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CLERK OF THE BOARD
OF COUNTY COMMISSIONERS
MIAMI-DADE COUNTY, FLORIDA

Memorandum

MIAMI-DADE COUNTY

Date: April 22, 2008

To: Honorable Chairman Bruno A. Barreiro
And Members, Board of County Commissioners

From: George M. Burgess
County Manager

Agenda Item No. 5(B)

Resolution No. R-424-08

Subject: Governmental Facilities Hearing for the Water and Sewer Department
Temporary Aquifer Recharge Pilot Plant
GF07-11

RECOMMENDATION

It is recommended that the Board approve the attached resolution authorizing the erection, construction, and operation of the temporary Aquifer Recharge Pilot Plant located at the former US Coast Guard Richmond Heights Housing Complex at 15420 SW 120th Avenue, in compliance with Section 33-303 of the Code of Miami-Dade County. This item was prepared by General Services Administration (GSA) at the request of the Miami-Dade Water and Sewer Department (WASD) and is recommended for approval.

LOCATION: 15420 SW 120th Avenue, in southwest Miami-Dade County

COMMISSION DISTRICT: 9

COMMISSION DISTRICT IMPACTED: Countywide

PROPERTY DESCRIPTION: The U.S. Coast Guard Richmond Heights Housing Complex, formerly a portion of the larger base, is now owned by the County. It was identified as a suitable location for the proposed Aquifer Recharge Pilot Plant. The 39.45-acre site contains 120 vacant housing units, including single family and multi-family units, a community pool, tennis courts, basketball courts, and other related infrastructure. One-third of the property remains undeveloped.

The property was purchased in August 2006 from the Federal General Services Administration for a hotel and theme park project. It is a separate planning effort from the Miami Metro Zoo Master Plan that was approved by the Board on July 11, 2002 (R745-02). The plan for the zoo area included a new water park; a family entertainment center; the transformation of the Gold Coast Railroad into a transportation museum; and vacation hotel. The plans for this specific parcel are to tear down the housing and build a hotel along with other family attractions; however, the long-term nature of this project will allow sufficient time to complete the pilot project.

The temporary Aquifer Recharge Pilot Plant will be built in the parking lot adjacent to the maintenance shed. The site is fenced, posted and secured. The unoccupied Coast Guard housing is located approximately 300 feet west of the proposed facility and will be located approximately 600 feet from existing residences and commercial buildings located across SW 152 Street. The temporary facility is not expected to be visible from outside the complex or to negatively impact the surrounding area.

BACKGROUND:

The County entered into the Interim Consumptive Use Authorization and Agreement, Order No. 2006-072-CO-WU, with the South Florida Water Management District on May 10, 2006. As part of the agreement, the County submitted an Alternative Water Supply Plan (AWS), which included water reclamation projects. In accordance with the AWS, WASD is in the process of designing, building and testing an advanced wastewater purification pilot plant to investigate recharging the Biscayne Aquifer with reclaimed water. This Aquifer Recharge Pilot Plant will be a temporary plant that will only be operated for a period of one year, after which it will be disassembled and removed from the property.

On May 7, 2007, WASD submitted plans and applications to the Building Department for the construction of a 20,000 gallon per day (GPD) advanced wastewater purification pilot plant designed to provide treatment that will produce an effluent suitable for aquifer recharge. The Aquifer Recharge Pilot Plant will be located adjacent to the proposed Metroozoo water park, which will draw irrigation water from the canal for the South Miami Heights Wellfield. WASD entered into an interdepartmental agreement with GSA to lease the land for the time that the pilot plant will be used.

DESCRIPTION:

The design of the Aquifer Recharge Pilot Plant is based on a full scale Advance Water Purification Facility, which is part of the Orange County (California) Groundwater Replenishment Project, and a similar pilot plant that was operated by Orange County (Florida), for aquifer recharge. The Aquifer Recharge Pilot Plant in Miami-Dade County will include secondary treatment and advance treatment; such as micro-filtration, reverse osmosis, disinfection and advanced oxidation process, comprising ultraviolet radiation and hydrogen peroxide oxidation. The pilot plant will mainly consist of skid-mounted equipment (placed on concrete slabs at grade), equipment mounted within modified cargo containers placed and secured on concrete pads. All treatment processes will be designed to collect and treat air emissions to control odor, using a carbon absorber with fans and mist eliminator.

JUSTIFICATION: The purpose of this application is to receive approval to run a temporary advanced wastewater purification treatment plant that will provide technical information and data to assist with the design and future operation of the full scale reuse plant that will be built at a future date in order to comply with the Alternative Water Supply Plan submitted to obtain the 20-Year Water Use Permit with the South Florida Water Management District (District). This project is critical to ensure future water needs for the County.

DEVELOPMENT SCHEDULE: As per the Interim Consumptive Use Authorization and Agreement, Order No. 2006-07-CO-WU with the District, this project must be expedited. The agreement states that the WASD must advertise for the construction of the Aquifer Recharge Pilot Plant 60 days after issuance of all applicable permits, which will occur upon approval of this item. Once constructed, the Aquifer Recharge Pilot Plant will operate for a period of 12 months, and then be disassembled and removed from the property.

FUNDING SOURCES: The Aquifer Recharge Pilot Plant is to be funded through the wastewater connection charges and WASD Revenue Bonds. The Aquifer Recharge Pilot Plant is estimated to cost $2,210,000.

Site preparation which includes concrete slabs; civil/site work, draining, clearing, piping - $123,300; Primary and Secondary Treatment of wastewater -$300,000; Tertiary ultra Filtration/Micro System - $274,000; Reverse Osmosis System with feed tank - $154,000; Advanced Oxidation Process, Chemical System, Odor Control and Miscellaneous Pumps and Equipment - $149,600; Electrical Service and Equipment - $235,000; Installation of Equipment and Mechanical Systems $320,000; Demobilization at end of Pilot Project - $40,000. Project Subtotal $1,700,000. Contractor Contingency (20%) $340,000; General Conditions (5%) includes bid documents, temp power, testing - $85,000; Escalation to Midpoint Construction $85,000.

SITE REVIEW COMMITTEE: The committee's task is to review projects subject to Section 33-303 of the Code of Miami-Dade County, with regard to the public need for the proposed facility, its impact upon the surrounding community, and other similar considerations. The committee reviewed this project on November 14, 2007. Since that time, the department has been addressing issues raised during the review process, ultimately satisfying all requirements of the committee, thereby receiving unanimous approval in February 2008.

COMMUNITY COUNCIL: The project was presented to Community Council #14 on November 8, 2007. Council members were fully supportive and recommended approval of the application request.

PUBLIC HEARING:	Section 33-303 of the Code of Miami-Dade County provides that, prior to the construction or operation of a facility in the unincorporated areas of Miami-Dade, a favorable public hearing before the Board is required. The Board may only authorize use, construction and operation of such facilities after considering, among other factors, the public need for the facility, the type of function involved, existing land use patterns in that area and the nature of the impact of the facility on surrounding property. The attached report from the Miami-Dade County Site Review Committee addresses these factors.
MONITOR:	Karen Townsend Leigh, Real Estate Officer
DELEGATED AUTHORITY:	This resolution does not delegate any authority to the Mayor or his designee.

Director
General Services Administration

Memorandum

MIAMI-DADE COUNTY

Date: March 3, 2008

To: George M. Burgess
County Manager

From: Miami-Dade County
Site Review Committee

Subject: Governmental Facilities Hearing for the Water and Sewer Department
Temporary Aquifer Recharge Pilot Plant
GF07-11

RECOMMENDATION

This application was reviewed by the Site Review Committee. All committee members recommend approval of the temporary erection, construction, and operation of the Aquifer Recharge Pilot Plant located at the former U.S. Coast Guard Richmond Heights Housing Complex at 15420 SW 120th Avenue, in southwest Miami-Dade County. The Miami-Dade County Site Review Committee's task is to review projects subject to Section 33-303 of the Code of Miami-Dade County with regard to the public need for the proposed facility, its impact upon the surrounding community and other similar considerations.

PROPERTY DESCRIPTION

The former U.S. Coast Guard Richmond Heights Housing Complex, currently owned by Miami-Dade County, has been identified as the proposed location for the Aquifer Recharge Pilot Plant. The 39.45-acre site contains 120 vacant housing units, including single family and multi-family units, a community pool, tennis courts, basketball courts, and other related infrastructure The property was purchased in August 2006 from the Federal General Services Administration for a hotel and theme park project. It is a separate planning effort from the Miami Metro Zoo Master Plan that was approved by the Board on July 11, 2002 (R745-02). The plan for the zoo area included a new water park; a family entertainment center; the transformation of the Gold Coast Railroad into a transportation museum; and vacation hotel. The plans for this specific parcel are to tear down the housing and build a hotel along with other family attractions. However, the long-term nature of this project will allow sufficient time to complete the pilot project.

The proposed temporary Aquifer Recharge Pilot Plant will be built in the parking lot adjacent to the U.S. Coast Guard Exchange and maintenance shed. The site is currently fenced, posted and secured. The unoccupied Coast Guard housing is located approximately 300 feet west of the proposed facility and will be located approximately 600 feet from existing residences and commercial buildings located across SW 152 Street. The temporary facility is not expected to be visible from outside the complex or to negatively impact the surrounding area.

BACKGROUND

Miami-Dade County entered into the Interim Consumptive Use Authorization and Agreement, Order No. 2006-072-CO-WU, with the South Florida Water Management District on May 10, 2006. As part of the agreement, the County submitted an Alternative Water Supply Plan (AWS), which included water reclamation projects. In accordance with the AWS, the Miami-Dade Water and Sewer Department (MDWASD) is in the process of designing, building and testing an advanced wastewater purification pilot plant to investigate recharging the Biscayne Aquifer with reclaimed water. This Aquifer Recharge Pilot Plant will be a temporary plant that will only be operated for one (1) year, after which it will be disassembled and removed from the property. On May 7, 2007, the Miami-Dade Water and Sewer Department submitted plans and applications to the Miami-Dade County Building Department for the construction of a 20,000 gallon per day (GPD) advanced wastewater purification pilot plant designed to provide treatment that will produce an effluent suitable for aquifer recharge. The plant will be located adjacent to the proposed Metrozoo water park, which will draw irrigation water from the canal for the South Miami Heights Wellfield. MDWASD has entered into an interdepartmental agreement with GSA to lease the land for the time that the pilot plant will be used.

DESCRIPTION

The design of the Aquifer Recharge Pilot Plant is based on a full scale Advance Water Purification Facility (AWPF), which is part of the Orange County (California) Groundwater Replenishment Project, and a similar pilot plant that was operated by Orange County (Florida), for aquifer recharge. The Aquifer Recharge Pilot Plant in Miami-Dade County will include secondary treatment and advance treatment; such as micro-filtration (MF), followed by reverse osmosis (RO), and then disinfection and advanced oxidation process (AOP), comprising ultraviolet (UV) radiation and hydrogen peroxide oxidation. The Pilot Plant will mainly consist of skid-mounted equipment (Placed on concrete slabs at grade), equipment mounted within modified cargo containers placed and secured on concrete pads. All treatment processes will be designed to collect and treat air emissions to control odor, using a carbon absorber with fans and mist eliminator.

COMPREHENSIVE DEVELOPMENT MASTER PLAN

The proposed Aquifer Recharge Pilot Plant is consistent with the Comprehensive Development Master Plan (CDMP), specifically the Capital Improvements (CIE) and Land use Elements and the Water and Sewer Subelement. The Plant is identified as Project No. 28 on Table 8 (Sewer Facilities) in the CIE, and was adopted by Ordinance 07-52 on March 28, 2007. The property is designated Institutions, Utilities and Communications, with the residential portion of the property, on the western side of the property, being designated Low-Medium Density Residential on the 2015-2025 Land Use Plan Map. The Plant will be located on the Institutions, Utilities and Communications portion of the site, which allows the full range of institutions, communications and utilities, including a wastewater treatment facility. As such, staff concludes that the plant is consistent with the CDMP.

EXISTING LAND USE PATTERN

ZONING		LAND USE PLAN DESIGNATION
Subject Property:		
AU. Unoccupied housing units		Institutions, Utilities, and Communications And Low Medium Density
Surrounding Properties:		
NORTH:	RU-3M, apartments BU-2, retail	Medium Density Residential, Business and Office
SOUTH:	AU, Metroozoo	Parks
EAST:	AU, U.S. Coast Guard	Institutions, Utilities and Communication
WEST:	AU, University of Miami	Low Medium Density Residential. (6 to 13 dwelling units per gross acre)

IMPACT OF FACILITY ON SURROUNDING LAND USE

The plant is not expected to negatively impact the surrounding area in any way. The plant is unmanned; therefore it will not add an additional traffic burden to the neighborhood. The unoccupied Coast Guard housing complex is located roughly 300 feet west of the proposed plant. Additionally, existing residences and commercial buildings located across SW 152nd Street to the north of the proposed plant are located over 600 feet away, and in staff's opinion, the plant will not be visible from SW 152nd Street. The neighboring property to the east is owned by the US Coast Guard and is used for the Coast Guard Exchange and also houses antennae. West of the subject site is SW 124th Avenue (Metrozoo entrance) and a parcel owned by the University of Miami is located beyond. The proposed facility will be located more than 1800 feet from the nearest building on said property. Therefore very little impact is anticipated.

STAFF RECOMMENDATIONS:

The **Department of Planning and Zoning** has reviewed the application and recommends approval of the project based on the following conditions:

1. That the proposed temporary Aquifer Recharge Pilot Plant be operated for a period of one (1) year. (The time required to build and disassemble the plant not included).

2. That the applicant obtains a Certificate of Use from the Department of Planning and Zoning.

The **Public Works Department – Right-of Way Division** recommends approval of the proposed project as presented at the Site Review Committee Meeting.

The **Public Works Department – Traffic & Highway Engineering** has reviewed the application and provides the following comments:

- Currently, PWD has no proposed roadway project adjacent to the subject site in the 2008 Transportation Improvement Program (TIP), or in the 2030 Long Range Transportation Plan (LRTP).
- The Metropolitan Planning Organization (MOP) has a Transportation Study for the SW 152nd Street Corridor, from SW 162nd Avenue to U.S.-1. Please contact Jesus Guerra, MPO, at (305) 375-4507, for more information.
- Please be advised that a PWD permit will be required for this project. Please contact PWD Permit Section, at (305) 375-2142, for more information. Should you have any further questions, please contact Javier Heredia, P.E., Section Head, Highway Planning, at (305) 375-1901.

The **Public Works Department (Land Development Division)** recommends approval of the project based on the submission and approval of the Waiver of Plat in January 2008.

The **General Services Administration DCS Division** has reviewed the application and, based on the information submitted, recommends approval of the request

The **Office of ADA Coordination** has reviewed the application and has no objections to the schematic drawings presented. Accessibility will have to be provided for parking spaces, elevated trailers and the path of travel leading to it. Gates as well as doors will need to comply with maneuverability requirements.

This pilot program is within County jurisdiction and will be reviewed by the Office of ADA before dry run completion is obtained.

The **Fire Rescue Department** has reviewed this application and makes the following comments:

The closest Fire Rescue Station to the project is the Richmond Fire Rescue Station # 43 located at 13390 SW 152nd Street. This station is equipped with a 65 foot Aerial Advanced Life Support, Rescue and Rigid Hull Inflatable Boat.

- This project must comply with Uniform Fire Safety Rules and Standards

- Site Plan must be reviewed and approved by Fire and Water Engineering Bureau located at 11805 SW 26 Street, (786-315-2771).

The **Miami-Dade Water & Sewer Department (MDWSD)** has no objection and is the applicant in this project.

The **Department of Environmental Resources Management (DERM)** has reviewed the proposed wastewater purification plant, which will be operated for one year for purposes of investigating the aquifer recharge, and offers no objection to the proposed project.

Furthermore, the applicant has obtained approval from the Environmental Quality Control. Board, in accordance with Section 24-15(1) for permitted use. The applicant is advised that compliance with the conditions in Board Order 07-35 shall be required. The applicant is further advised that the proposed development of the recharge plant shall be required to comply with all applicable requirements of Chapter 24 of the Miami-Dade County Code.

MIAMI-DADE COUNTY SITE REVIEW COMMITTEE

Application GF07-11

WATER AND SEWER DEPARTMENT TEMPORARY AQUIFER RECHARGE PILOT PLANT

Esther Calas, Director
Public Works Department
Right-of-Way Division
Traffic & Highway Division

Subrata Basu, Interim Director
Department of Planning and Zoning

for Mirtha Paez
Capital Improvement and Planning
Fire and Rescue Department

for Jose Gonzalez, P.E., Assistant Director
Department of Environmental
Resources Management

for Phillip Torres, P.E., Chief
Plans Review Section
Department of Water & Sewer

Wendi J. Norris, Director
General Services Administration

MEMORANDUM

(Revised)

TO: Honorable Chairman Bruno A. Barreiro and Members, Board of County Commissioners

DATE: April 22, 2008

FROM: R. A. Cuevas, Jr. County Attorney

SUBJECT: Agenda Item No. 5(B)

Please note any items checked.

_____	"4-Day Rule" ("3-Day Rule" for committees) applicable if raised
_____	6 weeks required between first reading and public hearing
_____	4 weeks notification to municipal officials required prior to public hearing
_____	Decreases revenues or increases expenditures without balancing budget
_____	Budget required
_____	Statement of fiscal impact required
_____	Bid waiver requiring County Manager's written recommendation
_____	Ordinance creating a new board requires detailed County Manager's report for public hearing
_____	Housekeeping item (no policy decision required)
✓	No committee review

Approved _____ Mayor
Veto _____
Override _____

Agenda Item No. 5(B)
4-22-08

RESOLUTION NO. **R-424-08**

RESOLUTION AUTHORIZING THE ERECTION, CONSTRUCTION, AND OPERATION OF THE MIAMI-DADE WATER AND SEWER DEPARTMENT TEMPORARY AQUIFER RECHARGE PILOT PLANT, LOCATED AT 15420 SW 120TH AVENUE, IN COMPLIANCE WITH SECTION 33-303 OF THE CODE OF MIAMI-DADE COUNTY

WHEREAS, this Board desires to accomplish the purposes outlined in the accompanying memorandum, a copy of which is incorporated herein by reference, and has conducted a public hearing in compliance with the provisions of Section 33-303 of the Code of Miami-Dade County, Florida,

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF MIAMI-DADE COUNTY, FLORIDA, that this Board hereby finds and declares that the erection, construction, and operation of the temporary Aquifer Recharge Pilot Plant located at 15420 SW 120th Avenue, more specifically described as follows:

SEE ATTACHED EXHIBIT A

is necessary to provide for and protect the public health, safety and welfare of the citizens of Miami-Dade County, Florida and in so finding, has considered, among other factors, the type of function involved, the public need therefore, the land use pattern in the area, and the nature of the impact on the surrounding property.

The foregoing resolution was offered by Commissioner **Dennis C. Moss**, who moved its adoption. The motion was seconded by Commissioner **Joe A. Martinez** and upon being put to a vote, the vote was as follows:

Bruno A. Barreiro, Chairman	aye		
Barbara J. Jordan, Vice-Chairwoman	aye		
Jose "Pepe" Diaz	aye	Audrey M. Edmonson	aye
Carlos A. Gimenez	aye	Sally A. Heyman	aye
Joe A. Martinez	aye	Dennis C. Moss	aye
Dorrin D. Rolle	aye	Natacha Seijas	aye
Katy Sorenson	aye	Rebeca Sosa	aye
Sen. Javier D. Souto	aye		

The Chairperson thereupon declared the resolution duly passed and adopted this 22nd day of April, 2008. This resolution shall become effective ten (10) days after the date of its adoption unless vetoed by the Mayor, and if vetoed, shall become effective only upon an override by this Board.

MIAMI-DADE COUNTY, FLORIDA
BY ITS BOARD OF
COUNTY COMMISSIONERS

HARVEY RUVIN, CLERK

By: **Kay Sullivan**
Deputy Clerk

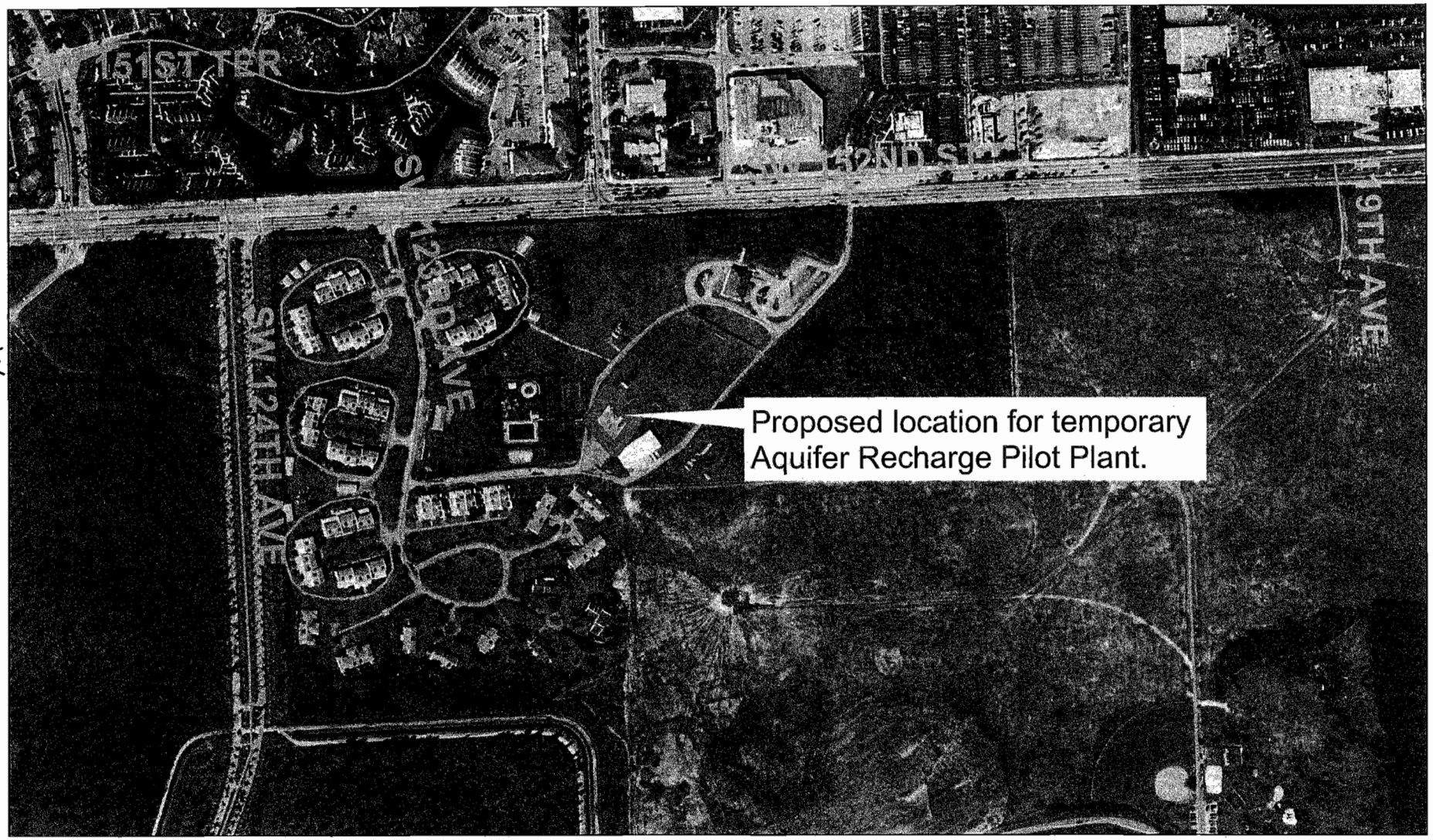
Approved by County Attorney as
to form and legal sufficiency.

Craig H. Coller

Exhibit A

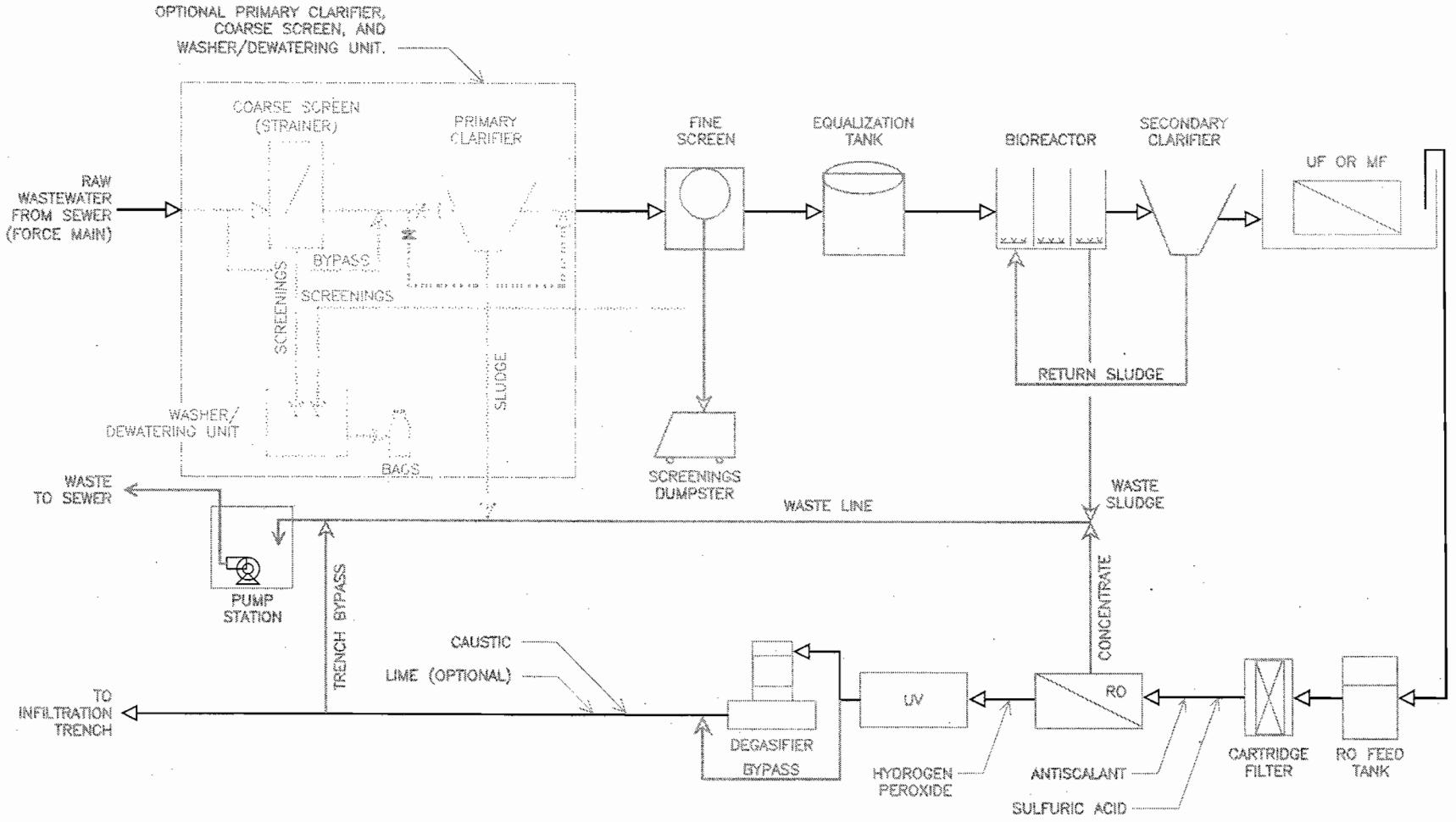
Legal Description

Section 25, Township 55, Range 39 45 AC M/L Beg 35 feet of NE corner of NW ¼ of theoretical South 87 degree West 970 feet 02 degree East 1400 feet North 87 degree East 1196.85 feet North 02 West 600 feet North 87 degree East 1196.86 feet 02 degree West 800 feet South 87 degree West 1196.85 feet.



MIAMI - DADE WATER AND SEWER DEPARTMENT
Location of Proposed Temporary Aquifer Recharge Pilot Plant
15420 S.W. 120 Ave, Miami, Fl 33177

MIAMI-DADE COUNTY

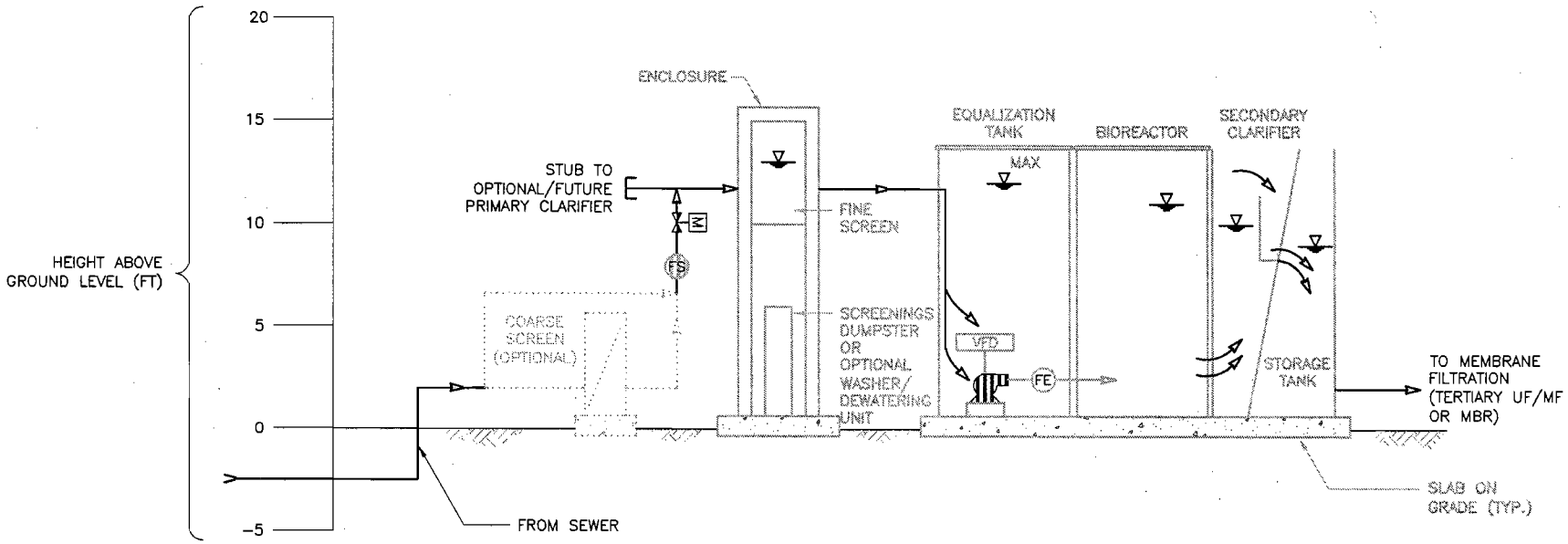


LEGEND:

--- BYPASS LINE
MF MICROFILTRATION
RO REVERSE OSMOSIS
UF ULTRAFILTRATION
UV ULTRAVIOLET RADIATION

FIGURE No. 4-1
SCHEMATIC OF THE PILOT TREATMENT TRAIN
BASED ON THE TERTIARY MEMBRANE FILTRATION APPROACH
AQUIFER RECHARGE PILOT PLANT SITE EVALUATION AND DESIGN PHASE SERVICES

carollo engineers



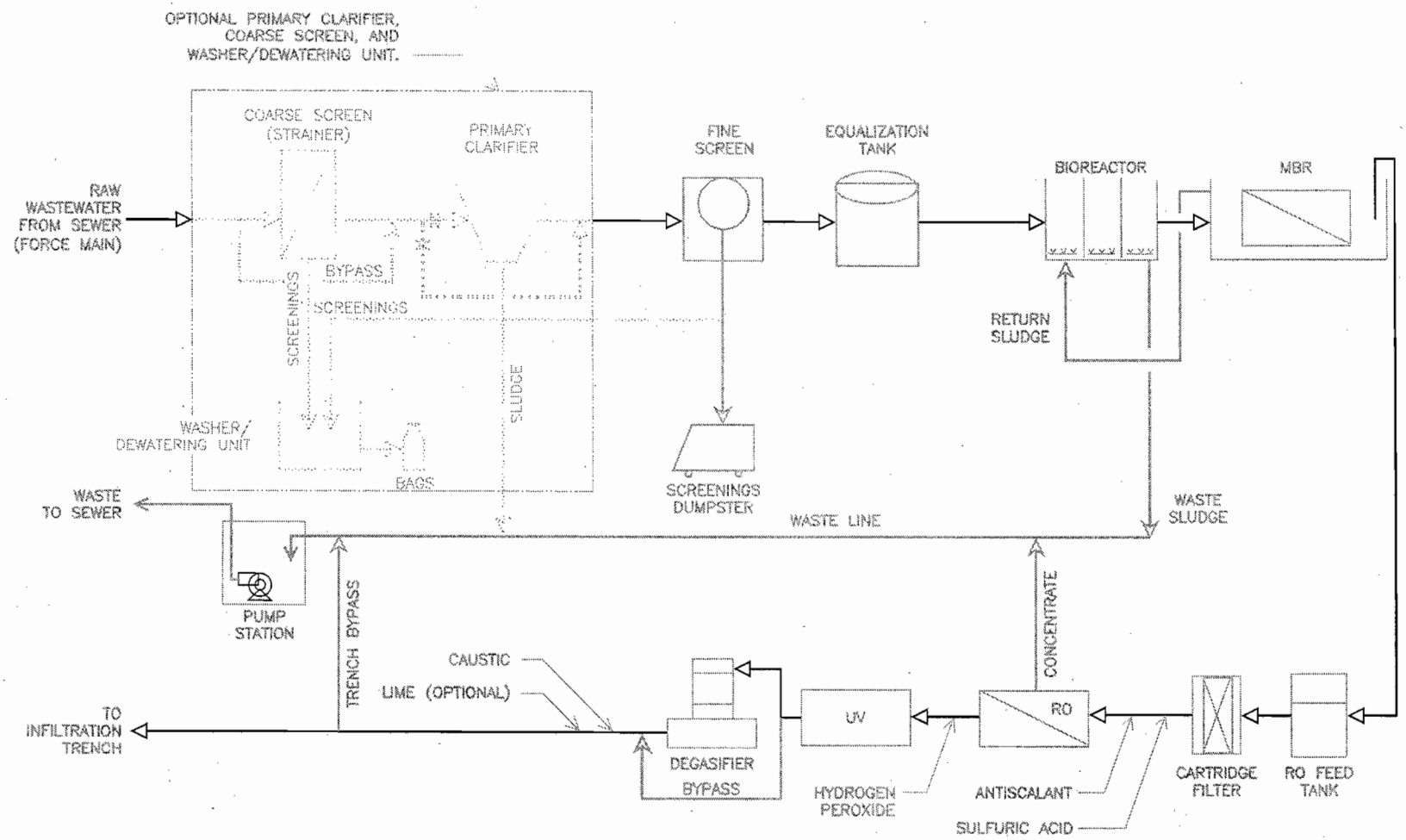
LEGEND:

- LIQUID SURFACE
- (FE) FLOW METER
- (FS) FLOW SWITCH
- M MOTORIZED CONTROL VALVE
- VFD PUMP WITH VARIABLE FREQUENCY DRIVE

FIGURE No. 6-3

CONCEPTUAL HYDRAULIC PROFILE

AQUIFER RECHARGE PILOT PLANT SITE EVALUATION AND DESIGN PHASE SERVICES



LEGEND:

--- BYPASS LINE
MBR MEMBRANE BIOREACTOR
RO REVERSE OSMOSIS
UF ULTRAFILTRATION
UV ULTRAVIOLET RADIATION

FIGURE No. 4-2
SCHEMATIC OF THE PILOT TREATMENT TRAIN
BASED ON THE MBR APPROACH
AQUIFER RECHARGE PILOT PLANT SITE EVALUATION AND DESIGN PHASE SERVICES