

Looking for Win-Win Solutions to Grow Sustainable Residential Landscapes in the Town of Concord

Landscape and Irrigation Industry Interview Findings

Prepared for:
Water and Sewer Division
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Study Objective

Aceti Associates was contracted by the Town of Concord, MA to conduct interviews with representatives of landscape and irrigation companies, their trade associations and the university extension agents who provide them with training and technical assistance. The interviews were part of the process of designing programs to promote water efficient lawn care and irrigation practices among Concord residents who are in the top 10% of residential water users.

Anecdotal evidence suggests that these high water users often have in-ground irrigation systems and hire irrigation companies to maintain them. They also frequently hire one or more contractors to provide lawn care, most commonly to do fertilizer and pesticide applications and to mow the grass. They may also hire professionals to do landscape design and installation. Therefore, contractors are likely to be making decisions that determine how much water a landscape needs or gets. Focus group research with high water users also indicated that these residents often get information about lawn and garden care from their contractors.

It seems likely that municipal efforts to promote outdoor water efficiency would be more effective if the Town were engaging directly with contractors as well as with residents. Through these interviews, the Town explored the possibility of collaborating with the landscape and irrigation industries to promote outdoor water efficiency on private property in Concord. The interviews were conducted in February, March and April, 2006, and addressed the following issues:

- ② Are there water efficient lawn care, landscaping and irrigation practices that also have the potential for generating additional revenue for contractors?
- ② Could joint promotion of these practices form the basis of a collaboration between the industries and the Town?
- ② What barriers do companies face in offering/selling these services to their customers?
- ② What could the Town do to help sell these practices to residents?
- ② What information would need to be communicated to the irrigation companies used by residents in order to turn water efficient lawn care and landscaping practices into actual water savings?
- ② What concerns might companies have about collaborating with the town on a project like this?
- ② What advantages might companies hope to gain from collaborating with the Town on a project like this?
- ② What times of year are best for working with the industries to plan a project like this? To conduct joint promotion to residents?

Interviewees from three irrigation companies and two landscape companies were recruited from lists of contractors working in Concord. Companies were

offered a \$150 stipend to participate in a 1½ hour interview. Representatives of the Irrigation Association, the Irrigation Association of New England, the Ecological Landscaping Association and the Massachusetts Association of Lawn Care Professionals also agreed to be interviewed. Two representatives of the University of Massachusetts Extension Turf Program were interviewed as well. One Extension Educator attended an interview primarily in her role as a board member of the Massachusetts Association of Lawn Care Professionals. Neither the trade association representatives nor the extension staff were compensated for their time.

The number of interviews conducted was small, so validity of the findings should be viewed with some caution. Where there was agreement among several or numerous interviewees on a particular point, that is noted.

Key Findings

- ④ Landscape contractors fall into two categories: landscape construction companies (plant and hardscape installation) and landscape maintenance companies (mowing, edging, mulching, etc). Some large companies have construction and maintenance divisions, but the trend in the industry has been towards specialization. Pest control contractors, another category of company, apply fertilizers and pesticides.
- ④ A number of interviewees, both from the landscaping and the irrigation professions, stated that water savings are affected much more by the irrigation practices used by contractors and homeowners than by lawn care and landscaping practices used by these individuals.
- ④ Almost half of the interviewees indicated that lack of topsoil is a problem in newer subdivisions, meaning that moisture retention is poor and a lot of water is needed to keep grass alive. The Town should consider requiring developers to put back at least four inches of topsoil under new lawns in order to receive a sign off from the building inspector.
- ④ Soil tests, aeration, top dressing with compost, drought resistant plantings, overseeding/slice seeding, lime applications and annual mulching were mentioned as water efficient landscaping practices that would be sources of additional revenue for landscape contractors.
- ④ Several interviewees from the landscaping profession felt strongly that variations in customer expectations about their landscape, as well as variations in the landscapes themselves, makes it difficult to select one water efficient landscaping practice to promote across the board. For this reason, several interviewees stressed the importance of having knowledgeable landscapers assess a property's needs. However, knowledge levels among landscapers vary widely.
- ④ Promoting one water efficient landscaping practice would not provide financial benefits to all landscapers, either. One contractor interviewed already aerates each of his customer's properties annually. Another mulches 90% of his customers' properties annually, but could bring in additional revenue if more customers requested aeration.

- ☉ Most interviewees in the landscape profession stated that top dressing with compost can benefit turf. However, there were numerous concerns about this practice, among them that it would take many, many years to improve the moisture retention of the soil through top dressing. There were concerns about how it would sell year after year, when people would have to worry about walking out their door, tracking in it and smelling its unpleasant odor. There were concerns about finding high quality, affordable compost, concerns about the cost of spreading it and concerns that top dressing with compost could damage a lawn if done improperly. The barriers to joint promotion of top dressing appear to be substantial. However, the responses of several interviewees indicate that if the town is willing to look at promoting top dressing as a long term investment in water use reduction, it may be worth exploring the possibility of working with selected landscapers who are more open to this practice and whose clients may be as well.
- ☉ Drought resistant grasses and other plantings were often mentioned by interviewees as an important water efficient landscaping practice that would also be a source of additional revenue. Due to time constraints, little information was gathered from interviewees about the barriers and benefits of promoting this practice. However, people's lack of familiarity with this option and damage to bushes and perennials caused by deer were mentioned as problems.
- ☉ One landscaper offered to install drought resistant plantings on a traffic island in Concord, as a way of increasing people's familiarity with them and increasing the landscaper's own visibility.
- ☉ Mowing high does not offer landscape contractors the opportunity to bring in additional revenue. It simply means that the landscaper will set the mower blades higher when mowing is done.
- ☉ There was some agreement among interviewees that mowing high promotes healthy turf by producing a deeper root system, especially in combination with deep, infrequent watering. A number of interviewees from the landscaping and irrigation professions asserted that mowing high reduces watering needs. However, the UMass Extension staff who were interviewed provided differing opinions on this topic. One staffperson stated that mowing high does not reduce watering needs and that cutting grass to a height of 1.25 to 1.5 inches is fine. Another staffperson indicated that a grass height of 2.5 to 3.5 inches is the most efficient water user.
- ☉ Both of the landscape contractors interviewed said that they cut grass to 2.5 inches in the spring and 3.25 to 3.5 inches in the summer.
- ☉ Several interviewees indicated lawns are cut short because some landscapers and some customers like that look.
- ☉ Aeration benefits lawns by breaking up thatch and relieving compaction. If there is too much thatch, the water gets stuck on top and evaporates away. Aeration helps prevent long-term deterioration in the health of a lawn. However, although aeration is not expensive, it can be hard for people to understand the value of it, especially if their lawn is looking good.

- ② Several interviewees commented that it can be difficult to determine the reduction in the amount of water needed as a result of water efficient landscaping practices. There are a number of variables involved and there are no cookbook recipes.
- ② However, interviewees from both the irrigation and landscaping professions were asked what type of information would need to be communicated, and to whom, in order for water efficient landscaping practices to result in reduced water use.
 - Information about reduced water needs would need to be communicated to whomever sets the controller throughout the season. Based on responses from interviewees, it appears that the property owner often controls the controller, although there are times when the landscape or irrigation contractor does so, especially for high-end customers. A conversation between the landscaper and whomever sets the controller was suggested as an effective way to communicate reduced water needs. This conversation could be supplemented or replaced by a checklist. A well-designed checklist could serve as a user-friendly way for the landscaper to communicate recommended controller settings. The checklist would be provided to the property owner, who would use it himself or pass it along to his irrigation contractor, if appropriate.
- ② The landscaper could also use the checklist to facilitate a conversation with the client about standard best practices for water efficient irrigation, such as deep, infrequent watering. A number of interviewees thought that a checklist of best practices would be a good educational tool, and agreed that it would be helpful to have the best practices endorsed by as many trade associations and other organizations as possible. Widespread endorsement will lend credibility to the recommended practices on the list. This is important, because residents receive differing advice on water needs from contractors with widely varying levels of knowledge.
- ② Water efficient irrigation practices that would bring in additional revenue for irrigation companies include:
 - A system monitoring service in which the contractor visits once per month and adjusts the controller to deliver seasonal water needs (One of the landscapers interviewed includes this task in the service he provides to some of his clients. It is possible that a system monitoring service could be a business opportunity for landscape contractors as well as irrigation contractors);
 - Installing well designed irrigation systems with evenly matched precipitation rates and zones that deliver the differing amounts of water needed on different parts of a property;
 - Irrigation audits;
 - Replacement of antiquated controllers and sprinkler heads with state of the art equipment;
 - Installing SWAT controllers
 - Motivating more customers to pay for the repair of leaking or maladjusted heads that are identified during spring start up. Trade association and extension service staff asserted that most

companies don't do repairs during spring start up, because time spent installing new systems is more profitable than checking and repairing existing systems. However, all three irrigation companies interviewed said that when they start up a system they adjust heads if necessary, repair/replace broken or leaky heads and repair cracked pipes. Two of the three contractors interviewed said that the percentage of customers who decline to have such repairs done is small. Therefore, motivating more customers to pay for repairs does not appear to be a significant business opportunity.

- ④ Not all irrigation system owners have their contractor start up their system in the spring. The percentage of customers who start up their own system is 25%, 25% and 50% for the three irrigation companies interviewed. Interestingly, one contractor starts up systems for 75% of his customers overall, but for 95% of his Concord customers.
- ④ Some customers who start up their own system will notice broken, leaking or maladjusted heads or leaking pipes, and will request a service call from their contractor.
- ④ The three irrigation contractors interviewed indicated that 90% of their customers have rain sensors installed on their systems. Further, all three routinely install them on new systems. Due to the high level of saturation, installation of rain sensors is not a good source of new revenue for these contractors.
- ④ While most systems have rain sensors, they don't always work. Problems include:
 - The wires can get cut by weed whackers;
 - They don't trigger because they are not located in a place where they are in direct contact with falling rain. 100% humidity *should* trigger them, but if they are not located properly, putting them on a more sensitive setting can help.
 - They don't reactivate quickly after rain and so customer thinks the system is broken.
- ④ If a customer is not sure their rain sensor is working, the Town should consider encouraging people to call their irrigation contractor. Most companies will talk the customer through the process of checking it at no charge.
- ④ There were differences of opinion among interviewees regarding whether people care if their irrigation system is running in the rain. While a trade association representative felt that people do not care, the irrigation contractors interviewed felt that people are at least as likely to care as not.
- ④ It is not typical for contractors in the east to offer irrigation audits, especially not to homeowners. None of the three companies interviewed currently offer formal irrigation audits to their customers.
- ④ Two of the three irrigation contractors interviewed would be interested in offering audits to their customers, even though the Town offers them to residents for free. They feel that the customer may prefer to deal directly with their irrigation company because a working relationship already

exists, and because of enforcement concerns, should the Town's auditor uncover regulatory violations on their property.

- ② Barriers that contractors face in offering irrigation audits to their customers may include:
 - Lack of certified auditors on staff
 - Lack of motivation to gain the necessary qualifications
 - Discomfort with the idea of branching out to provide audits that would include, for example, making recommendations on water efficient landscaping practices.
 - Lack of time during the busy season.
 - Lack of recognized value of an audit to the customer.
- ② There was some feeling among the irrigation contractors interviewed that that being able to calculate payback periods precisely for customers would increase the sales of water-saving repairs and equipment upgrades.
- ② July and August are the slowest months of the "on-season" for irrigation contractors, and would be the most convenient time for them to perform audits. However, there was some agreement that audits performed in June would be of greatest benefit to customers, since that would give customers a chance to make water-saving improvements before the heat of the summer and before vacation season. Further, marketing audits in June would roughly coincide with the arrival of second quarter water bills.
- ② Audits performed in June would also reduce the number of calls that irrigation contractors receive during the summer due to customer concerns about brown spots on their lawn. These calls occur because customers fail to set their controller for summer watering needs.
- ② There was some feeling that people would be most receptive to the idea of an irrigation audit after having received the third quarter water bill, likely to be the highest of the year. This is when irrigation contractors get most of the calls from people concerned about the size of their bill.
- ② One contractor suggested that as an incentive to have their irrigation system audited, the Town should consider providing a rebate to residents if they have their irrigation contractor perform an audit. Further, as an incentive for residents to carry out repairs and improvements recommended as the result of an audit, the Town should consider asking irrigation contractors to provide a partial rebate to customers who follow through and contract with them to perform the repairs/upgrades.
- ② Interviewees in both the irrigation and landscaping professions see a strong need to educate the consumer on proper irrigation practices. Problems include:
 - People begin watering earlier in the year than they need to and continue later in the year than necessary;
 - People aren't aware of the need for seasonal changes in lawn watering needs;
 - People don't know how to use their controller (One of the irrigation contractors interviewed gave a dissenting view on this. He estimates that 80% of his customers know how to make adjustments using their controller and do so on a weekly or seasonal basis.);

- Even during the times of year when watering is appropriate, people over water. They don't understand how much water their lawn and plants need.
- While more water is needed when a lawn is first installed, some people keep their controller on that setting forever;
- People may run drip irrigation zones created for bushes forever, even though they are only needed for the first year.
- ☉ Responses from the irrigation contractors interviewed indicate that even when a contractor does start up a system in the spring, there is a good chance that he will not program the controller. Two of the three contractors interviewed indicated that they rarely or never program the controller when they start up a system. One of the contractors purposefully installs irrigations systems that don't require the customer to be home during spring start up, meaning that the technician doesn't even have access to the controller.
- ☉ Interviewees offered their opinions on the communication avenues they thought would be effective for promoting water efficient landscaping and irrigation practices to Concord residents
 - Most people read their town's summer recreation schedule. Put a small booklet in that.
 - The municipal cable station.
 - Radio and television shows, such Extreme Garden Makeover, which Channel 5 meteorologist David Epstein, Paul Perrin, and columns, such as Carol Stoker's gardening column in the Sunday Boston Globe.
 - Notices on people's water bills.
 - Signs in front of the local fire station similar to the ones that publicize a town's water bans.
 - Personal communication with their landscaper or irrigation contractor. Regarding how much to water their lawn, there was some feeling that people would be more likely to trust information provided by their landscape contractor than their irrigation contractor, because they pay their landscape contractor much more than their irrigation contractor on an annual basis and because they are likely to have more contact with their landscape maintenance personnel (weekly or every other week) than with their irrigation contractor (once or twice per season). However, the contractor applying pesticides and fertilizer was also cited as a common source of information on watering needs.
- ☉ Several interviewees cast some doubt on Concord residents' interest in learning about water efficient landscaping and irrigation practices, indicating that most of their Concord customers just want it taken care of for them.
- ☉ Messages that interviewees thought would resonate with people include:
 - Good basics on planting with an emphasis on water conservation. "How to learn about what your property needs." "Tune into the Concord TV channel and we'll teach you...." From a horticultural standpoint...."

- “We’re on your side. We don’t want to charge you \$1,000 per season for water. We’d rather charge you \$200.” This type of message would allay perceptions that the Town’s water conservation rates are just another “tax.”
- ④ The irrigation association trade associations and several of the irrigation contractors suggested that Concord consider requiring irrigation contractors to be certified in some fashion, in order to work in Town. They believe that a lot of water waste occurs because many of those installing and maintaining irrigation systems aren’t well trained. Interviewees from the Massachusetts Association of Lawn Care Professionals also stressed the need to educate people about the importance of hiring licensed, qualified professionals. This helps ensure that people are hearing consistently accurate information about lawn watering and lawn care practices.
- ④ Interviewees had a number of ideas about how the Town could help contractors market water efficient landscaping and irrigation practices to residents.
 - Numerous interviewees suggested that the Town compile a list of contractors qualified to provide services that will reduce the amount of water used in lawn and garden care. These services might include irrigation system audits, an irrigation system monitoring service, soil tests, aeration, installation of drought resistant plants, etc. It would be important to make sure that all listed contractors routinely comply with regulations and are skilled in providing the recommended services.
 - Both the Town and the contractors themselves would distribute this list to Concord residents through a variety of means.
- ④ Motivations for a contractor to collaborate with the Town on a joint promotional project might include:
 - a common understanding of the need to use less water;
 - interest in playing an important role in reducing water waste;
 - doing something good in one’s community;
 - being stewards of the land and of the environment;
 - being recognized and promoted by the town for one’s high level of professional knowledge;
 - having visibility on environmental protection, which potential customers in Concord and surrounding communities care about;
 - increasing the likelihood of being called for a quote, as a result of being on a select list of contractors that is distributed to Concord residents;
 - the possibility of bringing in more revenue;
 - decreasing the likelihood of irrigation system bans;
 - the incentives that the project provides for all contractors to comply with regulations and do good quality work. Thus, the existence of the project decreases the likelihood of being undercut by unscrupulous or unqualified competitors;
- ④ Concerns that a contractor might have about collaborating with the Town on a joint promotional project include:

- the possibility of some participating contractors not complying with regulations and thereby undercutting responsible contractors on price;
 - the town requiring additional and excessive permits or fees from contractors;
 - the town using this project to enhance its ability to enforce current regulations on contractors or homeowners;
 - the town limiting the contractor's business in any way;
 - threats that irrigation systems will be banned.
 - contractors not hearing about the project before the public does, or not being given plenty of time to prepare for the joint promotional effort;
 - not understanding what is in it for them and what it's going to cost them in time and money; and
 - the word "partnership," which can connote the Town having a voice in the contractor's business. The word "collaboration" is better.
- Ⓢ A number of contractors from both the irrigation and landscaping professions indicated that they would be willing to invest money in promotional materials as part of their involvement in the project. One of the contractors did indicate that a strong educational effort from the Town would be needed to convince him to invest resources in the joint promotional effort.
 - Ⓢ January and February are the best months of the year for contractors to work with the Town to prepare for a joint promotional effort.
 - Ⓢ In addition to collaborating with irrigation and landscape contractors directly, collaborations with other entities may also benefit the project. A potential collaboration might involve the Town, the UMass Extension Service and the Irrigation Association. The UMass Extension Educator asserts that irrigation system installers are knowledgeable about the mechanical aspects of irrigation systems, but not as often about plant growth, soil dynamics, etc. Her opinion is that the Irrigation Association (IA) does a great job of educating and certifying people, but there are a lot of contractors who aren't involved with them. She suggests identifying contractors that are doing business in Concord and putting together a training specifically for them, using IA curricula and IA instructors from this area. She would also be happy to discuss offering coursework to irrigation contractors through the UMass Extension Service.
 - Ⓢ It was pointed out that some people are joiners and some people are not. Some are comfortable in a professional group, and others are not. This may be a barrier to reaching some contractors with training.

Recommendations

- ② **Carry out a joint promotion project.** The interview results indicate that the landscape and irrigation industries are motivated to collaborate with the Town to promote outdoor water efficiency. Further, there are a number of services that can improve customer perceptions and/or generate additional revenue for contractors while reducing water use. These services can form the basis for a joint promotion project.
- ② **Focus on water efficient irrigation practices.** Responses from interviewees suggest that greater water savings are to be gained from improving irrigation practices than from water efficient landscaping practices. Further, there appears to be more consensus on the irrigation practices that could form the basis of a Town/Industry collaboration than on the landscaping practices. Finally, determining and communicating the extent of reduction in water needs as a result of water efficient landscaping practices appears to be somewhat problematic. The interview results suggest that the joint promotion focus on increasing the number of high water users in Concord who:
 - Have their irrigation system audited and complete the recommended repairs or improvements;
 - Pay a contractor to perform system monitoring, that is, to regularly adjust their irrigation system controller settings to deliver seasonal water needs; and
 - Use a certified contractor and pay for a system with evenly matched precipitation and zones, if they are installing a new irrigation system.
- ② **Provide residents with incentives.** In conjunction with contractors where feasible, provide residents with subsidies or rebates as an incentive to carry out the above actions.
- ② **Engage both irrigation and landscape contractors in promoting water efficient irrigation practices.** The interview responses indicate that landscape as well as irrigation contractors can perform irrigation system monitoring for their customers. Further, both landscapers and irrigation contractors would be interested in distributing checklists to their customers with a suggested irrigation regimen for their property and a standard list of good irrigation practices endorsed by many organizations.
- ② **Further explore the value of jointly promoting selected landscaping practices.** Promoting drought resistant plantings to customers may prove to be a more straightforward way of reducing water use than some of the other water efficient landscaping practices that were discussed in detail with interviewees. It would be helpful to gather more information from landscapers about the barriers and benefits of promoting this practice. Also, explore the possibility of promoting a combination of top dressing with compost and aeration or

slice seeding in conjunction with selected landscapers who are more open to this practice and whose clients may be as well.

- ③ **Distribute to residents a list of qualified contractors** who are collaborating with the Town on the joint promotion effort. Interview responses indicate that contractors saw value in being included on such a list. Interviewees also felt that by promoting the use of qualified contractors, the Town could increase the likelihood that irrigation systems are installed and maintained to high standards. Finally, promoting the use of qualified contractors helps ensure that people are hearing consistently accurate information about lawn watering and lawn care practices. It is recommended that a “qualified” contractor be defined as one who has been awarded a certification through an established, respected certification program. The Irrigation Association offers a number of designations that could qualify a contractor for inclusion on the list. Further research would be needed to identify an appropriate certification program for landscapers. Being included on the list may be enough of an incentive to motivate contractors to step up their qualifications and earn a certification. There is a danger that a certification requirement could have the effect of benefiting contractors who are already doing well enough financially to be able to afford class and exam fees, and who are comfortable in a professional group setting. Contractors who are struggling financially and who are not joiners may find themselves even more disadvantaged if they are not able to qualify for inclusion on the list. In order to encourage as many contractors as possible to step up their qualifications, the Town is encouraged to put extra effort into persuading the non-joiners to participate, and to explore ways that loans or scholarships could be provided to companies that face financial barriers to certification.
- ③ **Consider a variety of promotional avenues.** Promote audits, system monitoring, installation of water efficient irrigation systems and the list of qualified contractors through a variety of avenues. These may include:
 - Direct mail to residents who have registered their irrigation system with the town;
 - Booklet in summer recreation schedule;
 - Signs in front of fire station;
 - Flyers distributed to customers by contractors;
 - Publicity in the Boston Globe and Concord Journal (unlikely collaborations, such as between contractors and government, are often press worthy).
- ③ **Convene a steering committee.** The interviews conducted for this study uncovered a substantial quantity of new and sometimes surprising information. As the planning process for a joint promotion project moves forward, it is likely that the process would benefit from ongoing input from the landscape and irrigation industries and other potential collaborators, such as the UMass Extension Program.

- ② **Pilot the joint promotional effort in Concord**, then consider working with other municipalities and project partners to implement the model regionally. Testing the joint promotional model in Concord will allow the project planners to determine if the collaboration is indeed appealing to a significant percentage of contractors. Further, it is important to determine if joint promotion produces enough good will and/or new business to motivate contractors to continue participating in the project. Finally, if possible, it would be important to document reductions in water use by households that purchase services or change their watering habits as a result of the project. If the project works well in Concord, implementing it regionally should make it even more attractive to contractors, trade associations, funders and other collaborators such as the UMass Extension Program.
- ② **Lay a foundation for efficient water use into the future.** In addition to the joint promotion project, interviewees suggested that the Town take several other actions that will have long-term and far-reaching impacts on outdoor water use.
 - **Modify the building code** so that it requires developers to put at least 4" of top soil under new lawns.
 - **Require irrigation contractors to be certified** in order to work in town. There are currently no minimum qualifications required to become an irrigation contractor. Interviewees believe that a lot of water waste occurs because many of those installing and maintaining irrigation systems aren't well trained. Interviewees mentioned several US municipalities that now require installers to have a professional certification in order to do work in the community. By providing irrigation contractors with the incentive to become certified in order to participate in the joint marketing campaign, the town/industry collaboration could pave the way for a certification requirement. If a significant percentage of the contractors working in Concord are already certified when the requirement is enacted, it is likely to encounter less resistance.