River Crossing Improvement Association

c/o Pioneer Property Management
P.O. Box 3485
Austin TX 78764

MWD 59478

HR OPA
OCT 16 2007
BY

CHIEF CLERKS OFFICE
OCT 16 AM 10: 25
TEXAS COMMISSION ENVIRONMENTAL QUALITY

October 11, 2007

Office of the Chief Clerk
MC 105, TCEQ
Post Office Box 13087
Austin, Texas 78711-3087

Re: Applicant South Central Water Company Proposed Permit No. WQ0014833001

Dear Sir or Madam:

We are writing to express our serious concerns regarding the above-referenced proposed permit. We live in the River Crossing subdivision located next to the Double Eagle Ranch on which the proposed sewage treatment plant would be located, and we are all members of the Board of Directors for the homeowners association. So, we speak on behalf of the entire membership of River Crossing Improvement Association, as well as residents of River Crossing.

A number of properties in River Crossing will be adversely affected by the proposed facility in that they would be subject to noise, vibrations, and other air pollution that would impact their ability to enjoy the amenities provided within our community – that of outside activities in the natural habitat that River Crossing provides. Having visited (and being able to hear) similar facilities in the area, we are particularly concerned about the increased noise that would emit from the proposed facility, impacting the quality of life that is enjoyed in River Crossing. We are additionally concerned about the negative impact on area wildlife, as well as aesthetic detriment. Our neighborhood is a quiet, rural farming and horse community that enjoys a tranquil natural environment in which birds, armadillos, road runners, deer, and other wildlife roam freely, moving among the farm homes and wandering along our nature trails near the Lower Colorado River banks. We urge the TCEQ to deny the permit, require that the facility be moved farther away from the property lines of River Crossing, or place the most stringent possible restrictions upon it in terms of noise barriers, vibration limitations, and visibility screening requirements. We understand that various unintrusive options are currently available, and it would be our hope that such a design be used in order to minimize the proposed facility's environmental and aesthetic impact.

Additionally, from a purely environmental standpoint, we are gravely concerned about the adverse environmental impact that the proposed facility would have on the well-being of the many species of marine life that have been discovered in Moss Branch Creek, the primary stream into which the proposed facility would discharge, as well as the Lower Colorado River itself. With Austin expanding to the east at such a rapid rate, natural areas like this are precious and few, and those that still remain warrant protection and preservation to ensure the survival of habitat sufficient to sustain our native species.

We request a contested case hearing regarding this permit proposal. Please let us know the outcome of this request through a phone call to the President of the River Crossing Improvement Association (RCIA)– Catherine Roberts. She can be reached at 512-321-3651 (home) or 512-658-1154 (cell).

Your prompt attention to this matter is greatly appreciated.

Sincerely,

Catherine E. Roberts,
President, RCIA

Marcy Bernasconi
Secretary, RCIA

Dinah Van Peski
Director, RCIA

Bryce A. Johnson
Vice President, RCIA

Bill Pendell
Treasurer, RCIA

MW

River Crossing Improvement Association
c/o Pioneer Property Management
P.O. Box 3485
Austin TX 78746

AUSTIN TX 787
15 OCT 2007 PM 5 L

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Office of the Chief Clerk
MC 105, TCEQ
Post Office Box 13087
Austin, Texas 78711-3087

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78711-3087

October 13, 2007

MWD 59478

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

2007 OCT 17 AM 9:58

CHIEF CLERKS OFFICE

HR OPA

OCT 17 2007

BY

Office of the Chief Clerk
MC 105, TCEQ
Post Office Box 13087
Austin, Texas 78711-3087

Re: Applicant South Central Water Company Proposed Permit No. WQ0014833001

Dear Sir or Madam:

I write to express my serious reservations regarding the above-referenced proposed permit, and to request a contested case hearing regarding this permit proposal. I live in the River Crossing subdivision located next to the Double Eagle Ranch on which the proposed sewage treatment plant would be located. My property is located at the address below, less than a half-mile from the site of the proposed facility.

I am particularly concerned about the noise, vibrations, odors and other air pollution that would emanate from the proposed facility, impacting my ability to enjoy the quality of life to which those of us who purchased property in this part of Bastrop county years ago have become accustomed. I am additionally concerned about the negative impact on area wildlife, in addition to the aforementioned aesthetic detriment. Ours is a quiet, rural farming and horse community that enjoys a tranquil natural environment in which birds, armadillos, road runners, deer, and other wildlife roam freely, moving among the farm homes and wandering along our nature trails near the Lower Colorado River banks. I urge the TCEQ to deny the permit, require that the facility be moved farther away from my property, or place the most stringent possible restrictions upon it in terms of noise barriers, vibration limitations, and visibility screening requirements. I understand that various less-intrusive construction options are currently available, (such as those discussed in a report forwarded to your office by fellow neighborhood resident Lori Zimmerman in a letter dated September 27, 2007) and it would be my hope that, should approval be unfortunately granted for such a facility, such a design be mandated in order to minimize the proposed facility's environmental and aesthetic impact.

Additionally, from a purely environmental standpoint, I am deeply concerned about the adverse environmental impact that the proposed facility would have on the well-being of the many species of marine life that have been discovered in Moss Branch Creek, the primary stream into which the proposed facility would discharge, as well as the Lower Colorado River itself. With Austin expanding to the east at such a rapid rate, natural areas like this are precious and few, and those that still remain warrant protection and preservation to ensure the survival of habitat sufficient to sustain our native species.

I request a contested case hearing regarding this permit proposal.

Sincerely,

Darren S. Carroll
295 Colorado Drive
Cedar Creek, Texas 78612
Telephone 512-303-9104

MW

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OCT 17 2007
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JR

AUSTIN TX 787
16 OCT 2007 PM 3 L

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Office of the Chief Clerk
MC 105, TCEQ
P.O. Box 13087
Austin TX 78711-3087

78711+3087

RE: WQ0014833001 REQ. FOR HEARING

September 24, 2007

Rick Clemens
142 Llano Court
Cedar Creek, Texas 78612
Telephone No. 512-581-9196

MWD
59478

OPA #

BY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

2007 OCT -4 AM 10: 30

CHIEF CLERKS OFFICE

Office of the Chief Clerk
MC 105, TCEQ
Post Office Box 13087
Austin, Texas 78711-3087

Re: Applicant South Central Water Company Proposed Permit No. WQ0014833001

Dear Sir or Madam:

I am writing to express my serious reservations regarding the above-referenced proposed permit. I live in the River Crossing subdivision located next to the Double Eagle Ranch on which the proposed sewage treatment plant would be located. My property is located at the address above, which is less than one mile from the site of the proposed facility.

My property would be adversely affected by the proposed facility in that it would be subject to noise, vibrations, and other air pollution that would impact my ability to relax quietly in my own yard. Having visited, and being able to hear, similar facilities in the area, I am particularly concerned about the increased noise that would emit from the proposed facility, impacting my ability to relax quietly in my own yard. I am additionally concerned about the negative impact on area wildlife, as well as aesthetic detriment. Our neighborhood is a quiet, rural farming and horse community that enjoys a tranquil natural environment in which birds, armadillos, road runners, deer, and other wildlife roam freely, moving among the farm homes and wandering along our nature trails near the Lower Colorado River banks. I urge the TCEQ to deny the permit, require that the facility be moved farther away from my property, or place the most stringent possible restrictions upon it in terms of noise barriers, vibration limitations, and visibility screening requirements.

Additionally, from a purely environmental standpoint, I am gravely concerned about the adverse environmental impact that the proposed facility would have on the well-being of the many species of marine life that have been discovered in Moss Branch Creek, the primary stream into which the proposed facility would discharge, as well as the Lower Colorado River itself. With Austin expanding to the east at such a rapid rate, natural areas like this are precious and few, and those that still remain warrant protection and preservation to ensure the survival of habitat sufficient to sustain our native species.

I request a contested case hearing regarding this permit proposal.

Sincerely,

Rick Clemens

Rick Clemens

MW

142 Llano Court
Cedar Creek, TX 78612

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Office of the Clerk
MC 105, TCEQ
PO Box 13087
Austin TX 78711-3087

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October 2, 2007

MWD 54478

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

2007 OCT -5 PM 2:35

CHIEF CLERKS OFFICE

OPA

OCT 8 2007

BY

William and Darlene Pendell
205 Sabine Dr.
Cedar Creek, Texas 78612
512 308 9799

Office of the Chief Clerk
MC 105, TCEQ
Post Office Box 13087
Austin, Texas 78711-3087

Re: Applicant South Central Water Company Proposed Permit No. WQ0014833001

Dear Sir or Madam:

We have severe reservations about the above proposed permit. We live in the River Crossing subdivision located next to the Double Eagle Ranch on which the proposed sewage treatment plant would be located. We request a contested case hearing regarding this permit proposal.

Our subdivision is bordered by the Colorado River. The Moss Branch Creek is at least twenty feet wide and significantly deep, runs through the subdivision, and a creek bed is at the back of our property. During the floods of this past rainy season we observed the difference in the water surge and the impact of this surge in both of creek areas. In addition, a subdivision near the proposed water treatment plant, The Forest, has already reported flooding issues on the properties in the subdivision. Our concern is the environmental impact of the water treatment plant. We urge the TCEQ to investigate these issues before a water treatment plant in this specific area is given a permit and in the future becomes a contributing factor to the already vulnerable land. Certainly, flooding issues will have a direct impact on our land and may impact the water quality of this area.

The Austin area is noted for concern about the interaction of development and the preservation of native plants and animals. Lady Bird Johnson's death brought to national attention Austin's cutting edge response to development; not the restriction of development but rather the sustainability of the environment through thoughtful development. We urge the TCEQ to include Bastrop County in that perspective of Lady Bird's legacy and carefully review the design of the proposed water treatment plant.

We request a public hearing to answer our concerns and the concerns of the TCEQ. Thank you.

Sincerely,

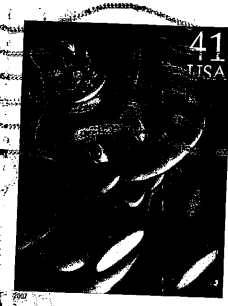
William and Darlene Pendell

William Pendell
Darlene Pendell

Pendell
205 Sabine Dr.
Cedar Creek, TX
78612

AUSTIN TX 787

04 OCT 2007 PM 1 L



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OCT 05 2007
TCEQ MAIL CENTER
RB

Office of the Chief Clerk
MC 105, TCEQ
Post Office Box 13087
Austin, Texas 78711-3087

78711+3087

MWD
59478

June 21, 2008

OPA
JUN 23 2008
BY KY

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
2008 JUN 23 AM 9:59
CHIEF CLERKS OFFICE

Office of the Chief Clerk
TCEQ
Mail Code MC-105
P.O. Box 13087
Austin, TX 78711-3087

RE: Proposed Permit No. WQ0014833001

To Whom It May Concern:

I would like to thank the Commission for their review of the proposed permit. It is my understanding that because of the work of the Commission the proposed wastewater treatment plant is of high quality. However, I still have the following concerns.

The developer has verbally stated that the proposed plant is an intermediate plant and eventually, upon build out, another plant will be built at an alternative site near the Colorado River. My concern is that there may be two wastewater treatment plants on a very small parcel of land. Perhaps the direction of the Commission to the developer could be to eliminate the intermediate plant and construct the final wastewater treatment plant now that will serve the whole subdivision.

In addition, there is a wastewater treatment plant at Mc Kinney Roughs, within the three mile designation noted on the application. In speaking with the LCRA director for the area, he stated that bringing the effluent to the already established plant would be very costly. The LCRA does not have the budget to accomplish this. In researching wastewater treatment plants I have learned that large wastewater treatment plants have had less incidences of pollution because of the intense scrutiny of TCEQ. I would like to suggest that TCEQ, LCRA, the City of Bastrop, the County of Bastrop and the developer initiate a shared cost proposal and bring the effluent from the proposed Double Eagle Ranch Subdivision to the large facility at Mc Kinney Roughs.

Bastrop County is experiencing tremendous growth. Perhaps TCEQ can take a leadership position with the county in taking a holistic approach to development. I certainly am not naïve that territorial boundaries and jurisdictions exist. In fact, while doing the research regarding Double Eagle Ranch, it amazed me how many different agencies I had to call to get information. However, this is a perfect opportunity for a variety of jurisdictions to work together to create infrastructures that protect the environment for flora, fauna and neighbors. River Crossing Subdivision is currently working with the developer of Double Eagle Ranch to create a maximum of green space between our two subdivisions.

Double Eagle Ranch and River Crossing are just very small organization. However, in this political climate of change it seems reasonable to expect large agencies to collaborate to protect their areas of responsibility.

Thank you for your interest and review.

Sincerely,

Darlene Pendell

Darlene Pendell
Chair
Double Eagle Research Committee
River Crossing Subdivision

205 Sabine Dr.
Cedar Creek, TX 78612
[redacted]

BENNIE H. WALLACE, JR
ELIZABETH F. WALLACE
450 COLORADO DR, CEDAR CREEK, TX 78612
512.985.5157

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

2007 OCT -8 AM 9:53

CHIEF CLERKS OFFICE

October 4, 2007

MWD 59478

Office of the Chief Clerk
TCEQ MC-105
PO Box 13087
Austin, TX 78711-3087

H OPA
OCT 08 2007
BY Ky

Re: Application by South Central Water Company
Proposed Permit No. WQ0014833001

Dear Sir or Madam:

We are requesting a contested case hearing regarding the proposed application.

We are writing to express our reservations regarding the proposed permit. We live in River Crossing subdivision and are located near the Double Eagle Ranch where the proposed sewage treatment plant would be located. Our property is located at 450 Colorado Drive which is less than one mile from the site of the proposed facility.

River Crossing is a quite, rural community. We currently enjoy a tranquil, natural environment. We have an abundance of wildlife including birds, armadillos, road runners and deer. River Crossing has a vast system of nature trails that run throughout our neighborhood and along the banks of the Colorado River. The proposed location for the sewage treatment plant is immediately adjacent to our neighborhood.

Moss Branch Creek is a dry (seasonal) creek bed and any discharges into Moss Branch Creek would cause significant erosion and significant pollution. In the event of a discharge due to a plant failure/bypass the damage to the environment in, around and below Moss Branch Creek would be catastrophic. Additionally, we have visited similar facilities in the area and are very concerned about the increased noise that would come from the proposed facility. This noise pollution would directly impact the wildlife in the area and our quality of life and enjoyment of the outdoors. Also, I am also seriously concerned about odors from the plant.

We are requesting that the TCEQ deny the permit for the proposed location. There is considerable undeveloped land on the Double Eagle Ranch and we believe that the applicant has alternate locations available that would not have such a significant impact on the environment in and around Moss Branch. If TCEQ does not see fit to deny the current application, we request that they place

MW

the most stringent possible restrictions on this facility with respect to discharge, noise abatement, vibration control and visibility screening. We would also like to see a considerable buffer zone included in the restrictions.

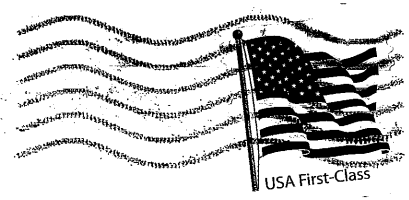
Regards,

Bennie H. Wallace, Jr

Elizabeth F. Wallace

Bennie and Liz Wallace
450 Colorado Dr
Cedar Creek, TX 78612

AUSTIN TX 787
05 OCT 2007 PM 5 L



Office of the Chief Clerk
TCEQ MC-105
PO Box 13087
Austin, TX 78711-3087

RECEIVED
OCT 08 2007
TCEQ MAIL CENTER
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September 27, 2007

MWD 59478

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

2007 OCT -1 AM 10: 35

OPA H

CHIEF CLERKS OFFICE

BY

Lori Zimmerman
141 Llano Court
Cedar Creek, Texas 78612
Telephone 512-554-3946

Office of the Chief Clerk
MC 105, TCEQ
Post Office Box 13087
Austin, Texas 78711-3087

Re: Applicant South Central Water Company Proposed Permit No. WQ0014833001

Dear Sir or Madam:

I am writing to express my serious reservations regarding the above-referenced proposed permit. I live in the River Crossing subdivision located next to the Double Eagle Ranch on which the proposed sewage treatment plant would be located. My property is located at the address above, which is less than a quarter-mile from the site of the proposed facility.

My property would be adversely affected by the proposed facility in that it would be subject to noise, vibrations, and other air pollution that would impact my ability to relax quietly in my own yard. Having visited (and being able to hear) similar facilities in the area, I am particularly concerned about the increased noise that would emit from the proposed facility, impacting my ability to relax quietly in my own yard. I am additionally concerned about the negative impact on area wildlife, as well as aesthetic detriment. Our neighborhood is a quiet, rural farming and horse community that enjoys a tranquil natural environment in which birds, armadillos, road runners, deer, and other wildlife roam freely, moving among the farm homes and wandering along our nature trails near the Lower Colorado River banks. I urge the TCEQ to deny the permit, require that the facility be moved farther away from my property, or place the most stringent possible restrictions upon it in terms of noise barriers, vibration limitations, and visibility screening requirements. I understand that various unintrusive options are currently available, such as those discussed in the attached report, and it would be my hope that such a design be used in order to minimize the proposed facility's environmental and aesthetic impact.

Additionally, from a purely environmental standpoint, I am gravely concerned about the adverse environmental impact that the proposed facility would have on the well-being of the many species of marine life that have been discovered in Moss Branch Creek, the primary stream into which the proposed facility would discharge, as well as the Lower Colorado River itself. With Austin expanding to the east at such a rapid rate, natural areas like this are precious and few, and those that still remain warrant protection and preservation to ensure the survival of habitat sufficient to sustain our native species.

I request a contested case hearing regarding this permit proposal.

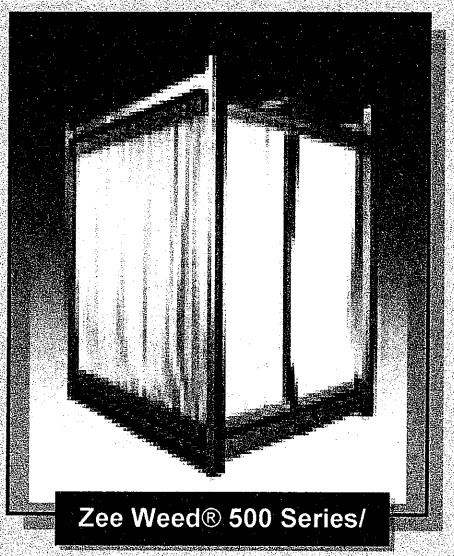
Sincerely,

Lori Zimmerman

Lori Zimmerman

MW

An Overview of Parsons Recent Experience in Membrane Bioreactor (MBR) Technology



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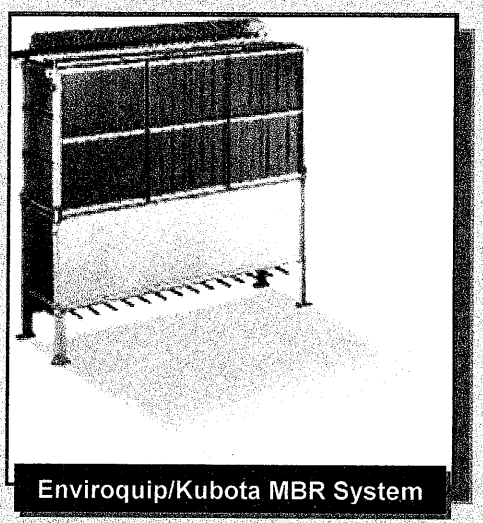


Enviroquip/Kubota MBR System

PARSONS

November 2004

The MBR Technology

Introduction

Metropolitan growth rate coupled with a finite supply of water resources are forcing a demand for conservation of water and necessitating legislative and regulatory requirements for cleaner effluents from wastewater treatment plants. For many years conventional wastewater treatment processes have provided our communities with the tools necessary to protect our drinking water resources. With recent population growth the portion of our surface water resources that have previously been processed by upstream communities increases and the ability of our streams and rivers to assimilate increased wastewater loads is reduced. Many communities find that no more capacity is available, and in order to accommodate additional growth, and wastewater, the treatment processes must be more efficient, and effluents must be cleaner.

This has driven exploration of new concepts and technologies for wastewater treatment. Some of the new technologies include integrated fixed-film activated sludge systems (IFAS), sequencing batch reactors with microfiltration (SBR-MF), and membrane bio-reactors (MBR). IFAS provides a potential for more efficient use of available tankage in a treatment process, but does not necessarily provide a cleaner effluent. The SBR-MF provides a cleaner effluent, but does not provide an increase in treatment process efficiency. The MBR technology provides both a more efficient treatment and a higher quality effluent. While historically the cost of membranes resulted in costly installations of MBR (and MF), these technologies, with over 70 in design or construction, have now become commonly adopted and the cost of membranes and MBR has become competitive with conventional treatment.

In engineering the first major grass roots municipal MBR plant in the country in 2001 and in the design and construction of over 10 MBR projects since, Parsons maintains a leadership role in the advancement of this new and innovative technology. Our plant designs have become the models for most new MBR treatment facilities in the Country. Through our experience and innovation we provide our clients with proven methods and the latest approaches developed in the successful application of membranes to wastewater treatment, the reuse of wastewater, and the conservation of our most valuable resource.

MBR Technology

In the MBR technology a physical separation barrier is utilized in an activated sludge wastewater treatment process. In order to produce high quality effluent in a conventional activated sludge process a combination of clarifiers (large sedimentation tanks), and fabric or high-efficiency tertiary multi-media filters often with chemical coagulation additives are required. In a MBR facility the clarifiers and filters are replaced with membrane filters (micro filters) that have pores with very small openings (effective hole sizes of 0.02 to 0.1 microns). The holes are too small to allow bacteria to pass and so only very clean water is produced.

The sedimentation process in a conventional plant generally dictates the physical size of the tankage by limiting the bacterial concentration (MLSS) of the process. Since an MBR facility does not use sedimentation the physical size of a plant is limited only by the ability to provide oxygen to the bacteria, and so the tankage can be much smaller, generally half the size or smaller. One of Parsons MBR facilities provides 5 MGD treatment capacity on less than 1.5 acres, including biosolids digestion and centrifuge dewatering. A similar typical conventional facility could require 7 to 10 acres.

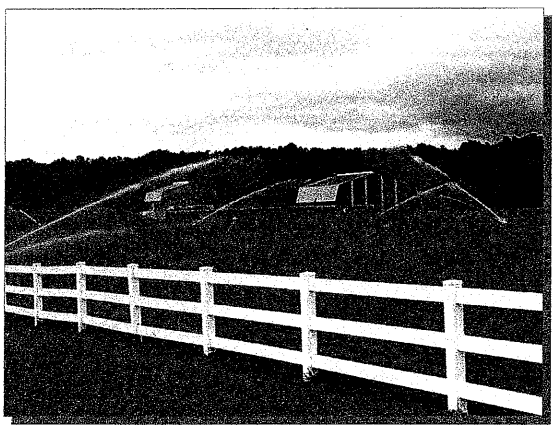
Through project experience we have developed a number of innovations and standards upon which the MBR technology is evolving. Some unique features that have become standards and options in MBR approaches include surface wasting, MBR thickening of biosolids for Class B digestion, Jet Aeration digestion of an MBR sludge, biological phosphorous removal, foam management system, SCADA controlled influent management system, SCADA controlled irrigation system management, remote systems monitoring and management, and MBR manufacturer independent design and layout.

Discussion for several Parsons MBR projects from 0.5 to 15 MGD follow.

Parsons' MBR References

Cauley Creek WRF

Fulton County, Georgia



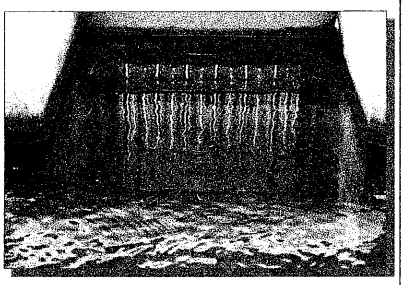
Client
IWS/Fulton County

Client Contact
Ron Green

Project Manager
DeAndra Baker

Dates
04/01–12/01 (Initial 2.5 MGD)
07/03–08/04 (Expansion to 5.0 MGD)

Parsons provided the detailed design services for the design-build construction of the initial 2.5 MGD water reuse facility in 2001 and its expansion to 5.0 MGD in 2004. Technologies reviewed during this project included Sequencing Batch Reactors, Conventional Oxidation Ditch, and Zenon membrane microfiltration. This facility uses a modified University of Cape Town process to maximize biological phosphorus removal and Zenon's hollow fiber type membranes for effluent separation.



The project was conceived to provide relief from an overloaded wastewater conveyance and treatment system in North Fulton County, Georgia and provide reuse water for irrigation of golf courses, residential, and other customers.

Facility is located in a high-income residential area. Noise, odor, and aesthetics were a big concern for the neighbors. Architectural treatment of the structure provides a rustic country equestrian appearance. Facility includes office, administrative, and laboratory spaces. Odor areas like screens and grit processes were located inside building with odor control and acoustically treated buildings enclosing blowers and other noisy mechanical equipment virtually eliminate the sound transmission from the facility.

Key Features:

- Design/Build
- Public/Private partnership
- 5.0 mgd average dry weather flow Water Recycling Facility
- Architectural treatment for a rustic country equestrian appearance
- Zenon MBR System
- No clarifiers and high mixed liquor concentration
- Title 22 quality effluent
- 50 MG holding pond for non demand period
- UV disinfection
- Nitrogen and phosphorous removal for creek discharge during non reuse period
- Biosolids- membrane thickening, aerobic digesters and centrifuges for dewatering
- Odor control
- Noise control
- Smaller footprint
- SCADA process control

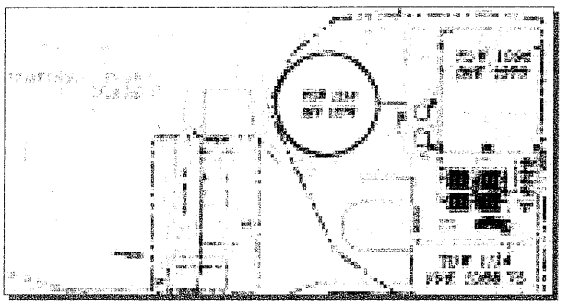
Services Provided by Parsons:

- Design of MBR plant (both phases)
- Sewer planning
- Project management
- Engineering services during construction
- Quality assurance/quality control
- Water reuse
- Micro filtration of wastewater (Zenon)
- SCADA system design

Parsons' MBR References

Manor WRF

Fulton County, Georgia



Client
Innovative Water Solutions

Client Contact
Mr. John Machisko

Project Manager
Richard Check

Dates
10/01–10/04

Parsons designed this 0.5 MGD water reclamation and reuse facility to serve a country club community in the metropolitan Atlanta area. The facility uses Zenon's Membranes to produce best quality reuse water economically achievable. Reuse water from the facility is used to irrigate a Tom Watson designed golf course and residential landscaping in this exclusive North Fulton County community of 450 residences.

The Plant is designed to produce water meeting the urban water reuse standards, and with 19.3 million gallons of reuse water storage does not require a surface water discharge. The facility includes flow equalization, preliminary treatment (fine screens), anoxic basins, aeration/ membrane filtration basins, chemical addition for cleaning membranes, SCADA process control, UV disinfection, and reuse water storage and transfer facilities. With potential for future surface water discharge, the biological process is designed to be easily adaptable to produce water that will also meet current NPDES discharge requirements for nitrogen and phosphorous.

Key Features:

- Design/Build
- 0.5 mgd average dry weather flow Water Recycling Facility
- Zenon MBR System
- No clarifiers and high mixed liquor concentration,
- Title 22 Quality Effluent
- 19 MG holding pond for non demand period
- Nitrogen and phosphorous removal for creek discharge during non reuse period
- Odor control
- Noise control
- Smaller footprint
- UV disinfection
- SCADA process control

Services Provided by Parsons:

- Design of MBR plant
- Engineering services during construction
- Quality assurance/quality control
- Water reuse
- Micro filtration of wastewater (Zenon)
- SCADA system design

Parsons' MBR References

Pumpkinvine Creek WRF

Paulding County, Georgia

Client
Paulding County

Client Contact
Mr. Michael L. Jones

Project Manager
Richard Check

Dates
04/03-06/04

Parsons provided the design services and engineering services during construction as part of a design/build team for expansion of the SBR based 0.5 MGD facility to a 1.0 MGD MBR facility. Kubota's flat panel membrane technology was used to produce reuse quality effluent. Reuse water from the facility is used to irrigate golf courses and residential landscaping throughout North Paulding County.

The Plant includes 20 million gallons of wet weather storage and does not require a surface water discharge. The facility expansion included preliminary treatment (fine screens and grit removal), septage receiving facility, anoxic basins, pre-aeration basins, aeration/ membrane filtration basins, chemical addition for cleaning membranes, SCADA process control, and reuse water storage and transfer facilities. With potential future surface water discharge the process is designed to be easily adaptable to produce water that will also meet current NPDES discharge requirements for Nitrogen and Phosphorus.

Key Features:

- Design/Build
- 1.0 mgd average dry weather flow Water Recycling Facility
- Kubota MBR system
- No clarifiers and high mixed liquor concentration,
- Title 22 quality effluent
- 20 MG holding pond for non demand period
- Nitrogen and phosphorous removal for creek discharge during non reuse period
- Noise control
- Smaller footprint
- SCADA process control

Services Provided by Parsons:

- Design of MBR Plant
- Engineering services during construction
- Quality assurance/quality control
- Water reuse
- SCADA system design

Parsons' MBR References

Hamptons WRF

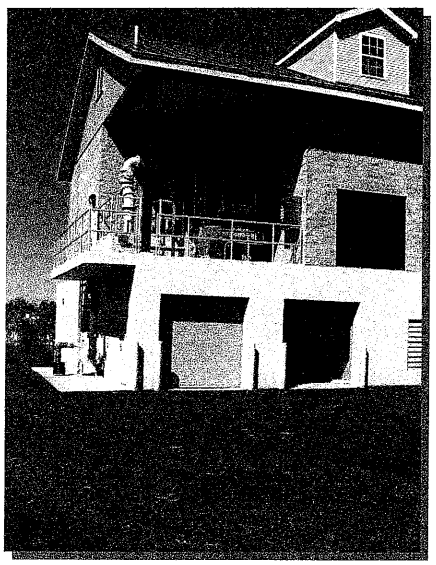
Cumming, Georgia

Client
Waterscape Utility, LLC

Client Contact
Ken Curren

Project Manager
DeAndra Baker

Dates
02/02–11/03



The Parsons Design/Build Team designed the 0.9 MGD (ADF) wastewater treatment plant and reuse facilities using advanced membrane microfiltration. The plant is designed to receive wastewater from the golf course community on which it is located and will in turn provide reuse water for irrigation of the golf course and residential landscapes.

The facility architecture was designed to blend in with the residential golf community. The plant includes office, laboratory, and storage space in addition to the process related uses.

The original selected technology for this facility was sequencing batch reactors. Membrane filtration was considered during the preliminary engineering phase of the project. Membrane filtration was chosen for final design due to the advantages, such as smaller foot print, elimination of clarifiers, etc., provided by membrane technology.

The Kubota flat plate membrane technology was selected. This technology allows for gravity-driven microfiltration eliminating the need for permeate pumps found in typical hollow fiber type systems, thereby reducing capital and O&M costs.

Innovative headwork design incorporates an open environment to reduce the hazard classification for electrical equipment while all of the odor-producing equipment and flow channels are enclosed and connected to odor control system to mitigate odor emissions from the facility.

Acoustically treated blower room including acoustical blower enclosures and acoustical louvers and doors mitigate sound transmission from the facility.

Key Features:

- Design/Build
- 0.9 mgd average dry weather flow Water Recycling Facility
- Architectural treatment for a residential clubhouse appearance
- Kubota MBR System
- No clarifiers and high mixed liquor concentration,
- Title 22 quality effluent
- Centrifuge for dewatering
- Odor control
- Noise control
- Smaller footprint
- Chlorine disinfection

Services Provided by Parsons:

- Design of MBR Plant
- Project Management
- Engineering services during construction
- Quality assurance/quality control
- Water reuse
- Micro filtration of wastewater (Kubota)

Parsons' MBR References

Upper Sweetwater WRF

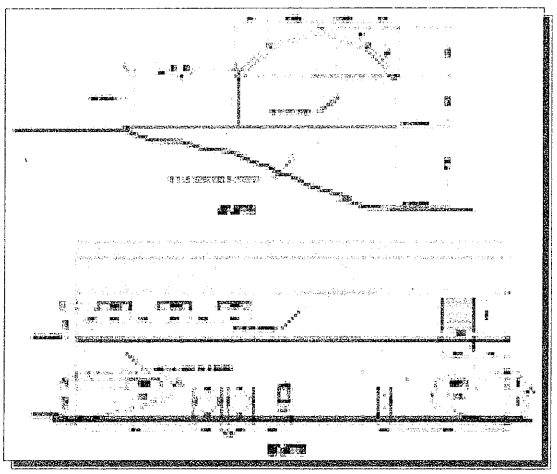
Paulding County, Georgia

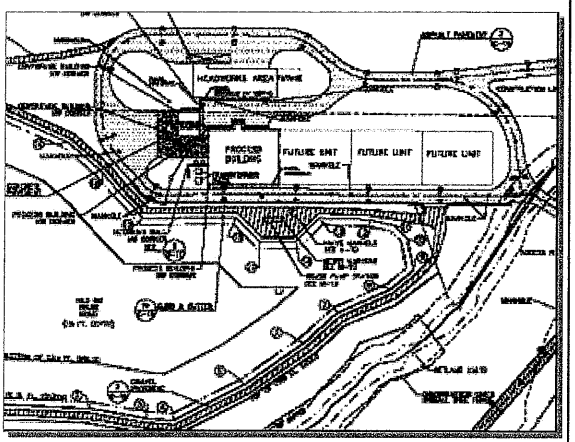
Client
Paulding County

Client Contact
Charles Rann, P.E.

Project Manager
John Daily, P.E.

Dates
02/02–07/05





The Parsons designed this 1.0 MGD facility with provisions for expansion to 4.0 MGD. Parsons is currently providing CM services for this project. Parsons assisted Paulding County in pre-purchase of the Kubota's flat panel membranes before bidding the project for construction. This technology allows for gravity-driven effluent eliminating the need for permeate pumps found in typical hollow fiber type systems, thereby reducing capital and O&M costs. This facility will replace the existing 30,000 gpd package plant and will initially receive influent from a golf course community.

The facility architecture was designed to resemble a rustic country equestrian appearance. Facility includes office, administrative, and laboratory spaces. Odor producing processes such as fine screening and grit separation are located inside building with odor control. Acoustically treated blower room mitigate sound transmission from the facility.

The Plant includes an 18 MG onsite reuse water storage pond and 1.6 MG offsite reuse water storage pond and does not require a surface water discharge. The facility includes preliminary treatment (fine screens and grit removal), anoxic basins, anaerobic basins, aeration/ membrane filtration basins, odor control (chemical scrubbers), solids dewatering (centrifuge), SCADA process control, and 3.0 MG lined reject pond and a 4.5 MG reuse pump station. With potential future surface water discharge the process is designed to produce water that will also meet current NPDES discharge requirements for Nitrogen and Phosphorus.

Key Features:

- Design/Bid/Build
- 1.0 mgd average dry weather flow Water Recycling Facility
- Architectural treatment for a rustic country equestrian appearance
- Kubota MBR System
- No clarifiers and high mixed liquor concentration,
- Title 22 quality effluent
- 18 MG holding pond for non demand period
- Nitrogen and phosphorous removal for creek discharge during non reuse period
- Centrifuges for dewatering
- SCADA process control
- In-line UV disinfection
- Residual chlorine addition
- Odor control
- Noise control
- Smaller footprint

Services Provided by Parsons:

- Design of MBR Plant
- Project management
- Construction management
- Engineering services during construction
- Quality assurance/quality control
- Water Reuse
- SCADA system design
- Start-up services

Parsons' MBR References

Fulton County Johns Creek Environmental Campus

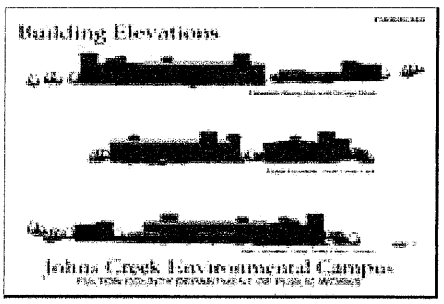
Fulton County, Georgia

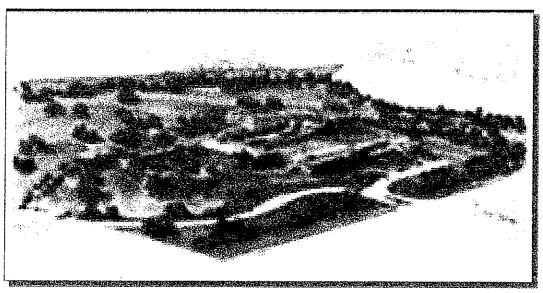
Client
Fulton County Public Works

Client Contact
Tim Equels

Project Manager
Tony Taylor

Dates
07/02–Ongoing





Parsons PM/CM team oversaw design of a 15 MGD Water Reclamation Facility in Fulton County, Georgia to replace the existing 7 MGD Johns Creek WRF. The facility is located on a 42.5 acre development and is designed to include all treatment processes inside the buildings. The facility architecture will look like an old mill to resemble historic City of Roswell. The facility will be built on a quarter of the development allowing the remaining area to be a passive buffer full of tranquil green space. Once a design/build team is selected, Parsons team will provide CM services for this green space facility. Parsons team is currently assisting Fulton County in selecting a design/build contractor for the project.

Key Features:

- Design/Build
- 15.0 mgd average dry weather flow Water Recycling Facility
- Architectural treatment for an old mill type appearance
- Zenon MBR System
- No clarifiers and high mixed liquor concentration,
- Title 22 quality effluent
- Nitrogen and phosphorous removal for creek discharge during non reuse period
- Aerobic digesters and centrifuges for dewatering
- Odor Control
- Noise control
- Smaller footprint

Services Provided by Parsons:

- Sewer Planning
- Project management
- Construction management
- Quality Assurance/Quality Control
- Water Reuse

Parsons' MBR References

Confidential Client WWTP

Puerto Rico

Project Manager
Chris Stanfill

Dates
10/03–02/06

Parsons was selected to assist in developing a wastewater management master plan for its rapidly growing site in Puerto Rico. The primary goal was to minimize waste hauling by treating the process and sanitary wastewater for TDS, COD, and nitrogen. Alternatives considered included hauling wastewater off site for treatment and disposal (base case); side-stream treatment and blending; or complete on-site treatment for on-site reuse or NPDES discharge. The plan recommended a new WWTP.

Parsons conducted a front-end study and prepared a conceptual design for the 500,000 gpd membrane based wastewater treatment facility on a "fast-track" schedule in order to meet the site production facility construction schedule. Following the conceptual design, Parsons was selected to perform the final design, provide construction management (CM) services, and assist with startup of this MBR facility. Construction is to begin in November 2004 and facilities startup in November 2005.

The selected process includes temperature control (influent cooling towers and an effluent chiller); membrane biological reactors (COD and nitrogen removal); 2-stage reverse osmosis (TDS removal); chemical precipitation (silica, hardness, and metals removal); microfiltration (liquid/solids separation post precipitation); evaporation (brine minimization); and sludge dewatering (hauling minimization). Parsons also assisted in choosing the Kubota's flat panel membranes for effluent separation at aeration basins.

Key Features:

- Design/Build
- 0.5 mgd average flow Water Recycling Facility
- Architectural treatment to match new production facilities
- Kubota MBR System
- No clarifiers and high mixed liquor concentration,
- Nitrogen removal for creek discharge during non reuse period
- Biosolids- membrane thickening, aerobic digesters and centrifuges for dewatering
- Odor Control
- Noise control
- Smaller footprint

Services Provided by Parsons:

- Treatability study
- Conceptual design
- Design of MBR Plant
- Design of RO system
- Project management
- Construction management
- Engineering services during construction
- Quality assurance/quality control
- Water reuse
- Startup services

Parsons' MBR References

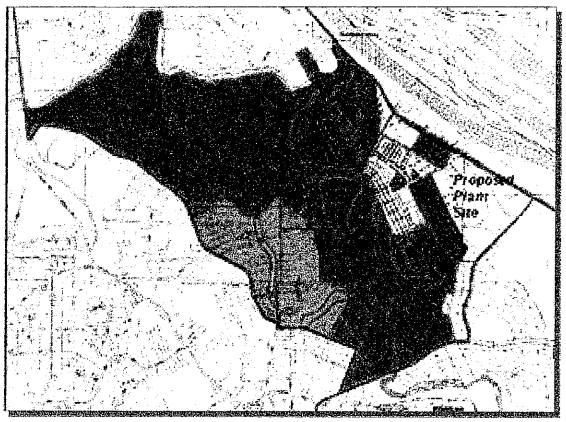
Perry Homes, Atlanta, Georgia

Client
Perry Homes Redevelopment

Client Contact
Steve Brock

Project Manager
Alexander Sharp

Dates
07/04–12/05



Parsons is designing a MBR facility to provide reuse water to the Perry Homes redevelopment. This facility will withdraw wastewater from the Proctor Creek trunk sewer, treat it and then apply effluent to a new 18-hole golf course (to be located on the closed Gun Club landfill) and common area within the Perry Homes Redevelopment. Preliminary plans are to withdraw approximately 1.0 MGD. Performing this innovative concept of "wastewater mining" on one of the City of Atlanta's main trunk lines will reduce the amount of sewer flow in the collection system.

The development itself would, without the reuse of wastewater, have a net zero impact on wastewater generation since the new residences would be replacing existing housing units on a more-or-less one-for-one basis. Some of the positive impacts of this reuse facility will include: Creation of additional green space, reduced wet weather load on City's CSOs, increase City's tax base, reduced wastewater load on the Utoy Creek's WWTP collection system, and reduced consumptive water losses from the Chattahoochee River as the golf courses, lawns, or green space in the redevelopment will be irrigated with reuse water from this plant.

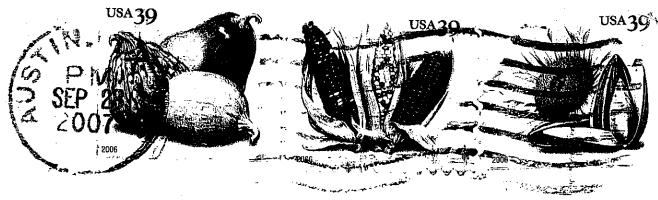
Key Features:

- Design/Build
- 1.0 mgd average dry weather flow Water Recycling Facility
- MBR System (to be selected)
- No clarifiers and high mixed liquor concentration,
- Title 22 quality effluent
- Odor control
- Noise control
- Smaller footprint

Services Provided by Parsons:

- Design of MBR Plant
- Sewer Planning
- Project Management
- Engineering Services During Construction
- Quality Assurance/Quality Control
- Water Reuse

Mrs. Lori Zimmerman
141 Llano Ct.
Cedar Creek, TX 78612



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