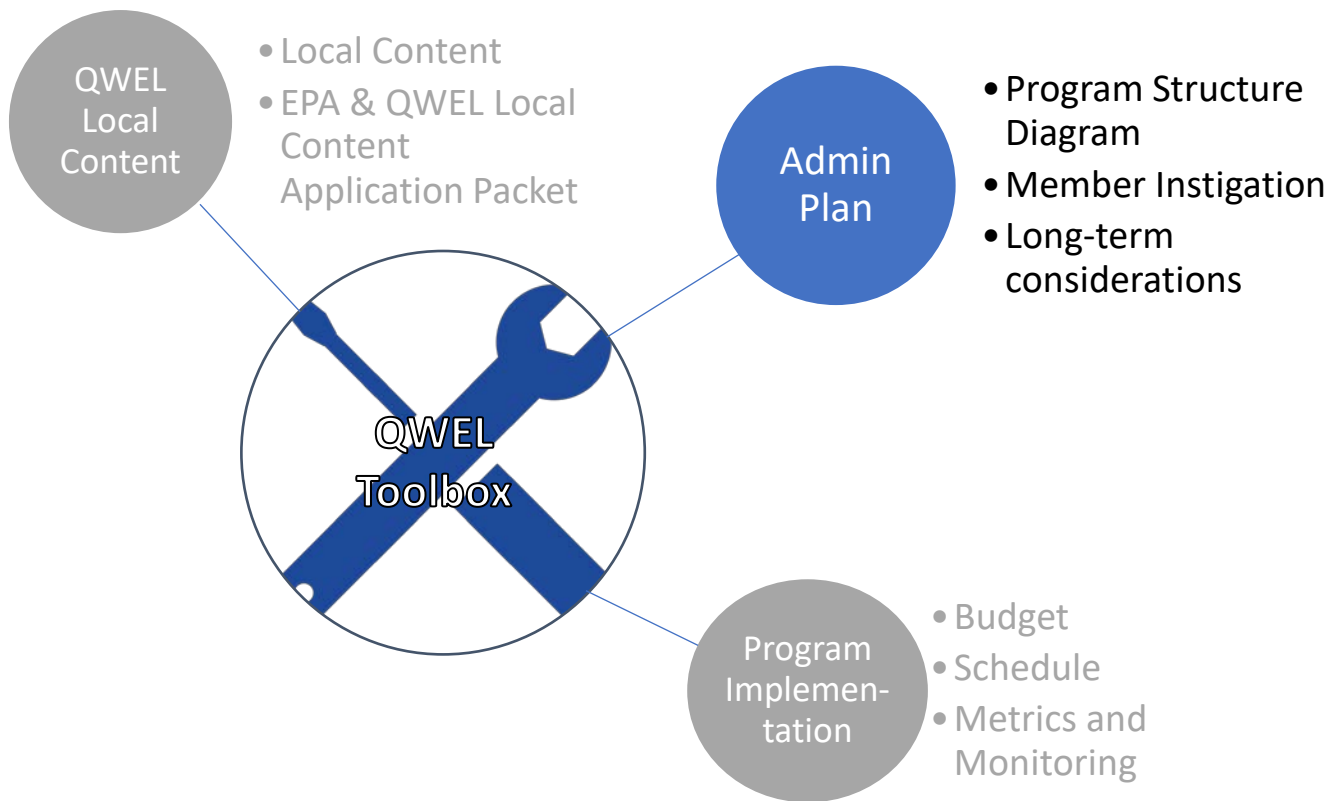
Below is a diagram showing these three key topic areas developed for the Program Toolbox. A description and instructions for the use of each tool is included in a standalone document for each Toolbox component. All Toolbox contents were provided to SMWSA in an electronic, working format for future use.



SMWSA REGIONAL LANDSCAPE CERTIFICATION PROGRAM

PROGRAM STRUCTURE AND ADMINISTRATION TOOLS

MARCH 16, 2018



PROGRAM STRUCTURE AND ADMINISTRATION TOOLS

PROGRAM STRUCTURE AND ADMINISTRATION

Initial program structure and administration is split into three main categories of responsibility: SMWSA Members, Sonoma-Marín as the Parent Certifying Organization, (QWEL), and Program Administration and Coordination. As the Adopting PCO, SMWSA will be responsible for the direction and coordination of all program administration, but roles may shift as the program is operated. This program structure assumes that specific roles and responsibilities will be managed by SMWSA indefinitely.

SMWSA Members

SMWSA will work with its members to determine the regional implementation approach for funding and supporting the program. Program participation structure may operate under a full-member participation structure, with program costs included in annual membership dues, or as a participation agreement structure, with costs allocated only to participating members. This structure will need to be defined early in the program implementation. It is anticipated that SMWSA will not require any member to participate in the QWEL certification program or to institute ordinances requiring this certification under their local authority. The enforcement mechanisms or incentives programs supporting this program will be the responsibility of each individual member based on their preferences and jurisdictional situation.

Initial and ongoing needs for the program, including number of trainings, identifying targeted professionals to take the trainings, and timing of trainings, as well as the outreach and marketing efforts to meet these defined needs, will be defined by SMWSA and its members. Members will need to independently (though SMWSA could support these discussions) define how this program will be supported or required within their jurisdictions. This could be considered “program support and instigation”, as it may take on various forms including incentives programs, local requirements, preferred vendor lists, or other mechanisms best suited for the individual participating member.

QWEL

The QWEL Program adoption and implementation by SMWSA first requires approval of SMWSA as an Adopting Professional Certifying Organization (“Adopting PCO”). This will include a program initial “onboarding” fee and submittal of an official application from SMWSA to Sonoma-Marín Saving Water Partnership (“Sonoma-Marín”) as the QWEL Parent PCO, including modified local content for Module 1 of the QWEL curriculum. Module 1 local content has been developed under this project as further described in the QWEL Local Content portion of the Program Toolbox. Following approval from the Parent PCO as an Adopting PCO, an application must be submitted to EPA WaterSense for approval and a Professional Certifying Organization Partnership Agreement must be finalized. As part of this project effort, the application and supporting materials for submittal to the EPA and Sonoma-Marín have been developed and provided to SMWSA. The program onboarding fee is due to QWEL within 90 days of the application submittal, so the applications should be submitted by SMWSA as part of the initial program implementation. It is recommended that the application materials be

provided to EPA and QWEL upon approval from the SMWSA Board and members during Stage 1 Program Development, as further described in the Pilot Program portion of the Program Toolbox.

Once SMWSA becomes an Adopting PCO, it will receive additional program training, outreach, and management materials from QWEL for program operation. An annual fee based on number of certified professionals will be required for ongoing program participation. All other program operation, management, and costs will be the sole responsibility of SMWSA as the Adopting PCO. Additional information is provided in the Pilot Program portion of the Program Toolbox.

Program Administration and Coordination

Program administration and coordination responsibilities can be supported either entirely by SMWSA staff, or may shift to a Program Coordinator or similar position based on SMWSA preference. The second option could operate under a structure similar to the SMWSA Water Ambassador Program, employing an external contractor to act as Program Coordinator. It is possible that the current Water Ambassador Program Coordinator position could even be expanded to include coordination responsibilities under the QWEL certification program, as defined by SMWSA. Certain responsibilities will need to remain within SMWSA as the Adopting PCO. To demonstrate how responsibilities could be divided if SMWSA chooses to utilize a Program Coordinator role, the description below categorizes efforts as either SMWSA Oversight or Program Coordinator.

SMWSA Oversight

Responsibilities that are anticipated to remain within SMWSA include:

- Definition and implementation of participation structure (membership or participation based)
- Coordination with SMWSA members to define program needs
- Coordination with SMWSA members to define outreach/marketing strategies and targeted recruitment
- Program evaluation and structure updates
- Development of annual budget
- Trainer invoice payment
- Payment of training-associated and QWEL annual costs
- Satisfaction of all requirements as QWEL Adopting PCO and EPA WaterSense Certifying Organization

Program Coordination

Responsibilities that could be managed internally by SMWSA staff, externally by a contracted Program Coordinator, or a combination of the two include:

- Support for outreach and marketing related to training sessions
- Management of trainer communication
- Program implementation logistics, including:
 - Session scheduling
 - Trainer scheduling including travel arrangements as needed
 - Venue scheduling

- o Onsite audit scheduling
 - o Exam scheduling including proctoring of exam
 - o Exam grading (may be required to employ grader that is different than proctor)
- Entry of passing professionals into certified professionals database

SMWSA Members

It is anticipated that participating SMWSA Members will be responsible to support SMWSA with the following:

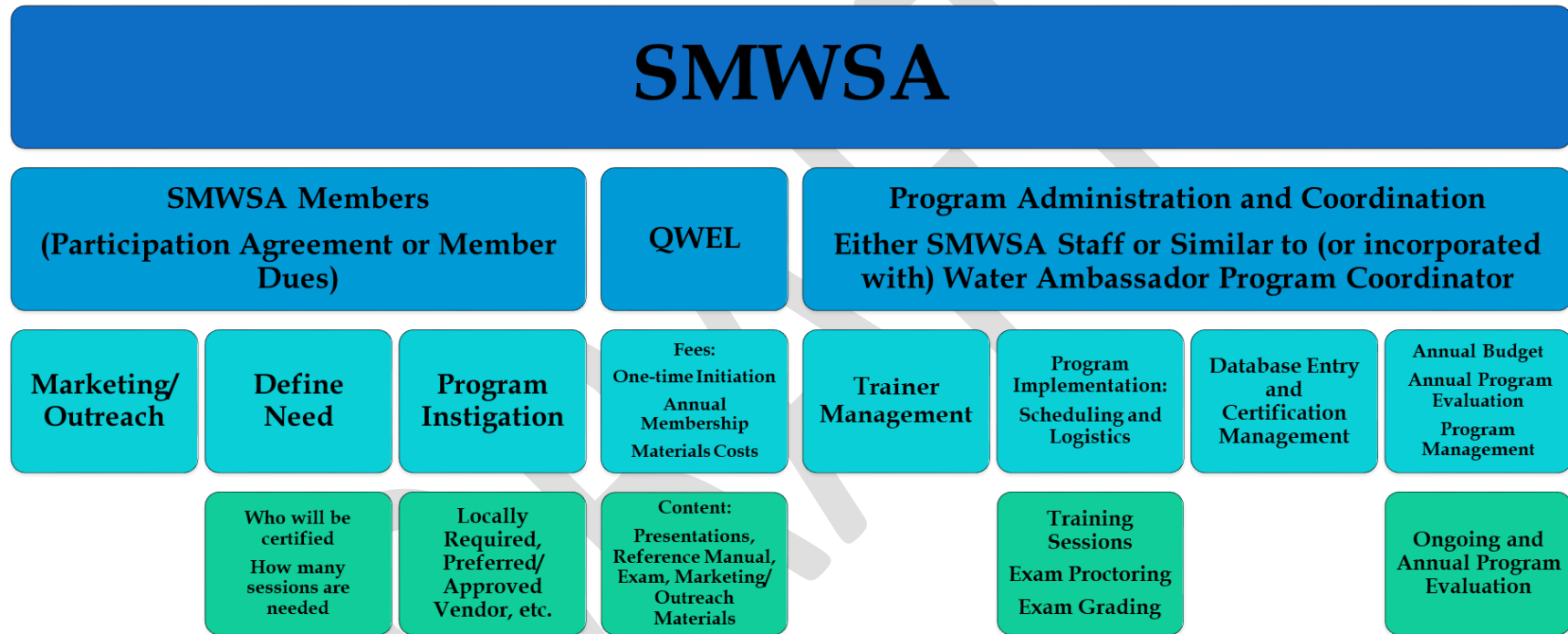
- Marketing and outreach of upcoming trainings and targeted trainees
- Annually define needs to plan number of sessions, timing, and general guidance
- Local program support and instigation

Sonoma-Marin (QWEL Parent PCO)

- Provide general support to SMWSA through implementation
- Maintain online database of certified professionals
- Comply with all EPA WaterSense requirements
- Maintain training and outreach materials

The diagram below shows the general program structure including the major program management components and areas of responsibility.

Recommended QWEL Certification Program Structure for Regional Implementation under the SMWSA



LONG-TERM CONSIDERATIONS

As the program moves beyond the pilot implementation and into longer-term operation, the membership should evaluate the need or benefit of employing an outside Program Coordinator to transition some of the responsibilities including training scheduling, program evaluation, and coordination with other contractors doing trainings and exam proctoring. This would reduce staff time but may incur additional costs based on those responsibilities assigned to that position and observations of levels of effort to complete the work. As the number of annual training sessions increases, the benefits of employing an external Coordinator may increase and drive additional administrative decisions. Another consideration is the member participation structure, which may be defined and remain unchanged from the beginning of implementation or may require reconsideration and evaluation after some time operating the program.

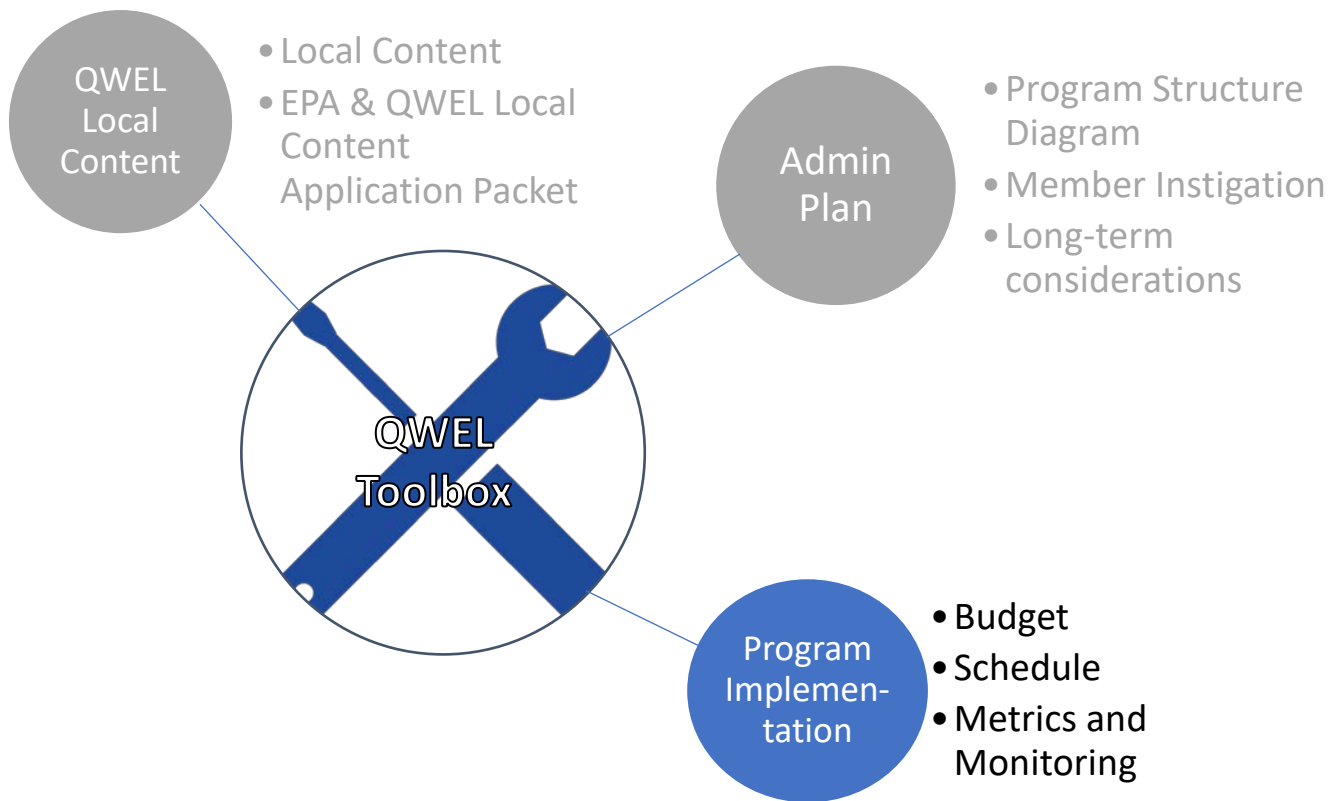
TOOLS & DELIVERABLES

1. QWEL Adopting PCO Application Packet
2. Program Administration Structure Schematic

SMWSA REGIONAL LANDSCAPE CERTIFICATION PROGRAM

PROGRAM IMPLEMENTATION TOOLS

MARCH 16, 2018



PROGRAM IMPLEMENTATION TOOLS

OPERATION REQUIREMENTS AND CONSIDERATIONS

The following information provides a recommended framework for operational logistics in the startup and management of a Regional Landscape Certification program under the SMWSA organizational structure. While there are alternative ways to implement and operate this program, the recommended structure and approach were developed based on SMWSA's unique regional framework and member needs as expressed through the SMWSA Regional Conservation Subcommittee and member discussions. The cost and structure information described below are intended to be flexible to allow adaptation and serve the program as it evolves over time.

Trainers

QWEL requires that classes be taught by authorized individuals (trainers) that are certified as QWEL professionals working for the Adopting Professional Certifying Organization ("Adopting PCO") to lead training sessions for professionals seeking QWEL certification. Two alternatives for offering class trainings under the pilot program are described below: 1) contract with an existing trainer from another area; or 2) conduct a "Train the Trainer" session to develop local authorized individuals.

Option 1: Contract with existing trainer

- Utilize existing trainers to lead QWEL training sessions
 - o Would likely require paying travel expenses as there are currently no active trainers in Colorado (flight plus hotel for at least 4 nights for 3-consecutive day training)
 - o Would allow pilot program to initiate without initial train-the-trainer session(s), allowing for a quicker start-up process
 - o Would limit ability to conduct trainings over multiple weekends (i.e., trainings would likely be conducted as a 3-day session versus 3 weeks of 1-day sessions for example)

Option 2: Hire local contractor(s) and/or professional(s)¹ to complete "Train the Trainer"

- Utilize a local QWEL trainer(s) to contract with SMWSA to lead QWEL training sessions
 - o To become a trainer, recommend 2 to 3 days of intensive training in addition to being QWEL Certified (assume 2 days at 8 hours each) – recommend paying that portion of training associated with "Train the Trainer"².
 - Trainers are not certified or approved through Sonoma-Marín. Trainer requirements are at the discretion of the Adopting PCO.

¹ Options include SMWSA or members' staff.

² There may be an option for an individual to complete both QWEL certification and "Train the Trainer" session in the same training. If other organizations are conducting this joint training, SMWSA may be able to send local professionals to this training, or may contract with existing trainers or training organizations to conduct a train-the-trainer session locally, paying for travel expenses of the existing trainer.

- o May initially be difficult to find local landscape professional to contract with as the QWEL program has not been in operation in Colorado (limited local program recognition)
- o Potential for SMWSA or member staff to be first trainer(s) under Pilot
- o Would likely require a longer start-up process but increase the flexibility, and likely reduce costs, for future trainings

Marketing, Outreach, and Materials

Included in the registration for QWEL is a packet of electronically available marketing materials for customization and use by the Adopting PCO (i.e. SMWSA and its members). SMWSA would need to budget for printed materials including the QWEL reference manual, notebooks, pencils, flyers, etc. Marketing and advertising of training opportunities should be targeted (HOAs, builders, homeowners, etc.) and can be accomplished through:

- SMWSA
- Members
- Program Coordinator (Optional)

Scheduling and Administration of Training Sessions and Test Facilitation

Scheduling of training sessions can be completed and managed either by SMWSA staff or by a Program Coordinator. Considering that this is a new program, it is recommended that as much of the administration and management begin with SMWSA staff, transitioning to a Program Coordinator after initial implementation, as possible. If managed by a Program Coordinator, cost associated with coordination time needs to be allocated and carefully managed. It is recommended that SMWSA staff work with its members to coordinate potential training/testing locations at member offices/other opportunities for facilities to be rented at reduced rates. Partnering opportunities with local nurseries or members for onsite audit training should also be evaluated.

Program training administration logistics will include:

- Schedule and administer trainings
 - o Compile course training materials (slides, handouts, exam, audit equipment)
 - o Schedule classroom location for 3-day training (consecutive, M/W/F, or 3 Saturdays, etc.)
 - Will need outdoor location for conducting irrigation audit.
 - o Proctor for 3-hour examination.
 - Exams must be proctored by: 1) an independent academic institution; 2) a professional testing organization, 3) a professional test administrator, or 4) a QWEL certified professional. Good proctors would be previous students (this can count as two hours of CEUs). Other PCOs have utilized staff time to proctor exams.
 - o Grader for examination.
 - Exams must be graded by: 1) an independent academic institution; 2) a professional testing organization, 3) a professional test administrator, or 4) a QWEL certified professional not involved with the training or proctoring of the practitioner being examined. If an individual serves as both the proctor and grader, he or she shall not receive an incentive (financial or otherwise) based

on the passing rate of the professionals. Other PCOs have utilized staff time to grade exams.

- Exams are kept in a password-protected area of QWEL website. Any printed materials must be kept in a secure location.

Registration/Records Maintenance and Management

Responsibilities associated with registration/records maintenance and management could be led by either SMWSA staff or a Program Coordinator. All information on the SMWSA website should be managed by SMWSA but may be developed by a Program Coordinator. All accounting, invoicing/payments, budgeting should be the responsibility of SMWSA staff. CEU outreach and maintenance could be led by the Program Coordinator and is reported annually by certified professionals on the QWEL website.

- Maintain database of certified individuals
 - Issue certificates with unique ID numbers using QWEL template
 - Maintain database on QWEL website. Update after each training course and annually to reflect renewals
 - First renewal is automatic and occurs on December 31st of the year in which the individual becomes certified
 - Two hours of CEUs are required each calendar year by January 1st. There is a one-month grace period and then certification is deactivated on January 31st if credits are not reported. CEUs are reported by certified professionals through their QWEL website portal. It is recommended that the Adopting PCO provide outreach on CEU opportunities and send reminders to certified professionals near deadline for submittal.
- SMWSA may participate in QWEL Board quarterly conference calls (optional)
- Maintain information on SMWSA website with local contractor list, or can link to QWEL webpage. Example: <http://cbwcd.org/202/Hire-a-Qualified-Professional>

PROGRAM STAGES

Four general program stages have been identified to implement the first phase of training sessions:

1. Program Development
2. Mobilization
3. Pilot Implementation
4. Ongoing Operations

STAGE 1: PROGRAM DEVELOPMENT

Member buy-in and input will be the critical ingredient for finalizing the program development both for the pilot and for long-term operational success. SMWSA will need to work with members and member staff up-front to define a member participation structure (e.g., membership-wide or participation agreement³), pilot program trainer structure (discussed above), and a finalized schedule and budget for the pilot. It is recommended that during this stage, SMWSA submit the application

³ See *Program Structure and Administration* Section

packet to QWEL to become an Adopting PCO, and subsequently to the EPA for WaterSense approval⁴. All decisions for structure, approach, and participation will be made during this stage.

STAGE 2: MOBILIZATION

Utilizing decisions defined in Stage 1 Program Development, SMWSA will be ready to initiate mobilization of the program. This will begin with execution of the member participation and fee. SMWSA will need to engage and execute contracts with trainers, exam proctors, and a Program Coordinator to the extent these positions will be created based on decisions made during Stage 1. Training and exam venues will need to be selected. It is recommended that multiple locations be identified to allow for flexibility when scheduling training sessions.

As the Adopting PCO, SMWSA will receive electronic outreach resources from QWEL for modification and use to market for training sessions. General outreach and marketing should be initiated in this stage to begin engaging landscape professionals and targeted groups, as defined through member planning in Stage 1. For example, online resources for the SMWSA website could be developed to allow linking or sharing of materials with members participating in the QWEL program. Outreach materials should be modified during this stage, and any materials to be used to advertise for specific training sessions should be finalized to the extent possible, leaving space to add training schedule details once they are set.

STAGE 3: PILOT IMPLEMENTATION

At the time of this project, only one member within the SMWSA requires landscape certification for landscape professionals under their local ordinance. Because this type of program is new to most of the membership, it is recommended that the program begin with a Pilot Implementation training round, evaluating the program upon completion of the pilot to determine ongoing operational structure and needs. An example of the process for the Pilot Implementation stage includes:

1. Schedule and complete outreach and marketing for pilot training class series.
2. Hold pilot training class as a 3-day series including audit exercises.
3. Schedule and proctor exam.
4. Grade exams and manage certification.
5. Evaluate pilot success and work with members to define ongoing needs, including plans for ongoing program operation.

Assumptions and recommendations for the Pilot Implementation stage include:

- Program administration and coordination falls under SMWSA staff to the extent possible. This includes scheduling of first training session, grading of exams, and logging of passing certified professionals into QWEL database.
- Recommend utilizing and contracting existing certified trainers and pay for travel expenses for all training sessions, as needed.

⁴ See *Program Structure and Administration* Section

- Assume that an external exam proctor will be contracted. This may be the trainer within QWEL defined constraints (see above).
- Recommend focusing on recruiting and marketing landscaping professionals. Utilize member connections to achieve this.
- QWEL has defined onboarding fee based on organization type. SMWSA will likely qualify as either a “Retail water agency with more than 3,000 connections” or as a “Wholesale water agency”. The fee would be \$2,500 or \$10,000, respectively.⁵ Classification will likely be driven based on SMWSA’s selected program structure. It is recommended that this be discussed with Sonoma-Marín as there may be flexibility with the fee.
- Recommend that SMWSA work with members on training and audit venue locations to reduce/eliminate rental space cost.

STAGE 4: ONGOING OPERATION

Following initial evaluation of the Pilot Implementation, SMWSA should complete a program evaluation and work with members to define ongoing operational needs. The process for Ongoing Operation includes:

1. Complete Stage 3 Pilot Implementation evaluation.
2. Formalize program modifications and recommendations including trainer structure, program coordinator (internal vs. external), ongoing budget and schedule.
3. Present initial recommendations to SMWSA Board and members.
4. Work with members to define ongoing needs and finalize ongoing operations approach.
5. Modify ongoing outreach and training strategies, as needed.
6. Implement ongoing training strategy, as described in Stage 3 Pilot Implementation, with recommended program modifications. Hold training sessions, exams, and complete grading process within these program plans.
7. Evaluate program annually and repeat steps in Stage 4.

Assumptions and recommendations for the Ongoing Operation stage include:

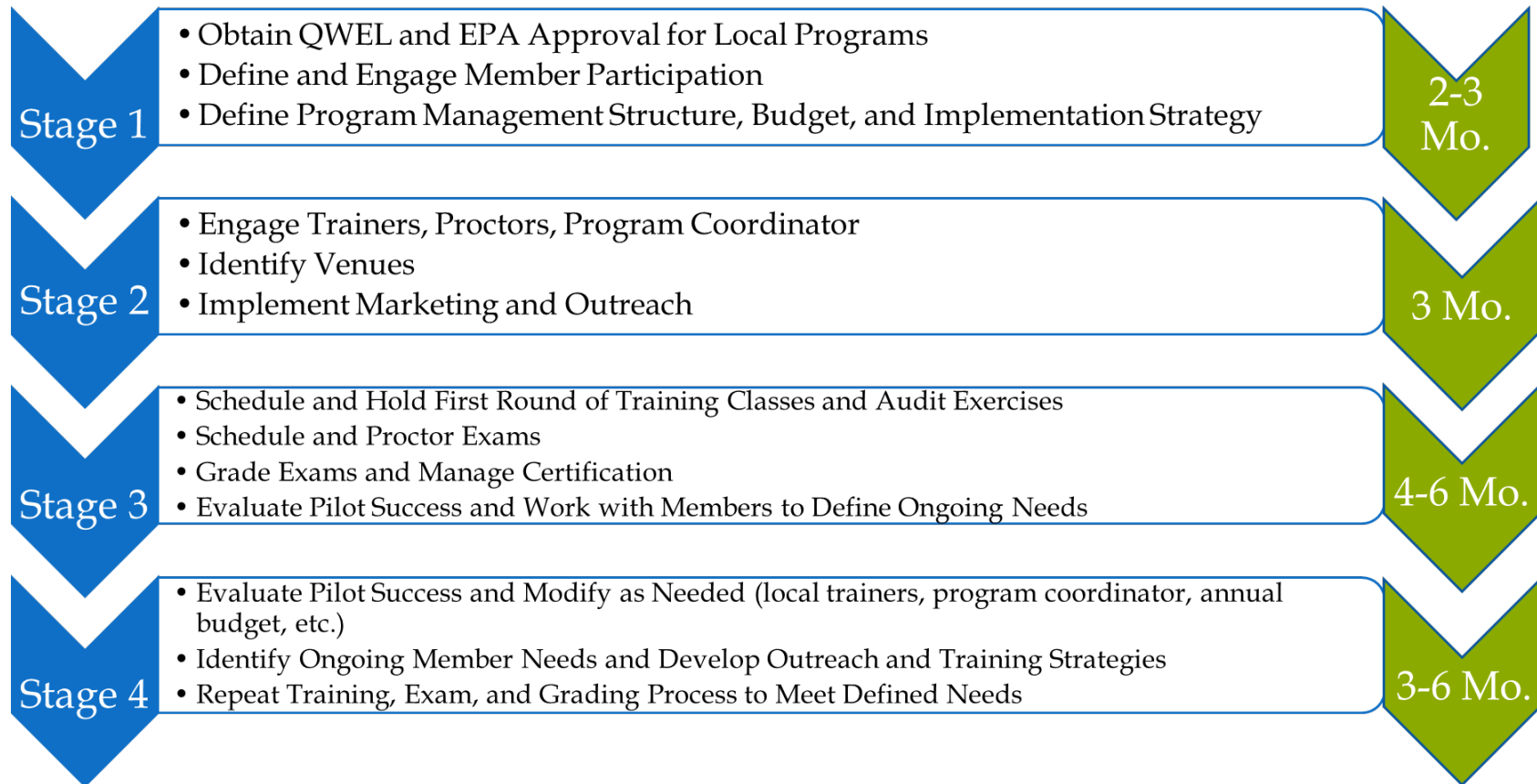
- Program administration and coordination may be transitioned to external Program Coordinator, similar to (or in conjunction with) SMWSA’s Water Ambassador Program structure.
- Recommend evaluating benefits of initiating a “Train-the-Trainer” program for ongoing training sessions to avoid travel costs and expand the program.
- Recommend evaluating effectiveness of expanding recruiting and marketing to include homeowners and HOA’s.
- Assume that beyond the pilot phase, administrative costs will realize some added efficiencies with each training session during a single budget year.

• ⁵ If SMWSA qualifies as “Wholesale water provider” based on Sonoma-Marín review, SMWSA may propose to QWEL a ramp-up onboarding fee to reduce costs up-front, but “pay back” over time if the program continues beyond a pilot phase.

- Individual member enforcement and instigation in support of this program will be an important contributor to the success of the program. While this is the responsibility of each individual member, SMWSA may choose to provide support to members through local approaches in implementation of the Model Regional Landscape Ordinance or through other instigation strategies.

IMPLEMENTATION SCHEDULE

A general schedule driven by the assumptions and stages described above is included in the following diagram. This diagram includes a brief description of action items included in each stage and a general anticipated duration for completion of each stage. For operational purposes, a worksheet scheduling tool has been developed with more detail and flexibility to allow shifting of action item timing and duration throughout the implementation process. The initial schedule provided in this worksheet shows a best-case scenario, where each stage is accomplished in the shortest anticipated timespan beginning with Month 1 representing the program kick-off. This tool is intended to be a working tool to be built upon and modified as SMWSA implements this program.

Anticipated QWEL Certification Program Schedule

BUDGET

A budget workbook has been developed as part of this Toolbox for program administration and planning. Initial assumptions for rates, hours, and costs have been reviewed by QWEL staff to guide implementation of this program, however, note that costs are expected to change as SMWSA moves forward with implementation. Values will change from best-guess estimates to actual anticipated costs as program structure, training locations, and trainer contracts are finalized. The workbook structure allows simple anticipated modifications made by SMWSA through a user interface⁶ as well as modifications to core assumptions and inputs through a calculations tab of the workbook. This has been provided to SMWSA and was developed to be easily modified and adapted as the program grows. Example budget summaries shown below are broken into two general categories: 1) activities associated with initial program development through Stage 3 Pilot Implementation, and 2) activities associated with Stage 4 Ongoing Operation.

Costs associated with Stage 3 are assumed to primarily be a one-time cost and will include some activities necessary for initial setup of the program. Note that some initial staff and member time associated with activities in Stages 1 and 2 are not shown explicitly as a defined budget cost. To finalize the anticipated budget for Stage 3, SMWSA will need to define the assumed number of printed Reference Manuals for the initial pilot training and update assumptions as-needed based on selected program structure, venue costs, trainer rates, and trainer travel expenses. For the Pilot Implementation stage, it is recommended that SMWSA hire an existing trainer, which may incur travel expenses. Budget line items included for Stage 3 include:

- **Initial Onboarding QWEL Fee:** due to QWEL upon application to become Adopting PCO.
- **Program Outreach and Marketing:** time to prepare, post, and conduct outreach and marketing to advertise upcoming training sessions.
- **Program Coordination, Management, and Evaluation:** time required to coordinate with trainer(s), schedule training sessions, manage program schedule and budget, provide program recommendations, coordinate with membership, management of records, and evaluate program effectiveness.
- **Training Session Costs:** venue rental costs, fee for trainer, applicable travel costs, and fee for exam proctor and grading.
- **Printed Materials:** costs for printed Reference Manuals. **Optional Offsetting Fees:** any fees SMWSA opts to charge trainees for training sessions, exams, or annual certification.

For Stage 4 Ongoing Operation costs, SMWSA should update the budget tool to include the anticipated number of certified professionals⁷, number of planned training sessions for the defined budget year, and selection of a trainer scenario (utilize existing trainer potentially requiring travel expenses or locally trained and contracted trainer plus trainer fees). As more training sessions are held within a given operational year, it is likely that some efficiencies will be realized for certain administrative, planning and evaluation tasks. It was assumed that for each additional training held,

⁶ User-defined inputs in the Summary tab of the workbook include both dropdown lists and numerical inputs. Data validation limits have been set with reasonable constraints for some of the numerical user inputs.

⁷ Annual QWEL membership fee is based on number of certified professionals registered under the Adopting PCO.

certain administrative costs would be reduced due to this realized efficiency. Assumptions on time-saved are included in the Budget Tool and can be modified based on actual realized efficiencies. Budget line items included for Stage 4 are similar to Stage 3, however as the number of trainings increases, the tool assumes cost efficiencies that are not available in Stage 3. Other differences between Stage 3 and 4 costs are:

- **Annual QWEL membership fee:** based on number of professionals certified under SMWSA.
- **Optional Train the Trainer:** costs for hiring existing trainer to teach local trainer, travel expenses if applicable, small fee for professional being trained

A summary of both Stage 3 and Stage 4 is included below to provide a snapshot of example budgeting costs. Assumptions are included in notes below each table. For both Stages, SMWSA will have the ability to make modifications as the program is implemented and operated to allow for flexibility.

An item for consideration is the possibility of offsetting some program costs through participation fees. This could include a cost for professionals receiving training to take the class, take the exam, or for annual certification renewal. Initially operating without instituting a fee to professionals receiving training, until the program has gained recognition in the landscaping community, may provide an incentive for individuals to participate in the training. Alternatively, including some type of fee may attract more dedicated professionals and support program credibility.

SMWSA QWEL PROGRAM IMPLEMENTATION TOOLS

DRAFT Program Implementation Stage 3: Pilot Implementation	
	Estimated Cost
Initial Cost (QWEL onboarding fee)	\$ 2,500.00
Cost Per Training Session	\$ 15,040.00
<i>Program Outreach and Marketing</i>	<i>\$ 500.00</i>
<i>Program Coordination, Management, and Evaluation</i>	<i>\$ 4,200.00</i>
<i>Per Training Session including venue rental, training costs, Exam, and Grading. Assume out-of-state trainer for Phase 1</i>	<i>\$ 8,850.00</i>
<i>Printed Materials costs (Reference Manual)</i>	<i>\$ 1,490.00</i>
TOTAL Potential Program Implementation Cost with First Training Session	\$ 17,540.00
Note: These are initial estimates based on available information. These are subject to change based on input and program development decisions.	
This assumes that Stages 1 and 2 (Program Development and Mobilization) require staff and member time only, therefore not incurring a direct cost unless otherwise included above. This assumes that all outreach, coordination, and management will be the responsibility of SMWSA staff.	

DRAFT Ongoing Program Stage 4: Ongoing Operation	
	Estimated Cost
Annual QWEL Membership Fee	\$1,500
Cost Per Training Session	\$ 9,170.00
Cost For Annual Training Session(s): 2 Estimated	\$ 18,340.00
<i>Program Outreach and Marketing*</i>	<i>\$ 950.00</i>
<i>Program Coordination, Management, and Evaluation*</i>	<i>\$ 4,560.00</i>
<i>Training Session Costs including venue rental, training costs, Exam, and Grading</i>	<i>\$ 6,000.00</i>
<i>Optional: Train-the-trainer if local trainer used. Assume one for budgeting purposes</i>	<i>\$ 3,850.00</i>
<i>Printed Materials costs (Reference Manual)</i>	<i>\$ 2,980.00</i>
<i>Optional: Offsetting Fees (fees for classes, exam, annual registration, etc.)</i>	<i>\$ -</i>
TOTAL Potential Program Implementation Cost For Ongoing Annual Operation	\$ 19,840.00
Note: Costs are calculated based on user-defined training details for the evaluated budget year.	
Costs associated with administrative support have estimated efficiencies applied based on number of training sessions for budget year. The more sessions, the higher assumed efficiencies gained (see QWEL&Input tab for initial assumptions and for desired modifications).	
* Line items that assume efficiencies can be realized through increased annual trainings	

MONITORING & EVALUATION

Throughout the Pilot Implementation (Stages 1 through 3), it is recommended that SMWSA monitor the program administration, scheduling process, and training logistics. Small adjustments should be made as reasonable while any larger observed issues, concerns, or recommendations for compilation and evaluation should be documented. A program evaluation report should be developed upon completion of the Stage 3 Pilot Implementation to help synthesize program successes and recommended modifications for ongoing operation. Metrics and consideration for evaluation should include:

- Number of professionals certified over evaluation year.
- Process for working with members to define program needs and goals.
- Effectiveness of outreach and marketing efforts.
- Sufficiency of training location(s).
- Trainer evaluations.
- Exam proctoring and grading approach.
- Administration and management structure effectiveness, cost, opportunities, challenges.
 - Determine staff responsibilities and potential for contracting Program Coordinator.
- Budget review and evaluation of assumptions.
- Schedule discrepancies and recommendations.

Following the evaluation, formalizing a plan for Ongoing Operations and modifying the program Toolbox as needed will allow the program to grow and evolve year to year. Outreach with other QWEL Adopting PCOs, to compare experiences and to learn from others' observations, could be part of the Ongoing Operations preparation. A similar annual evaluation and program review should occur at the end of each operation year, to continue building upon and improving the program's effectiveness.

LONG-TERM CONSIDERATIONS

Long-term considerations will come into play following implementation of the Pilot program, while the program is moving into the ongoing operation of the program. Decisions regarding program structure will need to be made based on annual evaluations, and bigger-picture considerations should be kept in mind as well. While this would likely be the first QWEL program implemented in the state of Colorado, other utilities have expressed interest in adopting the program as well. SMWSA should consider how program information could be shared, or if this program is expandable to include utilities outside of the SMWSA membership.

TOOLS & DELIVERABLES

1. Program Budget Worksheet
2. Implementation Schedule Schematic and General Timeline
3. Program Schedule Worksheet

Budget - Assumptions and Inputs

Version: January 2018

Hourly Rates - Input	
SMWSA Staff	\$ 30.00
Out-of State Trainer	\$ 50.00
In-State Trainer during their training only(Future)	\$ 30.00
In-State Trainer (Future)	\$ 40.00
Program Coordinator (Future)	\$ 30.00
Materials Costs - Input	
Cost per Reference Manual Copy	\$40.00
Sample Irrigation Equipment	\$0.00
Daily Training Location Rental	\$ 100.00

QWEL Program Cost	
Initial Fee (One-time)	\$2,500
Annual Fee	\$500

Note - Gregory is looking for specific information to determine Variable - will increase as more professionals are certified

QWEL Session Costs				
Trainer-Associated Costs				
	Hourly Rate	Estimated Hours	Total Estimated Cost	Other Associated Costs
			\$ -	
Option 1: Out of State Trainer			\$ -	
Training Sessions	\$ 100.00	40.00	\$ 4,000.00	
Travel Expenses			\$ -	\$ 1,550.00
Option 2: Local Trainer				
"Train the Trainer"	\$ 50.00	24.00	\$ 1,200.00	
"Train the Trainer" Hiring outside agency for local training	\$ 100.00	16.00	\$ 1,600.00	\$ 1,050.00

Training Sessions	\$ 100.00	30.00	\$ 3,000.00	
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Marketing, Outreach, and Materials				
	Hourly Rate	Estimated Hours	Total Estimated Cost	Other Associated Costs
Staff time associated with printing Reference Manuals	\$ 30.00	8.00	\$ 240.00	
Estimated Cost per Reference Manual				\$ 50.00
One-time cost to purchase sample irrigation equipment				
Optional fee for Outreach Coordinator (future consideration)				
Marketing to landscaping professionals (future, market to homeowners to provide incentives for them to hire certified professionals)				\$ 500.00
Scheduling and Administration of Training Sessions and Test Facilitation				
	Hourly Rate	Estimated Hours	Total Estimated Cost	Other Associated Costs
Program Coordination: staff or contractor - scheduling of sessions (per training session), coordination with trainer, venue coordination, session logistics	\$ 30.00	40.00	\$ 1,200.00	

Pilot Program Management: Staff time - program oversight, management, evaluation	\$ 30.00	100.00	\$ 3,000.00	
Program Management: Staff time - program oversight, management, evaluation	\$ 30.00	40.00	\$ 1,200.00	
Compilation of course training materials				
Classroom location for 3-day training - facility cost	\$ 100.00	24.00	\$ 2,400.00	
Audit exercise location				
Exam Proctor (3 hours)	\$ 30.00	5.00	\$ 150.00	
Exam grader	\$ 30.00	\$ 25.00	\$ 750.00	

Potential Fees/Costs to Certifying Professionals for Future Consideration				
	Hourly Rate	Estimated Hours	Total Estimated Cost	Other Associated Costs
ramp up/shared cost				
Cost for test				
Annual/bi-annual renewal fee				

mine this including population and number of classes expected annually. Coordinate with him when ready to
l, but assume lowest for first year planning

Total Estimated Cost	Assumptions
\$ -	
\$ 5,550.00	Assume this is either an independent contractor or contractor through QWEL certified organization that can teach a training session upon contracting
\$ 4,000.00	4 days, 10 hours/day; Note that hourly rates will change based on contract terms - this is an estimated hourly rate.
\$ 1,550.00	Assume \$500 flight plus 4 hotel nights plus \$50/day stipend for a 3-day training
\$ 3,000.00	
\$ 1,200.00	2 days, 8 hours/day
\$ 2,650.00	Assume \$500 flight plus 2 hotel nights plus \$50/day stipend for a 2-day training

\$ 3,000.00	3 days, 10 hours/day. Greg Plumb pays their instructors \$1,000 per training session with proctoring and grading exams in-house. Anticipate this rate increasing over the next year.
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ils	
Total Estimated Cost	Assumptions
\$ 240.00	Assumed cost per session including staff time (1 day staff time).
\$ 50.00	\$40 ea w/ user defined number per session - Greg Plumb - each copy \$30-\$50
\$0	Includes sprinkler heads, irrigation controllers, other hardware associated with training. Chris McNairy with Hunter Industries may be willing to donate equipment. Contact: CHRIS MCNAIRY Sales Manager - Northern CA Water Utilities - CA Hunter Industries (707)695-3890 - Cell chris.mcnairy@hunterindustries.com
	GBSM or other help with marketing and outreach
\$ 500.00	Per Greg Plumb - this cost will be minimal and target landscaping professionals at first, but may expand in the future once we want to market to homeowners
Total Estimated Cost	Assumptions
\$ 1,200.00	Could be staff or external Program Coordinator, similar in structure to Water Ambassadors

\$ 3,000.00	This applies to Pilot Implementation only as the initial program evaluation is expected to take more time than when program is ongoing
\$ 1,200.00	assume one week of staff time per training session scheduled for ongoing operation
\$ -	Assume staff to begin compilation of materials for initial implementation - no cost assumed for Phase 1. Modify based on experience
\$ 2,400.00	Assumed cost - may have member locations available at no or reduced cost. SDCWA found rentals ranging \$75-\$150/hour. See QWEL requirements
	Need irrigated turf area for field audit exercise. Assume no cost for initial implementation
\$ 150.00	Assume staff for Phase 1. Greg Plumb uses staff to proctor, grade, certify, and enter into database for most training sessions.
\$ 750.00	Assume staff with Phase 1. Assume 1 hour per Exam with 25 attendees per Exam. Can we get exams graded electronically from other location? Greg uses staff

Total Estimated Cost	Assumptions
	Some other PCOs charge \$100 for the exam and \$100 for the training sessions

o apply.

Option 1: Out of State Trainer

Option 2: Local Trainer

2018 SMWSA QWEL Certification Program Draft Schedule Worksheet

This worksheet was developed to support SMWSA staff to develop anticipated schedule for operation of a regional

Stage 1: Program Development

Stage 2: Mobilization

Stage 3: Pilot Implementation

Stage 4: Ongoing Operation

This schedule was developed using best available information based on other Adopting PCO recommendations and

This can be modified based on SMWSA implementation preferences

This is intended to be used by SMWSA for planning purposes both for implementation and for ongoing operations

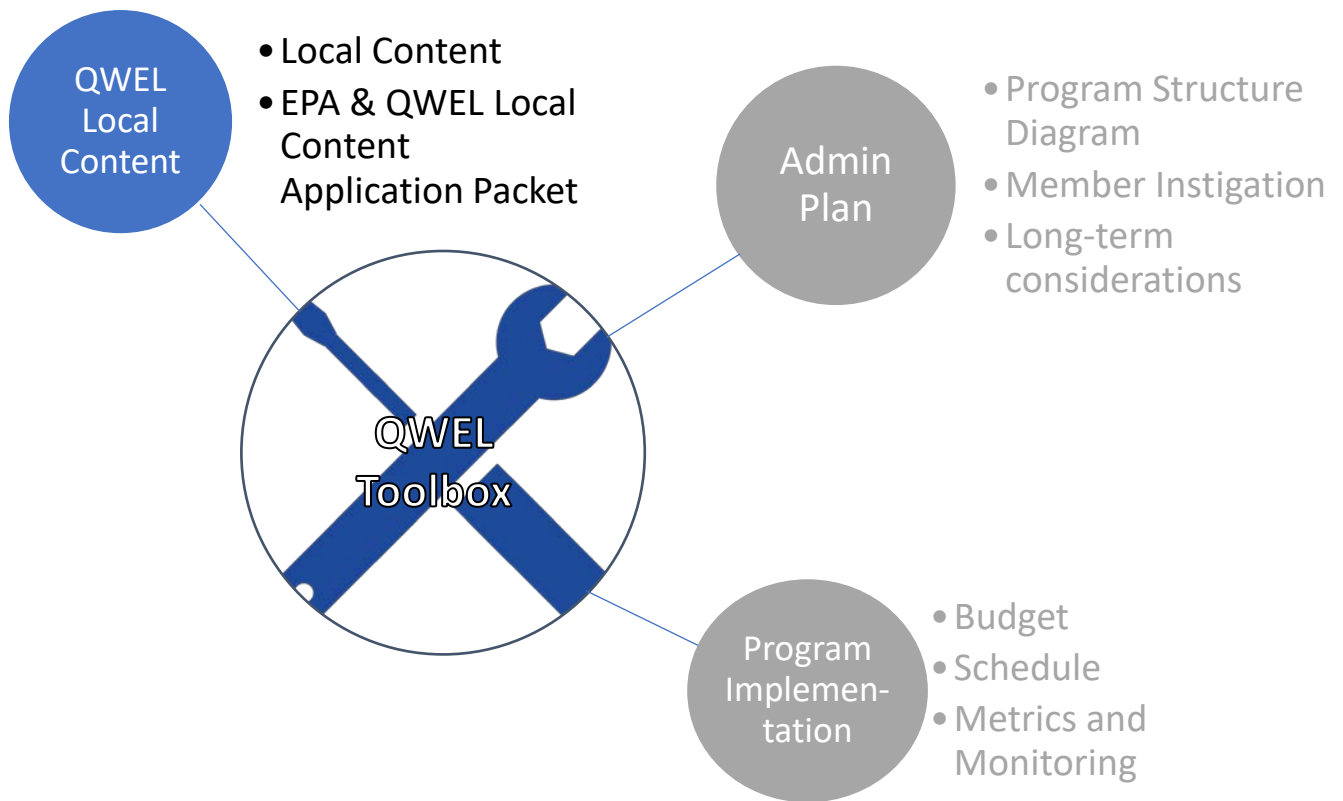
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SMWSA REGIONAL LANDSCAPE CERTIFICATION PROGRAM

QWEL CONTENT TOOLS

MARCH 16, 2018



QWEL CONTENT TOOLS

QWEL PROGRAM MATERIALS

The QWEL program membership includes materials and curriculum necessary for the marketing, outreach, training, and certification support in operating this program. These materials are provided once the organization is approved as an Adopting PCO and the onboarding fee has been paid. In 2017, the Parent Professional Certifying Organization (“Parent PCO”), Sonoma-Marín Saving Water Partnership (“Sonoma-Marín”), revised the QWEL program curriculum and Reference Manual based on experience operating the program over the past years and user feedback. This resulted in a cohesive curriculum package with a fresh, polished look and updated graphics. Ongoing updates to marketing and outreach materials as well as a revision to all Spanish curriculum and support are expected for 2018. All available revisions have been or will be passed on to current and future QWEL Adopting Professional Certifying Organizations (“Adopting PCO”). Additional updates are expected to continue periodically into the future at the discretion of the Parent PCO.

Upon approval as an Adopting PCO, SMWSA will receive access to the following materials¹ and resources:

- Training Modules (10 presentations)²
- Reference Manual
- Irrigation Audit Forms
- Class Exam and Answer Key
- EPA WaterSense Materials
- Online Certification Database
- Marketing and outreach information and support for PCO utilization

LOCAL CONTENT REVISIONS

Included in the ten (10) QWEL training presentations is a module titled “Where Our Water Comes From”. This is the first module in the series of training presentations, and was developed to provide a broad background of water sources and operations of California, drilling into more specific details for Sonoma-Marín County. In order to make this presentation applicable for use in the SMWSA region, this module was thoroughly reviewed and revised to describe Colorado’s water supply and hydrologic conditions and to provide more local details about the SMWSA region. These revisions are required to be made by Adopting PCOs as part of the application packet and must be approved by the Parent PCO prior to initiating a QWEL training program³. To the extent possible and applicable, module

¹ <https://www.qwel.net/curriculum> for links to publicly available resources.

² Module 1 has been provided and revised to reflect local content. Remaining electronic files provided upon approval.

³ See *Program Structure and Administration* Section.

revisions were made to be consistent with information included in SMWSA's 2016 Regional Master Plan⁴ and Model Regional Water Efficient Landscape and Irrigation Ordinance ("Model Ordinance")⁵.

The Reference Manual was developed in sections that correlate with the ten training presentations. Because Module 1 local revisions were extensive, content included in the Reference Manual also require revision. The Parent PCO prepared the Reference Manual using software not commonly available and indicated that revising this document electronically is labor-intensive. Based on this information, a separate word document was developed as part of this effort and includes ONLY those sections that were modified under Module 1. It is recommended that the entire Section 1 be recreated in a readily available software with local content included upon program adoption. Replacing the entire first section and combining with the remaining Reference Manual when printing is the most efficient and cost-effective approach to incorporate the revised local content. Drafts of the revised local Module 1 and the local Reference Manual revisions document will be provided to SMWSA under this effort.

While Module 1 local content revisions are required under QWEL to become an approved Adopting PCO, other modules also include California-specific information. Module 4 titled "Landscape Water" had quite a few important local modifications recommended by the project team upon review. Because this is not a required revision section, the presentation file is not available for editing until SMWSA becomes an Adopting PCO. Revisions to this section were not included under the original scope of work for this effort, however, this section was reviewed in detail and a memorandum was developed describing recommendations for revisions to this Module and the associated Reference Manual section. These modifications should be incorporated into the Module 4 PowerPoint presentation and Reference Manual after becoming an Adopting PCO and prior to the first training sessions. Assuming the SMWSA program continues beyond the Pilot phase, SMWSA and members will have the opportunity to expand upon and further emphasize aspects of the Model Ordinance and individual member programs.

LONG-TERM CONSIDERATIONS

As described above, this effort included the full customization of the Module 1 presentation and associated document for incorporation into the Reference Manual. Based on recommendations, Module 4 content modifications were also completed and provided to be incorporated upon approval as an Adopting PCO. It is recommended that a full content review and customization occur following the initial pilot training, providing a fully localized, Colorado-based curriculum for ongoing trainings. These revisions to the curriculum and associated Reference Manual can be expected based on experience and goals and to replace references to California. Full revisions also provide an opportunity for SMWSA to include more information consistent with the Model Regional Water Efficient Landscape and Irrigation Ordinance.

⁴ Completed in 2016 and information available at: <https://southmetrowater.org/master-plan-summary-2016/>

⁵ Completed in February of 2017 and available for download at: http://southmetrowater.org/wp-content/uploads/FINAL_SMWSA_ModelLandscapeOrdinance_2017-1.pdf

To make these modifications, the QWEL PCO Customization Guide is included in the Toolbox for reference and should be utilized to guide the customization process. Sonoma-Marin should be closely coordinated with during this process and will require their review and approval of all revised content. At this time, no other Colorado utilities are approved as Adopting PCOs of the QWEL program, so a fully vetted Colorado curriculum has not been created. Another challenge, described above, is the anticipated difficulty of modifying the Reference Manual file as this was created in an uncommon, labor-intensive software. It is recommended that SMWSA work with Sonoma-Marin to determine how best to incorporate full program modifications into the Reference Manual document.

TOOLS & DELIVERABLES

1. QWEL Unedited Modules (.pdf)
2. QWEL Unedited Reference Manual (.pdf)
3. QWEL Module 1 Presentation with local revisions (.ppt)
4. QWEL Reference Manual Module 1: modifications made with local revisions consistent with presentation (.docx)
5. Memorandum describing Module 4 Modifications: Landscape Water recommended revisions for incorporation upon approval as Adopting PCO (.docx)
6. QWEL PCO Customization Guide



QWEL PCO CUSTOMIZATION GUIDE

General Notes

The QWEL Reference Manual and PowerPoint slides include many examples that relate to California. PCOs outside of California may find it more meaningful to update these examples as applicable.

Section 1 of the Reference Manual and PowerPoint slides include information relating to local water supply and water use efficiency programs that all PCOs are invited to update.

Required Customization

PCOs are required to update the Section 1 PowerPoint slides to include information relating to local water supply and water use efficiency programs.

Optional Customization

PCOs have the option of updating Section 1 of the Reference Manual, or relying on the generic version together with the updated PowerPoint and other supplemental information.

PCOs have the option of updating other aspects of the reference manual and PowerPoint slides that include California specific information and examples based on ETo data from areas of California.

The following pages detail specific aspects of the Reference Manual and PowerPoint slides with both California and local specific information and examples that can be updated by PCOs.

When making updates to the QWEL Reference Manual and PowerPoint slides do not alter the structure of the QWEL program materials or the learning objectives. PCOs outside of California can update the two learning objectives in section one that relate to California (2 and 5).

Section 1: Where Our Water Comes From

The Where Our Water Comes From section contains a significant amount of information relating to California and should be updated to include information about local water supply and water use efficiency programs.

2 Water Supply in California should be updated for areas outside of California

3 Local Water Supply is generally applicable and should be updated with local water supply information such as local:

- Watershed area

- Water supply sources

- Wholesale and retail water suppliers

5 California Water Law should be updated for areas outside of California

6 National and Statewide Water Use Efficiency Programs includes California specific programs that should be updated or removed for areas outside of California

- 6.2 Save Our Water

- 6.5 California Water Efficiency Partnership

- 6.6 Public advocacy groups

7 Local Utility Sponsored Water Use Efficiency Programs should be updated with locally available programs and organizations

8.2 relates to California state law and should be updated for areas outside of California

8.5 Add table of meter types used by local water utilities

9 Where Our Water Comes From Review Questions

- Add questions that relate to local water supply and water use efficiency programs

- Update questions that relate to California for areas outside of California

Section 2: Sustainable Landscaping

The Sustainable Landscaping section is based on common sustainable landscaping practices and is generally applicable. Examples from California are used and could be substituted with local examples.

2 Figure 2-1: San Diego Sustainable Landscaping Guidelines image

2.3 Right Plant, Right Place, Right Time

- Second bullet Figure 2-6 shows images of California native plants as examples

- Third bullet Remove or replace California Invasive Plant Council and Plant Right references

Ninth bullet refers to fall planting in California. Update as necessary

Twelfth bullet Figure 2-7 California Friendly Maintenance Guide

3.2 Figure 9: City of Santa Monica garden\garden Project could be replaced with a local example

Section 3: Soils

The soils section is generally applicable and should not require any customization. Information about local soil types and issues can be added if desired.

Section 4: Landscape Water

The Landscape Water section contains information that relates specifically to California such as CIMIS and WUCOLS. PCOs outside of California can leave this information unchanged and use it as an example or update it to reflect local information and data sources.

3.4 Replace with local ETo data source and examples

Figure 4-3: CIMIS ETo Zones

Figure 4-4: Examples of Monthly ETo by Climactic Zone in California

Figure 4-5: CIMIS Station 83 ETo and Precipitation for Santa Rosa

4.3 Replace with local plant water use classification guidance if available

Table 4-2: WUCOLS Plant Water Use Classifications

Table 4-3: WUCOLS Climactic Regions

4.5 Includes images of California native plants that can be replaced with local examples

Figure 4-6: Low Water Use Plants

5.3 Includes a bullet relating to Mediterranean and California native plants that can be updated or removed

6.2 Water budget examples calculated using ETo of 6-inches that could be updated with locally appropriate ETo value

6.3 Update with locally appropriate ETo values for areas outside of California

Table 4-4: Water Budget Range for a 1,000 sq. ft. Landscape in California

7.1 Includes a bullet relating to California's MWELO that could be updated or removed outside of California

7.4 Irrigation water requirement examples calculated using ETo of 6-inches and precipitation of 0-1-inch that could be updated with locally appropriate ETo and precipitation values

9.3 California MWELO can be removed or updated outside of California

9.4 SLIDE was developed in California but is the basis for ANSI/ASABE S623 and is intended to be nationally applicable

9.5 CLCA Water Management Certification Program can be removed or updated outside of California

Section 5: Irrigation Systems

The Irrigation Systems section is generally applicable and should not require any customization.

Section 6: Irrigation Maintenance & Troubleshooting

The Irrigation Maintenance and Troubleshooting section is generally applicable and should not require any customization.

Section 7: Irrigation Systems Auditing

The Irrigation Systems Auditing section is generally applicable and should not require any customization.

Section 8: Irrigation Scheduling

The Irrigation Scheduling section includes examples that are based on ETo data for CIMIS station 83 in Santa Rosa, California. PCOs can use these examples or update them with local ETo data.

1.4 Figure 8-2: Weekly ETo Vs. Typical Residential Irrigation

2.6 Table 8-1: Example Weekly Irrigation Run Times

3 Irrigation Scheduling

Table 8-3: Example Number of Days to Irrigate

Table 8-4: Example Daily Run Time

Table 8-4: Example Daily Run Time

Table 8-5: Example Number of Irrigation Cycles per Day

Table 8-6: Example Run Time Per Cycle

Section 9: Irrigation Controllers

The Irrigation Controllers section is generally applicable with a couple of examples based on ETo data for CIMIS station 83 in Santa Rosa, California. PCOs can use these examples or update them with local ETo data.

3.5 Figure 9-2: CIMIS Zone 5 Seasonal Adjustment

4.1 Table 9-1: Example Irrigation Schedule

Section 10: Bringing It All Together

The case study is based on ETo data for CIMIS zone 1 and could be updated using local ETo data if desired.



QWEL POLICIES & PROCEDURES

1 Mission Statement

The Qualified Water Efficient Landscaper (QWEL) training presents an affordable local approach to reducing landscape water demand. QWEL provides graduates with knowledge in water efficient and sustainable landscape practices including water management and preservation of other valuable resources.

2 Definitions

- *Professional Certifying Organization*: An organization that has obtained, or is seeking to obtain, the WaterSense label for the QWEL professional certification program.
- *Parent PCO*: Sonoma-Marín Saving Water Partnership (Partnership).
- *Adopting PCO*: An organization that has adopted, or is seeking to adopt, QWEL.
- *QWEL Certified Professionals*: Individuals that have passed the QWEL exam and completed the water audit requirement.

3 Independent Oversight of QWEL Training Program

The QWEL Board will consist of two co- Chairs, and up to five Members at-large. The Board shall have at least three members. The Board will be made up of at least one member from each of the following categories: water utility representatives, landscape industry representatives, educational representative and a current QWEL instructor. Board members that miss more than 25% of the meetings per year or 3 consecutive meetings will be removed and replaced with an active member. All Board members must be a QWEL certified professional. Employees of the Sonoma County Water Agency shall hold no more than one-third of the oversight committee positions. Board positions will be renewed each year at the first Board meeting of the calendar year. Renewed and new Board positions will be determined by a vote of the existing QWEL Board.

The QWEL Board meets on a quarterly basis to provide guidance and make decisions with respect to the QWEL training program. The roles and responsibilities of the QWEL independent oversight committee include, but are not limited to:

- Supervision of QWEL program.
- Establish policies and requirements with respect to the QWEL program.

- Consideration of new professional certifying organizations.
- Update and development of QWEL curriculum.
- Review technical content of QWEL exam.

Board Chair(s) will review the draft agenda and board packet prior to distribution to the Board. Board minutes shall be distributed to the Board for review and approval.

4 Certified Professionals Eligibility Requirements

In order to become a QWEL certified professional individuals are required to pass the QWEL exam with a score of 75% or more and complete the irrigation system audit requirement. QWEL certified professionals are required to submit continuing education units (CEUs) each year in order to maintain their certification.

4.1 Certification Date

The certification date is the date on which the student took the QWEL exam and achieved a passing grade. In the event that the audit requirement is not satisfied prior to the exam, a student will have 3-months from the date of the exam to satisfy the audit requirement.

4.2 QWEL Exam

The QWEL exam comprises 100 multiple choice questions covering all aspects of the QWEL curriculum. The exam content includes, but is not limited to, subject matter such as: local water supply, sustainable landscaping, soils, landscape water, irrigation systems, maintenance and troubleshooting, irrigation systems auditing, irrigation scheduling, and irrigation controllers.

When taking the exam students will be allowed to use the formula sheet and reference material provided. The exam is a closed book exam. Students will have up to 3 hours to complete the exam. The minimum passing score is 75%.

4.3 Irrigation System Audit Requirement

The irrigation system audit requires individuals to perform a site assessment, and determine the distribution uniformity and precipitation rate of a single overhead irrigation hydrozone; and to use this information to determine an irrigation schedule. Individuals are required to complete the assignment using the QWEL irrigation audit form. The irrigation audit must be conducted as part of a QWEL workshop or independently supervised by a QWEL certified professional. Calculations must be completed independently.

4.4 Continuing Education Units (CEU) Requirement

- First renewal is automatic and occurs on December 31st of the year in which a person becomes certified.
- Two hours of continuing education units are required each calendar year due on January 1.
- There will be a one month grace period given for renewals. Certified professionals that have not submitted their continuing education units by January 31st will become non-active.
- In order to become current/active the person must retake the QWEL exam.

4.5 What Qualifies as a CEU?

- Attend irrigation or green industry short courses or seminars. Each hour of training equals one (1) CEU. An hour of training must have a minimum of fifty (50) minutes of training time. Refreshment and meal breaks are not eligible as training time.
- Attend irrigation or green industry trade shows, field days or meetings. One (1) CEU per event.
- Teach or attend an in-house irrigation training course. These courses will normally be conducted by irrigation or green industry manufacturers, distributors, dealer or QWEL trained in house company staff. One (1) CEU per hour will be accepted for each hour of instruction.
- Attending Business or Industry-related Courses or Seminars such as Integrated Pest Management; Pesticide Application; Bay-Friendly Landscape & Gardening; Tree Pruning; Storm Water Management; etc. One (1) CEU per hour will be accepted for each hour of instruction.
- Conduct irrigation audit. One (1) audit for one (1) CEU per year.
- A minimum of 50% of CEUs must relate to water-efficient concepts in the field of irrigation as defined in Section 4 of the WaterSense Specification for Irrigation System Auditor Certification Programs.

4.6 Notification of CEU Opportunities & Reminders

PCOs will send out regular emails to notify certified professionals of CEU opportunities. Each Adopting PCO can determine frequency and type of CEU notifications. All PCOs shall remind graduates of CEU reporting requirements by November of each year.

4.7 Listing on QWEL and EPA WaterSense websites

- A listing of current QWEL certified professionals will be maintained on the QWEL website. It is the responsibility of each individual to ensure that their listing information is accurate and correct.
- Current QWEL certified professionals will be reported to EPA WaterSense on a quarterly basis and displayed in an online database on the EPA WaterSense website.

5 Development and Maintenance of QWEL Exam

By February 1 of each year the QWEL Board will adopt a new exam that shall be used by all PCOs by selecting questions from the test bank. The exam will be available to PCOs with the 'REGIONAL FOCUS' questions clearly identified. The exam questions shall be reviewed by an independent academic institution to ensure that they accurately test the subject material at least once every two years or every 1,000 exams, whichever occurs first.

6 Security of Assessment Instruments

- QWEL examinations are stored on a password protected area of the QWEL website.
- Exams are proctored by an independent academic institution, a professional testing organization, a professional test administrator, or a QWEL certified professional.

- Exams are graded by an independent academic institution, a professional testing organization, a professional test administrator, or a QWEL certified professional not involved in the training or proctoring of the practitioner being examined.
- *If an individual serves as both the proctor and grader, he or she shall not receive an incentive (financial or otherwise) based on the passing rate of the professionals. The Parent PCO shall be responsible for ensuring that Adopting PCOs satisfy this requirement.*
- The proctor distributes the exam and formula sheet and monitors the exam. Exams are conducted in a suitable environment such that the exam proctor can effectively monitor the process. The exam is closed book.
- Students are provided with a paper exam and formula sheet and are required to return the exam to the proctor when complete.
- Exams are collected by the exam proctor and returned to a secure office environment for grading.
- The protocol with respect to the security of the QWEL exam is communicated to all personnel involved with the examination process.

7 Procedures to Revoke Certification from Certified Professionals

PCOs reserve the right to revoke a certificate from certified professionals. Certified professionals will be notified in writing in the event that their certification is revoked. Reasons for revoking a certificate may include, but are not limited to, failure to submit continuing education units and complaints regarding the certified professionals conduct or quality of work.

8 WaterSense Professional Certifying Organization Quarterly Reporting

The Parent PCO will report a list of certified professionals each quarter to WaterSense using the Professional Certifying Organization Quarterly Reporting Template. Reporting dates are the 15th of January, April, July and October. The Parent PCO is responsible for reporting certified professionals from all Adopting PCOs.

9 Process for Adopting PCOs to Adopt QWEL

- Upon receipt of a statement of intent the Parent PCO will provide the QWEL Reference Manual and PowerPoint slides to the Adopting PCO for customization.
- Adopting PCO completes and submits an *Application for Adopting Professional Certifying Organizations*.
- Upon approval, the Parent PCO will provide the adopting PCO with a letter of final approval and the following EPA WaterSense forms:
 - *Application for Certifying Organization Approval to EPA*
 - *Professional Certifying Organization Partnership Agreement*

10 Customization of QWEL Curriculum

10.1 Required Customization

- Adopting PCOs are required to customize the Section 1 PowerPoint slides to include information about local water supply sources and local utility sponsored programs for water use efficiency.

10.2 Optional Customization

- Adopting PCOs have the option of updating Section 1 of the Reference Manual, or relying on the generic version together with the updated PowerPoint and other supplemental information.
- Adopting PCOs have the option of updating other aspects of the reference manual and PowerPoint slides that include California specific information and examples based on ETo data from areas of California.
- A customization guide is available detailing specific aspects of the Reference Manual and PowerPoint slides that can be customized by adopting PCOs.

11 Program Fees

11.1 Onboarding Fee

Invoice sent by Partnership, payable within 90 days of date of receiving this application.

Type of Organization	Fee
Retail water agency with 3,000 or less connections, non-government organizations, and educational institutions	\$1,000
Retail water agency with more than 3,000 connections	\$2,500
Wholesale water agency	\$10,000

The onboarding fee is a one-time fee to cover the administrative cost of establishing a new PCO. This includes:

- Establishment of new PCO on the QWEL website and association management system.
- Access to QWEL teaching materials.
- Access to QWEL marketing materials.
- Access to QWEL program management software.
- Instruction and training on the use of the program management software.

Pricing may vary for PCOs with specific custom requirements. Other in kind arrangements will be taken into consideration upon request.

11.2 Ongoing Fees

Invoiced annually by Partnership, payable by March 31.

Number of Certified Professionals as of December 31	Fee
0 to 100	\$500
101 to 500	\$1,000
501 to 1,000	\$1,500
1,001 to 2,500	\$2,500
2,501 to 5,000	\$5,000

The annual licensing fee is to cover ongoing costs associated with the QWEL program such as continued development of program materials and software licensing fees.

11.3 Initial Annual Fee for New PCOs

New PCOs approved on or before June 30 will be invoiced at the end of the same calendar year. New PCOs approved on or after July 1 will be billed at the end of the next calendar year.

12 Who can teach QWEL

QWEL instructors must be approved either by the QWEL Board or a PCO. QWEL Instructors must teach approved QWEL material through a PCO. QWEL instructors must be QWEL certified professionals and/or demonstrate knowledge and ability to teach the QWEL curriculum to the satisfaction of the QWEL Board and/or PCO.

13 Instructor Feedback

A comment sheet will be provided for inclusion in each exam to provide instructor feedback to the PCO. The QWEL Board may review pass rates for each PCO and instructor.

14 Process for Train-the-Trainer Requests

- Adopting PCOs can request a train-the-trainer (TtT) through the QWEL Board.
- QWEL Board will clarify dates and location of training.
- Adopting PCO will be responsible for covering costs of training.
- TtT classes may have a registration fee associated with them to cover cost of the class.

15 Collecting a Fee for QWEL Training

It is the mission of the QWEL Board to provide affordable training to the landscape industry. To ensure the QWEL training remains affordable the total fee shall not exceed the estimated total cost for holding the class divided by the estimated number of attendees.

16 PCO Access to Program Management Software

Access shall be provided to adopting PCOs following final approval by the parent PCO.

17 QWEL Certified Professional Login

Upon successfully becoming a QWEL certified professional individuals will be provided with access to the QWEL certified professional login area of the website. QWEL certified professionals can use the QWEL website to maintain their contact information, enter continuing education, and retrieve other materials.

Auditor Name: _____ Date: _____

Certifying Organization: _____

Audit Location: _____

- ① The irrigation audit must be conducted as part of a QWEL workshop or independently supervised by a QWEL certified professional. Calculations must be completed independently. Completed forms must be submitted to the QWEL Professional Certifying Organization through which you are obtaining the QWEL certification.
- ② Complete site information, evaluation, and basic system tune-up prior to irrigation system testing.
 - Only conduct an irrigation audit if the irrigation system is determined to be in good working order.
- ③ Irrigation System Testing Procedures
 - Draw a diagram of the test area including dimensions, head locations, and catch can locations.
 - Only conduct an irrigation audit on overhead irrigation systems if the wind speed is 5 mph or less.
 - Run zone to be tested and mark spray bodies with flags.
 - Place catch cans in zone to be tested.
 - Ensure all cans are of the same size and shape.
 - Use a minimum of 24 catch cans and a number of cans that can be divided by four.
 - Leave a space of about 2 feet between a spray body and a catch can.
 - Layout catch cans in a uniform grid.
 - Space cans approximately 5 – 8 feet on center for fixed and rotary spray sprinklers.
 - Space cans approximately 10 – 20 feet on center for rotors.
 - Pull flags before running test as they will obstruct the path of the spray.
 - Run the irrigation zone for a sufficient amount of time to collect a minimum volume of water of 20 ml. Typically 5 – 10 min for fixed spray sprinklers and 10 – 30 mins for rotors and rotating sprinklers.
 - If the test area covers more than one station the run time for each station must be adjusted to achieve a matched precipitation rate across the test area.
 - Measure and record the amount of water in each catch can.
 - Use ml scale on catch can.
 - If no scale is available pour water into a graduated cylinder with a ml scale.
 - For catch cans with straight sides and a flat bottom the catch can volume can be replaced by the depth of water in inches.
 - Ensure that catch cans are numbered on the diagram so that the location of the measurements is known as this may help to identify issues with the irrigation system.
- ④ Calculate the low quarter distribution uniformity (DU_{LQ}):
- ⑤ Calculate the net precipitation rate (PR_{NET}):
- ⑥ Use the DU_{LQ} and PR_{NET} to determine a basic irrigation schedule for the test area.



Date: _____

Auditor

First Name: _____ Phone Number: _____
Last Name: _____ Email: _____

Test Area

Site Name: _____ Test Area Name: _____
Site Type: _____ Test Area Size: _____ sq ft
Soil Type: _____ Plant Material: _____
Microclimate: _____ Root Depth: _____ inches
Slope: _____ Plant Factor (PF): _____
Time to Runoff: _____ min ETo for 1 Week: _____ inches

Irrigation System

Water Source: _____ Meter Type: _____
Static Pressure: _____ psi Meter Size: _____ inches
Dynamic Pressure: _____ psi Meter Units: _____
Irrigation Type: _____ Backflow: _____

Options

<u>Site Type</u>	<u>Microclimate</u>	<u>Water Source</u>	<u>Meter Type</u>	<u>Backflow Device</u>
Residential	Shade	Municipal Well	Dedicated irrigation	Reduced pressure assembly
Commercial	Part shade	Recycled water	Mixed use	Double check valve
	Full sun	Graywater		Anti-siphon valve
<u>Soil Type</u>	Extreme heat	Rain water	<u>Meter Size</u>	(atmospheric breaker)
Sandy			5/8", 1", 1.5", 2",	Pressure vacuum breaker
Loam	<u>Slope</u>	<u>Irrigation Type</u>	3", 4", 5", 6"	None
Silt	Flat	Spray sprinklers	<u>Meter Units</u>	
Clay loam	Slight	Rotating sprinklers	Gallons	
Clay	Moderate	Rotors	CCF	
	Steep			



Auditor Name: _____

Date: _____

Include: test area dimensions, head locations, catch can locations, catch can numbers, north arrow.

Sprinkler = ○

Catch can = ✕



Auditor Name: _____

Date: _____

Check relevant boxes

Priority	High	Low	Fixed
Mixed hydrozone			
Needs mulch			
High pressure			
Low pressure			
Valve malfunction			
Broken pipes			
Unmatched precipitation rates			
Mixed emission devices			
No head-to-head coverage			
Uneven head spacing			
Excessive overspray			
Broken or missing nozzles			
Tilted heads			
Heads below grade			
Blocked spray			
Leaking seals			
Clogged nozzles			
Low head drainage			
Heads not rotating			

Observations

Auditor Name: _____

Date: _____

Catch Can Number	Catch Can Volume / Depth	Low Quarter
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
Sum		
Average		

Instructions

- Enter catch can volume (ml) in the second column of the table.
- Enter the depth in inches for cans with straight sides and a flat bottom.
- Identify catch cans in the low quarter and enter the volume (or depth) of these cans in the third column of the table.
- Enter the sum of each column at the bottom of the table.
- Divide the sum of each column by the number of cans in the column to calculate the average for all cans and for the low quarter.
- DU_{LQ} : Divide the average catch volume of the low quarter by the average for all cans. Round to two decimal points.
- PR_{NET} : Multiply the average catch volume of all cans by 3.66, and multiply the test run time (mins) by the catch can throat area (sq in). Divide the first result by the second. Round to two decimal points.

Catch Can Type	Throat Area (sq in)
Cal Poly / ITRC / DWR	16.25
Texas A & M System	16.61
Utah State University	12.94



Catch Can Type: _____

Throat Area: _____ sq in

Test Run Time: _____ min

DU_{LQ} Calculation

$$DU_{LQ} = \frac{\text{Average catch volume of low quarter}}{\text{Average catch volume of all cans}} = \frac{\text{_____}}{\text{_____}} = \text{_____}$$

PR_{NET} Calculation

$$PR_{NET} = \frac{\text{Average volume of all cans} \times 3.66}{\text{Test run time} \times \text{Catch can throat area}} = \frac{\text{_____} \times 3.66}{\text{_____} \times \text{_____}} = \text{_____ in / hr}$$

If using cans with straight sides and a flat bottom:

$$PR_{NET} = \frac{\text{Average depth of all cans} \times 60}{\text{Test run time}} = \frac{\text{_____} \times 60}{\text{_____}} = \text{_____}$$

Auditor Name: _____

Date: _____

Plant Water Requirement (PWR) - use ETo for 1 week

$$\begin{aligned} \text{PWR} &= \text{ETo} \times \text{PF} \\ &= \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ in / wk} \end{aligned}$$

Run Time Multiplier (RTM) - used to adjust time for irrigation system inefficiencies

$$\begin{aligned} \text{RTM} &= 1 \div [0.4 + (0.6 \times \text{DU}_{\text{LQ}})] \\ &= 1 \div [0.4 + (0.6 \times \underline{\hspace{2cm}})] = \underline{\hspace{2cm}} \end{aligned}$$

Irrigation Water Requirement (IWR)

$$\begin{aligned} \text{IWR} &= \text{PWR} \times \text{RTM} \\ &= \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ in / wk} \end{aligned}$$

Weekly Run Time Lower & Upper Boundaries

$$\begin{aligned} \text{Lower Boundary} &= (\text{PWR} \div \text{PR}_{\text{NET}}) \times 60 \\ &= (\underline{\hspace{2cm}} \div \underline{\hspace{2cm}}) \times 60 = \underline{\hspace{2cm}} \text{ min / wk} \\ \text{Upper Boundary} &= (\text{IWR} \div \text{PR}_{\text{NET}}) \times 60 \\ &= (\underline{\hspace{2cm}} \div \underline{\hspace{2cm}}) \times 60 = \underline{\hspace{2cm}} \text{ min / wk} \end{aligned}$$

Daily Run Time

- Weekly run time is a management decision between the lower and upper boundaries
- Number of days to irrigate is a management decision. Use the table for guidance.

Number of Days Per Week to Irrigate (Mature Plants)

Weekly ETo	Cool 0 - 0.5 "	Warm 0.6 - 1.0"	Hot above 1"
Turf	1 - 2 days	2 - 3 days	3 - 7 days
Annuals	2 - 3 days	3 - 5 days	4 - 7 days
Shrubs	Every 2 weeks	Every week	2 - 4 days
Trees	None	Every 2 months	Every month

$$\begin{aligned} \text{Daily Run Time} &= (\text{Weekly Run Time} \div \text{Number of Days to Irrigate}) \\ &= (\underline{\hspace{2cm}} \div \underline{\hspace{2cm}}) = \underline{\hspace{2cm}} \text{ min} \end{aligned}$$

Cycles Per Day - round up to the next whole number

$$\begin{aligned} \text{Cycles Per Day} &= (\text{Daily Run Time} \div \text{Time to Runoff}) \\ &= (\underline{\hspace{2cm}} \div \underline{\hspace{2cm}}) = \underline{\hspace{2cm}} \end{aligned}$$

Run Time Per Cycle - round up to the next whole minute.

$$\begin{aligned} \text{Run Time Per Cycle} &= (\text{Daily Run Time} \div \text{Cycles Per Day}) \\ &= (\underline{\hspace{2cm}} \div \underline{\hspace{2cm}}) = \underline{\hspace{2cm}} \end{aligned}$$

SOUTH METRO WATER SUPPLY AUTHORITY
INTERGOVERNMENTAL AGREEMENT

THIS AGREEMENT ("Agreement") is made, entered into and effective as of the 1st day of August, 2004 by and between the political subdivisions listed on Exhibit A attached hereto and incorporated herein by reference (individually, a "Party" and collectively, the "Parties").

RECITALS

(1) The Parties, individually and collectively, hereby find and declare that:

(a) Water is essential to the economy of the State of Colorado, Douglas County, Arapahoe County, and the Parties;

(b) The naturally-occurring water in the Denver basin aquifers is a limited resource;

(c) Concerns about the continued availability of water have severe and adverse impacts on the economy of the south Denver metropolitan community, region, and state;

(d) The Parties, the City and County of Denver acting by and through its Board of Water Commissioners ("Denver Water"), and the Colorado River Water Conservation District ("River District") through a Project of the Douglas County Water Resource Authority, have participated in the South Metro Water Supply Study, in which the South Metro Water Supply Study Board ("Study Board") recommended Alternatives 3A and 3B to pursue conjunctive use projects to develop water supplies and conservation strategies;

(e) Further investigation of Alternatives 3A and 3B and other alternatives is needed to determine the feasibility of implementing projects for improved water supply;

(f) The implementation of Alternatives 3A and 3B and other water supply and conservation strategies represents a potential economic resource to promote new employment opportunities and, thereby, enhance the local tax base;

(g) The creation of a South Metro Water Supply Authority as provided herein is necessary to further investigate and complete projects for the implementation of Alternatives 3A and 3B, variations thereof, and other water projects; and

(h) The Parties further find and declare that the South Metro Water Supply Authority is created for the benefit and advantage of, and to promote the health, safety, and welfare of, the people.

COVENANTS

NOW, THEREFORE, the Parties agree as follows:

ARTICLE I

DEFINITIONS, CREATION OF AUTHORITY, GENERAL TERMS

101. Definitions. As used in this Agreement, unless the context otherwise requires:

(1) "Alternatives 3A and 3B" means Alternatives 3A and 3B as described in the South Metro Water Supply Study Final Report produced by the South Metro Water Supply Study Board, a project of the Douglas County Water Resource Authority, or any other water project arising from the report, or any project selected for investigation or implementation by the Participants, and, as applicable, Denver Water and the River District.

(2) "Authority" means the South Metro Water Supply Authority created by this Agreement.

(3) "Board" means the board of directors of the Authority.

(4) "Bond" means any revenue bond, note, interim certificate, contract, or other evidence of indebtedness of the Authority authorized by this Agreement.

(5) "Participant" means any political subdivision authorized to appoint a member to the Board.

(6) "Phase 1" means the completion of any engineering and other investigation necessary to identify infrastructure needs, the pursuit and adjudication of water rights, the determination of the probable costs, and the entry into agreements between the Authority, the River District, Denver Water, and others, for implementation of Alternatives 3A and 3B. The Phase 1 study may include the following elements or others:

- (a) engineering analysis of one or more projects to implement Alternatives 3A and 3B;
- (b) identification and analysis of source of water;
- (c) description of Denver facilities to be used;
- (d) description of western slope impacts and proposed mitigation;
- (e) description of new facilities that may be furnished such as storage, pipelines, wells and other infrastructure;
- (f) description of necessary intergovernmental or other major agreements; and
- (g) estimate of probable cost of the project including capacities and costs allocated to each Participant for its level of participation.

(7) "Phase 2" means the financing, acquisition, construction, implementation, operation, and maintenance of one or more projects to complete Alternatives 3A and 3B as defined by Phase 1 and as further specified by the Board.

(8) "Phase 3" means any other water project or projects authorized by separate intergovernmental agreement among two or more Participants or others and with the approval of the Authority.

(9) "Revenues" means any fees, rates, charges, assessments, grants, gifts, penalties, interest earnings, or other income and revenues received by the Authority.

(10) "Service Area" of the Authority means the aggregate of the territory that is within one or more of the following:

- (a) within the boundaries of the Participants;
- (b) a defined area where one or more of the Participants furnishes water service at wholesale, retail, or by intergovernmental agreement; or
- (c) a defined area where one or more of the Participants may in the future furnish water service at wholesale, retail, or by intergovernmental agreement as shown in:
 - (I) an adopted water system master plan or equivalent of a city, incorporated town, or water authority organized pursuant to section 29-1-204.2, C.R.S.;
 - (II) Participant service plan; or
 - (III) water use efficiency plan adopted pursuant to section 37-60-126, C.R.S.;
 - (IV) water plan adopted pursuant to statute.

(11) "Subdistrict" means a subdistrict of the Authority.

102. Authority - Creation

(1) There is hereby created the South Metro Water Supply Authority which shall be a body corporate and politic and a political subdivision of the state, separate from the Participants. The Authority is a water authority as defined in section 29-1-204.2, C.R.S. The Authority will become an enterprise as defined in section 24-77-102(3), C.R.S. and the Board shall take such actions as may be required to prevent disqualification as an enterprise.

(2) The Authority has all of the powers authorized by Section 29-1-204.2, C.R.S. (specifically including subsections (5) and (7) thereof) and granted to such authorities by Colorado law. A copy of Section 29-1-204.2, C.R.S. as it exists on the effective date of this Agreement is attached as Exhibit B hereto. Amendments to such section adopted after the effective date of this Agreement shall apply to the Authority only if the governing bodies of the Parties approve an amendment to this Agreement allowing such application or if required by state law.

(3) Upon approval of a resolution by the Study Board, the Authority shall be the successor-in-interest to the Study Board, and shall succeed to all the rights, duties, privileges, obligations, and assets thereof as provided in Section 29-1-204.2(8), C.R.S. Participants in the Study Board shall pay their 2004 assessments to the Authority rather than to the Study Board.

The Authority shall not collect its own rates, fees, tolls, charges or penalties for work to be completed for Phase 1 unless the Phase 1 costs will exceed the amount transferred from the Study Board to the Authority plus the 2004 Study Board assessments collected or due to be collected and timely paid as shown in the budget attached hereto as Exhibit C. The amounts to be paid by each Participant for these excess Phase 1 costs, other than administrative cost paid by the fee collected pursuant to Section 106(2)(u) hereof, shall be based upon the number of votes held by each Participant pursuant to Section 105(4)(a) hereof.

(4) Nothing in this Agreement shall preclude any Participant from undertaking any other water project.

103. Boundaries of the Authority - Inclusion - Exclusion

(1) The initial area comprising the Authority shall consist of the Service Area, and may be modified as provided herein.

(2) (a) Property may be included in the Service Area of the Authority upon satisfying the following requirements and procedures:

- (I) To be considered for inclusion, a political subdivision must file a written petition approved by the governing body of the political subdivision with the Board to include its water service area into the Authority; and
- (II) The Board shall hold a public hearing on the petition, preceded by at least ten days' notice of the hearing published in a newspaper of general circulation in the county or counties in which the petitioner political subdivision is located.
- (III) The Board may approve, modify, or deny the petition and may impose such terms and conditions as the Board deems appropriate to further the Authority's purposes. The Board shall determine what, if any, financial contribution will be required to equitably reimburse the Study Board for prior costs. Material modifications to the petition made by the Board shall be subject to the approval of the petitioner political subdivision.
- (IV) To approve the petition as filed or as modified, the Board must find that there exists or will exist in the foreseeable future an interrelationship between the Authority and the property contained in the petition, that the inclusion of the property in the Authority will contribute to the fulfillment of the Authority's purposes and such other findings as the Board deems appropriate.

(b) In addition to the method for inclusion furnished in subsection (a) of this subsection (2), the Service Area of the Authority shall include the territory included, annexed, or added to a Participant's boundaries or service area.

(3) (a) Any of the property within the service area of a Participant may be excluded from the Service Area of the Authority prior to the completion of Phase 1 only by an amendment to this

Agreement approved by the governing body of each Participant and the Board and payment of all applicable fees of the Authority for administration and Phase 1 through completion of Phase 1.

(b) Upon the conclusion of Phase 1 and prior to commencement of Phase 2, both as determined by the Board, and upon payment in full of all of the Participant's share of the costs of Phase 1, the Participant may terminate its participation (thereby not becoming a Participant for Phase 2) by sending a letter to the Board.

(c) In addition to the method for exclusion furnished in subsection 3(a) and (b) of this section, the area comprising the Authority shall not include territory disconnected or excluded from a Participant's boundaries or service area.

(d) If a Participant is dissolved or otherwise ceases to exist, then either (I) the plan for dissolution shall contain adequate provisions acceptable to the Authority for the performance of all of such Participant's obligations to the Authority, or (II) all such obligations shall be fully paid prior to the effective date of dissolution.

104. Board of Directors - Membership

(1) Except as provided in subsection (4) of this section, the Authority shall be governed by a board of directors comprised of one member appointed by the governing body of each of the Parties. The members shall serve for terms of four years; except that the members first appointed shall serve terms determined by the Board by lot at the first meeting of the Board as follows:

(a) Two members appointed by Participants with six or fewer votes as shown in section 105(4) hereof shall serve a term of one year.

(b) Three members appointed by Participants with six or fewer votes as shown in section 105(4) hereof shall serve a term of two years.

(c) Three members appointed by Participants with six or fewer votes as shown in section 105(4) hereof shall serve a term of three years.

(d) Three members appointed by Participants with more than six votes as shown in section 105(4) hereof shall serve a term of four years.

(2) Each member serves at the pleasure of the governing body making the original appointment. The governing body making the original appointment shall fill any vacancy by appointment for the remainder of the unexpired term. A member may be reappointed upon expiration of a term.

(3) The Board may establish one or more advisory committees. Any committee established by the Board shall serve solely in an advisory capacity to the Board and members thereof shall serve at the pleasure of the Board.

(4) The Board may include, in its determination to include or exclude property or modifications to an inclusion or exclusion petition, provisions to add or subtract members of the Board for the area so included or excluded and provide for the term of office for any additional member of the Board reasonably consistent with the staggered terms provided in this section.

105. Board of Directors - Organization

(1) The Board member appointed by Centennial Water and Sanitation District shall call and convene the initial organizational meeting of the Board as soon as practicable following the effective date of this Agreement and shall serve as the initial chair. At such meeting, the Board shall adopt, and at any time may amend, bylaws in relation to its meetings and the transaction of its business.

(2)(a) Presence (either in person or by conference telephone) of a majority in number of the members of the Board in office who also represent a majority of the votes described in subsection (4) of this section shall constitute a quorum for the purpose of conducting business and exercising its powers. For example, if there are eleven directors in office, then six of them must be present at a meeting and those six must also hold at least 51 of the 100 votes for a quorum to exist at the meeting.

(b) Action may be taken by the Board upon the affirmative vote of a majority of the votes of its members present. For example, if a quorum exists and the quorum holds 51 total votes, then 26 votes will decide a motion or resolution brought before the Board. (Note that the number of votes, not the number of directors or Participants, is used to decide any motion or resolution of the Board). No vacancy in the membership of the Board shall impair the right of a quorum to exercise all the rights and perform all the duties of the Board. For example, if there are eleven board positions but two vacancies, then a quorum would exist if five members were present who also hold 51 of the 100 votes.

(3) Members of the Board shall receive no compensation but shall be reimbursed for reasonable and necessary actual expenses incurred in the performance of their official duties as members of the Board.

(4) (a) The votes that are cast by any director on a matter to come before the Board shall be equal to the following:

<u>Participant</u>	<u>Votes</u>
Town of Castle Rock	24.00
<u>Centennial Water & Sanitation District</u>	<u>24.00</u>

East Cherry Creek Valley Water & Sanitation District	24.00
Castle Pines North Metropolitan District	3.14
Cottonwood Water and Sanitation District	3.14
Inverness Water & Sanitation District	3.14
Stonegate Village Metropolitan District	3.15
Meridian Metropolitan District	3.15
Pinery Water and Wastewater District	3.14
Roxborough Park Metropolitan District	3.14
Arapahoe County Water and Wastewater Authority	<u>6.00</u>
Total Votes	100.00

(b) Any dispute concerning the number of votes that may be cast by a director shall be determined by the Board.

(c) For Phase 1, the number of votes that may be cast by a given director shall be equal to the percentage of the total costs of Phase 1 that was committed to be paid by the Participant that appointed the director as shown in Section 105(4) hereof, but not including the Phase 1 costs paid by the Participant by the administrative fee imposed by the Board under Section 106(2)(u) hereof.

(d) Any Participant that is delinquent in its payments to the Authority for more than thirty (30) days shall not be allowed to vote on any matter before the Board until paid.

(5) The Board shall reasonably determine any changes in votes resulting from (a) inclusions or exclusions of property or payments or failure to make payments to the Authority that indicate the need for adjustments to percentages of any Participant such that 100% of the Authority's costs are accounted for, or (b) any other cause and any resulting change in the number of directors and amounts paid by Participants to the Authority.

106. Board of Directors - Powers and Duties

(1) The Board shall have the power to investigate, promote, and implement Phase 1 and Phase 2 for Alternatives 3A and 3B and Phase 3 (if any) for the benefit of the Participants.

(2) In addition to any other powers specifically granted to the Board in this Agreement, the Board has the following powers and duties:

(a) To have and to use a seal and to alter the same at pleasure;

(b) To maintain an office at such place as it may designate;

(c) To borrow money and contract to borrow money for the purpose of issuing revenue Bonds, notes, Bond anticipation notes, or other obligations for any of the Authority's corporate purposes and to fund or refund such obligations as provided by statute;

- (d) To sue and be a party to suits, actions, and proceedings;
- (e) To enter into contracts and agreements affecting the affairs of the Authority including, but not limited to, contracts with the United States and the state of Colorado and any of their agencies or instrumentalities, political subdivisions of the state of Colorado, corporations, limited liability companies, partnerships, limited partnerships, associations, organizations, or other legal entities and individuals;
- (f) To acquire, hold, lease, and otherwise dispose of and encumber real and personal property and equipment;
- (g) To acquire, lease, rent, manage, operate, construct, and maintain facilities and improvements;
- (h) To operate water systems for the direct and indirect benefit of the Participants of the Authority, but not within the service area of a Participant without the consent of such Participant;
- (i) To provide for utilities and related services for the Authority, including but not limited to potable water, and non-potable water;
- (j) To make and pass resolutions and rules and regulations which are necessary for the governance and management of the affairs of the Authority, for the execution of the powers vested in the Authority, and for carrying out the provisions of this Agreement;
- (k) To prescribe a system of business administration, to create any and all necessary offices, to establish the powers, duties, and compensation of all employees, and to require and set the amount of all official bonds, if necessary, for the protection of the funds and property of the Authority and to pay for such bonds;
- (l) To appoint and retain employees, agents, engineers, accountants, attorneys and consultants to make recommendations, coordinate Authority activities, conduct routine business of the Authority, and act on behalf of the Authority under such conditions and restrictions as shall be fixed by the Board;
- (m) To adopt plans for the development of Alternatives 3A and 3B and Phase 3 water projects;
- (n) To cooperate with and exchange services, personnel, and information with any federal, state, or local governmental agency;
- (o) To procure insurance against any loss in connection with its property and other assets including loans and loan notes in such amounts and from such insurers as it may determine;

(p) To procure insurance or guarantees from any public or private entity, including any department, agency, or instrumentality of the United States, for payment of any Bonds issued by the Authority, including the power to pay premiums on any such insurance;

(q) To receive and accept from any source gifts or contributions of money, property, labor, or other things of value to be held, used, and applied to carry out the purposes of this Agreement, including but not limited to gifts or grants from any department, agency, or instrumentality of the United States for any purpose consistent with the provisions of this Agreement;

(r) To operate water systems, utilities, and other services related to the Phase 1, Phase 2, or Phase 3 purposes of the Authority as are necessary to serve property within the Authority and promote water conservation, reuse, and development, provided, however, that if such systems, utilities, or services are to be provided within the service area of any Participant, the governing body of such Participant and the Authority shall enter into an agreement prior to operation by the Authority;

(s) To have and exercise the power of eminent domain as allowed by law;

(t) In Phase 2, to fix and from time to time to increase or decrease fees, rates, tolls, penalties, or charges for services, programs, or facilities furnished by the Authority to individual customers. Until paid, all such fees, rates, tolls, penalties, or charges shall constitute a perpetual lien on and against the property served, and any such lien may be foreclosed in the same manner as provided by the laws of this state for the foreclosure of mechanics' liens. Delinquency of any customer in the payment of fees, rates, tolls, penalties or charges may result in the shut off of service without regard to the ownership or occupancy of the premises as provided in rules and regulations to be adopted by the Authority;

(u) To fix a uniform annual administrative fee not to exceed \$5,000 to be imposed upon each Participant, the proceeds of such administrative fee to be used exclusively for: (i) the costs of governmental activities required by state law, including preparation of the Authority's annual budget, audit, notices of meetings, and meeting minutes, (ii) the costs of insurance, legal, accounting, engineering, management services, and rent and supplies, none of which are allocated by the Board to a specific project and payable from project fees or revenues;

(v) To fix and from time to time increase or decrease a fee to be paid by each Participant and to be set by the Authority through an allocation process that reflects the specific costs and benefits associated with the individual Participant's role in a project;

(w) To develop funding mechanisms that provide for meeting the costs of constructing project facilities and other financial obligations and allow for individual Participants to determine how they meet their portion of those obligations, including participation in common funding;

(x) To fix and from time to time increase or decrease fees for water delivered on a wholesale basis by the Authority to Participants for the purpose of funding projects;

(y) To prepare an annual budget substantially in the form required by the Local Government Budget Law of Colorado; however, such budget shall be adopted by October 31 of the current budget year for the ensuing budget year, shall be furnished to the Participants promptly upon adoption, and shall be amended from time to time as allowed by law;

(z) To make surveys and conduct investigations to determine the best manner of utilizing water within and without the Authority and to determine the amount of such water supply, and to locate ditches, works, and reservoirs to store or utilize water for municipal, domestic, irrigation, manufacturing, and all other lawful purposes, and to make filings upon water and initiate appropriations for the use and benefit of the Authority, and to perform all acts and things necessary or advisable to adjudicate water rights or to secure an adequate supply of water, present and future, for municipal, domestic, irrigation, manufacturing, and other lawful purposes;

(aa) To have and exercise all rights and powers necessary to carry out the purposes and intent of this Agreement, including any rights and powers incidental to or implied from the specific powers granted to the Authority by this Agreement and state law;

(bb) Notwithstanding any provision hereof to the contrary, the Authority shall not impose a tap fee or service charge on a retail customer without the consent of the Participant, if any, in which the service address is located; and

(cc) To generate and dispose of electric energy for water works purposes or any other purpose of the Authority, and to lease water facilities or the flow of water for generation of electric energy and may sell surplus energy, provided that nothing herein shall be construed as permitting the Authority to distribute electric energy to the general public.

(3) The Authority has no power to levy a general ad valorem tax.

107. Annual Report The Authority shall, in addition to any other required audit or reporting requirements, present an annual written program and financial report to the governing bodies of the Participants no later than ninety days after the close of the Authority's fiscal year.

108. Bonds

(1) The Authority may, from time to time, issue revenue bonds for any of its corporate purposes under such terms as are allowed by law.

(2) Neither the members of the Board, employees of the Authority, nor any person executing the Bonds shall be liable personally on the Bonds or subject to any personal liability or accountability by reason of the issuance thereof.

109. Investments The Authority may invest or deposit any funds in the manner provided by part 6 of Agreement 75 of title 24, C.R.S.

110. Subdistricts

(1) Whenever the Board determines that it is in the best interests of the Authority to encourage fewer than all of the Participants to cooperate on a service, program, or facility, the Board has the power to establish one or more subdistricts consistent with the services, programs, and facilities to be furnished therein and with the consent of the governing body of each Participant with service area within the subdistrict.

(a) A subdistrict shall be created as a separate legal entity under Section 29-1-203, C.R.S. or water authority under Section 29-1-204.2, C.R.S., shall be an enterprise as defined in section 24-77-102(15), C.R.S., shall act pursuant to the provisions of this Agreement or as approved by the applicable Participants and the Board, shall possess all of the rights, privileges, and immunities of the Authority as limited by the subdistrict's establishing contract, and shall be governed by supervisors as provided in this Section 110.

(b) The directors of the Board who were appointed by Participants that have service areas within the subdistrict shall constitute ex officio the supervisors of the subdistrict. The officers of the supervisors shall be selected by the supervisors and shall consist of a president, secretary, and treasurer.

(c) The subdistrict shall be subject to an action plan for the subdistrict approved by the Board and the applicable Participants, at the time of organization of the subdistrict, which action plan may be amended by the supervisors of the subdistrict from time to time following written notice to the Board.

(d) The Board shall make any determination specified in subsection (1) of this section by resolution adopted at a regular or special meeting of the Board after publication of notice of the purpose of the public meeting and the place, time, and date of such meeting.

(e) The securities or debt of the subdistrict shall be treated separately from the securities or debt of the Authority and shall not be treated as securities or debt of the Authority.

(2) The division of the Authority into one or more subdistricts shall not be deemed to remove or exclude any of the Service Area from the Authority.

111. Transition to Phase 2. If a Participant in Phase 1 elects not to be a Participant in Phase 2, then the Participants that elect to participate in Phase 2 shall either: (a) recalculate the percentage of participation and voting for Phase 2 so that 100% of the Phase 2 costs and voting is accounted for; or (b) make arrangements for the payment of any outstanding financial obligations of the Authority and dissolve the Authority.

112. Transfers of Interests. Any Participant that desires to sell all or part of its interest in the Authority may do so by first offering it to the other Participants according to fair and equitable procedures developed by the Board that allow each Participant the opportunity to participate in the sale.
113. Dissolution of Authority. In the event the Participants dissolve the Authority, the Participants shall distribute the property and benefits of the Authority, following payment of Authority obligations, to the Participants on a pro rata basis based upon their votes as defined in Section 105 hereof. Dissolution shall not impair the rights of any holder of bonds.
114. Miscellaneous Provisions
- (a) Relationship of Parties. This Agreement does not and shall not be construed as creating a relationship of joint venturers, partners, or employer-employee between the Parties.
- (b) Liability of Parties. No provision, covenant or agreement contained in this Agreement, nor any obligations herein imposed upon each Party nor the breach thereof, nor the issuance and sale of any bonds by a Party, shall constitute or create an indebtedness of the other Party within the meaning of any Colorado constitutional provision or statutory limitation. No Party shall have any obligation whatsoever to repay any debt or liability of the other Party.
- (c) Assignment. Neither this Agreement, nor any of a Party's rights, obligations, duties or authority hereunder may be assigned in whole or in part by such Party without the prior written consent of a majority in number and voting rights of the other Parties. Any such attempt of assignment shall be deemed void and of no force and effect. Consent to one assignment shall not be deemed to be consent to any subsequent assignment, nor the waiver of any right to consent to such subsequent assignment.
- (d) Modification. This Agreement may be modified, amended, changed or terminated, in whole or in part, only by an agreement in writing duly authorized by all of respective Boards of Directors of the Participants and executed by the Participants. No consent of any third party shall be required for the negotiation and execution of any such agreement.
- (e) Waiver. The waiver of a breach of any of the provisions of this Agreement by a Party shall not constitute a continuing waiver or a waiver of any subsequent breach by any other Party of the same or another provision of this Agreement.
- (f) Integration. This Agreement contains the entire agreement between the Parties and no statement, promise or inducement made by a Party or the agent of a Party that is not contained in this Agreement shall be valid or binding.
- (g) Authority of Staff and Consultants. Each Party acknowledges that the staff and consultants of the other Parties do not have the authority to bind that Party to any agreement or

modification of this Agreement unless such authority is expressly delegated in writing by the applicable governing body.

(h) Severability. Invalidation of any of the provisions of this Agreement or of any paragraph, sentence, clause, phrase, or word herein, or the application thereof in any given circumstance, shall not affect the validity of any other provision of this Agreement.

(i) Survival of Obligations. Unfulfilled obligations of a Party arising under this Agreement shall be deemed to survive the expiration or termination of this Agreement and the completion of payment for the projects that are the subject of this Agreement, and shall be binding upon and inure to the benefit of the Parties and their respective successors and permitted assigns.

(j) Governing Law. This Agreement shall be governed and construed in accordance with the laws of the State of Colorado. Venue for all actions arising under this Agreement shall be exclusive in the District Court in and for either Arapahoe County or Douglas County.

(k) Headings for Convenience Only. The headings, captions and titles contained herein are intended for convenience and reference only and are not intended to define, limit or describe the scope or intent of any of the provisions of this Agreement.

(l) Notices. All notices, certificates, agreements or other communications hereunder shall be sufficiently given and shall be deemed given when personally delivered or upon three business days following mailing by registered or certified mail, postage prepaid, addressed as follows:

Town of Castle Rock
175 Kellogg Court
Castle Rock, CO 80109
Attn: Ron R. Redd

Roxborough Park Metropolitan District
6222 N. Roxborough Park Rd.
Littleton, CO 80125
Attn: Larry D. Moore

Centennial Water & Sanitation District
62 West Plaza Drive
Highlands Ranch, CO 80126-2304
Attn: John Hendrick

Castle Pines North Metropolitan District
7404 Yorkshire Drive
Castle Rock, CO 80104
Attn: Judy Dahl

East Cherry Creek Valley Water & Sanitation District
4343 S. Buckley Road, #300
Aurora, CO 80015
Attn: David J. Kaunisto

Cottonwood Water and Sanitation District
Inverness Water & Sanitation District
c/o Mulhern MRE, Inc.
2 Inverness Drive East, Suite 200
Englewood, CO 80112
Attn: Patrick F. Mulhern

Stonegate Village Metropolitan District
6399 S. Fiddler's Green Circle, Suite 102
Greenwood Village, CO 80111-4974
Attn: Ray S. Wells

Pinery Water and Wastewater District
PO Box 1660
Parker, CO 80134
Attn: Charles Krogh

Meridian Metropolitan District
8350 E. Crescent Parkway, Suite 100
Englewood, CO 80111
Attn: Ray Bullock

Arapahoe County Water and Wastewater
Authority
13031 E. Caley Ave.
Englewood, CO 80111
Attn: Gary Atkin

And with a copy to:

Grimshaw & Haring, P.C.
1700 Lincoln Street, Suite 3800
Denver, CO 80203-4538
Attn: Norman F. Kron

or at other such addresses as said parties may hereafter or from time to time designate by written notice to the other parties given in accordance with this Section.

(m) Recording. This Agreement may be recorded in the real property records of Douglas County and/or Arapahoe County, Colorado by any Party.

(n) Fair Dealing. In all cases where the consent or approval of one Party is required before the others may act, or where the agreement or cooperation of a Party is separately or mutually required as a legal or practical matter, then in that event the Parties agree that each will act in a fair and reasonable manner with a view to carrying out the intents and goals of this Agreement as the same are set forth herein, subject to the terms hereof; provided, however, that nothing herein shall be construed as imposing on any Party any greater duty or obligation to the other than that which already exists as a matter of Colorado law, including but not limited to any fiduciary duty or other responsibility greater than that of reasonable parties contracting at arms length.

(o) Force Majeure. A Party shall be excused from performing its obligations under this Agreement during the time and to the extent that it is prevented from performing by a cause beyond its control, including, but not limited to: any incidence of fire, flood, or strike; acts of God; acts of the government; war, or terrorism, or civil disorder; violence or the threat thereof; severe weather; commandeering of material, products, plants, or facilities by the federal, state, or local government; national fuel shortage; when satisfactory evidence of such cause is presented to the other Parties, and provided further that such nonperformance is beyond the reasonable control of, and is not due to the fault or negligence of the Party not performing.

(p) Enforcement Costs. This Agreement may be enforced in law or equity, by a decree of specific performance, damages, or such other legal and equitable relief as may be available to a Party. The prevailing Party in any action to enforce this Agreement shall be entitled to receive reasonable attorney's fees and costs.

(q) Defense Against Third Parties. In the event of litigation by any third party concerning this Agreement, the recording, enforceability, or interpretation thereof, the Parties agree to jointly defend any such third party action unless advised by their respective counsel that the Rules of the Colorado Supreme Court, by their terms or in practice, effectively prohibit such joint defense.

(r) No Third Party Beneficiaries. There are no express or implied third party beneficiaries of this Agreement. No third party has any right to enforce this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the day and year first above written.

ATTEST:

Billy A. Murr

TOWN OF CASTLE ROCK

Ray Watson

ATTEST:

CENTENNIAL WATER & SANITATION DISTRICT

Secretary

President

ATTEST:

EAST CHERRY CREEK VALLEY WATER
& SANITATION DISTRICT

Secretary

President

ATTEST:

ROXBOROUGH PARK METROPOLITAN
DISTRICT

Secretary

President

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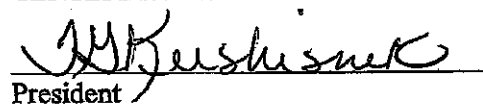
ATTEST:

TOWN OF CASTLE ROCK

ATTEST:


Secretary

CENTENNIAL WATER & SANITATION DISTRICT


President

ATTEST:

EAST CHERRY CREEK VALLEY WATER
& SANITATION DISTRICT

Secretary

President

ATTEST:

ROXBOROUGH PARK METROPOLITAN
DISTRICT

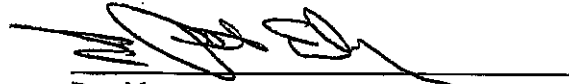
Secretary

President

ATTEST:


Secretary

EAST CHERRY CREEK VALLEY WATER
& SANITATION DISTRICT


President

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Secretary

ROXBOROUGH PARK METROPOLITAN
DISTRICT

President

ATTEST:

Secretary

CASTLE PINES NORTH METROPOLITAN
DISTRICT

President

ATTEST:

Secretary

COTTONWOOD WATER AND
SANITATION DISTRICT

President

ATTEST:

Secretary

INVERNESS WATER & SANITATION DISTRICT

President

ATTEST:

Secretary

STONEGATE VILLAGE METROPOLITAN
DISTRICT

President

ATTEST:

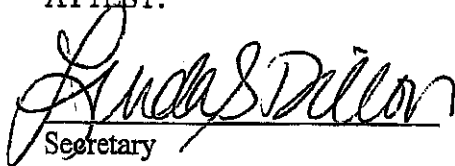
EAST CHERRY CREEK VALLEY WATER
& SANITATION DISTRICT

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President

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DISTRICT


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President

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CASTLE PINES NORTH METROPOLITAN
DISTRICT

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President

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SANITATION DISTRICT

Secretary

President

ATTEST:

INVERNESS WATER & SANITATION DISTRICT

Secretary

President

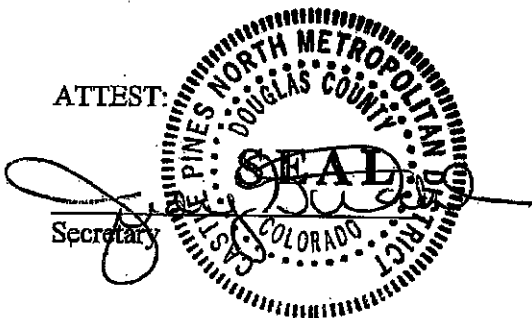
ATTEST:

STONEGATE VILLAGE METROPOLITAN
DISTRICT

Secretary

President

ATTEST:



Secretary

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CASTLE PINES NORTH METROPOLITAN
DISTRICT

President

COTTONWOOD WATER AND
SANITATION DISTRICT

President

INVERNESS WATER & SANITATION DISTRICT

President

STONEGATE VILLAGE METROPOLITAN
DISTRICT

President

MERIDIAN METROPOLITAN DISTRICT

President

PINERY WATER AND WASTEWATER DISTRICT

President

ATTEST:

CASTLE PINES NORTH METROPOLITAN
DISTRICT

Secretary

President

ATTEST:

COTTONWOOD WATER AND
SANITATION DISTRICT



Secretary



President

ATTEST:

INVERNESS WATER & SANITATION DISTRICT



Secretary



President

ATTEST:

STONEGATE VILLAGE METROPOLITAN
DISTRICT

Secretary

President

ATTEST:

MERIDIAN METROPOLITAN DISTRICT

Secretary

President

ATTEST:

PINERY WATER AND WASTEWATER DISTRICT

Secretary

President

ATTEST:

CASTLE PINES NORTH METROPOLITAN
DISTRICT

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SANITATION DISTRICT

Secretary

President

ATTEST:

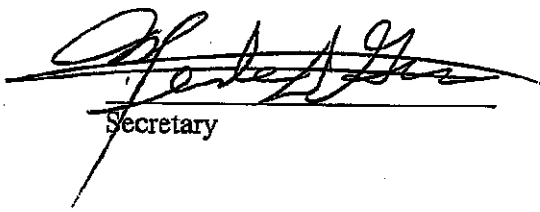
INVERNESS WATER & SANITATION DISTRICT

Secretary

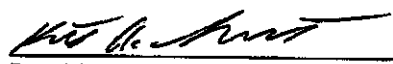
President

ATTEST:

STONEGATE VILLAGE METROPOLITAN
DISTRICT



Secretary



President

ATTEST:

MERIDIAN METROPOLITAN DISTRICT

Secretary

President

ATTEST:

PINERY WATER AND WASTEWATER DISTRICT

Secretary

President

ATTEST:

CASTLE PINES NORTH METROPOLITAN
DISTRICT

Secretary

President

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COTTONWOOD WATER AND
SANITATION DISTRICT

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ATTEST:

INVERNESS WATER & SANITATION DISTRICT

Secretary

President

ATTEST:

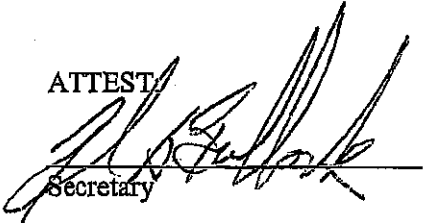
STONEGATE VILLAGE METROPOLITAN
DISTRICT

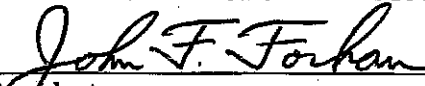
Secretary

President

ATTEST:

MERIDIAN METROPOLITAN DISTRICT


Secretary


vice-President

ATTEST:

PINERY WATER AND WASTEWATER DISTRICT

Secretary

President

ATTEST:

CASTLE PINES NORTH METROPOLITAN
DISTRICT

Secretary

President

ATTEST:

COTTONWOOD WATER AND
SANITATION DISTRICT

Secretary

President

ATTEST:

INVERNESS WATER & SANITATION DISTRICT

Secretary

President

ATTEST:

STONEGATE VILLAGE METROPOLITAN
DISTRICT

Secretary

President

ATTEST:

MERIDIAN METROPOLITAN DISTRICT

Secretary

President

ATTEST:

PINERY WATER AND WASTEWATER DISTRICT

Roderick L. Yarbrough

Secretary

[Signature]

President *Acting Chairman*

ATTEST:

Linda Kewney
Secretary

ARAPAHOE COUNTY WATER AND
WASTEWATER AUTHORITY

Shirley A. Mackenzie
President



QWEL APPLICATION FOR ADOPTING PROFESSIONAL CERTIFYING ORGANIZATIONS

An organization wishing to utilize the Qualified Water Efficient Landscaper (QWEL) training program can initiate adoption by submitting this *Application for Adopting Professional Certifying Organizations (PCO's)* to the Sonoma-Marin Saving Water Partnership (Partnership).

Submit application and attachments to:
Sonoma-Marin Saving Water Partnership
c/o Gregory Plumb
gregory.plumb@scwa.ca.gov
Sonoma County Water Agency
404 Aviation Boulevard
Santa Rosa, CA 95403

Adopting PCO General Information

Type of Organization:

- ☐ Retail water agency with 3,000 or less connections, non-governmental organizations and education institutions
- ☐ Retail water agency with more than 3,000 connections
- ☐ Wholesale water agency

Organization Name: South Metro Water Supply Authority

Primary Contact Name: Lisa Darling

Primary Contact Address: 8400 E. Prentice Ave. Unit 315

City: Greenwood Village State: CO ZIP: 80111

Billing Address: 8400 E. Prentice Ave. Unit 315 Greenwood Village CO 80111

Telephone: 720-216-5158 Email: lisadarling@southmetrowater.org

Checklist for Submittal to Sonoma-Marin Saving Water Partnership

Prior to approval the following items must be provided to the Partnership.

- ☐ Revise *Section One: Where our Water Comes From* to comply with QWEL Policies and Procedures.
- ☐ Names, titles and resumes for each person teaching or administering the QWEL program and the role that they will serve.
- ☐ Documentation proving the Adopting PCO is a legal entity or part of a legal entity.
- ☐ In the event that the Adopting PCO contracts with another organization for work related to QWEL, provide a copy of the legally binding contract used to ensure the Adopting PCO will take responsibility for contracted work and shall maintain ultimate responsibility for all certification-related decisions.

Program Fees

Onboarding Fee

Invoice sent by Partnership, payable within 90 days of date of receiving this application.

Type of Organization	Fee
Retail water agency with 3,000 or less connections, non-government organizations, and educational institutions	\$1,000
Retail water agency with more than 3,000 connections	\$2,500
Wholesale water agency	\$10,000

Ongoing Fees

Invoiced annually by Partnership, payable by March 31.

Number of Certified Professionals as of December 31	Fee
0 to 100	\$500
101 to 500	\$1,000
501 to 1,000	\$1,500
1,001 to 2,500	\$2,500
2,501 to 5,000	\$5,000

EPA Eligibility Requirements for Adopting QWEL

An organization may adopt a WaterSense labeled program offered by a Parent PCO, provided it is approved by the Parent PCO to meet the following minimum requirements:

- Institutional stability
- Subcontracting
- Management of certified professionals' eligibility requirements
- Security of assessment instruments
- Procedures to revoke certification from certified professionals

The Adopting PCO will agree to adhere to all *QWEL Policies and Procedures*. These procedures ensure that the applicant shall operate in compliance with the *WaterSense Professional Certification Program Labelling System*. Adopting PCO is responsible for the impartiality of their professional certification

program activities and not allow commercial, financial, or other interests to compromise their impartiality.

EPA WaterSense Approval Process

Upon approval of this application, the Partnership (Parent PCO) will provide the Adopting PCO with the following required EPA WaterSense forms:

- Application for Certifying Organization Approval
- Professional Certifying Organization Partnership Agreement

Adopting PCO Approval

By signing this application, I confirm that all the information included in this form is accurate and true, and that the organization named above is structured so as to give confidence in its competence and integrity to offer QWEL.

Print Name: Lisa Darling

Title: Executive Director

Signature: _____

Date: _____

Parent PCO Approval

By signing this application, I confirm that the Sonoma-Marín Saving Water Partnership has reviewed all the information referenced in this form and affirm that the Adopting PCO named above has met all of the requirements referenced.

Print Name: _____

Title: _____

Signature: _____

Date: _____

MEMO



TO: Lisa Darling
South Metro Water Supply Authority

FROM: Beorn Courtney and Logan Burba
ELEMENT Water Consulting, Inc.

DATE: May 15, 2018

RE: Executive Summary and Board Update: SMWSA Regional Efficient Landscape and Irrigation Certification Program

1. Background

In 2015, SMWSA partnered with Douglas County to identify outdoor water conservation and water efficiency efforts that could benefit the region and to promote regional partnering, and to better understand the nexus between water and land use planning. This effort led to the development of the Model Regional Water Efficient Landscape and Irrigation Ordinance (“Model Ordinance”) to support consistent, locally vetted landscape and irrigation practices for utilization by any of the SMWSA member organizations in their own local ordinance. The Model Ordinance was finalized and accepted with support by the SMWSA board and members in early 2017.

Around the same time, the concept of developing a landscape and irrigation contractor certification program was broadly recommended by SMWSA and its members as well as Douglas County, with the directive to focus the program on education and training to implement a standardization of agreed-upon best management practices. Water providers indicated that a statewide, or at least regional, certification program would be preferable over utility-specific programs to promote standardized messaging and reduce utilities’ administrative requirements to maintain the program. A standardized certification program could also provide opportunities to leverage enforcement and/or compliance across the region regarding proper installation and maintenance. This effort was supported by the Colorado Water Conservation Board (“CWCB”) through the award of a grant through the Water Conservation Implementation and Public Education and Outreach Program grant fund.

2. QWEL Selection

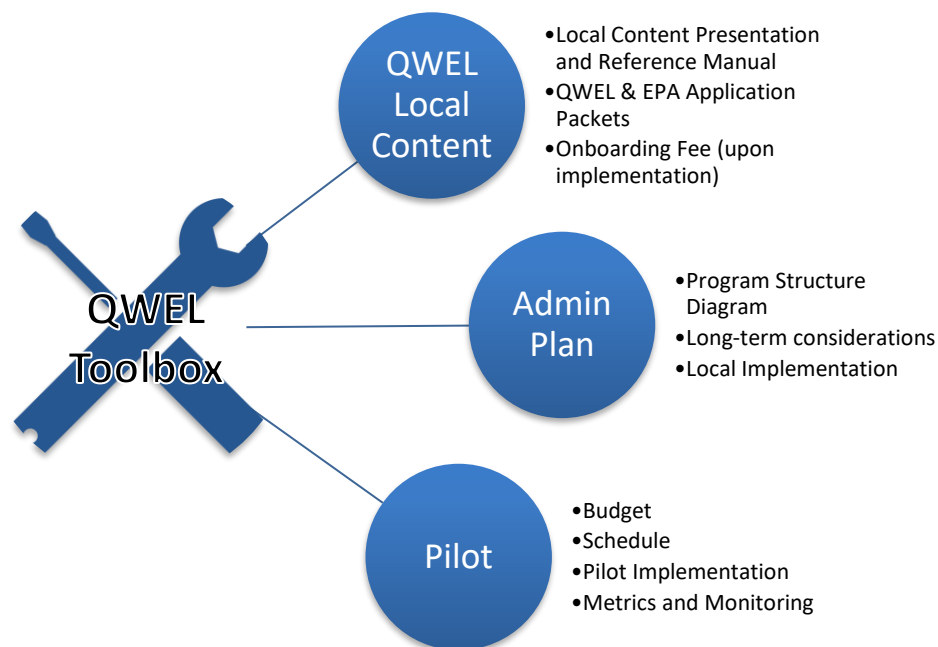
During initial planning, the SMWSA staff and Conservation Subcommittee investigated three major options for a regional landscape and irrigation certification program: 1) the Irrigation Association certification (IA); 2) the Qualified Water Efficient Landscaper (QWEL) program; and 3) a locally developed program. The QWEL program, which provides landscape professionals and contractors with approximately 20 hours of education on principles of landscape water management including proper plant selection for the local climate, irrigation system design and maintenance, and irrigation system programming and operation, was selected. The QWEL certification is currently offered in six states across the nation; however, there are currently no utilities offering the program in Colorado.

3. QWEL Toolbox

SMWSA hired ELEMENT Water Consulting (“ELEMENT”) to work with SMWSA to develop the program structure and administrative plan to support the initial start-up and plan for implementation of the regional certification program and to assist with CWCB grant administration. Efforts included the preparation of application materials for SMWSA to apply for approval with QWEL and the EPA

WaterSense to implement the QWEL program, refinement and development of local curriculum content, and development of budget worksheets, operational schedule, and program structure for both initial pilot program implementation and for ongoing program operations.

Creating, implementing, and operating a regional program for certification of landscaping professionals involves multiple instruments for success, which led to the development of a project Toolbox structure to support this program. This Toolbox provides interactive and living worksheets and resources to “build” a successful regional landscape certification program, providing ongoing support for SMWSA to effectively implement and operate this program and allowing for future flexibility and innovation. The QWEL Program Toolbox has been prepared in three key topic areas: 1) QWEL Local Content and Training Materials; 2) Administration Plan; and 3) Pilot Implementation, Monitoring, & Evaluation. The diagram below shows generally what is included under each of these topic areas.



4. Next Steps

On February 8, 2018, SMWSA shared a full draft of the above described Toolbox and associated documents and tools with the Conservation Subcommittee for review. Comments have been requested by February 23, 2018 for incorporation to provide a final draft to the SMWSA membership to discuss and review at the March 2018 board meeting. Materials will be finalized following any comments received following the board meeting and provided to the SMWSA for support during program implementation and operation. At this point, grant commitments will be fulfilled and ELEMENT will help finalize CWCB reporting to release final grant reimbursement. SMWSA will work with the board and members to finalize the program implementation structure and schedule to meet membership needs and goals.