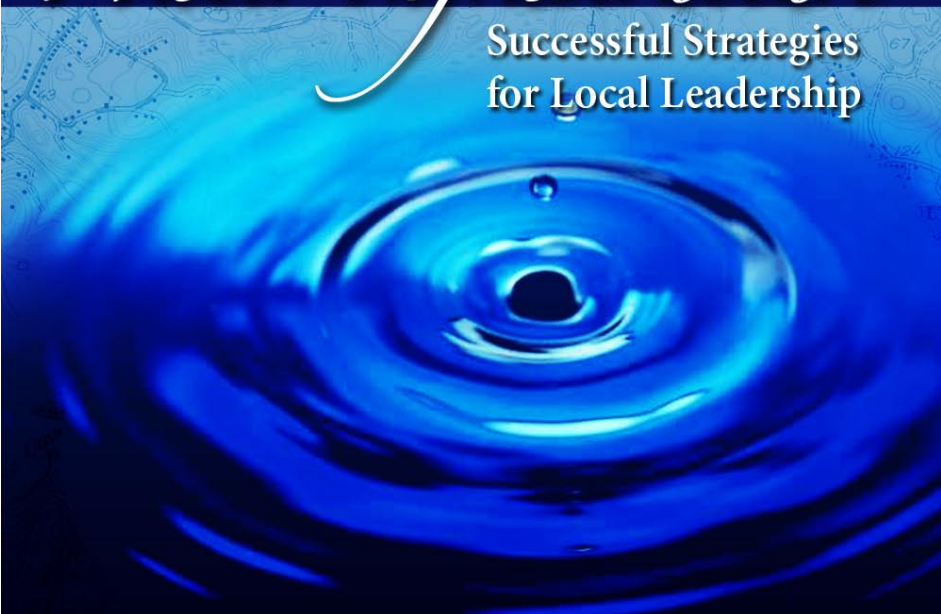




Water Infrastructure

Successful Strategies
for Local Leadership



A Letter from the Chairman



The Local Government Advisory Committee, which advises the EPA Administrator on key environmental policies, is pleased to present a DVD with five compelling case studies showing how elected local government leaders are addressing critical water infrastructure needs.

The purpose of the DVD is to aid those who make these key decisions on a day-to-day basis. By sharing our experiences, we hope that it will convey to other officials the value of water and the importance of thinking strategically about managing water infrastructure and assets. How these decisions are made today will impact generations to come.

We hope that all who currently hold or aspire to public office will identify with at least one of these case studies and be guided by a new way of thinking about the precious resource that is, ultimately, the lifeblood of your community — clean and safe water. By investing to safeguard our water assets for the future, local leadership will provide the critical link to ensuring a prosperous future for communities everywhere.

A stylized, handwritten signature in black ink, consisting of several loops and a long horizontal stroke extending to the right.

Roy Prescott
Chairman

Local Government Advisory Committee (LGAC)

Gloucester, Massachusetts

Bruce Tobey, former Mayor
and current City Council Member

The City of Gloucester, Massachusetts, is a small coastal community located 25 miles northeast of Boston. It covers 25 square miles and has more than 65 linear miles along the coastline of Massachusetts. It was founded in 1623 as a fishing community but has since diversified its economy. Nearly 80 percent of the town's population lives on an island that constitutes half of the total land area of the City. The island is connected to the mainland by three bridges.

"If you defer maintenance your system will fall apart."

– Bruce Tobey

Nearly 150 years ago, Gloucester installed its first sewer system. Until 1984, the untreated waste was pumped into the middle of Gloucester Harbor and directly discharged. After the passage of the Clean Water Act in 1977, Gloucester was sued by the U.S. Environmental Protection Agency and the Massachusetts State Department of Environmental Protection for violating the Act by discharging untreated sewage into the harbor. In 1979, the City agreed to a consent decree to settle the lawsuits. The decree obligated the City to:

- Construct a wastewater treatment plant (WWTP) to handle the existing flows of the community;
- Construct collection networks to bring coastal neighborhoods into the central WWTP to eliminate the issue of individual failing septic systems;
- Develop a solution to issues posed by the presence of combined sewer overflows (CSO's); and,
- Construct an extended outfall to Massachusetts Bay (if the City wanted to receive a secondary treatment waiver).

Despite the presence of substantial state and federal grant support for water pollution abatement projects during the 1980s, local officials proceeded cautiously in addressing these obligations. Thus, progress was achieved slowly.

Innovative Funding

The WWTP was constructed with the aid of state and federal funds and went online in 1984. Unfortunately, it did not have the capacity to deal with the outflows from the numerous fish processing plants throughout the community, so pretreatment was required for these companies. For many of these businesses, pretreating their waste meant significant investments in new pretreatment systems. Between 1982-1985, the first round of collection system networks were installed along the eastern coast of Gloucester.



Until 1984, untreated waste was pumped to the middle of Gloucester Harbor and directly discharged.

In 1987, EPA's pretreatment enforcement initiative began. As Gloucester struggled to implement the consent decree, the pretreatment enforcement initiative added extra pressure to continue construction and to comply with the new rules and regulations.

Throughout the late 1980s, more neighborhoods in North Gloucester began planning to connect their collection networks to the City's main sewer system. In order to install pump stations and gravity lines in the first North Gloucester neighborhoods slated for sewers, the community endured dramatic blasting. Also, construction in the area's hilly terrain was complicated by the presence of enormous amounts of subsurface granite. Betterments of \$8,000 on a 20-year repayment schedule were issued for this work to affected community members in 1992.

During these first installations, 300-400 homes were outfitted with conventional sewer connections. Community resistance to these construction projects was growing, however, because the area's economy had slid into a recession and grant money for these projects had essentially disappeared. Citizens began pushing to find an innovative, less expensive way to connect outlying communities to the main sewer system.

In 1991, Mr. Tobey was elected as interim Mayor of Gloucester. He successfully applied for grant money that the City used to test alternative on-site treatment and disposal technologies. Additionally, alternative centralized sewer collection system approaches that would not require granite excavation were studied. The City prepared an amended facilities plan on a short timeline that incorporated the results of these tests and studies. Gloucester began focusing on installing septic tank effluent pumps systems (STEP) in place of conventional sewer lines and developed a plan to begin construction.

In 1992, a new mayor was elected and reversed the community's decision to install STEP. Residents objected to the decision to resume installing traditional sewer lines and intervened in the lawsuit that had given rise to the consent decree. Mr. Tobey was returned as mayor in 1994, negotiated an amended consent decree, and received approval for bonding to install STEPs.

The City successfully lobbied to obtain funds to support the installation from the Clean Water State Revolving Fund financed at a zero percent interest rate. Residents understood that they would need to pay \$15,000-\$20,000 for betterments. However, installing conventional sewer connection lines would have increased overall costs by as much as 50 percent due to the extensive blasting and pump station construction. By being active participants in the selection of which technology to install, community members were generally very supportive and willing to spend the necessary money to implement STEP.

Before beginning construction, Gloucester evaluated its other infrastructure in the STEP project area as part of a citywide improvement plan. In addition to the sewer work already discussed, the town determined that it needed to replace its water lines. In order to save money, the City converted the old water main into the pressurized sewer main the STEP system required, and then installed new water mains. Costs for this installation were reduced since they were undertaken as part of an ongoing project and were applied to water rates.

To keep betterment costs below \$20,000 per unit for both the last phase of the North Gloucester project as well as for any other future sewer projects, the City created a betterment stabilization fund, supported through connection fees charged to new houses tying into the pre-existing sewer mains as well as from a payment received from the nearby town of Essex. The payment reflected Essex's pro rata share of Gloucester's cost to develop the system.

Additionally, all betterments represented only three-quarters of the total cost of the sewer collection system construction. The last quarter of the cost was paid through the City's General Fund, supported by the collection of real estate taxes and other local fees and assessments. The sewer rate increased annually in order to cover the costs of maintaining this newly upgraded infrastructure, just as water rates increased to support the implementation of the system's Capital Improvement Plan (CIP).



Residents in Gloucester are seeing a return on their investment. Real estate is booming and the City is growing an economy where new industries can develop and flourish. Such growth would not have been possible without adequate sewer infrastructure.

The City continued to make other improvements according to its CIP, such as building a new high school and capping old wells. Everything was implemented in a sequential order so that costs were spread out and projects moved step-by-step in conjunction with all other improvements.

In 2002, a new mayor took office and continued to provide leadership on implementing the CIP. He recently agreed to a consent decree to implement a \$60 million combined sewer overflow (CSO) project. It remains to be determined whether the project will be financed by sewer rates or by a special surcharge on the City's real estate property tax rate. As the discussion of these options proceeds, it is hoped that community members will accept the need for implementing a CSO remediation plan.



City councilman Bruce Tobey spends most of his time communicating with residents of Gloucester and visiting the construction sites of ongoing upgrades to its sewer system.

Due to the innovative, environmentally-sound approaches Gloucester utilized in implementing these capital improvements, the City is an example for others looking to install cost-effective, efficient sewer systems and capital improvements. This is especially true for cities with similar geography or other difficulties that complicate installing conventional sewer lines.

Some of the keys to Gloucester's success included:

- Communicating effectively with community members, local officials, state officials, and federal officials;
- Using a variety of cost recovery mechanisms and having a sensible financing plan before beginning implementation; and,
- Having a consent decree that pushed the process along.

In addition, by pairing the sewer reconstruction with other capital improvements, citizens could see marked differences after construction was finished. The community understood why the money was being spent and could directly reap the tangible benefits. With community support and constant communication, Gloucester was able to identify the best and most cost-effective capital improvement options and implement them to improve quality of life for the entire community.

Freeport, Illinois

Jim Gitz, former Mayor

Freeport, Illinois is a community of 28,000 located in the northern part of Illinois approximately 15 miles from the Wisconsin border. The economy of Freeport is based mainly on manufacturing; the City is home to Rubbermaid, Microswitch, and Kelly Springfield Tire, as well as several banking and insurance companies. Freeport has a history of wet-weather sewer problems due to the City's varied terrain. In the 1930s, the City covered a creek running through a low-lying

"The 'band-aid' approach doesn't work. Consistently investing in infrastructure is more cost-effective than only investing when problems arise."

-Jim Gitz

section called the Homer Street area, installed a storm sewer where the creek had been, and began building houses on the reclaimed land. In the 1960s, housing developments to the west of the Homer Street area increased the runoff to this area so much that 40 percent of the City's entire volume of storm water runoff drained to this one area. The combination of increased runoff from growth and lack of maintenance on the sewer system led to frequent flooding in this area of the City. Similar problems existed in three other areas of Freeport, including a low-lying area close to the Pecatonica River.

Until recently, responsibility for Freeport's water-related infrastructure was shared between the Water and Sewer Commission (WSC) and the Public Works Department. The WSC oversaw drinking water and sanitary sewer infrastructure, and the Public Works Department managed storm sewers and other non-water related infrastructure, such as streets. The WSC is a semi-autonomous entity; the Mayor appoints members of the Commission who then elect a director. The City Council approves the WSC's budget, but the Commission is not directly responsible to the City Council or the Mayor. In contrast, the Public Works Department is directly administered by the Mayor, who functions as the City's chief administrator.

Mr. Gitz's involvement with the City of Freeport began in the mid-1980s. After serving as a State Senator for four years, Mr. Gitz began working with citizens of Freeport who were concerned with the frequent storm sewer overflows. Collaborating with the Illinois Environmental Protection Agency (IEPA), the citizens of Freeport filed a citizens' complaint against the City, along with the

Illinois Pollution Control Board (IPCB). The outcome of the suit was an IPCB order requiring the City to submit a plan to rectify the situation. The issue came before the IPCB again when the citizens moved to hold the City in contempt for failing to complete the actions outlined in their mitigation plan. The IPCB again ruled in favor of the citizens. The City appealed to the State Appellate Court, but the court upheld the IPCB ruling in favor of the citizens.

In 1989, following the citizen suits, the incumbent Mayor of Freeport was defeated after 20 years in office. The new Mayor, Mr. Weis, spent millions of dollars to improve Freeport's sewer system, finance the installation of a detention pond, and rehabilitate and replace sewer lines in various parts of the City. Despite these efforts, artificially low water rates and the absence of a dependable revenue source limited the effectiveness of these improvements, and many of Freeport's infrastructure problems continued.

Expect the Unexpected

In 1997, Mr. Gitz was elected Mayor of Freeport. One of his first actions was to approve a WSC proposal to hire a private contractor to manage Freeport's sanitary sewer system. This arrangement gave the private contractor managerial authority within the WSC; however, the contractor was still directly accountable to the Mayor and City Council.

In response to new EPA regulations, the City also worked to expand the sanitary sewer plant and to rebuild the sanitary sewer system. The City invested almost \$14 million to meet these new requirements. After meeting these regulatory



Former mayor of Freeport, Jim Gitz, stands in front of an open stream that had been enclosed decades ago. As the City grew, it became the cause of storm sewer back-up until it was opened again and rebuilt as part of a multi-million dollar project to revamp the storm sewer system in Freeport.

deadlines, the focus became improving Freeport's problematic storm sewer system. In 1999, Mayor Gitz recommended consolidating all water-related services under the Public Works Department so that the expertise of the sanitary sewer staff could be applied to the storm sewer system. After the merger, the WSC would become an infrastructure planning commission for long-term issues. This proposal was not approved by the City Council in part because of union opposition. An alternate proposal was presented to shift responsi-

bility for the storm sewer system to the WSC so that both the sanitary and storm sewer system would be under common management. This plan was accepted and approved by the City Council.



Today, the Homer Street area can handle most usual rain events and drains sixty percent of the City's storm water flows.

Despite Freeport's investments in the sanitary sewer system, a lack of consistent revenue to support the storm sewer water systems continued to be a challenge. In 2001, several severe rainstorms, including a hundred-year rain event, pounded northern Illinois. The damage was so widespread that the Governor proclaimed a statewide disaster. In Freeport, the Homer Street area and several other sections of the City were flooded due to inadequate storm sewer capacity. At this point, the IEPA urged Freeport to make rapid and drastic improvements to its storm sewer system.

The City of Freeport then worked to:

- Demonstrate that the City had already made millions of dollars of improvements to the system; and,
- Develop a plan for further improvements to the storm water system.

Investments Upfront Matter

After the 2001 floods, Freeport implemented a storm sewer fee. The City also used bonds to fund several infrastructure improvements, including the installation of an additional storm sewer line through the central downtown area, which enhanced the capacity of the storm sewer system. The City also purchased the homes in the Homer Street area that abutted the covered creek, razed them, and made close to \$9 million worth of improvements in all. The City also applied for and received grants to make sanitary and storm water improvements in eligible neighborhoods.

Mobilizing public support for these infrastructure improvements was difficult because the community was accustomed to artificially low rates. Historically, Freeport's rates have been lower than most comparable municipalities. By emphasizing the fact that Freeport needed to grow and it had underinvested in its infrastructure for many years, the Mayor and City Council were able to create public support for the infrastructure initiative. Also, citizens living in low-lying areas of the City were very vocal in their support for capital

improvements, helping to convince the rest of the citizens about the need to pay for the work. Support was further garnered by framing the rate increase in the context of the well-being of the community. Citizens were reminded that adequate infrastructure and quality neighborhoods are necessary to attract businesses. This argument was especially effective, as many businesses in Freeport had recently closed.



The Pecatonica River is cleaner today thanks to the major renovation of the storm sewer system and less industrial pollution discharge in the surrounding low-lying area.

The Freeport Project Offers Several Lessons:

- Planning effectively is essential to success. Without it, significant problems can occur (and did) that could be more costly to mitigate;
- Investing in infrastructure is more cost-effective than reverse investing only when problems arise. It helps to meet the technical challenges of meeting improved pollution abatement measures and better positions a city for new regulations;
- Communicating early and often with the public about the importance of investing and explaining the true costs of failure (e.g., lowered quality of life, public health repercussions, and unattractiveness to businesses) is essential.

"It is also important to encourage municipalities to think of state and federal agencies as allies that can help cities meet their common goals." Mr. Gitz believes that, "It is important to put water and sewer functions under one umbrella to facilitate coordinated management and planning." In Freeport's case, sanitary sewers and storm sewers were managed under separate underfunded authorities, thereby exacerbating the problem.

There continues to be an outcry against water and sewer rate increases. Because Freeport has not grown as quickly as expected and because several companies have left the City, there are fewer users left to support the cost of infrastructure improvements. Policies initiated during Mayor Gitz's and Mayor Weis' terms, such as systematically replacing old sewer lines and requiring storm sewers or drainage plans in new developments, may encourage a forward-looking attitude toward infrastructure investment.

Douglas County, Colorado

Melanie Worley, County Commissioner

Located virtually in the geographic center of Colorado, Douglas County is approximately 844 square miles (540,000 acres) of striking natural beauty in its mountains, foothills, and plains. Elevations range from 5,400 feet in the northeast to 9,836 feet at Thunder Butte in the Pike National Forest. According to Census 2000, Douglas County's 191% population increase between 1990 and 2000 made it the nation's fastest growing county for the decade (based on percentage change). The County is just a short drive to the southeast from downtown Denver, and yet approximately 65% of the population lives in unincorporated areas.

"You cannot survive making things happen... if you cannot learn to partner with people."

– Melanie Worley

As the centerpiece of the Denver/Colorado Springs Development Corridor, the County has had to act to preserve the quality lifestyle and environment that attracted residents in the first place. To protect the area's natural environment, 70% of the corridor will retain agricultural, ranching, parks, and open space uses. Recreational facilities include more than 146,000 acres of Pike National Forest, Roxborough and Castlewood Canyon State Parks, Chatfield State Recreation Area, and numerous county, municipal, and local parks, trails, and open spaces. But the biggest challenge may be in managing water resources.

Many Douglas County residents rely on the Denver Basin aquifers as their primary drinking water source. As can be expected with the high rate of development in the County, water levels in municipal and domestic wells in some areas are falling dramatically, especially near the margins of the aquifer and in areas of intense usage. In April of 2006, the County commissioned a telephone survey of voters to better determine citizen perceptions of county government and to get input regarding citizen priorities. Given 14 possible options of policy priorities for the County, survey respondents assigned the highest priority (79%) to the idea of developing an ad-

equate long-term water supply for residents. Second in priority (62%) for respondents was regional planning to manage growth and development in cooperation with other counties and cities. Water, planning and growth management ranked higher than tax relief, economic development, open space, school safety, and mass transit, among others.



Douglas County commissioner, Melanie Worley, listens to a participant of the 2006 Water Summit that took place in Castle Rock, CO.

Public Involvement

The County Commissioners responded by hosting the First Annual Douglas County Water Summit in early October 2006. Douglas County Commissioners Melanie Worley, Walter "Mike" Maxwell and Steven Board, along with approximately 150 representatives from area water providers, environmental organizations, municipal staff, federal, state and local elected officials, developers, and members of the general public, were present. The meeting lasted all day with strong participation as several presentations regarding the challenges facing Douglas County and the potential means for a collaborative approach to solutions were presented and discussed. Local leaders present noted that the economic success of Douglas County was based on water availability, and if sustainable water solutions are not brought forward in the next two decades, the economy for the whole State of Colorado may be affected.

There are six incorporated municipalities within the boundaries of Douglas County, Castle Rock, Aurora, and Larkspur that are municipal water providers. The currently developed cities of Lone Tree and Littleton are served by Denver Water. The majority of the population of the County, including the Town of Parker, is provided water by more than 30 independent water districts. The overwhelming message of the Summit was that water districts, municipal providers, and elected officials must cooperate and form a partnership to meet the County's growing water infrastructure needs.

Linking Resources

Summit attendees agreed to begin investigating how to link the pipes in the separate water districts so that communities with excess water could begin

to sell it to communities in need. While the County still needs to plan for the eventuality that groundwater from local aquifers will no longer be economically feasible, cooperative water project development and sharing through a system of linked water mains is a much more cost-effective approach than drilling more wells. "The former 'go it alone' approach which created rivals out of the County's cities and water districts must be a thing of the past." With the water level in one of the most productive aquifers dropping 30 feet a year in some areas, everyone has to now work together as partners to secure reliable water for the County's long-term viability. Commissioner Worley noted, "The new era is, you cannot survive in making things happen with the budget cuts that we see at all levels of government if you cannot learn to partner with people."

When the expansion of the Rueter-Hess Reservoir is complete, the linked water systems will provide everyone with access to its water. First conceived in 1985, the Rueter-Hess Reservoir was begun by Parker Water Sanitation District. After years of planning and studying suitable sites, construction of a 16,000 acre-feet dam started in 2004. Recognizing the need for even more capacity within the region, the project was expanded in 2005 to a 71,000 acre-feet dam including partnerships with the Town of Castle Rock and other Douglas County water providers.

Leadership—Essential for Success


The County also formed the Douglas County Water Team, an interdepartmental group including County Administration, the County Attorney, Community Services, Planning, Open Space, Engineering, and GIS. The Water Team's goal is to develop an interdisciplinary and systematic way for addressing water issues affecting Douglas County. "Mobilizing support for expensive infrastructure improvements can be difficult. However, citizens tend to be more receptive if they understand what they're going to get, how they're going to get it, and when," said Commissioner Worley. The Water Team has divided

into subcommittees to gather information on a variety of topics such as rural site plans, water regulations, will-serve letters, Rural Water Users Associations, water agency alternatives, and water court filings.



The Rueter-Hess Reservoir is one of many projects that required partnerships with adjacent towns and water providers to accommodate supply and demand.

The County has also entered into a joint study to evaluate efficient water use practices as a means of meeting future demand. The study is titled, *Sustainable Development in Colorado - Water*



Efficient Landscaping, Irrigation System Efficiency and Precipitation Management, and it will look at how new technologies in irrigation techniques and widespread use of water efficient landscaping could further stretch limited water resources. It is jointly funded by Colorado Water Conservation Board, Douglas County, the Dominion Water and Sanitation District, Castle Pines North Metro District, Thunderbird, Plum Valley Heights Homeowners Association (HOA), and the Chatfield East HOA.

The results of this study may change the way water is developed and used in Douglas County. For example, throughout history people have used cisterns to harvest and store rainwater for dry periods and droughts. Many counties and several states rely on and encourage the development of cisterns to maximize protection of scarce water resources. However, under current Colorado law, a property owner does not own the rain falling from the sky onto his or her rooftop or driveway unless a plan has been developed to replace the rainwater consumed. The study will attempt to quantify the amount of water used by native vegetation so an augmentation plan can be developed to offset any additional water consumption. The intent is to find a way for cisterns to be implemented within the maze of Colorado water law and management processes.

Water savings among irrigation techniques will also be studied so that the most water-frugal techniques can be identified and encouraged. Currently, commercial venues, such as golf courses, routinely use irrigation systems equipped with moisture sensors or weather satellites to program the exact amount of water a landscaped area needs. Technology advances in irrigation techniques will make it economical for homeowners to implement such sophisticated irrigation systems.

A general conclusion emerged from the Douglas County Water Summit that County Commissioners need to exercise courageous leadership in driving the search for a sound regional water supply strategy, and serve as a catalyst for alliances and projects. Commissioner Worley pointed out that, "It is very difficult to run a first-class city or county on a second-rate infrastructure." Coming out of the Summit, the hope is that between the improved cooperation between County water providers, and the savings realized through rainwater harvesting, widespread native plantings, and improved irrigation techniques, Douglas County residents will be able to continue their high quality of life and have a reliable source of potable water for many years to come.

Village of Haskins, Ohio

Ken Fallows, Mayor

The Village of Haskins, Ohio prides itself on being a wholesome town in which to raise families and live productive lives in quiet security. With a population of just over 900 people, the Village is the epitome of friendly small town ambiance. An extra positive is Haskins' central location which gives it all the conveniences of larger communities. The Village is no more than twenty minutes from downtown Toledo and the Toledo Airport to the north, and Bowling Green State University to the south. Situated close to the more beautiful stretches of the Maumee River, Haskins provides easy access to jogging, bike trails, parks, sport fishing, golf courses, and even beaches on Lake Erie.

"I think the key word is not to operate under crisis management, but to operate as a planned initiative."

– Ken Fallows

The Village gets its drinking water from the City of Bowling Green, due to the good fortune of having been located on the route Bowling Green selected to run a pipeline from its drinking water plant on the Maumee River to the city limits. However, unlike drinking water, the Village has had to provide its



Mayor Fallows makes final inspections before the grand opening of a brand new wastewater treatment plant in Haskins, OH.

own sewage treatment facilities. In the 1970s, Haskins Village was one of the first communities in Ohio to receive federal and state grants under the Clean Water Act (CWA) to build a sewage treatment plant and a separate storm sewer system. This first wastewater treatment plant had a life expectancy of thirty years and would eventually have to be replaced. The bigger picture for Haskins Village is that the community is going to grow, given its favorable location between the two bigger cities of Toledo and Bowling Green. This meant the Village needed not only to replace the existing sewage treatment plant, but they actually needed to plan for and build a bigger plant in order to successfully meet future needs.

Planning with Vision in Mind

For Ken Fallows, Mayor of Haskins Village for the past 20 years, planning for this replacement sewage treatment plant has been one of his biggest challenges. He remembers what a struggle it was to get the Board of Public Utilities to realize they could not operate the Village under crisis management. "For a project this big you had to approach it as a planned initiative. If you've inventoried and understand the age of your systems and the equipment that you have, you should be able to project and then budget for when they're going to go off line and when they're going to need to be replaced," says the Mayor. He notes that there are many other more pressing and probably more exciting problems in the community demanding elected officials' attention. "But as a leader you have to take the time to plan for the future, looking into the future and envisioning your community's needs. Then you have to see those plans through and find a way to pay for it all. This is the grunt work of a



The new plant will meet the future needs of home developments such as this one, which are a common sight these days in the Village of Haskins as the population grows.




The Maumee in northern Ohio has the largest watershed of any Great Lakes river.

public official, and it is often out of sight and out of mind.” Yet, he also notes that, “Big challenges like these are what make government service rewarding. A community cannot have people living together with only outhouses so you — the elected officials — have to take on the responsibility to plan ahead for the benefit of your community.”

Even in a small village of 930 people, change does not necessarily come easily. Many residents of Haskins Village would have preferred to avoid building a new sewage treatment plant until it was absolutely necessary. Unfortunately, given the very large costs to build such a plant and the extensive planning and review necessary before construction can even start, waiting until the last possible minute is not a viable option. With this in mind, Haskins Village officials started applying for loans and grants to build their new sewage treatment plant four to five years before construction started.

Change is Inevitable—Why Not Plan for it?

Mayor Fallows sees acceptance of change as the biggest obstacle to most projects, and he has learned to take the necessary time to explain to citizens exactly how the project will affect them. He admits that it can be a very hard sell at times and elected leaders have to learn to tread softly when trying to move the citizens to accept change. But, when possible, he likes to point out that the proposed project isn’t going to change their backyards at all. Rather, it’s going to change the environment of the Village some, and maybe cost more to operate, but their homes and their property are not going to be negatively impacted. From there he emphasizes the necessity for the change and the benefits, such as increased property values and safer water that will come to them. By connecting it to their everyday life and speaking in terms of the



things that matter the most to them, the elected official can make citizens more at ease and more accepting of the proposed change.

Haskins Village has benefited greatly from being able to partner with the bigger City of Bowling Green to provide drinking water for its residents. In the years since the pipeline was built, many other small communities near Haskins have also chosen to connect to Bowling Green's system as they could no longer afford to go it alone. Mayor Fallows urges other small towns to look for regional partners to help them with their water infrastructure. He believes that many small communities cannot afford the water and wastewater infrastructure that is required by new federal and state regulations. In constructing their new wastewater treatment plant, Haskins Village included enough excess capacity that they could link to the Northwest Water and Sewer District and use that capacity to provide sewage treatment to some of their neighboring small towns.

The Northwestern Water and Sewer District is a regional water and sewer district chartered and organized in 1994 to supplement the water and sewer operations of the Wood County Sanitary Engineer. Wood County is where Haskins Village and Bowling Green are located. The District is specifically intended to establish a uniform water distribution and wastewater collection system for the County, to create uniform and equitable water rates, and to institute consistent regulatory authority for water and wastewater services. Because it covers the whole County, the District has the scale and capacity to provide reliable, high-quality water and sewer service to townships and municipalities in and around Wood County. One of the keys to doing this is to combine systems to share operation and maintenance costs, allowing the District to provide professional management and experienced service personnel throughout the entire service area. This enables smaller townships and municipalities to comply with state and federal mandates in an efficient, economically viable manner. Additional benefits include improved fire protection, lower insurance rates, and environmentally responsible sewage disposal.

"This is the future path of success for small towns," in Mayor Fallow's opinion. "Given the high costs of water infrastructure, a small town cannot go it alone. If you try to do so expect to pay the price," he says. "In the budget conditions we face today, Federal funds cannot be counted on and people will have to build partnerships within their region to get this done."

Half Moon Bay, California

John Muller, City Council Member

The City of Half Moon Bay rests on the Pacific Coast between forested hills and some of the most beautiful coastlines that California has to offer. It is located approximately 28 miles south of San Francisco and lies within the western-most portion of San Mateo County. The historic downtown is home to numerous shops, art galleries, restaurants, bed and breakfasts, and other businesses. The City has attractive beaches, parks and two of the country's finest golf courses. The Pumpkin Festival held in October draws hundreds of thousands of people to the coast to enjoy its panoramic vistas, fine cuisine, arts, crafts and genuine hospitality. Incorporated in 1959, Half Moon Bay has a population of approximately 12,688.

*"When you're looking at
infrastructure replacement ...
patience is key."
– John Muller*

The City and some of the unincorporated areas of coastside San Mateo County get their drinking water from the Coastside County Water District (CCWD), which encompasses approximately 14 square miles and serves nearly 18,000 people. The CCWD, in turn, purchases approximately 75% of its water from the San Francisco Public Utility Commission. When water levels are high enough, this water comes directly to the CCWD from the Stone Dam Reservoir atop the coastal mountains just east of the City. Most of the year, the water comes from the Crystal Springs Reservoir located on the lower slopes of the east side of the coastal mountains, so it has to be pumped up and over the mountains to Half Moon Bay.

Both reservoirs use the same pipeline, a World War II era ten-inch cast iron pipe which has developed numerous leaks, causing loss of water, erosion, sedimentation problems, and in some spots, potential for washed out roads. The CCWD proposed replacing the ten-inch pipe with larger 16-inch water mains that would not only supply the drinking needs of the residents, but would

also provide adequate capacity for fire protection. However, building public support for the replacement of the pipes proved challenging.

Initially, the project wound its way through the necessary planning and public hearing process like any other project. It was approved by the Water Board, the Half Moon Bay City Council, and the San Mateo County Board of Supervisors. But because Half Moon Bay is on the coast, the project then had to go through a review by the California Coastal Commission. It was at this point that several activist groups stepped up their opposition to the pipe replacement plan, claiming the larger pipe would spur significant growth and thus further strain an already fragile environment. The California Coastal Commission sent the proposal back to the CCWD for further study.

Residents were divided between those who wanted to replace the pipes, and those who were afraid larger water mains would attract increased development. The Coastside County Water District Board was evenly split between two members for the project and two against, with a fifth seat vacant. To resolve the tie, the San Mateo County Board of Supervisors appointed John Muller, a member of the State's San Francisco Bay Regional Water Quality Control Board and a pumpkin farmer in Half Moon Bay, to fill the vacancy in 2002.

Disregarding three engineering studies on the pipeline that were already part of the public record, some activists began portraying the new pipe as a six foot diameter culvert rather than a 16-inch diameter pipe. Councilman Muller remembers a moment when a citizen said to him, "We need to be able to see what we're talking about." The City Council liked this idea and arranged with the Water District to dig up a section of the old pipe so residents could see the



Reflecting his small-town lifestyle, Councilman Muller drives his tractor to work at City Hall, which is not far from his pumpkin farm.



Bringing the World War II-era pipe up from underground and comparing it with the new proposed pipe convinced the citizens of Half Moon Bay that they should vote to have it replaced.

As noted by Councilman Muller, "It needed to be done. It leaked very, very badly, causing erosion and sedimentation, and could have washed out part of the highway."

actual size and condition of it. By bringing the hidden infrastructure above ground and into the light of day, people were able to see clearly what was being discussed. The gambit worked. Once residents could see for themselves how deteriorated the old pipe was, sufficient numbers of them were swayed to support the project.

As noted by Council-

Plant Wisely and Wait for Good Results

Muller feels that there are some important lessons that other elected officials can learn from his City's experience, the two most important being planning and patience. The issues confronting a locally-elected official are many and are easy to be swept away in all the crisis. But, Muller says, "You have to send a message to yourself every day to include some time to think about the future of your district or city and the problems that you are likely to be facing down the road. And water infrastructure, in particular, because it is out of sight and out of mind, is easy to overlook and easy to underestimate costs." Water pipelines, sewer lines, and storm drains are underground and the only time you need to see them is if they are not working. Muller sees careful planning as the key to keeping on top of infrastructure needs. Because they are so expensive to replace, a city has to constantly be taking stock of the condition and capacity of their drinking water and wastewater treatment systems.

As essential as planning is, however, Muller also feels that patience is of the utmost importance. No matter what the issue, he advises any elected official who wants to succeed, "To start early building relationships with stakeholders. Invite them in to be part of the process and find out what their concerns are." For him, working it out with the citizens is an important step that will only come back to haunt you if you fail to do it. Coastside County Water District spent hundreds of thousands of dollars on additional hearings, appeals, fees, and other costs to address activists' concerns. Plus, while the delays in construction were being sorted out, costs for the pipeline went up



Councilman and Farmer, John Muller, pictured here with his wife Eda, care deeply for the environment that also provides the bounty of their livelihood.

30 - 40%. If some of these issues had surfaced sooner and been dealt with in the original proposal, it would have saved the CCWD a sizable amount of money.

Councilman Muller feels that as an elected official, "When you make the commitment to serve you have to also have the sense to balance; balance the environment and balance business community needs, and through that bring balance for the good of the community. The environment didn't used to be our customer, but it really is our customer now and we have to continue to supply water not only to homeowners and the business community, but to the environment as well."

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