



Council Report

To: The Honorable Mayor and Council Members

From: Alberto Destrade, Purchasing Director 

Date: December 8, 2015

RE: **A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI, FLORIDA, AUTHORIZING THE INTERIM CITY MANAGER TO EXECUTE AN AGREEMENT BETWEEN THE CITY OF NORTH MIAMI AND AECOM TECHNICAL SERVICES, INC., TO UPDATE THE SANITARY SEWER MODEL ON BEHALF OF THE CITY, AS REQUIRED BY MIAMI-DADE COUNTY FOR ALL NEW DEVELOPMENTS THAT CONNECT TO THE CITY'S SANITARY SEWER SYSTEM, TO EVALUATE SYSTEM PERFORMANCE WITH PROPOSED DEVELOPMENT AND TO SERVE AS AN OVERALL PLANNING TOOL FOR GROWTH, PURSUANT TO REQUEST FOR QUALIFICATIONS NO. 12-14-15 CONTINUING ARCHITECTURAL AND ENGINEERING SERVICES, IN THE AMOUNT OF ONE HUNDRED FIFTY FOUR THOUSAND FIVE HUNDRED SIXTY ONE DOLLARS (\$154,561.00), FOR A TERM OF SIX (6) MONTHS WITH AN OPTION TO RENEW; PROVIDING FOR AN EFFECTIVE DATE AND FOR ALL OTHER PURPOSES.**

RECOMMENDATION

Staff is requesting that the Mayor and City Council hereby authorize the Interim City Manager to execute an agreement between the City of North Miami and AECOM Technical Services, Inc. (AECOM) for the provision of Engineering Services Water/Wastewater Engineering & Consulting Services, to update the sanitary sewer model on behalf of the City, as required by Miami-Dade County, for all new developments that connect to the City's sanitary sewer system, to evaluate system performance with proposed development and to serve as an overall planning tool for growth, pursuant to Request for Qualifications No. 12-14-15 Continuing Architectural and Engineering Services (CCNA), in the amount of \$154,561.00, with a six (6) month duration and an option to renew by the City.

BACKGROUND

On March 24, 2015, the City issued Request for Qualifications No. 12-14-15, Continuing Architectural and Engineering Services ("RFQ"), for the purpose of selecting experienced, licensed, and qualified architectural and engineering firms to provide the following professional services on an as-needed basis: Landscape Architecture/Interior Design, Roadway, Traffic & Transportation Engineering and Consulting, Water/Waste Water Engineering, Water Resources/Stormwater Design, Urban Planning & Design, and Environmental Engineering.

In response to the RFQ, AECOM submitted its sealed qualifications for the provision of professional Water/Wastewater Engineering & Consulting, and was subsequently evaluated and recommended by staff to be included on a pre-qualified list of firms available to the City for these type of consulting services.

On June 9, 2015, the Mayor and City Council passed and adopted Resolution No. 2015-R-52, approving the selection of a pre-qualified list of architectural and engineering firms to provide the City with the necessary consulting services, as-needed, pursuant to RFQ No. 12-14-15. AECOM was included as one of the pre-qualified firms on the approved list.

FUNDING SOURCE

This item will be funded by the City's Water & Sewer Utility Fund (40%) and by the Community Redevelopment Agency (60%).

ATTACHMENTS

Resolution

AECOM's Proposal Dated 11/24/15

RESOLUTION NO. _____

A RESOLUTION OF THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI, FLORIDA, AUTHORIZING THE INTERIM CITY MANAGER TO EXECUTE AN AGREEMENT BETWEEN THE CITY OF NORTH MIAMI AND AECOM TECHNICAL SERVICES, INC., TO UPDATE THE SANITARY SEWER MODEL ON BEHALF OF THE CITY, AS REQUIRED BY MIAMI-DADE COUNTY FOR ALL NEW DEVELOPMENTS THAT CONNECT TO THE CITY'S SANITARY SEWER SYSTEM, TO EVALUATE SYSTEM PERFORMANCE WITH PROPOSED DEVELOPMENT AND TO SERVE AS AN OVERALL PLANNING TOOL FOR GROWTH, PURSUANT TO REQUEST FOR QUALIFICATIONS NO. 12-14-15 CONTINUING ARCHITECTURAL AND ENGINEERING SERVICES, IN THE AMOUNT OF ONE HUNDRED FIFTY-FOUR THOUSAND FIVE HUNDRED SIXTY-ONE DOLLARS (\$154,561.00), FOR A TERM OF SIX (6) MONTHS WITH AN OPTION TO RENEW; PROVIDING FOR AN EFFECTIVE DATE AND FOR ALL OTHER PURPOSES.

WHEREAS, the City of North Miami ("City") desires to have a pool of professional firms ready to serve as contractors to provide the City with Architectural and Engineering related services on a continuing contract basis; and

WHEREAS, on March 24, 2015, the City issued *Request for Qualifications # 12-14-15, Continuing Architectural and Engineering Services* ("RFQ"), for the purpose of retaining experienced, licensed, and insured architectural and engineering firms to provide on a continuing, as-needed, when-needed contract basis, the following specific professional services: Landscape Architecture/Interior Design, Roadway, Traffic & Transportation Engineering and Consulting, Water/Waste Water Engineering, Water Resources/Stormwater Design, Urban Planning & Design, and Environmental Engineering; and

WHEREAS, the RFQ was undertaken in accordance with Florida's Consultants' Competitive Negotiation Act, under Section 287.055, Florida Statutes (2015); and

WHEREAS, in response to the RFQ, AECOM Technical Services, Inc. ("Consultant"), submitted its sealed qualifications for the provision of professional Water/Wastewater Engineering Services, and was subsequently selected by City administration as having those qualifications and references most advantageous to the City; and

WHEREAS, on June 9, 2015, the Mayor and City Council passed and adopted Resolution No. 2015-R-52, approving the selection of Consultant for the rendition of Services on a continuing, as-needed, when-needed basis; and

WHEREAS, the City needs to update the sanitary sewer model as required by Miami-Dade County for all new developments that connect to the City’s sanitary sewer system, and evaluate system performance with proposed development to serve as an overall planning tool for growth (collectively referred to herein as “Services”); and

WHEREAS, the City administration respectfully requests that the Mayor and City Council authorize the Interim City Manager to execute an agreement for the completion of Services, which stand to protect the public health, safety, and welfare.

NOW THEREFORE, BE IT DULY RESOLVED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF NORTH MIAMI, FLORIDA:

Section 1. **Authority of the Interim City Manager.** The Mayor and City Council of the City of North Miami, Florida, hereby authorize the Interim City Manager to execute an agreement between the City of North Miami and AECOM Technical Services, Inc., to update the sanitary sewer model on behalf of the City, as required by Miami-Dade County for all new developments that connect to the City’s sanitary sewer system, to evaluate system performance with proposed development and to serve as an overall planning tool for growth, pursuant to *Request for Qualifications No. 12-14-15 Continuing Architectural and Engineering Services*, in the amount of One Hundred Fifty-Four Thousand Five Hundred Sixty-One Dollars (\$154,561.00), for a term of six (6) months with an option to renew.

Section 2. **Effective Date.** This Resolution shall become effective immediately upon adoption.

PASSED AND ADOPTED by a _____ vote of the Mayor and City Council of the City of North Miami, Florida, this ____ day of _____, 2015.

DR. SMITH JOSEPH
MAYOR

ATTEST:

MICHAEL A. ETIENNE, ESQ.
CITY CLERK

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY:

ROLAND C. GALDOS, ESQ.
INTERIM CITY ATTORNEY

SPONSORED BY: CITY ADMINISTRATION

Moved by: _____

Seconded by: _____

Vote:

Mayor Smith Joseph, D.O., Pharm. D.
Vice Mayor Carol Keys, Esq.
Councilman Scott Galvin
Councilman Philippe Bien-Aime
Councilman Alix Desulme

_____ (Yes) _____ (No)
_____ (Yes) _____ (No)
_____ (Yes) _____ (No)
_____ (Yes) _____ (No)
_____ (Yes) _____ (No)



City of North Miami

Proposal for Updating Sanitary Sewer Model

Under RFQ 12-14-15

Workplan

Submitted by:

AECOM

800 Douglas Entrance, North Tower, 2nd Floor

Coral Gables, FL 33134

www.aecom.com

305.444.4691

tel

305.447.3580

fax

Date:

November 23, 2015

Table of Contents

Letter of Transmittal
page

- 1. Introduction..... 1**
- 2. Project Understanding and Approach..... 1**
 - 2.1 Task 1 – Review and Evaluation of Existing Model / Information..... 1
 - 2.2 Task 2 – Calculation of Existing and Future Wastewater Loads 2
 - 2.3 Task 3 – Evaluation of Existing Wastewater System Performance..... 3
 - 2.4 Task 4 – Wastewater System Model/ Master Plan Update 4
 - 2.5 Deliverables 5
- 3. Experience and Qualifications..... 5**
 - 3.1 AECOM Corporate Information..... 5
 - 3.2 Consultant Team Organization and Experience..... 5
- 4. Project Management, Administration..... 6**
 - 4.1 Project Management Team Approach 6
 - 4.2 AECOM Project Information Center..... 6
 - 4.3 Cost Control 7
 - 4.4 Quality Assurance 7
 - 4.5 Schedule 7
 - 4.6 Safety, Health and Environment Program 7
 - 4.7 Statement of Insurability 7
 - 4.8 Compensation 7

List of Tables

- Table 1. Project Tasks 1

Appendices

- Appendix A. RFP
- Appendix B. Schedule
- Appendix C. Resumes

1. Introduction

This proposal responds to the invitation to update the City of North Miami sanitary sewer model. AECOM understands that the overall objective is to create a hydraulic model of the City wastewater system that can be used to evaluate system performance with proposed development; the model will be able to assess specific development applications, and serve as an overall planning tool for growth. The model will be able to predict operating conditions, pressures and capacities in the system under existing and specific growth scenarios, in order to provide input to development plans, and demonstrate continuing compliance with regulatory requirements. The objective of the model will be in compliance with Miami-Dade County Code Section 24-42.2 (7). Additionally, the design and development of the model will be approved by the County prior to implementation.

The City of North Miami’s collection and transmission system discharges into the transmission/treatment system of the Miami-Dade Water and Sewer Department. The system has approximately 150 pumping stations, 46 of which are owned by the City. The pumping stations transmit sewage flow from the gravity collection system to the Miami-Dade system at four locations. The total upstream collection system area in the City is approximately 5300 acres, with 118 miles of sanitary sewers. There are approximately 56 miles of forcemains in the City system (as of 2011).

The system performance is currently understood in context of the April 2011 Sanitary Sewer Master Plan (Hazen and Sawyer), and the February 2010 Peak Flow Management Study Report (Hazen and Sawyer).

2. Project Understanding and Approach

As outlined in the Invitation to Quote, the overall project scope involves the project tasks described in Table 1.

Table 1. Project Tasks

	Description
Task 1	• Review and Evaluation of Existing Model / Information
Task 2	• Calculation of Existing and Future Wastewater Loads
Task 3	• Evaluation of Existing Wastewater System Performance
Task 4	• Wastewater System Model/ Master Plan Update

AECOM's understanding of these tasks, and our approach to completing them, are described below.

2.1 Task 1 – Review and Evaluation of Existing Model / Information

AECOM will review previous relevant planning studies (such as the previous mentioned 2010 Peak Flow Management Study and the 2011 Master Plan), including previous infiltration/inflow studies. The information will be used to develop a baseline for what was understood about the system at that time, to identify both information gaps, areas where additional assessment was warranted, and to identify changes to the system since these studies were completed.

The data review will consist of a review of:

- the existing XP-SWMM hydraulic model – which will be evaluated for completeness, suitable input parameters and populations, level of detail of pumping station modeling;
- GIS data- which will be primarily used to allocate current populations into the model, extend the model for the current application, and augment any missing / assumed data in the previous model. GIS data will be used to update and extend the all-pipe XP-SWMM model to include the entire North Miami system as constructed to the most recent GIS update.
- pump curves – to identify any pump performance curves, drawdown tests, or monitoring which may be relevant to properly characterize existing pumping capacity in the model.

AECOM will also review all pumping station surveys made available by the City of North Miami. In context of this, AECOM will also review recommendations for pumping improvements of the previous Master Plan, and review improvements made by the City since 2010 under their pumping station improvement program. All implemented changes will be incorporated into the model, and planned improvements will also be modeled to reflect growth servicing scenarios.

AECOM also proposed to review two years of water billing data, with the intent that these demands can be spatially distributed to better characterize existing loadings in the system. In order for this to be successful, the water billing data must be able to be spatially identified in GIS; AECOM will review this data with the City to fully explore this potential way of spatially allocating sewage loadings in the wastewater model.

2.2 Task 2 – Calculation of Existing and Future Wastewater Loads

Populations

One of the most useful planning tools available to assign population growth in the wastewater model is the City's traffic zone data. Traffic analysis zone (TAZ) data are spatial zones which originally were developed for use with transportation models for system planning. Since they are typically constructed with census data and have population projections in each zone extended into the future for transportation planning, they are also useful for allocating wastewater loadings, which are also dependent on population, and have similar requirements to know where these loadings will occur. With parcels spatially joined to the collection system in the GIS, it is a straightforward task to assign the TAZ populations to the wastewater model.

AECOM will review the scale of the TAZ data, and also review the data with the City. AECOM will review specific growth areas, such as Comprehensive Plan Amendments, and plans to incorporate any annexation area to expand servicing requirements. The Comprehensive Plan Amendments include population projections within the City's limits, and were taken to be the most relevant growth forecast during the previous Master Plan. AECOM will incorporate growth scenarios that the City feels are most appropriate for the study.

Dry Weather Flow

In addition to TAZ and CPA data, AECOM will incorporate two other techniques to allocate population and dry weather sewage flow in the system. As mentioned in Task 1, water billing data will be used to identify point loadings; the assessment is particularly useful to identify non-residential heavy demand water users, which are not easily quantifiable based on land use or zoning alone.

AECOM will calibrate the hydraulic model to reflect known flows in the system. Sources of flow data include previous studies (i.e. the 2010 Peak Flow Management Study), previous monitoring, and SCADA results at pumping stations. AECOM will review flow data at pumps (SCADA, data loggers, VSC billing meter data) to

determine the best source of measured flows. To calibrate the hydraulic model for dry weather flows, the measured system flows will be used to characterize diurnal distribution of flows, as well as appropriate per capita flow rates in the model.

Wet Weather Flow

The above sources of flow data will also be used to calibrate the wet weather response in the model. Sources of wet weather flow data include pumping station data, as above, and monitored flow rates. To establish the relation between wet weather response and rainfall, AECOM will also collect and review rainfall data during the calibration period. Spatial variability of rainfall is potentially a large source of uncertainty – for example, the spatial distribution of an actual storm may cause the point rainfall measurements to not accurately represent rainfall over the entire sewershed. To minimize this risk, AECOM will review the spatial characteristics of calibration events, supplementing with radar data as required.

With wet weather flow accurately reflected at flow measurement locations, the wet weather flow also needs to be spatially allocated to the upstream catchment. This is typically done on an area-weighted basis. AECOM will also review land use data and review any information on likely sources of infiltration/inflow. AECOM will also review infiltration/inflow by catchment, comparing with data such as land use characteristics, topography, and sewer age/condition/material. AECOM will incorporate any clear relation into the spatial allocation of infiltration/inflow into the upstream catchment.

Upon completion of the calibrated model, AECOM will produce a calibration report, comparing modeled and measured data with respect to allowable tolerances, comparing modeled flows with field data from SCADA, and reviewing any predicted overflows/bypass in the model with reported values from North Miami or known problem areas. For each basin, the calibrated model will be run to provide average and peak DWF, 2-year rainfall derived inflow/infiltration and WWF.

2.3 Task 3 – Evaluation of Existing Wastewater System Performance

Once the hydraulic model is initially calibrated, AECOM will review the model with the City of North Miami. AECOM will review the calibrated model with operating staff, reviewing specific details for pump characteristics, operation, and controls. AECOM will review specific model results with City staff, to ground-truth any verifiable results of the model (regarding pressures, surcharging, overflows/bypass, system constraints and bottlenecks, etc.).

AECOM will also review boundary conditions for the model with Miami-Dade Water and Sewer Department, to accurately reflect expected point-of-connection pressures, such that discharge pressures are accurate in the North Miami model. For the purposes of Master Planning and assessing future servicing requirements, AECOM will also review future plans that MDWASD may implement to alter these pressures (e.g. altering outfall conditions, re-routing flows, changes to pumping/storage/transmission, etc.).

Once the calibrated model is verified with the City of North Miami, AECOM will review the model results and assess system performance. AECOM will provide metrics on:

- **DWF:** pump cycle time, discharge pressure and velocity, peak DWF/firm capacity, peak DWF/pipe capacity;
- **WWF:** discharge pressure and velocity, peak WWF/firm capacity, peak WWF/pipe capacity, surcharge elevations, maximum wet well level vs inlet obvert.

AECOM will provide a list of system deficiencies, including items such as insufficient pumping capacity, insufficient forcemain capacity, excessive surcharging, and insufficient capacity in sections of gravity pipe.

2.4 Task 4 – Wastewater System Model/ Master Plan Update

The previous Master Plan in 2011 identified needs from 2010 to 2030. AECOM will review and update this strategy based on system improvements since the past Master Plan, and updated modeling information. AECOM will identify infrastructure improvements to accommodate existing and future demands, prioritize the works, provide cost estimates, and review system operation/maintenance measures required to provide adequate servicing.

AECOM will review currently planned system upgrades with the City to identify items such as planned pumping station improvements, forcemain and gravity sewer reconstruction. We will also ensure that any system improvements implemented since the previous model and Master Plan are incorporated into the current model.

As one of the outcomes of Task 3, AECOM will have identified a staged listing of system deficiencies, identifying the nature of the deficiency and the time that it is expected to occur based on the modeled growth scenarios. AECOM will review system upgrades that will be required to address these deficiencies. A short list of alternatives will be generated; AECOM will distinguish between minor improvements (e.g. pump replacements) and more major system improvements that can significantly alter flow and operation (e.g. redirection of flows, forcemain reconstruction and/or redirection). AECOM's modeling update will have included all system improvements implemented as part of the previous master plan. As an example, in addition to various pumping and forcemain upgrades, the previous Master Plan had identified that by 2015 that the flows from Biscayne Boulevard PS flows would be redirected.

In addition to physical improvements to infrastructure sizing, the Master Plan includes a number of complementary required initiatives, key to sustainability and to provide suitable servicing for growth. These concurrent complementary measures include:

- Continual system condition assessment, maintenance and rehabilitation;
- Continual peak flow reduction (through the above system renewal measures, as well as specific projects); and
- Continual reduction in wastewater loadings through water conservation and wastewater reuse.

As part of the Master Plan Update, AECOM will review effectiveness of current City practices in each of these areas, and quantify expected benefits of maintaining or enhancing City efforts in each of these areas on future infrastructure planning.

2.5 Deliverables

AECOM will develop various technical memoranda as a means of documenting study progress. AECOM will submit the following memoranda and reports to the City of North Miami during the course of the study:

- TM 1 – Task 1, Data review
- TM 2 – Part of Task 2, Model development, population allocation, existing and future wastewater loads
- TM 3 – Part of Task 2, Model calibration
- TM 4 – Task 3, System assessment
- Draft Final Report – Technical Memoranda 1 through 4, plus Master Plan Update
- Final Report

3. Experience and Qualifications

3.1 AECOM Corporate Information

AECOM is a global provider of professional technical and management support services to a broad range of markets including transportation, facilities, environmental, energy, water and government. AECOM is a leader in all of the key markets that it serves. Out of the top 500 North American Design Firms for 2013, Engineering News Record ranks AECOM as the No.1 engineering firm overall, No. 2 in Sanitary and Storm Sewers, No. 3 in Sewerage/Solid Waste, and No. 3 in Water Supply.

3.2 Consultant Team Organization and Experience

The City of North Miami will benefit greatly by drawing upon the resources of AECOM's team for this project. Our project team organization, including their proposed roles and responsibilities for this project are summarized below. Table 3 provides a brief summary of the key team member's current project commitments.

PROJECT MANAGER: Rodrigo Ley, PE, LEED AP

Experience: Rodrigo in AECOM's Coral Gables office and will serve as Project Manager. Mr. Ley has extensive experience in managing and administering water, wastewater, and stormwater management projects for private developers and local governments. With a strong background in utility and water resources engineering, he has successfully held positions with increasing levels of responsibility in both the private and municipal government sectors. Typical project experience is provided below.

Team Role: Rodrigo will be responsible for project management, and co-ordination of the project team to ensure that the project is completed to the satisfaction of the City of North Miami on schedule and within budget for the project.

PROJECT DIRECTOR: Devan Thomas, P.Eng.

Experience: Mr. Thomas has over 20 years of experience that has spanned all aspects of civil infrastructure delivery including construction inspection, project planning, design, a detailed infrastructure performance assessment and asset management. He combines expert technical knowledge with a strong business and sales acumen to deliver optimal solutions for clients. Mr. Thomas is the Infrastructure Service Technical Practice director for the Americas and is responsible for AECOM's growth and technical capabilities within this market which includes the following practice areas: advanced materials, asset management and optimization, condition assessment and rehabilitation, distribution and collection systems, geotechnical services, hydraulic and hydrologic modeling, major conveyance, master planning, mining, performance measurement and assessment, pumping

stations and storage facilities, sustainability, and wet weather. **Team Role:** Devan will be responsible for contractual and administrative issues including execution of agreements, budget / cost control, management of sub-consultants, scheduling of resources, etc.

HYDRAULIC MODELLING LEAD: Brian Richert, P.Eng.

Experience: Brian specializes in the application of hydrologic and hydraulic principles in the field of environmental and water resources engineering and has over 25 years of experience. His expertise includes sanitary and storm collection system modelling, detailed hydraulic modeling, infiltration/inflow assessment, basement flooding studies, stormwater management, floodline mapping, functional and detailed design, and hydrologic modeling. Brian was previously AECOM's modeling lead for development of the MDWASD sanitary collection and transmission model. **Team Role:** Brian will lead the hydraulic modelling components and system assessment.

HYDRAULIC MODELLING AND ASSESSMENT: Mina Mirzajani, P.Eng.

Experience: Mina has extensive experience in the modeling and design of separate and combined wastewater systems. Her project experience includes modeling of sanitary/combined sewer networks, wet weather flow management, basement flooding studies, calibration of hydraulic models, and design of transmission and storage facilities. **Team Role:** Mina will be responsible for model implementation and data management for development of the model.

HYDRAULIC MODELLING AND ASSESSMENT: Teresa Rodriguez, P.Eng.

Experience: Ms. Rodríguez Sacarello has experience preparing evaluation, analysis, and analyzing reports for hydrologic-hydraulic and sediment transport studies, including computer simulation, design, and evaluation of alternatives to hydrologic and hydraulic problems confronting the Federal Emergency Management Agency and US Army Corps of Engineers regulations. She is proficient in the use of AutoCAD, MicroStation, ArcGIS, AllTopo Maps V7, Mathcad, hydrologic-hydraulic programs such as HEC-1, HEC-2, HEC-6, HEC-RAS, HydroCAD, StormCAD, Epanet, FlowMaster, CulvertMaster; and structural aid programs such as RC-PIER, MDX, Smart Bridge, Shoring Suite, and Cwalsht. **Team Role:** Teresa will be responsible for assisting with hydraulic model as well as calibrating and field verifying certain components of the model.

4. Project Management, Administration

Project control and quality is fundamental to the core purpose of delivering solutions that efficiently and effectively achieve the City of North Miami's objectives. Below is some information on the proposed project management approach, and quality assurance processes we will implement.

4.1 Project Management Team Approach

AECOM are proposing a Project Management Team Approach for this project with Devan Thomas as the Project Director and Rodrigo Ley as Project Manager. Devan and Rodrigo are known to City staff and are committed to the successful completion of this project on time and within budget. As Project Director, Devan will be responsible for the overall delivery of the project. Rodrigo will be responsible for day-to-day coordination with the AECOM and City staff. This project management team approach has been applied on several recent projects and has proven effective in providing our clients with the highest level of service, responsiveness and enhanced project performance. *Our project management team is based out of the Coral Gables office and are capable of meeting with the City of North Miami on very short notice.*

4.2 AECOM Project Information Center

AECOM project setup is completed in APIC. The Project Manager enters all relevant information in APIC, including task breakdown, budget breakdown by tasks and allocation of the resources and other costs to the specified tasks

and budgets. APIC allows the Project Manager to organize the assignment into distinct phases and sub-phases so that costs for specific tasks, within the phases and sub-phases, are entered and tracked independently against individual budgets.

4.3 Cost Control

AECOM fully understands the need to work within established project budgets. We have a proactive approach to limit the impact of unforeseen changes on the overall budget and schedule established for the project. AECOM billing software provides information regarding the actual costs and account receivables, so that the Project Manager can track and review all associated costs and invoicing to the City of North Miami. We will submit monthly summary reports documenting completed activities, schedule impacts/reasons, and invoicing.

4.4 Quality Assurance

AECOM has a QA/QC policy which is ISO 9000 certified, and has a thorough process for QA/QC. **Guillermo Regalado** will be the QA/QC manager and will be responsible for monitoring the quality assurance procedures and implementing changes as necessary to improve the quality of the products we produce. All project team members' performance will be subject to peer review. All calculations, reports, and models will be checked by QA personnel.

4.5 Schedule

We are prepared to begin work immediately following the award of the contract and confirmation from the City of an executed Purchase Order (PO). AECOM is committed to completing the five (5) tasks referenced in section 2 within a period of six (6) months. We recognize that to achieve this objective, we must develop and adhere to a comprehensive work plan and schedule. While the level of effort and / or duration of certain activities may differ from original estimates, we will endeavour to limit the impact of these unforeseen changes on the overall project schedule.

4.6 Safety, Health and Environment Program

AECOM is committed to providing safe and healthy workplaces for all AECOM employees, minimizing incidents and injuries, complying with all Occupational Health and Safety (OH&S) and environmental legislation and reducing our impact on the environment. AECOM's Safety, Health and Environment Program has been developed to effectively manage safety, health and impact on the environment within AECOM. Compliance with the SH&E Program is a condition of AECOM employment and must be undertaken by all employees. Local Occupational Health and Safety and Environmental Regulations must be referenced and, where more stringent, will always take precedence over AECOM's Program. All AECOM employees receive a safety orientation and any job-specific training required for them to perform their roles safely.

4.7 Statement of Insurability

If selected, AECOM will provide to the City of North Miami upon execution of the agreement a Certificate of Insurance indicating proof of Comprehensive General Liability Coverage and Professional Liability Insurance of not less than \$2,000,000.

4.8 Compensation

Work will be performed through an executed Purchase Order under the Continuing Architectural and Engineering Services Water/Wastewater Engineering contract (RFQ 12-14-15). AECOM proposes to perform the above referenced work for a total of \$154,561.