

Hurricane Ivan Spurs Effort to Construct Pensacola Wastewater Reclamation Facility

Tim Haag

Pensacola has an unfortunate but well documented history with hurricanes. The city's claim to the title of oldest European settlement on the continental U.S., dating back to 1559, was impacted by a direct hurricane strike only one month after the Spanish settlement was founded. That hurricane was the first of many recorded tropical systems that struck this historic northwest Florida city.

The storm associated with this article, Hurricane Ivan, made landfall as a Category 3 hurricane in the early morning hours of September 16, 2004, near Gulf Shores, Alabama—approximately 40 miles west of Pensacola. This landfall location put Pensacola in the most intense part of the storm system, the right front quadrant, and brought winds of over 100 miles per hour into the area, along with a 15-foot storm surge.

Hurricane Ivan's impact on Pensacola was far-reaching and included a number of fatalities. This article will examine Ivan's influence on the Emerald Coast Utilities Authority's (ECUA's) wastewater treatment system—specifically the recovery and operation of its Main Street Wastewater Treatment Plant, which is located approximately 300 yards from Pensacola Bay in downtown Pensacola.

The ECUA is an independent special district unit of government, created by the Florida Legislature in 1981 to own, manage, and operate the water and wastewater utility systems that previously were owned by both the city of Pensacola and Escambia County. The ECUA is governed by a five-member elected board of directors.

The article will also explain the process and many of the issues related to the ECUA's decision to replace the Main Street Treatment Plant with a newer water reclamation facility at a site away from the coastal floodplain, thereby removing the possibility of flooding from a future tropical system's storm surge and the resulting loss or interruption of sewer service to a large percentage of the greater Pensacola area.

Pre-Ivan Situation: Main Street Plant

Plant Description

The ECUA's Main Street Wastewater Treatment Plant is located in downtown Pensacola. As stated previously, the plant is only a short

distance from Pensacola Bay, which is separated from the Gulf of Mexico by Santa Rosa Island, a narrow barrier island that is home to a portion of Gulf Islands National Seashore. The current plant site encompasses approximately 19 acres and has been utilized as a wastewater treatment plant site since the 1930s.

The existing plant was constructed in the late 1970s, designed as a high-purity-oxygen treatment process. The plant process has been modified since its construction and essentially provides an advanced secondary treatment level, incorporating a fluidized bed dryer for processing bio-solids.

The plant is permitted by the Florida Department of Environmental Protection (FDEP) to treat 20 million gallons per day (MGD), with effluent discharge directly into Pensacola Bay. In the timeframe immediately preceding Hurricane Ivan, the plant routinely was treating flows in the range of 14-16 MGD.

Prior to Hurricane Ivan, the Main Street Plant served as a regional processing center for waste biosolids, septage hauling, and grease. The ECUA received the grease and septage at an on-site pre-treatment system (these materials are now received and treated at a separate off-site processing facility).

The primary and waste sludge from both on-site and off-site sources is processed through screens and on-site centrifuges. The resulting sludge "cake" is then further processed in a fluidized bed dryer, which results in a final product that meets U.S. Environmental Protection Agency standards for Class AA biosolids.

In instances when the dryers may be down for maintenance, the ECUA disposes of the sludge in a landfill. The importance of this fact is that a number of smaller wastewater treatment facilities in the western Florida Panhandle did rely on the Main Street Plant for processing their biosolids, so operation of this facility is critical for not only the Pensacola area, but also for the western Florida panhandle region.

Despite the fact that the ECUA has invested a considerable amount of money in odor-control equipment and processes, odor still remains a concern at the Main Street Plant. In large part, this is because of the plant's location within the downtown area in close proximity to the downtown business district, as well as residential and commercial

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properties. Any upset in the plant process that results in odor problems impacts a significant number of people.

Other issues of concern with the existing site are the lack of reject storage capacity to contain a discharge in the event of a process upset, the absence of an operable filter, and the direct discharge of plant effluent to Pensacola Bay.

2003 Study

The ECUA's board of directors initiated a study in 2002 to consider either the continued operation of the Main Street Plant at its current location or pursuing the option of replacing the plant by construction of a new facility at a different location. The study provided a comprehensive analysis of issues related to and impacting the operation of the plant, including population and flow projections, local comprehensive plan requirements, wastewater treatment processes, an analysis of the existing collection system, reclaimed water reuse/disposal alternatives, potential treatment and reuse/disposal sites, analysis of two separate "take no action" alternatives, cost comparison of alternatives, and identification of potential funding sources.

The study resulted in a report that the board accepted in late 2003. The report detailed the 20-year present worth of five alternatives, with estimates of capital costs, operating &

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Above: Aftermath of Hurricane Ivan: Street flooding at the perimeter of the Main Street Plant in Pensacola (September 2004).

Right: FEMA aerial photo showing Main Street Plant in relation to Pensacola Bay and area in downtown Pensacola flooded by Hurricane Ivan (September 2004).



Continued from page 12 maintenance (O&M) costs (20-year present worth), and present-worth remaining value at 20 years.

The 2003 study's conclusions included recognition that, despite the assessment that the "take no action" alternative was the lowest cost alternative, keeping the Main Street Plant operational at its current site would involve significant expenditures to maintain the facility, including substantial capital expenditures over the 20-year present worth period. The report went on to say that even more substantial expenditures would be required if regulatory action or public pressure were to necessitate removal of the plant's effluent from Pensacola Bay. This potential regulatory action would make the "take no action" option the most expensive of the five alternatives examined.

The board of directors, after receiving the findings of the 2003 study, deliberated through early 2004 and chose to move forward with the alternative of replacing the Main Street Plant with a new water reclamation facility at an alternate site. The consideration to construct a new plant hinged, in large part, on the capabilities of a new water reclamation facility in meeting regulatory requirements, securing a funding source(s), and the unknown aspects and potential economic impact of the future O&M costs of the existing plant.

Hurricane Ivan: 09/16/04

The decision to proceed with the construction of a new water reclamation facility to replace the Main Street Wastewater Treatment Plant was moving forward through the first eight months of calendar year 2004, based on the board's action; however, natural events would intercede and force ECUA officials to restructure priorities related to the considerations to replace the plant.

Hurricane Ivan initially formed from a tropical wave that came off the west coast of Africa on August 31. The system gained tropical depression status by September 2 and became Tropical Storm Ivan on September 3, steadily strengthening, and was upgraded to hurricane status early on September 5. Hurricane Ivan went through a series of intensification and weakening cycles as it traveled west through the Atlantic Ocean, the Caribbean Sea, and eventually into the Gulf of Mexico, attaining category 5 status on three separate occasions.

By September 14, Ivan had entered the Gulf of Mexico and ECUA staff members, along with other local government agencies along the Gulf Coast, were well along with their storm preparation procedures. Ivan weakened to category 3 status as it approached the central Gulf Coast. As the storm made landfall on September 16, the eye diameter of approximately 40-50 nautical miles brought some of the strongest winds through the greater Pensacola area. At landfall, some of Hurricane Ivan's surface winds were calculated at approximately 105 knots (~120 mph), with gusts estimated at approximately 135 knots (~155 mph) as the storm approached the coast.

Ivan's winds, rain and 15-foot storm surge caused extensive damage to the coastal areas in and around Pensacola. In addition to causing a number of deaths in the Pensacola area, the surge destroyed approximately a quarter-mile of the Interstate-10 Bridge across Escambia Bay and leveled much of the dune system on the two barrier islands to the south of Pensacola: Santa Rosa Island and Perdido Key.

Many of the buildings and the majority of the utility systems on those islands were destroyed or severely damaged by the over-wash. The severity of the damage included total loss of electric power throughout the greater Pensacola area, with some parts of the area going without power up to three weeks. This was the first time the electric power grid had been knocked off line totally in the Pensacola area.

Loss of electric power impacted the operation of the Main Street Plant, which was out of service for three days. Prior to Hurricane Ivan, the ECUA did not have emergency generators at the plant.

Following Ivan's strike, some areas in downtown Pensacola were flooded with a combination of stormwater, storm surge, and raw sewage. When the power feed was restored to the plant on September 18, the ECUA's utility operations staff faced a major challenge in bringing the plant back to life.

Picking up the Pieces

The intensity of Hurricane Ivan's winds and storm surge wreaked havoc on the ECUA's utility system. In addition to the impact on the Main Street Plant, the authority's utility system components sustained heavy damage. The ECUA had to rebuild virtually the entire collection and water distribution systems on the two barrier islands south of Pensacola.

The phased restoration of those systems allowed residents to return to their homes as the reconstruction progressed. Many of the lift stations in the collection system, both on the barrier islands and the mainland, were flooded and damaged, necessitating total or partial rebuilding. Recovery at the Main Street Plant, however, was much more complicated.

Restoration of Power

Under normal operating conditions, the Main Street Plant has a dual feed for electrical power. Because of this dual-feed situation, the ECUA was not required to have additional redundancy through on-site emergency generators.

On occasion in the past, one of the power supply feeds might be temporarily lost, but because the dual power feed was in place, plant operations were not interrupted. With Ivan's impact, however, the power supply was lost totally because the local electric utility lost generating capabilities at its power plant.

After the generating plant was brought back on line, the ECUA worked in a spirited cooperation with crews from Gulf Power to restore the power supply to the treatment plant, which was achieved during the afternoon of September 18. Caution had to be exercised during the start-up because parts of the plant had been submerged in saltwater.



The electrical control panel at Main Street Plant, showing the storm-surge flooding level resulting from Hurricane Ivan.

Restoration of Plant Process

With power restored, the ECUA staff had to re-establish the plant processes at the Main Street Plant. This restoration involved a complete evaluation of the plant process components, from the headworks to the effluent disposal system.

Within the first day after Ivan's landfall, the plant staff had begun pumping out parts of the plant that had been flooded. As the water receded, ECUA personnel conducted detailed assessments of the plant components, some of which required repair or replacement before being placed back into service. Following an intensive effort to evaluate and restore the separate process steps, the plant was brought back on line, with the treatment process re-established by September 20.

Setting the Direction: Rebuild in Place or Replace?

After the process had been restored at the Main Street Plant, the ECUA staff immediately set out on the path to make full repairs to the existing plant and consider accelerating the plans to replace the plant. The board of directors, after detailed deliberation, chose to move forward with replacing the plant with a new facility at a site located out of the coastal floodplain.

After Pensacola suffered the direct strike of another tropical system, Hurricane Dennis, in July 2005, the board was even more committed to replace the plant. The consensus was that there was a risk to the general community health with the plant potentially exposed to another service outage through coastal flooding from a tropical storm system.

The New/Replacement Plant

Design Consideration: AWT, Reuse, Transmission System

The state of Florida has some of the most stringent regulations in the nation with respect to wastewater treatment. Any new facility built and permitted to operate and discharge to surface waters in Florida must meet advanced wastewater treatment (AWT) standards, and it is extremely difficult to permit a facility that utilizes surface water discharge. With those parameters and regulations in place, the ECUA and its project team set about the design process for the new water reclamation facility.

The 2003 study laid the foundation for the consideration of the treatment plant process for a new facility. That report pointed the ECUA in the direction of utilizing an AWT treatment process similar to the process at the ECUA's Bayou Marcus Water Reclamation Facility.

The ECUA's preference for the new plant was to incorporate 100-percent reuse of the reclaimed water from the new facility. The project team began the evaluation of reclaimed water reuse and disposal options.

Eventually the Utilities Authority would strike an agreement with Gulf Power, whose Crist Power Generating Plant was in the vicinity of the selected plant site. Gulf Power would use the reclaimed water for two processes at the Crist Plant: in their cooling towers and in their flue gas desulphurization scrubber. ECUA also is evaluating the possibility of reuse at the local International Paper mill.

Another aspect of the design was consideration of the need for a major transmission sys-

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tem to redirect and convey flows currently going to the Main Street Plant site alternately to the site of the new water reclamation facility. The ECUA would need to make adjustments to the existing wastewater collection system for the Main Street Plant basin, essentially through the construction of an interceptor system. The revised collection/transmission system would eventually incorporate three new major lift stations and approximately 25 miles of new transmission mains with diameter as large as 54 inches.

With the revised configuration of the collection/transmission system, the ECUA would need to construct one of the new lift stations adjacent to the Main Street Plant, capable of pumping an average of 6 MGD. Two additional new high-capacity lift stations would be needed in the system.

Location Considerations

The 2003 study included a number of potential sites for the proposed new plant. These sites were generalizations, without pinpointing any specific property location. During the post-Ivan planning process, the ECUA and its project team embarked on an extensive review of potential plant sites, with consideration of a number of important factors.

Financial: FEMA, SRF, Legislative Appropriations, Local Contributions

A project of this magnitude and complexity inherently carries a significant price tag. The 2003 study estimated the 20-year present-worth cost of replacing the Main Street Plant to be approximately \$181 million. By the time the various project components were ready to bid, the project estimate, including engineering and support services, had escalated to approximately \$316 million.

The 2003 study had made a number of assumptions that were not necessarily valid following Ivan's rampage through the Pensacola area, but the one constant that was a characteristic of both the pre-Ivan and the post-Ivan approach was the ECUA board's concern and commitment that the utilities authority's rate payers not be solely responsible for the entire cost of the replacement. For that reason, the board charged staff early on with the task of developing a financial plan for the project, with consideration of a variety of outside funding options to supplement in-house revenue generated through user charges or rates.

The outside funding options included but were not limited to federal and state legislative appropriations, Florida's State Revolving Fund (SRF) loan program, and contributions from other local government jurisdictions. During the first eight months of 2004, the project team

worked diligently to formulate a financing plan for the project. It was a daunting task and progress to secure the full project funding was slow. During the ninth month following the acceptance of the 2003 study, Hurricane Ivan made his appearance, but despite the destruction and damages caused by Ivan, the storm also brought a financial blessing to the ECUA in the form of support from the Federal Emergency Management Agency (FEMA).

The occurrence of a natural disaster in the U.S. typically brings assistance from state and federal government, as well as mutual aid from other local government sources. The disasters also result in opportunities for assistance from private and/or not-for-profit sector sources.

Following Hurricane Ivan, FEMA and the state of Florida's Department of Emergency Management established a local office from which they coordinated their post-disaster assistance. ECUA staff and their consultants worked with the Florida DEM and FEMA representatives to develop a post-disaster recovery plan through which ECUA would become eligible for and eventually qualify for and receive substantial public assistance grants from FEMA. The public-assistance grants amounted to over \$134 million, which in the end would cover over 40 percent of the total estimated project expenses.

The recovery of the Main Street Wastewater Treatment Plant was eligible for public assistance funding through FEMA, but use of the FEMA grant funds in this particular instance would prove complex, and it took over a year to navigate the process for qualifying for the funds. In February 2006, FEMA publicly announced the award of a grant to repair the Main Street Plant, along with bringing it up to meet current codes and standards.

Typically, such grants are used to repair and restore a public utility facility in place. The ECUA was interested in the possibility of using the eligible grant funds to help finance the construction of a replacement facility at an alternate location.

One of the factors in the calculation of grant funds for this project was compliance with codes and standards. The ECUA could use FEMA funds to repair the plant in place, but the repaired facility would have to meet the applicable codes and standards for wastewater treatment facilities.

Because of constraints at the Main Street site, related in large part to limited available space and the plant process, and the long-term desire to replace the Main Street Plant in a location removed from Pensacola Bay, the ECUA realized that upgrade of the Main Street facility to meet codes and standards would not be a wise use of money. The Utilities Authority preferred to consider using any grant funds related to codes and standards for construction of a new facility at an alternate location where

coastal flooding was not a possibility.

The ECUA staff and consultants worked with FEMA and state representatives to formulate the approach to allow the use of the public assistance grant funds to build a replacement facility away from the downtown site. One requirement that was a key piece of that process was the completion of an extensive environmental assessment (EA) to support the concept of the replacement facility.

The ECUA submitted the EA in support of its request for an improved project. Following some modifications in response to review comments, FEMA issued its approval of the EA and moved the funds from a repair project to an improved project, whereby the Main Street Plant would be replaced.

In addition to the FEMA grant, the ECUA secured the following funding sources for the project: 1) state of Florida legislative appropriations and grants, \$20.9 million; 2) SRF Loan, \$20 million; 3) Northwest Florida Water Management District grant, \$4.9 million; 4) contribution from Escambia County, \$7 million; contribution from the city of Pensacola, \$19.5 million (over 17 years); and a direct bank loan, \$129.7 million.

Each of these funding sources carries with it an involved explanation as to the request and discussion on securing the commitment and the actual dollars. Those details are too intricate and involved to be discussed in this article.

The timing and use of the bank loan, however, is noteworthy. Initially, the ECUA did not plan to structure a loan from any commercial banking institutions but anticipated using the state of Florida SRF Loan Program for a significant portion of the project funding, expected to be approximately \$130 million. The state, however, was experiencing problems capitalizing its SRF Loan Program at the time the ECUA was seeking the funding. Even if the SRF funding had been available, Florida would at the time commit only an annual maximum of \$20 million to any single loan recipient.

The ECUA, recognizing that it would need to secure funding from an alternate source, began negotiations with a consortium of three banks in early 2008. In September of that year, the utilities authority executed the documents for closing on those loans, just weeks ahead of the collapse of a major segment of the national banking industry. This collapse virtually froze the municipal bond market, which is the ECUA's normal source of bond funding. Had the authority initiated or completed the loan process any later than it actually occurred, there is a high probability that the funding may not have materialized or that the interest rates would have been significantly higher.

The use of the project funding is generally summarized as follows: land purchase,

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\$19.3 million; construction costs, \$267 million (\$131.4 million for a new water reclamation facility, \$10.8 million for a new administration/operations & maintenance building and a new lab building, \$4.3 million for the demolition of the Main Street Plant and property remediation, \$97.9 million for new lift stations and transmission mains, \$14.5 million for reclaimed water reuse/disposal, \$6.8 million for the Ellyson Industrial Park office building, and \$30 million for professional services.

In order to provide funding for the debt service, the board of directors adopted a rate resolution in April 2007 that established a sewer improvement fee. That fee is assessed on residential and commercial customers, based on average gallons used per month.

The sewer improvement fee for residential customers ranges from \$2 up to \$7.50 per month. The fee for commercial customers ranges from \$7 up to \$500 per month. The sewer improvement fee began appearing on customer bills in July 2007.

Permitting

The permitting of a new water reclamation facility, especially one with a treatment capacity of 22.5 MGD, is an involved, complex process. The U.S. Environmental Protection Agency has delegated authority for the National Pollutant Discharge Elimination System permitting process to the Florida Department of Environmental Protection, so most of the permit work associated with the water reclamation facility was between the ECUA and the FDEP.

Of course, there were other permits involving the U.S. Army Corps of Engineers (dredge and fill permits), U.S. Fish & Wildlife Service, the Northwest Florida Water Management District, Escambia County, the city of Pensacola, CSX Railroad, and the Alabama Gulf Coast Railroad. The ECUA staff worked throughout the early stages of the project to establish a good rapport with all permitting agencies, especially the FDEP staff, both in the main office in Tallahassee and the Northwest District office in Pensacola. All the permitting authorities provided excellent support and guidance to the utilities authority and its consultants in the preparation and prompt consideration of the permit applications.

Property Acquisition

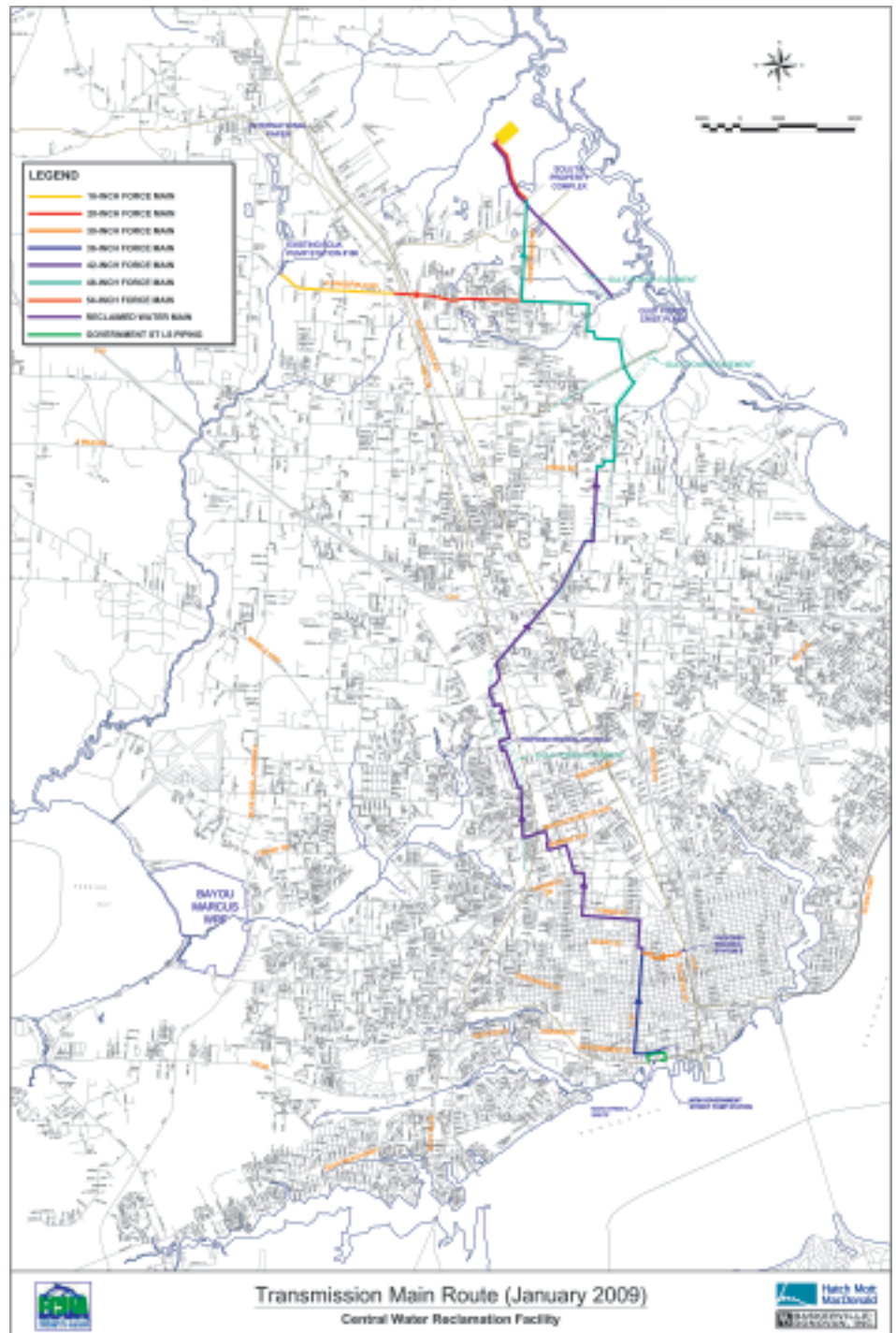
As can be expected with a project of this complexity and design, the ECUA had to consider acquisition of property for each project component: the water reclamation facility (WRF), the transmission main, and the reuse/reclaimed water disposal system. As stated previously, the general concept of the

overall project was driven, in large part, by the desire to site the new WRF in relative close proximity to the current service area while making the plant accessible to future growth in the central part of Escambia County. The location of the plant site would also have an impact on the length and routing of the transmission main which would be carrying flows from the Main Street plant site, as well as the ECUA's ability to establish and lock down reliable long-term reuse options for the reclaimed water.

Water Reclamation Facility Site

The ECUA established the general concept of the new WRF site through the 2003 study. That report included some general guidance for siting the new plant, and even proposed a few general locations without getting too precise as to the identification of specific properties. The decision process on the exact location of the new WRF began in earnest shortly after the ECUA determined the full extent of damage caused by Ivan.

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Overall project map for the Main Street Wastewater Plant replacement project.

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The ECUA staff and its project team began the process by pulling together a list of detailed evaluation criteria that they deemed necessary or desirable for siting the new plant, for use in assessing the various sites to be considered. The most important issues were:

- ◆ usable area at an acceptable elevation (above the Category 5 storm surge level)
- ◆ buffer zone (separation from existing development)
- ◆ proximity to prospective reuse opportunities for the reclaimed water.

Other criteria that the project team considered included current zoning classification, grade or slope of the property, proximity to potable water supply wells, and potential impact to wetlands or historic sites.

Twenty-three sites were included in the original listing of potential plant locations. Through an initial screening process, the project team eliminated 10 of the sites because they failed to meet initial evaluation criteria. Of the 13 remaining sites, two clearly surpassed the other 11 in meeting the screening criteria.

In comparing the two final sites, a 307-acre parcel was deemed the best property

based on its size, buffer area, remote location (approximately three-quarters of a mile from the nearest residence), existing industrial zoning classification, amount of adjacent acreage available for reuse or disposal options, and truck traffic accessibility.

The chosen site was owned by a single interest, which is a large industrial corporation that was emerging from bankruptcy at the time of consideration of purchase by the ECUA. The fact that the entire parcel was under single ownership initially was thought to make the transaction fairly straightforward, but the matter of bankruptcy complicated the purchase negotiations and extended the timeframe for the transaction. Eventually, the ECUA made the purchase and gained title to the property.

Pipeline/Transmission System

The second component of the project that required consideration of easement acquisition was the transmission system. The new WRF site is approximately 15 miles, as the crow flies, from the Main Street plant site. In consideration of the transmission main routing that would take flows from the Main Street Plant site to the new Central Water Reclama-

tion Facility (CWRP), that route is approximately 17 miles long.

Once the routing of the transmission main was established, the project team utilized the services of a firm specializing in property and easement acquisition to evaluate and help secure easements on specific property parcels. In a few instances, the ECUA had to exercise its power of eminent domain to secure property.

Bidding

In an effort to streamline and expedite the bidding process for the various construction components, the ECUA chose to pre-qualify bidders for each of those elements. The utilities authority staff worked in concert with the project engineering team to develop individual requests for proposals and statements of qualifications for separate project components:

- A. Site Clearing for the CWRP
- B. Construction of the CWRP
- C. Wastewater Pumping/Lift Stations (2 separate bids)
- D. Wastewater & Effluent Transmission Mains (Large and Small Diameter Mains – up to three separate bids)
- E. Wastewater & Effluent Transmission Mains (Small Diameter Mains Only – 36" and smaller)
- F. Administration/Operations and Maintenance Building at the CWRP

The intent was to establish a list of pre-qualified contractors who would be asked to submit bids for the project components as they were advertised. The process of pre-qualifying bidders worked well and eliminated the need to evaluate bidder qualifications during each bid evaluation.

Construction

Phasing the various construction components of the project facilitated its management and opened up the bidding to many contractors, not just a single large contracting firm. Following acquisition of the plant site property and the many easements required for the transmission route, the phased bidding commenced.

The main transmission line was divided up into three separate segments, for which bids were accepted at different times. Lift Station A was bid separately, while Lift Station B and the Government Street Lift Station were bid together.

The ECUA executed a contract to clear the site for the plant in September 2007. Of the original 307 acres the ECUA bought for the plant, the site-clearing contract covered approximately 87 acres, including the 40 acres on which the new CWRP would be constructed, along with the construction mobilization areas. Following the site clearing, the ECUA accepted bids for the plant construction from



Construction site of the Central Water Reclamation Facility, showing (from top right) reclaimed water EQ tanks, the administration building, BNR basins, clarifiers, and filter structures.



An architect's rendering of the new ECUA administration building.



Construction of the prestressed concrete tank at the Central Water Reclamation Facility in February.

the pre-qualified contractors, and made the award of bid in May 2008.

The contractor who won the bid began preparing the site through that summer and initiated the heavy construction phase of the project with the first structural concrete pour in October 2008. Construction was progressing at the time of publication of this paper, with expected completion and start-up of the new CWRP during the final calendar quarter of 2010.

Plant Site Reclamation

The Main Street Wastewater Treatment Plant occupies six city blocks, or approximately 19 acres, in downtown Pensacola. The construction of the new Central Water Reclamation Facility will allow the ECUA to phase out and cease operation of the Main Street Plant.

The ECUA staff anticipates that the Main Street Plant will operate concurrently for a short time during the initial start-up of the CWRP and the transmission system. Subsequently, the ECUA expects to dismantle the plant and reclaim the property, making it available for a future use that is compatible with the general land use scheme in downtown Pensacola.

The ECUA staff is working with the city and its consultants, who are in the process of updating Pensacola's Community Redevelopment Agency master plan. The intent is to make the 19-acre site available for future development that complements the master plan and the overall evolution of the Pensacola waterfront.

Conclusion

In the immediate time period following Hurricane Ivan's rampage through Northwest Florida, the ECUA had to take extraordinary

measures to restart the Main Street Plant and re-establish wastewater service to the Pensacola community. Through the entire recovery process, the ECUA achieved what initially appeared to be a long shot, which was developing consensus on building a replacement water reclamation facility and pulling together a viable, albeit complex, engineering and financing plan to make it happen.

With the ECUA board's policy guidance, and exceptional work from the entire project team, the Central Water Reclamation Facility is well on its way to becoming a reality through an innovative approach to financing one of the largest local public works projects ever in Northwest Florida—despite the economic challenges inherent in recovery from a natural disaster the likes of Hurricane Ivan and the complications presented by one of the most serious recessions the U.S. has experienced.



Filter installation at the Central Water Reclamation Facility in July.

Indeed, the recession and the timing of the project's many bids played well together, to the advantage of the project's bottom line. The planning and design, financing, and management and coordination of the construction for such a large, complex project all fell into place seemingly with ease; however, there was a lot of dedication and hard work committed to the project, much of which occurred in a quiet manner. The success of the project is the direct result of that dedication and commitment.

We can not stress too much the gratitude we feel for being able to work with FEMA and the Florida Department of Emergency Management to establish a public assistance grant that, up to that point, was the largest single grant of its kind. Considering the complexity and scale of this project, its progression from concept to reality was extremely well coordinated and accomplished in an uncharacteristically short period of time. If there is any lesson to be learned through this project, it is the fact that disasters, along with their challenges and problems, also present opportunities and can serve as catalysts for progress.

The project has been made possible with the board's foresight and remarkable coordination between ECUA staff and its outside consulting team, comprised of engineering consultants Baskerville-Donovan Inc., Hatch Mott MacDonald, and Malcolm Pirnie. Additional key project roles were completed by the ECUA's legal firm, Kievit, Odom and Barlow.

References

- National Oceanic and Atmospheric Administration, National Hurricane Center – Tropical Cyclone Report for Hurricane Ivan. Stewart, Stacey R. December 16, 2004 (Updated May 27, 2005) <http://www.nhc.noaa.gov/2004ivan.shtml> ◊