CES Construction, LLC

Bid Contact **Leigha Taber**
construction@cesconsult.com
Ph 954-613-4353

Address **880 SW 145th Ave**
Suite 106
Pembroke Pines, FL 33027

Qualifications **MBE**

Bid Bond **Bid Bond icon** (Status: Authorized on Feb 17, 2021)

Item #	Line Item	Notes	Unit Price	Qty/Unit		Attch.	Docs
12470-416--01-01	RE-BID Design Build Pump Station B-4 Redundant Force Main	**Supplier Product Code:**	**First Offer - $3,297,154.00**	1 / lot	**$3,297,154.00**	**Y**	**Y**

Supplier Total **$3,297,154.00**

Bid Bond from

Surety	QBE Insurance Corporation
Bid Bond Number	SFL21685705
Bond Type	Bid Bond
Bond Form	Bid Bond in Accordance with Contract Specifications
Bid Date	2021-02-17T00:00:00Z
Bid ID	12470-416
Security Percent	5%
Job Description	RE-BID Design Build Pump Station B-4 Redundant Force Main P12567

Agency ID	1427
Name	Alter Surety Group, Inc.
Address	5979 NW 151st Street #202 , Miami Lakes, FL 33014, US
Phone	305-517-3793
Contact Name	Warren M. Alter
Bond Status	Executed
Execution Date	2021-02-17T09:50:17Z

Contractor ID	
Name	CES Construction, LLC
Contractor Tax ID	824531491
Assigned Contractor ID	1839940383
Address	880 SW 145 Ave Ste 106, Pembroke Pines, FL 33027, US
Phone	305-827-2220

Name	City of Fort Lauderdale
Address	100 North Andrews Ave, Fort Lauderdale, FL 33301, US

Surety ID	11719
Name	QBE Insurance Corporation
NAIC Number	
State of Incorporation	
Contact	Rafael Issman

Address	55 Water Street, Floor 20, New York, NY 10041, US
Phone	212-894-7578
Terror Rider	

CES Construction, LLC

Item: **RE-BID Design Build Pump Station B-4 Redundant Force Main**

Attachments

CES Construction RFP 12470-416 RE-BID Design-Build Pump Station B-4 Redundant Force Main P12567.pdf

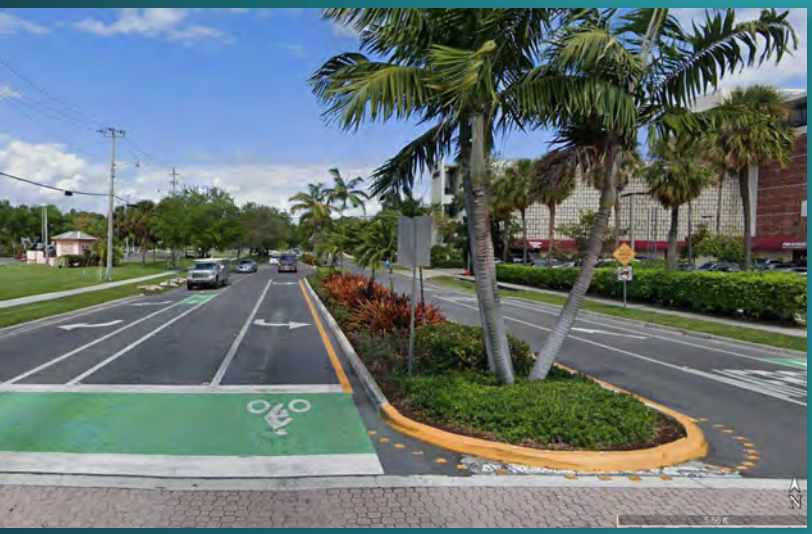
DIGITAL COPY
PROVEN SOLUTIONS
RESPONSIVE AND DEPENDABLE PERFORMANCE

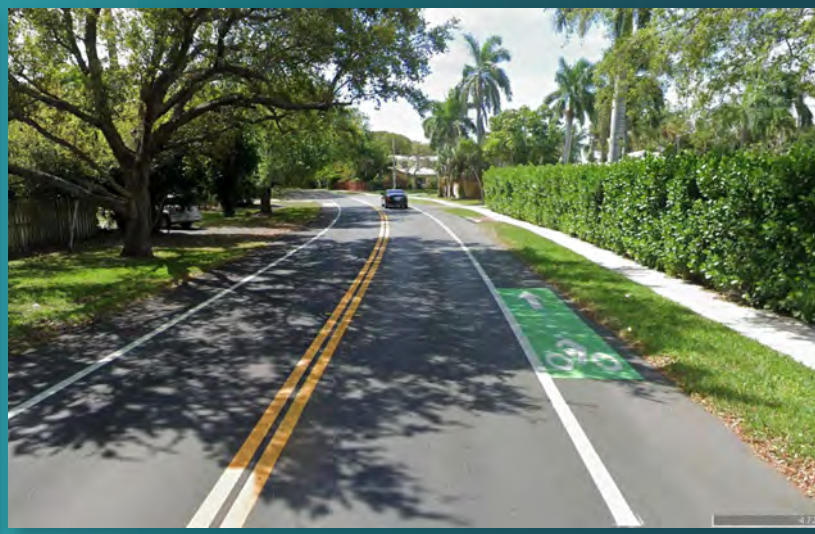
City of Fort Lauderdale RFP #12470-416

Re-Bid Design Build

Pump Station B-4 Redundant Force Main P12567

Due: February 17, 2021 at 2:00 PM





CES Construction, LLC in association with **CES Consultants, Inc.**

880 SW 145th Avenue | Suite 106 | Pembroke Pines, FL 33027 | 954.613.4353 | cesinfo@cesconstruct.com

TABLE OF CONTENTS

February 17, 2021

Fort Lauderdale City Hall
Attention: Procurement Services Division
100 N. Andrews Avenue, #619
Fort Lauderdale, FL 33301

RE: RFP 12470-416 RE-BID Design-Build Pump Station B-4 Redundant Force Main P12567

Dear Members of the Selection Committee,

CES Construction, LLC (CES), a 100% minority-owned construction firm, is pleased to submit this proposal to the City of Fort Lauderdale to provide Design-Build Services for the Re-bid of the Pump Station B-4 Redundant Force Main P12567 project in response to Solicitation 12470-416. CES Construction will be the prime Design-Build Firm on the project.

CES is owned and operated by Rudy M. Ortiz, PE, CGC, who is also the owner of CES Consultants, which was founded in 2001 as a full-service consulting firm offering engineering, consulting, program management, construction management and construction services to the municipal, governmental, and private sectors throughout Florida and New York. Prior to the establishment of CES Construction in 2018, all construction projects were completed under CES Consultants' Construction Division. Due to the success of the Division, Rudy formally organized CES Construction, LLC to provide General Construction and Construction Management at Risk services. Today, CES is operating out of its state-of-the-art facilities in Miami-Dade, Broward, Palm Beach, Jacksonville, Tampa, Orlando and Long Island City, New York. All construction work has been performed under Rudy's State of Florida Certified General Contractor's License No. 1512966. For this project, we will conduct work from our Broward County office located at 880 SW 145th Avenue in Pembroke Pines.

For nearly 20 years, CES and its team of design, permitting, construction, program management and construction management professionals, many of whom are playing key roles on this project, have played principal roles on some of South Florida's largest multi-phase, multi-discipline capital infrastructure improvement projects and programs. ***Many of these programs and projects involved consent decree order management and compliance, and our team has never missed a deadline.*** These projects and programs represent experience in numerous small to large diameter sewer wastewater force main projects, many in active neighborhood environments and with special crossings, exactly like the City of Fort Lauderdale's Pump Station B-4 Redundant Force Main project.

Some of these projects and programs include:

- City of Fort Lauderdale D/B NW 13th Street Phase I Emergency Force Main Replacement
- Pump Station Improvements, Refurbishments, SCADA Technology & Force Main Valve Replacement
- D/B Shenandoah Water Main Improvements
- NW 12th Avenue Force Main Replacement
- East Miramar Infrastructure Improvements Phase III
- East Miramar Infrastructure Improvements Phase I
- Water & Sanitary Sewer System Improvements For UAZs 113
- MDWASD Ocean Outfall Legislation Program
- E06-WASD-09, Wastewater Force Mains
- MDWASD SDWWTP HLD Plant
- MDWASD Pump Station Improvement Program (Phase II)
- MDWASD Pump Station Improvement Program Design (Phase I)
- West Avenue North & South D/B Neighborhood & Resiliency
- CPM For Expansion of FLL Runway 9R-27L
- SW 27th Ave Roadway Reconstruction & Widening

CES TEAM PARTNERS

For this project, CES has assembled the ideal team of partners and professionals with expert level knowledge and experience in the Design, Permitting and Construction of Consent Decree-driven, underwater crossing pipeline projects in complex urban and suburban environments. As demonstrated throughout this proposal, ***the CES Team has successfully completed numerous similar pipeline construction projects via Open Cut and HDD methods and, more importantly, has worked together on several occasions.***

THE IDEAL DBF/DESIGNER RELATIONSHIP

The classic adversarial relationship between the designer and the contractor has evolved into a successful integrated project delivery methodology. The team that succeeds is the team that overcomes the potential adversarial relationship and operates as one cohesive and collaborative unit. A close-knit team understands the challenges at hand and can develop strategies and protocols to conquer those challenges in order to achieve success. ***The CES Team, led by sister companies CES Construction as the Prime Design/Build Firm and CES Consultants as the Lead Designer, brings exactly these attributes to the City of Ft. Lauderdale***.

As Lead Managers for the CES Team, **DBF Project Manager Luciano Perera and Construction Project Manager Ernest Cano** both bring an exceptional portfolio of pipeline construction projects. **Design Project Manager Jose Caraballo, PE** has previously worked on major pipeline infrastructure improvement projects within urban neighborhoods that included numerous other utilities, local traffic impacts and special crossings requiring additional stakeholder coordination, attention to environmental impacts, and permitting.

KEY SUBCONSULTANTS & SUBCONTRACTORS

The CES Team's subconsultants and subcontractors were specifically chosen for this project because they offer the City of Fort Lauderdale a unique blend of pipeline construction design, permitting and construction expertise via professionals that have worked together on similar projects in the past.

CES Consultants, Inc. is a local, 100% minority-owned firm with staff experts in pipeline construction project design, permitting, program management, construction management and construction engineering inspection. The work for this project will be performed out of our Pembroke Pines office, less than 30 minutes from the project site and City offices. CES Consultants is the team's Lead Designer. Our staff brings extensive experience in the design, permitting and construction of sewer and water utility projects ranging from 6" to 96" diameter piping networks, pump stations, master planning and drainage modeling. Our professional staff also brings considerable experience with roadway improvements, site development, and stormwater management improvements.

CES Consultants will liaise with the Design Criteria Professional's Public Information Officer as we often do on our neighborhood utility improvement projects. Our proactive approach to communicating with project stakeholders including residents, schools and nearby emergency services has proven very successful in minimizing impact to the communities in which we work. CES's vast experience in permitting similar local projects over the last two decades will also be a key contributor to the success of the project.

RP Utility & Excavation Corp. (RPU) will perform part of the open cut installation work on this project. RPU was established in 2011 as an underground utility, site development, and environmental construction company specializing in commercial, municipal, and federal projects. RPU is one of the fastest growing municipal construction contracting organizations in South Florida, specializing in all aspects of infrastructure improvements and developments. RPU has successfully completed multiple projects all over South Florida. RPU operates under the direction of Raidel Perez and Javier Garzon, with more than ten years of underground utility experience. RPU's track record and exceptional reputation with its clients has allowed it to thrive and expand. RPU has experience constructing successful pipeline projects alongside CES Construction Manager Ernest Cano via open cut and with Centerline Directional Drilling Services, also on this team, via horizontal directional drilling methods.

Centerline Directional Drilling Services, Inc. (Centerline) will perform the Horizontal Directional Drilling on this project. Centerline is a company dedicated to tackling challenging, large-scale underground directional drilling projects. They have a fleet of Horizontal Drill machines ranging from 9,000 to the 440,000 lbs. of pull-back. Centerline is able to drill from 2" pipe to 60" pipe in any ground conditions. Primarily working in Florida, a contributing factor to Centerline's success in the underground industry is its dedication to getting the job done—not only by approaching every project prepared for any event and scenario, but through the value of taking on every challenge with the Owner's needs in mind. While job scenarios can present varying obstacles, Centerline is able to see any job through to the end and has recorded continued success for over 10 years. Centerline also has experience constructing successful directional drilling projects alongside CES Construction Manager Ernest Cano and RPU.

CES EXECUTIVE LEADERSHIP TEAM

Our team's **DBF Project Manager Luciano Perera** commits to personally managing the delivery of this very important project for the City of Fort Lauderdale. Lu has over 25 years of experience as a leader in the fields of Engineering, Construction, Disaster Recovery and Real Estate Development with principal responsibilities over project performance as well as profit and loss. He has worked with large teams of business clients, developers, government agencies, consultants, contractors, and stakeholders, and has a track record of performance in managing large-scale complex projects and programs simultaneously from inception to completion; enhancing client relationships by delivering projects on time and within budget while upholding the highest standards of safety and quality. Luciano's Program Management and Construction Management experience includes Owner, Principal and Senior Manager experience in transportation and civil infrastructure improvements performed under major capital and consent decree mandated programs in South Florida and the City of New York.

- Currently is the DBF Project Manager for the City of Fort Lauderdale's D/B NW 13th Street Phase I Emergency Force Main Replacement
- Managing and providing professional services on large-scale Consent Decree Programs
- Managing the design, permitting and construction of pipeline projects—from small to large diameter, in all materials and via all methods of installation—in complex urban and suburban environments for more than two decades

Lead Design Manager Jose Caraballo, PE has over 19 years of professional experience in the areas of civil and drainage design, transportation and environmental engineering, and project management with various public entities. He has been involved in a variety of civil and environmental engineering projects related to the improvements of roadways, public utilities, drainage, pump stations, water treatment plants, and airports. Jose has been able to take projects from the conceptual stages through feasibility analyses into successful completion, including project close-out and permitting.

Jose also has a track record of delivering the design of local pipeline projects on-time and within budget while minimizing impact to communities and upholding the highest standards of quality and safety. He has expert-level knowledge and experience:

- Currently is the Design Project Manager for the City of Fort Lauderdale's D/B NW 13th Street Phase I Emergency Force Main Replacement
- Designing pipeline projects—from small to large diameter, in all materials and via all methods of installation—in complex urban and suburban environments and with special crossings
- Resolving complex field conflicts
- Permitting pipeline designs

Construction Manager Ernest Z. Cano has over 41 years of experience in Civil and Electrical Engineering Design, Construction, and Project and Program Management of governmental, residential, commercial, utilities and fast track, design/build facilities ranging from $40 million to $3.9 billion. He has expert-level knowledge and experience managing the construction of small to large diameter pipeline project in both complex urban and suburban environments. Ernie also has extensive experience in improving the efficiency of systems and deploying procedures to ensure that project completion dates are achieved ahead of schedule and within budget. Throughout his career, he has established, managed and led effective project teams to accomplish project goals with professional interaction with State and local governmental agencies. He has expert-level knowledge and experience:

- Currently is the Construction Project Manager for the City of Fort Lauderdale's D/B NW 13th Street Phase I Emergency Force Main Replacement
- Managing the construction of pipeline projects—from small to large diameter, in all materials and via all methods of installation—in complex urban and suburban environments
- Working with project owners and utility companies to resolve field conflicts in a timely fashion

Additionally, Ernie has a track record of delivering the design of local pipeline projects on-time and within budget while minimizing impact to communities and upholding the highest standards of quality and safety and is or has been a:

- Former Area Construction Manager on the Miami Dade Water and Sewer Department's Consent Decree Program
- Former Project Manager on the Miami Dade Water and Sewer Department's Pump Station Improvement Program (Phase I)
- Former Design and Construction Manager of FPL Transmission Lines and Substations
- Construction Manager on pipeline projects successfully completed with team partners RPU and Centerline

OUR COMMITMENT

The CES Team is uniquely experienced, qualified and committed to delivering this very important project for the City of Fort Lauderdale, on-time and within budget, while minimizing impacts to both the community and the environment and upholding the highest standards of quality and safety!!!

We once again thank you for this opportunity to submit this proposal and look forward to doing business with the City. Please contact our office with any questions or comments.

Sincerely,

CES Construction, LLC

Rudy M. Ortiz, PE, CGC
Owner & Design-Build Principal-in-Charge
cesinfo@cesconstruct.com // 954.613.4353

PROPOSAL CONTACT PERSON INFORMATION

Rudy M. Ortiz, PE, CGC, Owner and Chief Executive Officer of CES Construction, LLC and CES Consultants, Inc., has the authority to bind the proposed Design-Build Team to the provisions of this RFP.

LEAD DESIGN-BUILDER:

CES Construction, LLC
FEIN: 82-4531491
880 SW 145th Avenue, Suite 106, Pembroke Pines, FL 33027
Contact Person's Name: Rudy M. Ortiz, PE, CGC
Title: Owner & Chief Executive Officer
Email Address: cesinfo@cesconstruct.com
Phone Number: 954.613.4353
Fax Number: N/A

State of Florida Certified Minority Business Enterprise

CES Consultants, Inc.
FEIN: 65-0792884
880 SW 145th Avenue, Suite 106, Pembroke Pines, FL 33027
Contact Person's Name: Rudy M. Ortiz, PE, CGC
Title: Owner & Chief Executive Officer
Email Address: cesinfo@cesconsult.com
Phone Number: 954.613.4353
Fax Number: N/A

State of Florida Certified Minority Business Enterprise

PROPOSED SUBCONSULTANT INFORMATION

RP Utility & Excavation Corp.
FEIN: 45-2742507
17680 NW 78th Avenue, Suite 101, Hialeah, FL 33015
Contact Person's Name: Javier Garzon
Title: Vice President
Email Address: javier@rpucorp.com
Phone Number: 786.577.6666
Fax Number: N/A

Centerline Directional Drilling Service, Inc.
FEIN: 65-0961941
900 Elm Street, LaBelle, FL 33975
Contact Person's Name: Lauro Acevedo
Title: Owner
Email Address: cdirectionaldrilling@hotmail.com
Phone Number: 863.674.0913
Fax Number: 863.674.0912

MBA Engineering, Inc.
FEIN: 45-4238567
23110 SR54, Suite 281, Lutz, FL 33549
Contact Person's Name: Michael A. Budin
Title: President
Email Address: mbudin@mbaeng.com
Phone Number: 941.268.1669
Fax Number: N/A

Vizcaya Surveying and Mapping, Inc.
FEIN: 46-1261902
13217 SW 46th Lane, Miami, FL 33175
Contact Person's Name: Arturo R. Toriac
Title: Director
Email Address: vizcayasurveying@gmail.com
Phone Number: 786.413.5822
Fax Number: N/A

GCES Engineering, LLC
FEIN: 46-1012695
1820 N. Corporate Lakes Boulevard, Suite 206
Weston, FL 33326
Contact Person's Name: Alejandro R. Montenegro
Title: President/CEO
Email Address: alexm@gcesengineering.com
Phone Number: 954.440.8623
Fax Number: N/A

MINORITY ENTITY

State of Florida

Minority Business Certification

CES Construction, LLC

Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:
11/17/2020 to 11/17/2022

Jonathan R. Satter, Secretary
Florida Department of Management Services

Department of MANAGEMENT SERVICES
Office of Supplier Diversity

Office of Supplier Diversity
4050 Esplanade Way, Suite 380
Tallahassee, FL 32399
850-487-0915
www.dms.myflorida.com/osd

State of Florida

Minority Business Certification

CES Consultants, Inc.

Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:

01/10/2020 to 01/10/2022

Jonathan R. Satter, Secretary
Florida Department of Management Services

Department of MANAGEMENT SERVICES
Office of Supplier Diversity

Office of Supplier Diversity
4050 Esplanade Way, Suite 380
Tallahassee, FL 32399
850-487-0915
www.dms.myflorida.com/osd

State of Florida

Minority Business Certification

GCES Engineering Services LLC

Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:

10/11/2019 to 10/11/2021

Jonathan R. Satter, Secretary
Florida Department of Management Services

Department of MANAGEMENT SERVICES
Office of Supplier Diversity

Office of Supplier Diversity
4050 Esplanade Way, Suite 380
Tallahassee, FL 32399
850-487-0915
www.dms.myflorida.com/osd

BROWARD COUNTY FLORIDA

Office of Economic and
Small Business Development

Governmental Center Annex
115 S. Andrews Avenue, Room A680 • Fort Lauderdale, Florida 33301 • 954-357-6400 • FAX 954-357-5674 • TTY 954-357-5664

This Certificate is Awarded to:

GCES ENGINEERING SERVICES, LLC

As set forth in the Broward County Business Opportunity Act of 2012, the certification requirements have been met for:

County Business Enterprise
Small Business Enterprise
Anniversary Date: June 5th

Authorized Representative

The Office of Economic and Small Business Development must be notified within 30 days of any material changes in the business which may affect ownership and control. Failure to do so may result in the revocation of this certificate and/or imposition of other sanctions.

A service of the Broward County Board of County Commissioners
www.broward.org/smallbusiness

BUSINESS STRUCTURE

CES Construction, LLC is owned and operated by Rudy M. Ortiz, PE, CGC, who is also the owner of CES Consultants, which was founded in 2001 as a full-service consulting firm offering engineering, consulting, program management, construction management and construction services to the municipal, governmental, and private sectors throughout Florida and New York. Prior to the establishment of CES Construction in 2018, all construction projects were completed under CES Consultants' Construction Division. Due to the success of the Division, Rudy formally organized CES Construction, LLC to provide General Construction, Design-Build, and Construction Management at Risk services. Today, CES is operating out of its state of the art facilities in Miami-Dade, Broward, Palm Beach, Jacksonville, Tampa, Orlando and Long Island City, New York. All construction work has been performed under Rudy's State of Florida Certified General Contractor's License No. 1512966.

CES has state of the art office facilities, outfitted and situated to allow daily collaboration and support among our team. Our facility locations specifically in South Florida include Pembroke Pines, West Palm Beach, and Miami. For this project, we will conduct work from our Broward County office located at 880 SW 145th Avenue in Pembroke Pines.

For nearly 20 years, CES and its team of design, permitting, construction, program management and construction management professionals, many of whom are playing key roles on this project, have played principle roles on some of South Florida's largest multi-phase, multi-discipline capital infrastructure improvement projects and programs. ***Many of these programs and projects involved consent decree order management and compliance, and our team has never missed a deadline.*** These projects and programs represent experience in numerous small to large diameter sewer wastewater force main projects, many in active neighborhood environments, exactly like the City of Fort Lauderdale's Design-Build Pump Station B-4 Redundant Force Main project. Some of these projects and programs include:

- Fort Lauderdale D/B NW 13th Street Phase I Emergency Force Main Replacement
- Florida City Force Main 18 & 4 Replacement
- Florida City Pump Station Improvements, Refurbishments, SCADA Technology & Force Main Valve Replacement
- D/B Shenandoah Water Main Improvements
- NW 12th Avenue Force Main Replacement
- East Miramar Infrastructure Improvements Phase III
- East Miramar Infrastructure Improvements Phase I
- Water & Sanitary Sewer System Improvements For UAZs 113
- MDWASD Ocean Outfall Legislation Program
- E06-WASD-09, Wastewater Force Mains
- MDWASD SDWWTP HLD Plant
- MDWASD Pump Station Improvement Program (Phase II)
- MDWASD Pump Station Improvement Program Design (Phase I)
- D/B West Avenue North & South Neighborhood & Resiliency
- CPM For Expansion of FLL Runway 9R-27L
- SW 27th Ave Roadway Reconstruction & Widening

Please see the following pages for more information on these projects. You will also find additional information on the qualifications of our firm and key personnel, all requested licenses and certifications, and proof of our ability to comply with insurance requirements.

With numerous successfully completed design, permitting, construction, program management and construction management pipeline projects—from small to large diameter, in all materials and via all methods of installation—in complex, urban environments, the CES Team is uniquely equipped to deliver the best quality project within schedule and budget and with the least impact to the community to the City of Fort Lauderdale.

PROFESSIONAL LICENSES & CERTIFICATIONS

State of Florida
Department of State

I certify from the records of this office that CES CONSTRUCTION, LLC is a limited liability company organized under the laws of the State of Florida, filed on February 14, 2018.

The document number of this limited liability company is L18000041186.

I further certify that said limited liability company has paid all fees due this office through December 31, 2021, that its most recent annual report was filed on January 15, 2021, and that its status is active.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Fifteenth day of January, 2021

Secretary of State

Tracking Number: 8333254535CC

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

State of Florida
Department of State

I certify from the records of this office that CES CONSULTANTS, INC. is a corporation organized under the laws of the State of Florida, filed on October 6, 1997.

The document number of this corporation is P97000085972.

I further certify that said corporation has paid all fees due this office through December 31, 2021, that its most recent annual report/uniform business report was filed on January 15, 2021, and that its status is active.

I further certify that said corporation has not filed Articles of Dissolution.

Given under my hand and the Great Seal of the State of Florida at Tallahassee, the Capital, this the Fifteenth day of January, 2021

Secretary of State

Tracking Number: 4710042571CC

To authenticate this certificate,visit the following site,enter this number, and then follow the instructions displayed.

https://services.sunbiz.org/Filings/CertificateOfStatus/CertificateAuthentication

Ron DeSantis, Governor — Halsey Beshears, Secretary — Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

ORTIZ, RUDY M
CES CONSTRUCTION, LLC
880 SW 145TH AVE SUITE 106
PEMBROKE PINES FL 33027

LICENSE NUMBER: CGC1512966
EXPIRATION DATE: AUGUST 31, 2022
Always verify licenses online at MyFloridaLicense.com

Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.

Licensee Details

Licensee Information

Name:	CES CONSULTANTS, INC. (Primary Name)
Main Address:	880 SW 145TH AVE SUITE#106 PEMBROKE PINES Florida 33027
County:	BROWARD
License Mailing:	
LicenseLocation:	

License Information

License Type:	Registry
Rank:	Registry
License Number:	8811
Status:	Current
Licensure Date:	02/28/2001
Expires:	

Special Qualifications	Qualification Effective

State of Florida

Minority Business Certification

CES Construction, LLC

Is certified under the provisions of
287 and 295.187, Florida Statutes, for a period from:
11/17/2020 to 11/17/2022

Jonathan R. Satter, Secretary
Florida Department of Management Services

Department of MANAGEMENT SERVICES
Office of Supplier Diversity

State of Florida

Minority Business Certification

CES Consultants, Inc.

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287 and 295.187, Florida Statutes, for a period from:

01/10/2020 to 01/10/2022

Jonathan R. Satter, Secretary
Florida Department of Management Services

Department of MANAGEMENT SERVICES
Office of Supplier Diversity

Office of Supplier Diversity
4050 Esplanade Way, Suite 380
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850-487-0915
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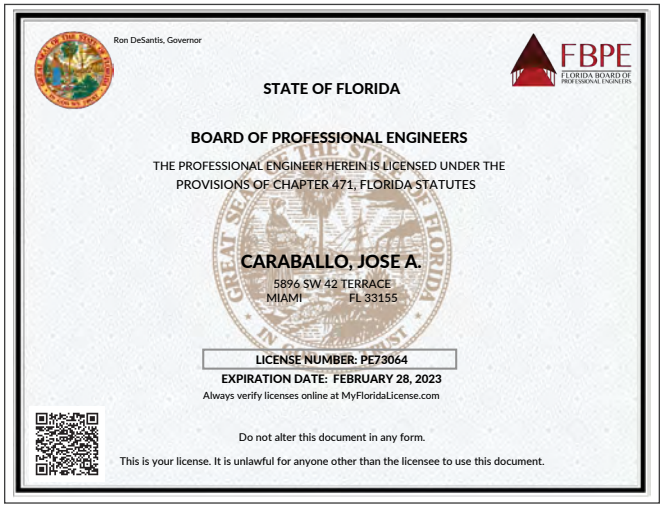

Ron DeSantis, Governor

FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE
PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

CARABALLO, JOSE A.
5896 SW 42 TERRACE
MIAMI FL 33155

LICENSE NUMBER: PE73064
EXPIRATION DATE: FEBRUARY 28, 2023
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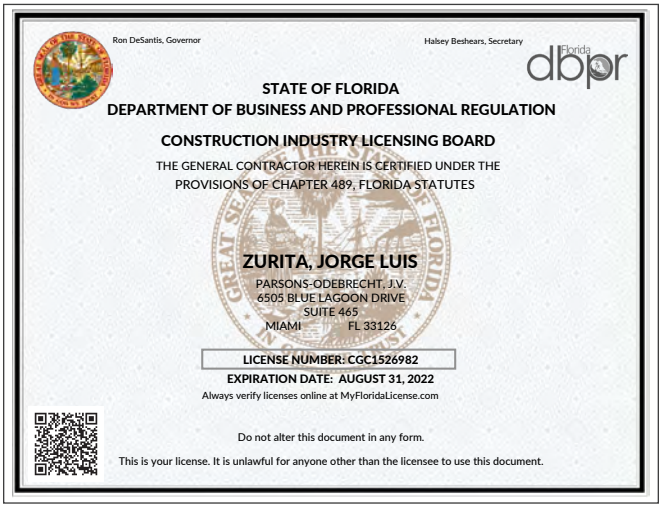

Ron DeSantis, Governor

Halsey Beshears, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE GENERAL CONTRACTOR HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

ZURITA, JORGE LUIS
PARSONS-ODEBRECHT, J.V.
6505 BLUE LAGOON DRIVE
SUITE 465
MIAMI FL 33126

LICENSE NUMBER: CGC1526982
EXPIRATION DATE: AUGUST 31, 2022
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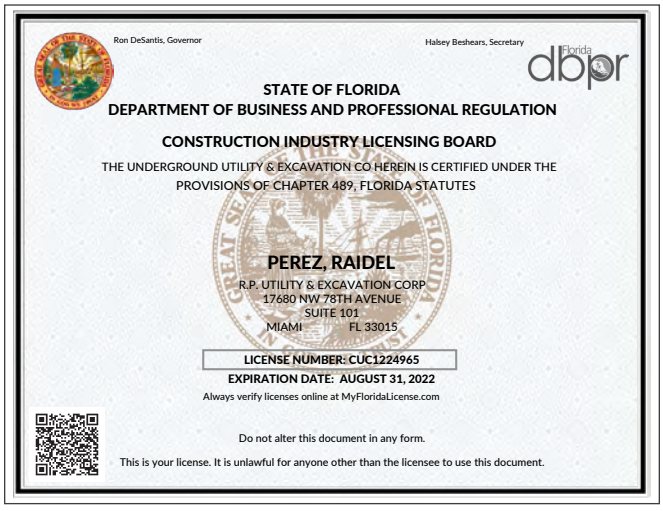

Ron DeSantis, Governor

Halsey Beshears, Secretary

Florida dbpr

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION

CONSTRUCTION INDUSTRY LICENSING BOARD

THE UNDERGROUND UTILITY & EXCAVATION CO HEREIN IS CERTIFIED UNDER THE
PROVISIONS OF CHAPTER 489, FLORIDA STATUTES

PEREZ, RAIDEL
R.P. UTILITY & EXCAVATION CORP
17680 NW 78TH AVENUE
SUITE 101
MIAMI FL 33015

LICENSE NUMBER: CUC1224965
EXPIRATION DATE: AUGUST 31, 2022
Always verify licenses online at MyFloridaLicense.com

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AACE INTERNATIONAL

CESB

This certifies that

Luis Ramos

having given satisfactory evidence of qualifications and fitness, is hereby certified as a

Certified Cost Professional

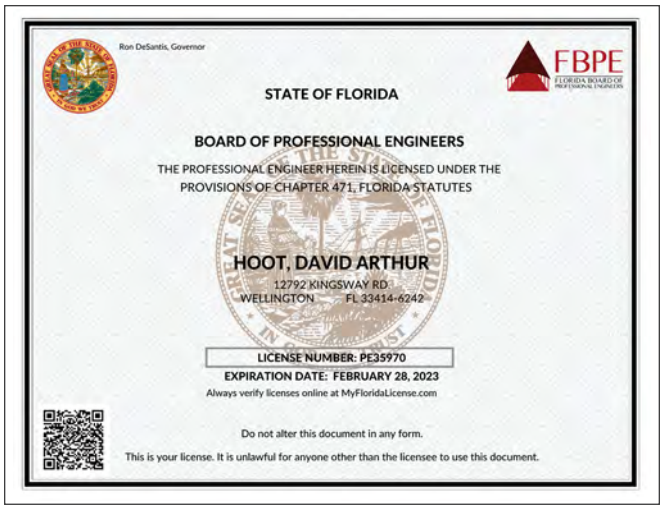
Originally certified: May 25, 2011 Certificate Number: 3263

February 7, 2018
In Witness Whereof Our Hand and Seal
This Certificate Expires: May 25, 2020
AACE ID: 33897

Sajjad Khadka, CCP DRMP PSP
Chair, Certification Board

AACE CERTIFIED

1265 Suncrest Towne Centre Dr. • Morgantown, WV 26505 • certification@aacei.org • +1.304.296.8444


Ron DeSantis, Governor

FBPE
FLORIDA BOARD OF PROFESSIONAL ENGINEERS

STATE OF FLORIDA

BOARD OF PROFESSIONAL ENGINEERS

THE PROFESSIONAL ENGINEER HEREIN IS LICENSED UNDER THE PROVISIONS OF CHAPTER 471, FLORIDA STATUTES

HOOT, DAVID ARTHUR
12792 KINGSWAY RD
WELLINGTON FL 33414-6242

LICENSE NUMBER: PE35970
EXPIRATION DATE: FEBRUARY 28, 2023
Always verify licenses online at MyFloridaLicense.com

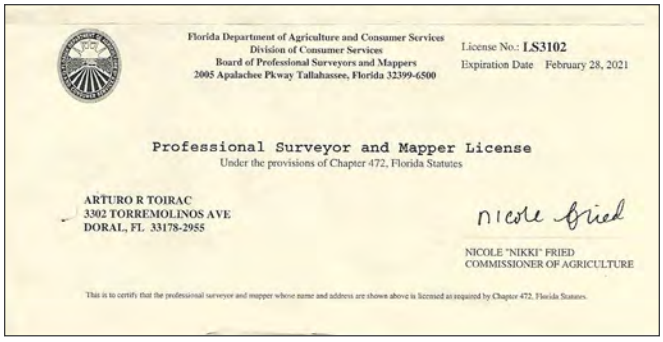
Do not alter this document in any form.

This is your license. It is unlawful for anyone other than the licensee to use this document.


dbpr
DBPR ONLINE SERVICES
License Details


dbpr
DBPR ONLINE SERVICES
Licensee Details


dbpr
DBPR ONLINE SERVICES


Florida Department of Agriculture and Consumer Services
Division of Consumer Services
Board of Professional Surveyors and Mappers
2005 Apalachee Pkway Tallahassee, Florida 32399-6500

License No.: LS3102
Expiration Date February 28, 2021

Professional Surveyor and Mapper License
Under the provisions of Chapter 472, Florida Statutes

ARTURO R TOIRAC
3302 TORREMOLINOS AVE
DORAL, FL 33178-2955

Nicole Fried

NICOLE "NIKKI" FRIED
COMMISSIONER OF AGRICULTURE

This is to certify that the professional surveyor and mapper whose name and address are shown above is licensed as required by Chapter 472, Florida Statutes.


dbpr
DBPR ONLINE SERVICES
Licensee Details
Licensee Information
Name: GCES ENGINEERING SERVICES, LLC (Primary Name)
Main Address: 14173 N. CYPRESS COVE CIR. DAVIE Florida 33325 BROWARD
County:
License Mailing:
LicenseLocation:
License Information
License Type: Registry
Rank: Registry
License Number: 30039
Status: Current
Licensure Date: 11/01/2012
Expires:


dbpr
DBPR ONLINE SERVICES
Licensee Details
Licensee Information
Name: CIAMBELLA, BART C (Primary Name)
Main Address: 2718 COVE VIEW DRIVE N JACKSONVILLE Florida 32257
County: DUVAL
License Mailing:
LicenseLocation:
License Information
License Type: Professional Engineer
Rank: Prof Engineer
License Number: 63185
Status: Current,Active
Licensure Date: 07/25/2005
Expires: 02/28/2023
Special Qualifications
Civil Qualification Effective 07/25/2005


dbpr
DBPR ONLINE SERVICES
Licensee Details
Licensee Information
Name: MONTENEGRO, ALEJANDRO R. (Primary Name)
Main Address: 14173 N. CYPRESS COVE CIR DAVIE Florida 33325 BROWARD
County:
License Mailing:
LicenseLocation: 10860 NW 138TH STREET UNIT 4 HIALEAH GARDENS FL 33182
County: DADE
License Information
License Type: Professional Engineer
Rank: Prof Engineer
License Number: 59426
Status: Current,Active
Licensure Date: 01/14/2003
Expires: 02/28/2023

KEY PERSONNEL

Name	Role	Firm	Phone	Fax	Email
Rudy M. Ortiz, PE, CGC	Design/Build Firm Principal-in-Charge	CES Construction, LLC CES Consultants, Inc.	954.613.4353	N/A	cesinfo@cesconstruct.com cesinfo@cesconsult.com
Luciano O. Perera	Design/Build Firm Project Manager	CES Construction, LLC CES Consultants, Inc.	954.613.4353	N/A	lperera@cesconstruct.com
Ernest Z. Cano	Lead Construction Project Manager	CES Construction, LLC	954.613.4353	N/A	ecano@cesconstruct.com
Jose Caraballo, PE	Lead Design Project Manager	CES Consultants, Inc.	954.613.4353	N/A	jcaraballo@cesconsult.com
Raidel Perez, CUC	General Superintendent	RP Utility & Excavation Corp.	786.577.6666	786.513.2924	raidel@rpucorp.com
Jorge Zurita, CGC	QA/QC Manager	CES Construction, LLC	954.613.4353	N/A	jzurita@cesconstruct.com
Frederick W. Ward	Health & Safety Manager	RP Utility & Excavation Corp.	786.577.6666	786.513.2924	fward@rpucorp.com
Luis E. Ramos, CCP	Scheduler/ Project Controls Specialist	CES Construction, LLC	954.613.4353	N/A	lramos@cesconstruct.com

WORKLOAD OF THE FIRM

Project Name	Project Status	Dollars Remaining
Design-Build City of Fort Lauderdale NW 13th Street Emergency Force Main Replacement	50% Construction	$2,412,370
Florida City Force Main 18 & 4 Replacements	Awaiting NTP	$756,595
Seacoast Utility Authority Design-Build Neighborhood Improvements	Negotiations; Awaiting NTP	TBD
Florida City Pump Station Improvements, Refurbishments, SCADA Technology & Force Main Valve Replacement	Complete	N/A
PortMiami Cargo Yard Densification Phase 1F, FPL Vaults 3A & 4	Complete	N/A

CES Construction has the necessary supervisory personnel, work crews and financial resources to expeditiously complete the proposed work. Our current workload is minimal, and when combined with our resources, allows us to handle multiple concurrent projects. We do not anticipate any challenges with our current and projected work.

PROOF OF INSURANCE

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/1/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
RSC Insurance Brokerage, Inc. 3350 S Dixie Hwy Miami FL 33133	PHONE (A/C, No, Ext): (305)446-2271	FAX (A/C, No): (305)448-3127
	E-MAIL ADDRESS: MIA-Certificates@risk-strategies.com	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Continental Casualty Co	20443
INSURER B : American Casualty Co of Reading PA	20427
INSURER C : Continental Insurance Co	35289
INSURER D : Valley Forge Ins Co	20508
INSURER E :	
INSURER F :	

INSURED
CES Construction, LLC
880 SW 145 Ave #106
Pembroke Pines FL 33027

COVERAGES **CERTIFICATE NUMBER:** CL207166214 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE / X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			6057448400	7/2/2020	7/2/2021	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 15,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
B	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS / SCHEDULED AUTOS X HIRED AUTOS / X NON-OWNED AUTOS			C 6071959514	7/2/2020	7/2/2021	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
C	X UMBRELLA LIAB / X OCCUR EXCESS LIAB / CLAIMS-MADE DED X RETENTION $ 10,000			6075689940	7/2/2020	7/2/2021	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y/N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WC6057448395	7/2/2020	7/2/2021	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

For Proposal Use Only

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
M Christian/MARPER

ACORD 25 (2014/01) The ACORD name and logo are registered marks of ACORD
INS025 (201401)

Client#: 1053638 CESCON

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/07/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
USI Insurance Services, LLC 2502 N Rocky Point Drive Suite 400 Tampa, FL 33607	PHONE (A/C, No, Ext): 813 321-7500	FAX (A/C, No):
	E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Travelers Property Cas. Co. of America	25674
INSURER B : Phoenix Insurance Company	25623
INSURER C : XL Specialty Insurance Company	37885
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
CES Consultants, Inc.
880 Southwest 145th Avenue, Suite 106
Pembroke Pines, FL 33027

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:	X	X	6609D349718	12/06/2020	12/06/2021	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY SCHEDULED AUTOS X HIRED AUTOS ONLY X NON-OWNED AUTOS ONLY	X	X	BA2R165655	12/06/2020	12/06/2021	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000 $ $ $
A	X UMBRELLA LIAB X OCCUR EXCESS LIAB CLAIMS-MADE DED X RETENTION $10,000	X	X	CUP4K364717	12/06/2020	12/06/2021	EACH OCCURRENCE AGGREGATE	$5,000,000 $5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	UB0P573198	12/06/2020	12/06/2021	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$1,000,000 $1,000,000 $1,000,000
C	Professional Liability			DPR9969869	12/06/2020	12/06/2021	$5,000,000 per claim $5,000,000 annl aggr.	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Professional Liability coverage is written on a claims-made basis.

CERTIFICATE HOLDER
For Proposals

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03) 1 of 1 The ACORD name and logo are registered marks of ACORD
#S30563749/M30563004 USBZP

MOST RECENT EXPERIENCE MODIFICATION RATE

RISK STRATEGIES

November 18, 2020

CES Construction, LLC
880 SW 145 Ave #106
Pembroke Pines, FL 33027

Re: Valley Forge Ins Co
Policy # WC6057448395
Expiration Date: 7/2/2021

We have been writing the Workers Compensation coverage since July 2, 2018.

The Experience Mod Factor information is as follows:

July 2, 2018-2019 – Mod Factor 1.0

July 2, 2019-2020 – Mod Factor 1.0

July 2, 2020-2021 – Mod Factor 1.0

Sincerely,

RISK STRATEGIES

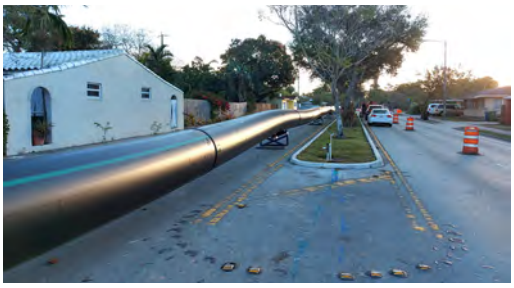
Susan Pagan

Account Manager

3350 S. Dixie Highway ■ Miami, FL 33133 ■ 305.446.2271 ■ www.risk-strategies.com

D/B NW 13TH STREET PHASE I FORCE MAIN REPLACEMENT

The integrated design-build team of CES Construction and CES Consultants is currently performing the design, permitting, construction, testing and startup of a new 36" diameter force main along NW 13th Street in an urban area of Fort Lauderdale, including connections to the existing pipe and reconnection of Pump Stations A-28 and A-29. The project also includes, the design, permitting, construction, and installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and provide isolation to perform the required tie-in work. Also included in the scope of work are inspection and construction certification services, as well as surveying, geotechnical exploration, preparation of completed permit submittal packages and procurement of all required permits for construction, construction phasing, maintenance of traffic and all other related work and services.



The scope of work includes all design, permitting, construction, and construction services related to:

- Installation of a new 36-inch nominal diameter force main under NW 13th Street utilizing Ductile Iron Pipe by open cut installation and/or high-density polyethylene pipe installed by horizontal directional drilling (HDD), as required.
- Connection of the proposed piping on the east end to the existing 24" nominal diameter force main that extends east along NE 13th Street and performing line stop.
- Connection of the proposed piping to the existing 24" cast iron force main that extends west along NW 13th Street and perform line stop as required.
- Provide reconnection to Pump Stations A-28 and A-29 at NW 1st Avenue and NW 2nd Avenue.
- Installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and providing isolation (line stop) to perform required tie-in work. This work will be completed first in order to divert flow away from the work area on NW 13th Street between NW 9th Avenue (Powerline Road) and North Andrews Avenue.

UTILITY & EXCAVATION CORP.
UNDERGROUND ENGINEERING

LOCATION
Fort Lauderdale, FL

CLIENT/POINT OF CONTACT
City of Fort Lauderdale
Raymond Rammo, PE, MS
100 N. Andrews Avenue Fort Lauderdale, FL 33301
Office: 954.828.5990
Cell: 305.922.4645
rrammo@fortlauderdale.gov

STATUS
Construction

START
Design: 07.27.20
Construction: 01.25.21

COMPLETION
Design: 01/2021
Construction: Est. 06.21.2021

BUDGET/ COST
$2,636,578/ TBD

KEY FEATURES
Civil Infrastructure

Design-Build

Force Main, Pump Station & Pipeline Reconnection, Plug Valves & Piping, Line Stops

MOT

Public Outreach

Permitting & Utility Coordination

Interagency Coordination

Scheduling & Cost Estimating

Roadway Resurfacing & Reconstruction

Signage & Street Markings

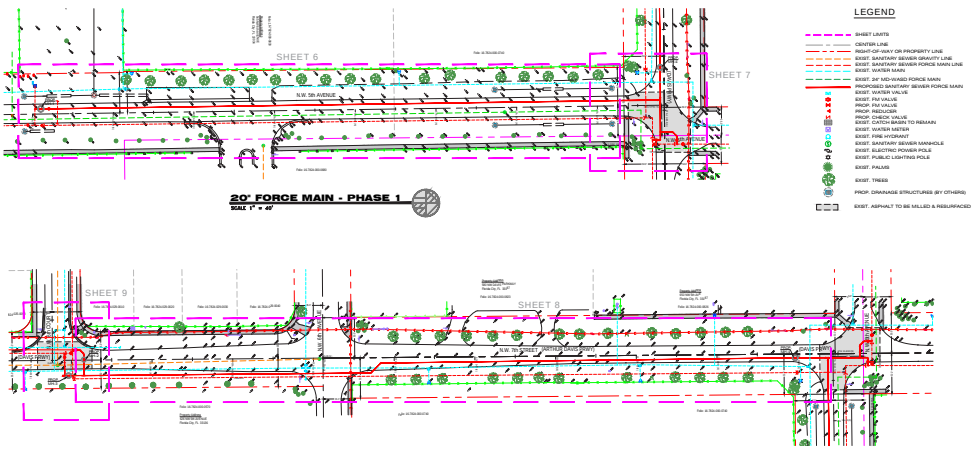
Horizontal Directional Drilling

FLORIDA CITY FORCE MAIN 18 & 4 REPLACEMENT

CES Construction is currently performing as the General Contractor for two City of Florida City CIP projects (#12 and #16), consisting of the replacement of Force Main 18 (6" PVC to 10" C-900) and Force Main 4 (12" PVC to 20" C-900), as well as the required interconnections to various existing (6", 8", 12" and 16" diameter) Ductile Iron Pipe (DIP) and PVC Force Mains (FM 19 and FM 20). The replacement of the force mains is being conducted using Open Trench installation.

- The replacement of **Force Main 18** involves the installation of several hundred linear feet of 10" C-900 PVC pipe, 8" in section isolation valves, several concrete structure manholes (72" diameter for plug/check valves), several ARVs, interconnection with existing Force Main 20, and a bypass system to avoid interruption of service to existing Lift Stations 18, 22 and 26.
- The replacement of **Force Main 4** involves the installation of thousands of linear feet of 20" C-900 PVC pipe, 12" in section isolation valves, several concrete structure manholes (48" diameter and 60" diameter for plug/check valves), several ARVs, interconnection with Force Mains 18 and 19, and a bypass system to avoid interruption of service to multiple existing Lift Stations (1, 2, 3, 4, 7, 8, 9, 3, 18, 22, 23, 24, 25, 26, and one private lift station).

The roadway, pavement, and swale restoration for both projects affects major City arterial roads (Davis Parkway and NW 6th Avenue). Both projects also involve the abandonment and removal of hundreds of 6", 12" and 24" DIPs.



LOCATION
Florida City, FL

CLIENT/POINT OF CONTACT
City of Florida City/Baljet Environmental
Pedro Gonzalez
10661 N Kendall Dr. #218
Miami, FL 33176
305.598.0199
pgonzalez@baljet.com

STATUS
Awaiting NTP

START
Awaiting NTP

COMPLETION
Est. 2021

BUDGET/ COST
$756,595/ TBD

KEY FEATURES
Civil Infrastructure Construction

Force Mains

Lift Station Interconnections

Isolation Valve Installation

Plug, Check & Air Release Valve Installation

Roadway Resurfacing & Reconstruction

Signage & Street Markings

Pavement & Swale Restoration

Open Trench Installation

Utility Coordination

Interagency Coordination

PUMP STATION IMPROVEMENTS, REFURBISHMENTS, SCADA & FORCE MAIN VALVE REPLACEMENT

CES Construction is currently performing as the General Contractor for several City of Florida City CIP Civil Infrastructure projects including:

- **Lift Stations 2, 16 and 17:** Complete upgrades of the civil, structural (wet wells and valve vaults), site (grading and security fence), electrical (increase amp capacity and changes to voltage type), and communication (SCADA data flow) systems. Flow meters were installed to assist in determining future required upgrades to the City's sewer grid.
- **Lift Stations 3, 7, 10, 11, 12, 14, 18, 20, 22, 23, 24, 25, 27 and 29:** Installed new water service including meters and backflow preventers.
- **Lift Stations 3, 12, 14, 18, 20 and 24:** Upgraded pump guide rails.
- **Lift Stations 7, 18 and 20:** Replacement of mechanicals to include all existing valves (plug and check) and emergency pump out.
- **Lift Station 7:** Installation of new SCADA data flow communication system.
- **Water Mains:** Installation of large and small diameter water mains throughout the City, including several located in major roadways (US-1 and Krome Avenue).
- **Plug Valves:** Installation of plug valves throughout the entire force main grid. Provided value engineering that was approved by the Engineer of Record for the installation of in suction valves to eliminate interruptions to the force main grid. Several of the valves were located in major roadways (US-1 and Krome Avenue).

The projects included intense coordination with all stakeholders and authorities having jurisdiction, to include the City, the City's Program Manager, Public Works, DERM, FDOT, FPL, and other utilities.





LOCATION

Florida City, FL

CLIENT/POINT OF CONTACT

City of Florida City/Baljet Environmental
Pedro Gonzalez
10661 N Kendall Dr. #218
Miami, FL 33176
305.598.0199
pgonzalez@baljet.com

STATUS

Complete

START

07/2019

COMPLETION

11/2020

BUDGET/ COST

$1,456,756/ $1,456,756

KEY FEATURES

Civil Infrastructure Construction

Lift Stations

Isolation Valve Installation

Water & Force Main Upgrades

SCADA Improvements

Utility Coordination

Interagency Coordination

Roadway Resurfacing & Reconstruction

Signage & Street Markings

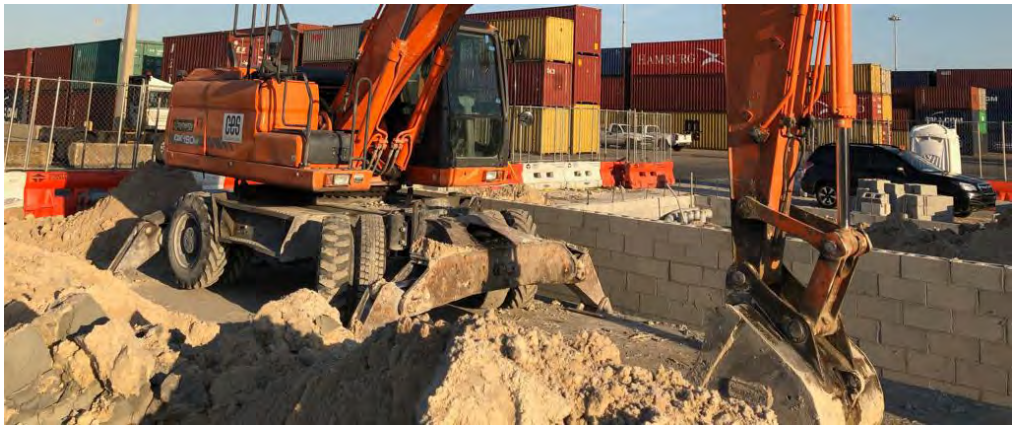
Horizontal Directional Drilling

PORTMIAMI CARGO YARD Ddensification PHASE 1F, FPL VAULTS 3A & 4

CES was the General Contractor for this project as a sub to Odebrecht, involving the construction of infrastructure improvements in the active PortMiami Cargo Yard for the use of Electric Rubber Tire Gantries (eRTG). The constructed improvements included furnishing and installation of concrete runways and turning pads, eRTG high wind/storm tie-downs and associated foundations, pavement, pavement marking and signage, grading and drainage for the runways, and a reefer rack structure and foundations. The project also required the construction of two (2) new Florida Power & Light (FPL) vaults, a ductbank from the FPL substation on the Port to the FPL transformers, electrical connections to the owner-provided bus bars, and supportive ancillary construction and coordination tasks to successfully complete all phases of the project.







LOCATION
Miami, FL

CLIENT/POINT OF CONTACT
PortMiami/ Odebrecht
Alf Neumann
201 Alhambra Circle
Coral Gables, FL 33134
786.367.7606
aneumann@odebrecht.com

STATUS
Completed

START
01/2019

COMPLETION
10/2020

BUDGET/ COST
$1M/ $1M

KEY FEATURES
Civil Infrastructure Construction

Vertical Construction

Permitting

Utility Coordination

Interagency Coordination

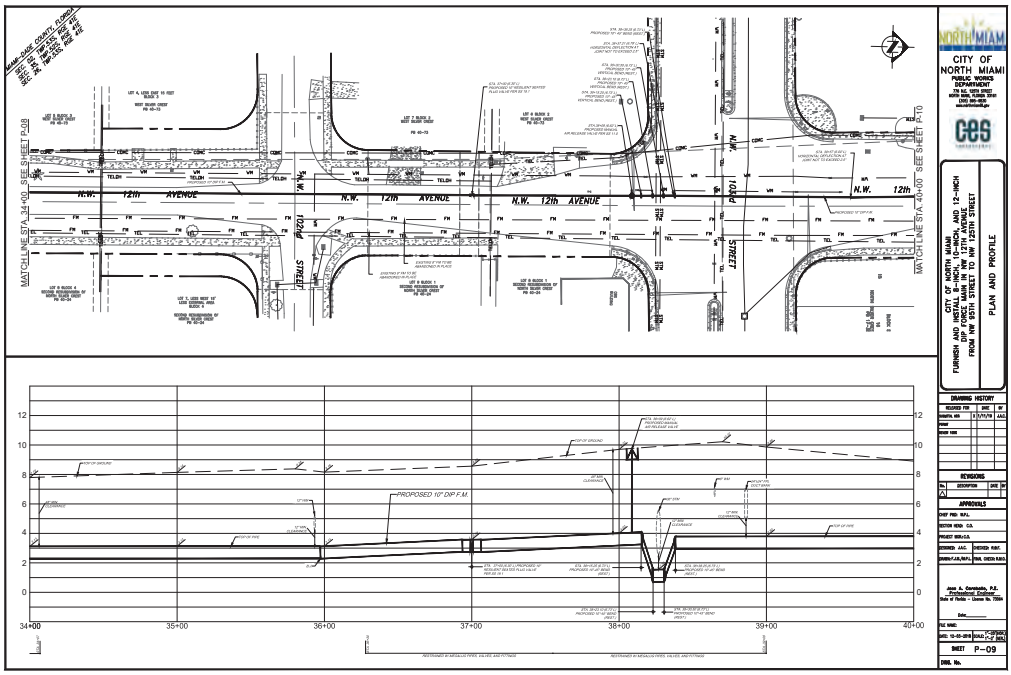
Scheduling & Cost Estimating

NW 12TH AVENUE FORCE MAIN

The City of North Miami retained CES Consultants to prepare a hydraulic model and to provide hydraulic analysis, design, permitting, and construction services for 10,500 LF of 12-inch replacement force main along NW 12th Avenue, extending from NW 95th Street to NW 125th Street. The new pipeline connects to the MDWASD 48-inch force main leading to the North District WWTP.

The project replaces aging asbestos-cement and cast iron force mains with corrosion resistant PVC pipe. Twenty-one private pump station force main connections and two City pump station connections required relocation and reconnection to the new force main, as well as planning for uninterrupted service during construction.

The design comprised one force main with capacity to handle the flows from the two existing force mains and a reserve capacity for future development. The design incorporated plan and profile sheets, soft digs to identify existing utilities with conflicting as-built data, specifications and permits.



LOCATION

North Miami, FL

CLIENT/POINT OF CONTACT

City of North Miami
Chuks Okereke
776 NE 125 Street, 3rd Floor
North Miami, FL 33161
305.895.9838
cokereke@northmiamifl.gov

STATUS

Design Complete

START

2015

COMPLETION

Design: 2016; Re-permitted in 2019

BUDGET/ COST

$3M/ N/A

KEY FEATURES

Force Mains

Roadway Reconstruction

Wastewater Treatment Plant Connection

Pump Station Connections

Maintenance of Operations/ Service

Future Capacity Planning

Interagency Coordination

Permitting

Hydraulic Modeling

Basis of Design Report with Alternatives

Complete Plan & Profile Design

Value Engineering

Preparation of Specifications

Cost Estimating & Scheduling

Soft Digs

D/B WATER MAIN REPLACEMENT & SERVICE CONVERSIONS IN THE SHENANDOAH AREA, PHASE B

The Shenandoah neighborhood is one of the older neighborhoods within the City of Miami, with the water supply for residents primarily provided through 2-inch water mains located within easements to the rear of the properties. The Miami-Dade County Water and Sewer Department (WASD) selected the Lanzo/CES D/B team to replace the water mains with 46,000 LF of 8-inch water mains relocated to the public roadway right-of-way. The project area is bounded by SW 16th Street, SW 22nd Street, SW 17th Avenue and SW 27th Avenue. Additionally, the design-build team relocated the existing water meters from the rear of the properties to the front of the properties and installed new service lines from the water meters to the residences. Over 650 private property water meter conversions from the rear of the property to the front occurred under this project. The project produced the following benefits to the residents:

- Increased water service pressure and flow
- Elimination of water mains within the easement at the rear of the properties
- Relocated water meters within the public right-of-way
- Increased fire hydrant coverage and fire protection

Because this project took place within the public right-of-way, as well as on private property, a thorough and comprehensive community outreach program was critical to its success. CES developed a communication program to provide clear dialogue between the design-build team, residents, public officials, and City of Miami staff. Additionally, CES developed an aggressive project phasing program that allows for a parallel execution of multiple sequential services.

LOCATION
Miami, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department / Lanzo
Miguel Pichardo
3750 NW 87th Ave., Suite 750
Miami, FL 33178
786.268.5170
miguel.pichardo@miamidade.gov

STATUS
Completed

START
04/2015

COMPLETION
04/2018

BUDGET/ COST
$10.4M/ $10.4M

KEY FEATURES
Design-Build

Water Distribution

Service Conversions & Connections

Surveying & Geotechnical Services

Utility Coordination

Roadway Restoration

Engineering Analysis & Design

Scheduling & Cost Estimating

Public Right of Way & Private Property Permitting

Public Outreach

Construction Phase Services

Construction Management / Inspection

Interagency Coordination

D/B REPLACEMENT OF WATER MAIN & SERVICE CONVERSIONS IN "DONUT HOLE" AREA

This project involved the replacement of the existing undersized and deteriorated water mains and existing main loop closures in order to improve system pressure and provide fire flow protection and for water service conversions (transfer of services from the rear to the front of properties and replacement of certain existing old services in front of properties to meet new standard) in the City of Miami Gardens "Donut Hole" service area. The project location is the area bounded by NW 187th Street to the north, NW 179th Street to the south, NW 7th Avenue to the west, and NW 2nd Avenue to the east, including state roads NW 183 Street and NW 2nd Avenue. The project includes the following main elements:

- ±22,450 LF of 8-inch ductile iron water main and pipe fittings
- ±12,060 LF of 12-inch ductile iron water main pipe and fittings
- ±1,050 LF of 6-inch ductile iron water main pipe and fittings
- ±560 water service conversions from rear of property to front of property

The scope also included: all required resilient plug valves and fire hydrant assemblies; tapping connections of various sizes to existing mains including tapping sleeves and valves; in-line water main connections to existing mains of various sizes; air release valve and flushing valve outlet assemblies; milling and resurfacing of existing asphalt pavement; placing existing water mains out of service upon completion of work; traffic control; installation and restoration of pedestrian curb ramps and installation of detectable warning surfaces, temporary and permanent replacement of any utilities, pavement, sidewalk, curb and gutter, valley gutter, traffic circle roundabout, tree, landscaping, sod, pavement markings, and/or driveway damaged by construction and all other appurtenant and miscellaneous items and work for a complete and fully functional installation.

Additionally, the project involved permitting both within the right-of-way and on private property. The right-of-way permits included City of Miami Gardens and Florida Department of Transportation (FDOT) roadways. The D/B Team developed a procedure with WASD to execute the water meter conversion, with considerable time spent analyzing, developing, and testing the mechanism by which the portion of the water meter conversions within private property could be finalized. Extensive public outreach and MOT planning ensured a smooth construction process.

LOCATION

Miami Gardens, FL

CLIENT/POINT OF CONTACT

Miami-Dade County Water & Sewer Department/ Lanzo Miguel Pichardo
3071 SW 38th Avenue
Miami, FL 33146
786.258.2573
miguel.pichardo@miamidade.gov

STATUS

Completed

START

2018

COMPLETION

2020

BUDGET/ COST

$10.4 M/ $9.8M

KEY FEATURES

Civil Engineering Analysis & Design

New Water Distribution System Mains & Service Meter Conversions

Design-Build

Project Fast-Tracking & Phasing

Utility Coordination

Public Right of Way & Private Property Permitting

Interagency Coordination

Construction Administration & Inspections

Roadway Resurfacing & Reconstruction

Maintenance of Traffic (MOT)

Public Outreach

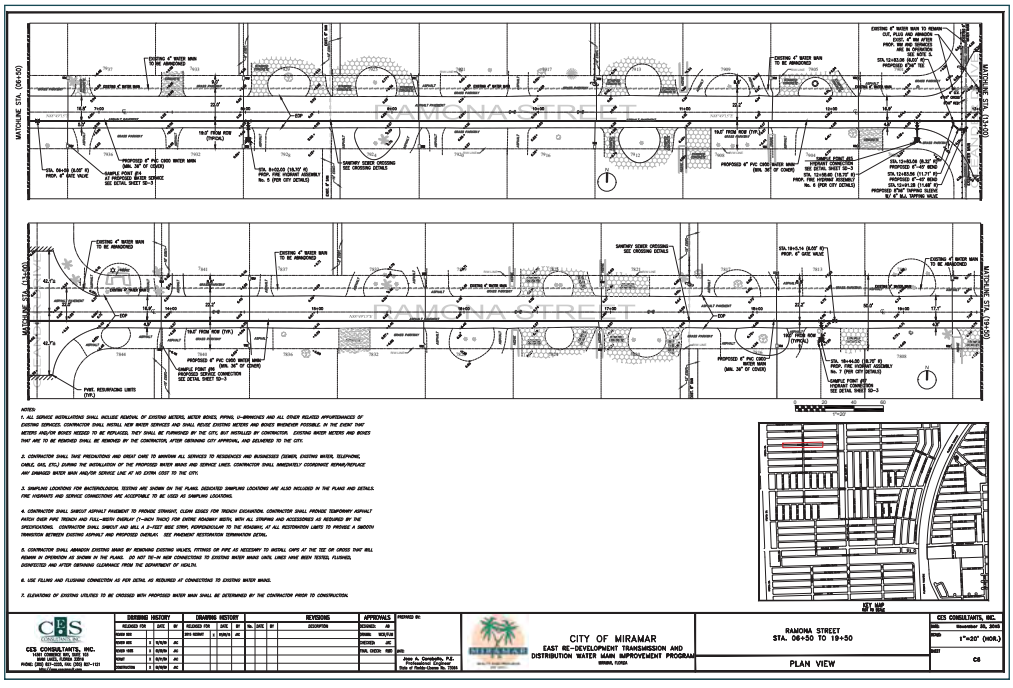
Stakeholder Coordination

Site Restoration

MIRAMAR INFRASTRUCTURE IMPROVEMENTS & SERVICE CONVERSIONS, PHASE III

The Miramar Infrastructure Improvements and Service Conversions, Phase III project involved the design and construction oversight of over 72,000 LF of residential water main, including a 100 LF horizontal directional drilling operation. The design included a new 6-inch PVC and DIP water main, new water services, new water meter boxes and service connections, and complete roadway restoration. The roadway restoration includes a full depth trench restoration, edge of pavement to edge of pavement milling, and a final overlay, and complete striping for each street.

During our design effort, we realized that the City lacked accurate and complete as-builts for the sanitary sewer system. As part of our effort, we provided all sanitary sewer details to the City GIS department to allow them to update their utility records.



LOCATION

Miramar, FL

CLIENT/POINT OF CONTACT

City of Miramar
Robin Bain, PE (Former Asst. Utilities Director)
13900 Pembroke Road
Miramar, FL 33027
623.217.7202
rbain.reclaim@gmail.com

STATUS

Complete

START

2015

COMPLETION

2020

BUDGET/ COST

$8M/ $6M

KEY FEATURES

Civil Engineering Analysis & Design

New Water Distribution System Mains

New Water Meter Boxes

As-Built Drawings

Utility Coordination/ Permitting

Interagency Coordination

Construction Phase Engineering & Inspection Services

Horizontal Directional Drilling

Construction Contract Administration

Construction Submittal Review

Roadway Resurfacing & Reconstruction

Signage & Street Markings

EAST MIRAMAR INFRASTRUCTURE IMPROVEMENTS, PHASE I

The City of Miramar is ranked among the top ten fastest-growing cities in the United States. This growth necessitated implementing major infrastructure improvements in the eastern section of the City, which is over 50 years old. The project area perimeter included Miramar Parkway on the north, State Road 7 on the east, County Line Road on the south, and SW 64th Avenue on the west, all of which encompassed a total of 52 roadway segments. Approximately five miles of gravity sewer and approximately five miles of water mains were upgraded to 6- and 8-inch DIP and constructed throughout the area. The commensurate increase in wastewater flows also warranted the **upgrade of a local wastewater pump station. The pump station received new pumps, a new wet well, and an updated electrical panel.** CES provided engineering design services and construction engineering and inspection services during the construction and installation of the following:

- New water distribution mains
- Construction of sanitary sewers
- Installation of drainage
- New sidewalk construction including ADA compliance
- Pump station construction
- Roadway resurfacing and reconstruction
- Signage and street markings

LOCATION
Miramar, FL

CLIENT/POINT OF CONTACT
City of Miramar/ PBS&J
Roberto S. Ortiz, PE
2001 NW 107th Avenue
Miami, Florida 33172
305.704.4429
rortiz@carollo.com

STATUS
Completed

START
2006

COMPLETION
2009

BUDGET/ COST
$12M/ $12M

KEY FEATURES
Construction Phase Engineering & Inspection Services

Civil Engineering Analysis & Design

Public Involvement

Utility Coordination

Permitting & Interagency Coordination

Site Restoration

Construction Contract Administration & Construction Submittal Review

As-Built Drawings

Stakeholder Coordination

Enforcement of Contract Terms & Conditions

Permit Compliance

Force Mains & Lift/Pump Station Design

Drainage & Storm Sewer

WATER & SANITARY SEWER SYSTEM IMPROVEMENTS & SERVICE CONVERSIONS FOR UAZS

CES is a key team member on this project providing design and construction administration services for the water and sanitary sewer improvements within the Broward County Water and Sanitary Sewer System Utility Analysis Zones (UAZs) 110/111 and 113. The improvements of both UAZ 110 and UAZ 111 areas include:

- Replacement of all gravity sewer pipe, manholes and laterals
- Replacement of a portion of the force main pipe between Lift Station 50K and 50K2
- Service conversions and connection of parcels with septic tanks to gravity sewer system
- Replacement of water mains, water service conversions and fire hydrants
- Installation of new and/or upsizing water mains to maintain proper hydraulics as defined by the County
- Installation of additional fire hydrants to provide proper coverage

In total, the project includes the replacement of 135,000 LF of Gravity Sewer/Force Main and 152,000 LF of Water Main, as well as water distribution system design and sanitary sewer system design for Utility Analysis Zone 113B in the City of Lauderdale Lakes. CES provided information for utility conflict adjustments and prepared specifications for the construction of improvements.

CES also provided utility easement procurement services. Under the existing system configuration, BCWWS was unable to access existing sanitary sewer infrastructure for maintenance and/or repair purposes. Five (5) Letters of No Objection were signed by property owners to obtain 25' utility easement grants and to facilitate the installation/ maintenance of the required sanitary sewer improvements by the County. The effort included coordination with property owners and associations, as well as Esri ArcGIS mapping and utility easement figure development.

LOCATION

Broward County, FL

CLIENT/POINT OF CONTACT

Broward County WWS/ Chen Moore and Associates
Safiya T. Brea
500 W Cypress Creek Rd., #630
Fort Lauderdale, FL 33309
954.730.0101
sbrea@chenmoore.com

STATUS

Construction

START

2016

COMPLETION

Ongoing

BUDGET/ COST

$25M/ TBD

KEY FEATURES

Civil Engineering Design

Construction Phase Engineering & Inspection Services

Water & Septic Service Conversions

Gravity Sewer Pipe, Manholes & Laterals

Force Main Replacement & Lift Station Connections

Septic Tank Connections to Gravity Sewer System

Water Main Upsizing & Replacement

Fire Hydrants

Utility Easement Grants

Esri ArcGIS Mapping

QA/QC

Constructability Review

MDWASD OCEAN OUTFALL LEGISLATION (OOL) PROGRAM

The 11-year Ocean Outfall Legislation (OOL) Program started in 2014 and is the culmination of a regulatory mandate by the Florida Legislature to stop all wastewater discharge to the ocean by 2025. This program will eliminate wastewater from being discharged to ocean and boost the local economy by creating new jobs. The objective is to reverse the County's wastewater system flows away from the ocean outfalls and reroute flows to a new membrane bioreactor treatment plant. The plant, when complete, will be one of the largest of its kind in the world—capable of treating more than 100 million gallons of wastewater each day and injecting the treated water into deep wells. The OOL Program is one component of the Miami Dade Water and Sewer Department's comprehensive Capital Improvement Plan for numerous water and wastewater infrastructure projects. The projects are critical for the County to meet the service needs of its customers, accommodate future growth, as well as comply with Federal and State and local regulations.

CES is providing Program Management, Construction Management and Program Controls Support Services on this Miami-Dade County Water and Sewer Department's $3.3 billion OOL Program, as part of the Jacobs Team. CES support services include assisting the Jacobs Team with managing the overall delivery of a comprehensive, technically sound, long-term program that encompasses the design, procurement, construction, and commissioning of projects under the OOL program.

CES Program Management Support and Project Management Services also include Program Controls and Technical Support on the following Task Orders:

- Multiple Lift Station Evaluations & Design
- West District WWTP Conceptual Design
- NDWWTP Effluent Pumps
- NDWWTP Peak Flow CDR
- NDWWTP High-Level Disinfection System & Peak Flow
- NDWWTP Conveyance
- Design Project Management Support Services

LOCATION
Miami-Dade County, FL

CLIENT/POINT OF CONTACT
Miami Dade County Water & Sewer Department/ Jacobs (formerly CH2M Hill)
Evelio Agustin
3750 NW 87th Ave., Suite 750
Miami, FL 33178
786.507.5927
Evelio.Agustin@jacobs.com

STATUS
Ongoing

START
2014

COMPLETION
Est. 2025

BUDGET/ COST
$3.3B Program/ TBD

KEY FEATURES
Civil Engineering Analysis & Design

Large Diameter Pipeline

Lift Station Evaluation & Design

Program Management Support

Project Management

Construction Phase Engineering & Inspection Services

Construction Management Support

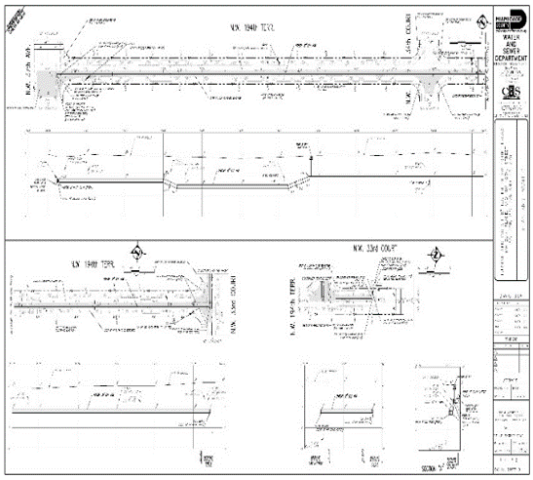
Program Controls Support

Wastewater

Permitting & Interagency Coordination

Scheduling & Cost Estimating

MDWASD WASTEWATER FORCE MAINS



The Miami-Dade County Water and Sewer Department (WASD) developed and implemented the wastewater asbestos-cement force main pipe replacement program to upgrade force mains throughout the County. The project was located in residential areas that had failing asbestos-cement force mains that were prone to frequent failure.

The project's system upgrades improved wastewater operational reliability and increased service performance. CES was tasked to design several force main improvement projects for this county-wide program. The individual projects in this contract included the design of special interior coated (PVC) 8-inch ductile iron pipe force mains and demolition of asbestos-cement that is a hazardous material requiring special handling when cutting the pipe.

CES provided design, permitting, assistance during bidding and construction services for over 23,000 LF of new force main replacement including:

- 16,600 LF of 8-inch, 1,970 LF of 10-inch, and 4,715 LF of 12-inch PVC Lined Ductile Iron Pipe
- Projects located in dense residential areas within Miami-Dade County
- The 8-inch force main along Country Walk Drive

LOCATION

Miami-Dade County, FL

CLIENT/POINT OF CONTACT

Miami-Dade County Water and Sewer Department
Reynaldo Abreu
3750 NW 87th Ave., Suite 750
Miami, FL 33178
786.552.8161
reynaldo.abreu@miamidade.gov

STATUS

Complete

START

2012

COMPLETION

Multiple; All Complete by 2015

BUDGET/ COST

$2.9M/ $2.9M

KEY FEATURES

Civil Engineering Analysis & Design

Construction Contract Administration

Construction Submittal Review

Force Mains

Roadway Reconstruction

Hazardous Material Mitigation

Pump Station Connections

Maintenance of Operations/ Service

Future Capacity Planning & Coordination

Utility Coordination

Permitting

Soft Dig Coordination

Interagency Coordination

Cost Estimating & Scheduling

SDWWTP HIGH LEVEL DISINFECTION UPGRADE

CES provided **Construction Project Management** services for Miami-Dade County's $600M High-Level Disinfection (HLD) Water Reclamation Treatment Plant at the South District Wastewater Treatment Plant (SDWWTP). CES also provided **Construction Inspection and Construction Administration services** on this regulatory driven wastewater collection and transmission system project and was responsible for overseeing the installation of:

- 1,500 LF of 120" Reinforced Concrete Pipe for treated wastewater
- 3,000 LF of 96" Reinforced Concrete Pipe for treated wastewater
- 5,000 LF of 36" Ductile Iron Pipe for treated wastewater
- 2,000 LF of 24" Ductile Iron Pipe for treated wastewater

CES staff were key contributing members overseeing and managing the construction effort for the completion of all 14 separate projects that composed the HLD project.

Considered a precursor to the Water Reclamation Project, Miami-Dade County's HLD Plant produces highly treated wastewater that subsequently goes through the water reclamation process of microfiltration, reverse osmosis, hydrogen peroxide addition, and ultraviolet disinfection. As part of MDWASD's Wastewater Master Plan, this project allows the County to reduce the amount of water to be treated as potable water by about 60 million gallons daily (MGD). Increasing the peak flow capacity of the SDWWTP by 27%, from 225 MGD to 285 MGD, also allows more wastewater to be pumped to the plant during rain events, recharges the Biscayne aquifer, and reduces the energy consumption required for treatment.

All treated wastewater coming from the existing secondary treatment plant is filtered and disinfected to ensure Miami-Dade County complies with all Florida Department of Environmental Protection (FDEP) requirements. The completed project allows Miami-Dade County to meet specific FDEP and U.S. Environmental Protection Agency requirements for the high-level disinfection of wastewater prior to its disposal into deep injection wells.

LOCATION

Miami, FL

CLIENT/POINT OF CONTACT

Miami-Dade Water & Sewer Department/ AECOM
Roger Williams, PE
3750 NW 87th Avenue
Miami, FL 33178
305.592.4800
roger.f.williams@aecom.com

STATUS

Complete

START

02/2008

COMPLETION

06/2014

BUDGET/ COST

$600M Program/ $600M

KEY FEATURES

Construction Project Management Services

Utility Coordination

Civil Engineering Analysis & Design

Large Diameter Pipeline

Permitting & Interagency Coordination

Scheduling & Cost Estimating

Site Restoration

Construction Submittal Review

Permit Compliance

Stormwater & Surface Water Management System Infrastructure Facilities

Reduction of Energy Use

Site Development

Transportation/Roadway Construction

Water & Wastewater Systems Infrastructure

WEST AVENUE NORTH & SOUTH D/B NEIGHBORHOOD UTILITY & RESILIENCY IMPROVEMENTS

In its continuing efforts to address sea level rise, the City of Miami Beach (CMB) awarded the RMCF/CES Consultants D/B team with two design/build contracts for neighborhood improvements throughout the West Avenue North and South Corridors. Rising seas, high groundwater, king tides, wind and deteriorating infrastructure have contributed to frequent flooding of CMB facilities, residences and business properties in the West Avenue Basin. The resiliency and sustainability project will provide the community with increased protection from flooding during storm events and high seasonal tides and a higher level of service for their infrastructure.

CES is the Project Manager, Lead Project Consultant/ Designer and Engineer of Record for the scope of work, which includes the design and construction of the complete public underground utilities of water transmission/distribution system, sanitary sewer collection system, and stormwater drainage system, including the verification and development of a stormwater model and a new 120,000 GPM master stormwater pump station, and the design, vertical rehabilitation, harmonization and ultimate construction of 1.2 miles of total roadway, sidewalks, landscaping and related infrastructure, including water meter service conversions from the rear of private properties to new water lines and connections in the right-of-way, in the projects' corridor. CES is also responsible for the pedestrian friendly "Complete Street" redesign, as well as incorporation of the findings of the 100 Resilient Cities Workshop, which includes raising the existing grade of the roadway by approximately 30 inches while providing drainage capacity for a 10-year storm event level of service with no structure flooding, a revised typical section that incorporates a pedestrian/bicyclist-friendly corridor, public/private property harmonization, new traffic signals, street lighting, and landscaping.

The North project includes the design of a "Bay Walk," for pedestrians, which extends into Biscayne Bay at the west end of the Lincoln Road Corridor and proposed stormwater pump station.

The South project includes the design and harmonization of the main commercial/high-rise condo area which required greater focus on pedestrian access, landscaping and a modified roadway cross-section from 8th to 14th Streets for bicycle traffic.

CES coordinated with the CMB, Ric-Man Construction Florida and the public/ residents via the PIO and managed and

LOCATION
Miami Beach, FL

CLIENT/POINT OF CONTACT
City of Miami Beach/ Ric-man Construction Florida
Jorge Rodriguez
1701 Meridian Ave, 3rd Floor
Miami Beach, FL 33139
305.673.7071
jorgerodriguez@miamibeachfl.gov

STATUS
Ongoing

START
2017

COMPLETION
Ongoing

BUDGET/ COST
$72M/ $100M+ Total
Budget was increased due to added scope.

KEY FEATURES
Design-Build

Water Transmission/ Distribution System

Sanitary Sewer Collection System

Urban Pump Stations, Stormwater & Drainage

Utility Relocation

Roadway Restoration

Streetscapes/Complete Streets Design

Property Harmonization with Artist's Renderings for Each Property

Water Meter Service Conversions

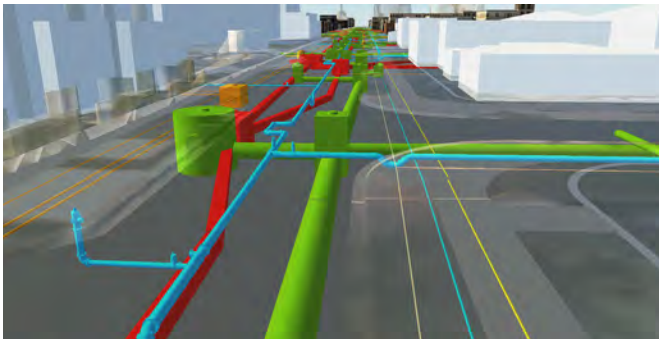
SUE/Utility Coordination

MOT & Signalization

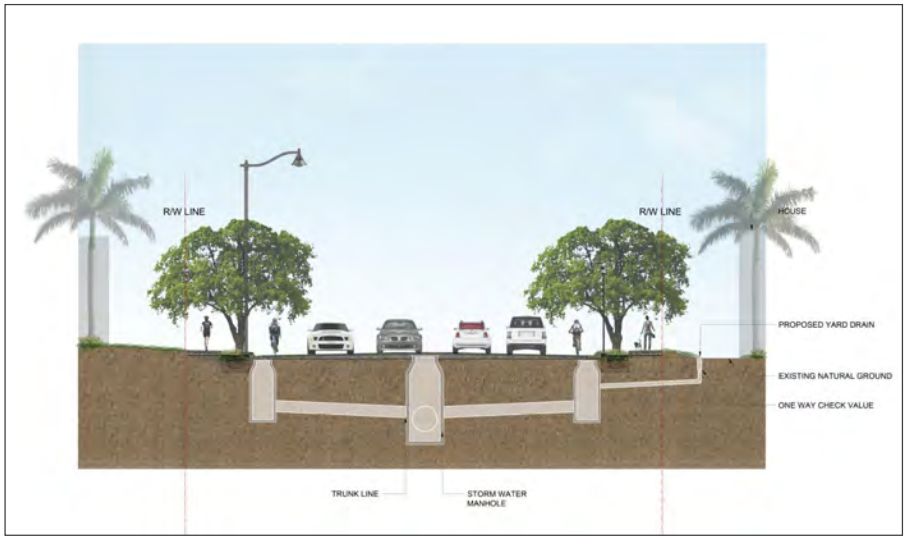
interfaced with 10 subconsultants in a variety of disciplines throughout the project development and design, project resiliency improvements, and into permitting and construction. In a collaborative effort, CES directed, held or attended bi-weekly design, utility and project meetings with CMB staff and project team/contractor members. CES also developed, coordinated and attended multiple public meetings and prepared presentations for CMB review/use, supporting resident interface. The team also participated in the 100 Resilient Cities Workshop and incorporated design changes and improvements to the project as a result of the workshop. The CES Team utilized an Urban Forester/Arborist to identify and evaluate the existing tree canopy and its viability both within and adjacent to ROW to save/maintain as much of the existing "green" infrastructure as possible.

The CES Team identified and reviewed encroachments and optional design considerations to resolve conflicts, preparing Harmonization Plans for 192 properties (137 North/55 South), with each property set including a Site Plan, Landscape Plan and 3D Perspective Rendering, specific to each property. CES also reviewed and evaluated seven existing CMB and FDOT stormwater pump stations (three North/four South) that impact or integrate with the project for Emergency Generator locations and connections, including supplemental survey and site investigations. These new Generators will allow CMB to improve and maintain stormwater disposal to reduce/minimize flooding as part of the resiliency effort.

CES coordinated with 12 different utilities along the project ROW to identify existing utility locations, potential conflicts and options/opportunities for facility relocation or adjustments. The project also involved the creation, development and maintenance of a Master Utility Plan to develop designs that incorporated or remediated affected utilities. By utilizing Civil 3D Software, CES created a 3D Model and Interactive Video of the existing and proposed utilities to represent location and subsurface conditions to minimize conflicts and to improve utility allocations and corridors.

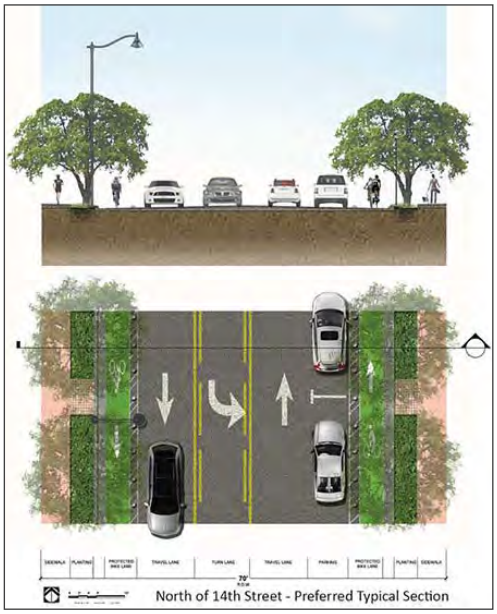


Stormwater Drainage System Improvements and Rehabilitation: CES performed a review and evaluation of two existing hydraulic models and developed an updated Stormwater and Hydraulic Model of the West Ave Project Basin that included the impacts of the City's 600-acre Basin, from the project east to the Atlantic Ocean. The project was modeled using ICPR4 and included upsizing and design of all drainage lines, curb inlets and yard piping followed by significant upsizing and modifications of the proposed pump stations. CES created the stormwater model and developed a pre vs. post scenario, along with three alternative stormwater models. The model considered the proposed roadway elevation and the actual finish floors of each existing structure. A hydraulic grade line was developed and maintained at one foot below the lowest finish floor elevation. The results of this model are being used in the complete design of the stormwater system for both the North and South projects.



THE WEST AVENUE NORTH CORRIDOR PROJECT INCLUDED:

Water Distribution and Transmission System: The North project includes replacement of the existing water main distribution and transmission system, to include 1,150 LF of 6-inch fire service lines, 7,350 LF of 12-inch distribution main, and 3,000 LF of 20-inch transmission main. New service connections, water meters, fire hydrants, and irrigation lines will be installed. The new water distribution/transmission system will be installed along West Avenue between 14th Street and Lincoln Road, along Bay Road between Flamingo Way and the Collins Canal, and along 14th Terrace to Lincoln Road between West Avenue and Alton Road. The existing water mains are being decommissioned.

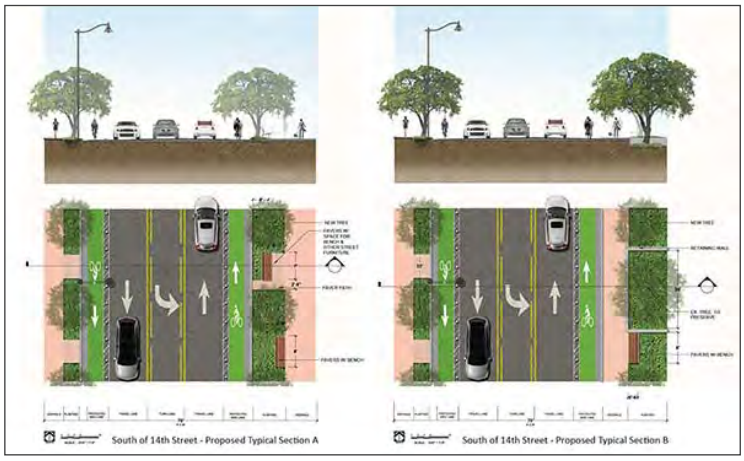


Sanitary Sewer Collection System: The North project includes rehabilitation and/or replacement-in-kind of the existing sanitary sewer collection system and adjustments to slopes and manholes to improve the existing system. The design includes the replacement of 5,400 LF of pipe of varying sizes (12-inch, 15-inch, 16-inch, and 18-inch) and 32 manholes.

Stormwater Drainage System Improvements and Rehabilitation: The North project includes replacement and upsizing of the existing stormwater drainage system. The following will be installed as part of the project: 3,600 LF of 24-inch RCP drainage, 2,100 LF of 48-inch RCP drainage, 800 LF of 60-inch RCP drainage, 2,300 LF of 72-inch RCP drainage, 400 LF of 84-inch RCP drainage, and 300 LF of 96-inch RCP drainage, with equivalent sized box culvert materials considered as an alternate. Additionally, a new 120,000 GPM stormwater pump station, including water quality treatment units and a specialized dissipator discharge structure, will be installed on the west end of Lincoln Road.

THE WEST AVENUE SOUTH CORRIDOR PROJECT INCLUDED:

Water Distribution and Transmission System: The South project includes replacement of the existing water main distribution and transmission system. The following will be installed as part of the project: 980 LF of 6-inch fire service lines, 3,900 LF of 12-inch distribution main, and 2,400 LF of 20-inch transmission main. New service connections, water meters, fire hydrants, and irrigation lines will be installed. The new water distribution/transmission system will be installed along West Avenue, between 8th and 14th Streets, and along 8th Street to 14th Street between West Avenue and Alton Road. The existing water mains are being decommissioned.



Sanitary Sewer Collection System: The South project includes rehabilitation and/or replacement-in-kind of the existing sanitary sewer collection system and adjustments to slopes and manholes to improve the existing system. The design includes the replacement of 3,350 LF of pipe of varying sizes (12-inch, 15-inch, 16-inch, and 18-inch) and 30 maintenance access structures.

Stormwater Drainage System Improvements and Rehabilitation: The South project includes replacement and upsizing of the existing stormwater drainage system and includes 2,055 LF of 24-inch RCP drainage, 30 LF of 30-inch RCP drainage, 870 LF of 48-inch RCP drainage, and 1,700 LF of 60-inch RCP drainage, with equivalent sized box culvert materials considered as an alternate.

CPM/CEI SERVICES FOR FLL EXPANSION OF RUNWAY 9R-27L

CES provided **construction project management, construction engineering inspection, risk management, and claims avoidance and resolution services** for the Fort Lauderdale-Hollywood International Airport (FLL) Runway 9R-27L Expansion Project under a multi-part construction project management contract. The expansion of Runway 9R-27L was critical not only to the airport's long-range program but also to the overall air traffic system in the United States. This $800M+ project expanded the south runway to 8,000' and widened it by 50' for a total width of 150'. The runway's designation changed from 9R-27L to 10R-28L.

CPM services included the following major components: WP 302 Site Preparation and NAVAIDS Structures (Runway Earthwork Project) and WP303 US-1/FEC Railroad and Bridge Structures. The work included: permitting; safety and security operations, AOA, and landside work; earthwork hauling and delivery operations; QA/QC; equipment mobilizations; and east/west project site operations to include establishing survey controls, working with existing utility locations, setting up clearing and grubbing limits, conducting test borings for soil improvements, installing silt fences and turbidity barriers, performing clearing and grubbing operations, removing pavement markings, performing grinding and rejuvenation, and rerouting and removing airfield lights and signs. The individual projects included:

WP302: Site Preparation and NAVAIDS Infrastructure:

- Awarded to Odebrecht-CFE Joint Venture (OCJV); approved by County Board of Commissioners April 30, 2012.
- Original Contract Amount $225,914,660.78
- Final Contract Amount: Approximately $234 Million
- Proposed Change Orders and Claims were resolved, including a Global Settlement, without reference to the Dispute Avoidance Panel (DAP)
- Contract is closed and Warranty periods have ended.

WP303: Design Build Services for US-1/FEC RR Structures:

- Awarded to Tutor Perini Fort Lauderdale Hollywood Venture (TPFLHV)
- Notice to Proceed (NTP) date: November 2, 2011
- Substantial Completion Date: January 28, 2015
- There were a number of disputes referred to the DAP, with several Formal Hearings and an Informal Hearing. A final Settlement Agreement was executed and approved by the County Board of Commissioners. The primary one year Warranty has ended except for remaining Warranty issues for parts of the Fire Detection System. The five year Warranty period for the Bridge Structures and related elements will be in effect until 2021.

WP304/305: Runway, Crossfield Taxiways & Holdpad Paving, Lighting & Signage:

- Awarded to Archer Western Construction, LLC (AWC)
- Original Contract Amount: $87,697,296.00
- Notice to Proceed (NTP) date: July 5, 2013
- Substantial and Final Completion Date: July 19, 2016

LOCATION

Ft. Lauderdale-Hollywood International Airport

CLIENT/POINT OF CONTACT

Broward County Aviation Department/ Parsons
7600 Corporate Center Dr., Suite 104
Miami, FL 33126
Jeffrey Kyser, PE
305.219.1045
jeff.kyser@parsons.com

STATUS

Complete

START

2011

COMPLETION

03.2017

BUDGET/ COST

$850M/ $826M

KEY FEATURES

Construction Engineering Inspection Services (CEI)

Construction Project Management

Transportation/Roadway Construction

Water & Wastewater Systems Infrastructure

Stormwater & Surface Water Management System Infrastructure

Risk Management & Claims Avoidance/Resolution Services & Contract Administration

Permitting

Safety & Security Operations for AOA & Landside Work

Earthwork Hauling & Delivery Operations

» AWC requested a DAP Formal Hearing for 11 issues. The total amount claimed by AWC in the DAP Hearing for the 11 Issues is $10,588,165.14. The DAP Written Recommendations indicated two of the 11 disputed Issues have No Merit for Entitlement, but indicated the other nine Issues should be presented to the DAP for a Quantum Hearing. The County has requested that the DAP reconsider the nine Issues recommended to have Merit for Entitlement. The DAP delivered a Written Reconsideration in March 2017.

WP312: Landscaping:

» Awarded to Arazosa Brothers Company (ABC)
» This Project was completed and has no known Claims which would involve the DAP.

CES was also responsible for **construction document enforcement and reporting** throughout the life of the entire project and provided **claims avoidance/resolution services and contract administration** in support of the prime consultant, key components in the successful completion of the project.

Specialized Services Included:

» Programmed the sequence of projects, project scope verification, project design development, development and management of the CIP master schedule, task schedules, and budget/cost oversight of project elements;
» Project management, tracking and reporting of contracts and projects status; daily inspections and logs; and document daily progress and quality of construction work;
» Provided strategic day-to-day oversight and direction for the CIP and specific projects;
» Identified projects and propose mitigation and solutions;
» Prepared and maintained a Program Management Plan;
» Provided cost estimates and schedule of values;
» Assisted with developing contract language and contract negotiations;
» Assisted with plan review function and any Interagency Memorandums of Understanding;
» Coordinated with consultants for cost estimating and review schedule of values of projects;
» Coordinated with other contracted design professionals and consultants and provided support functions not limited to deliverables, review of service orders/ invoices, change orders, change order management and commissioning;
» Produced monthly progress reports;
» Worked with client to establish and implement a physical and electronic central documents library and document management system;
» Conducted value engineering;
» Coordinated permits requirements reviews with regulatory agencies and other authorities having jurisdiction;
» Reviewed project verification and design documents, conducted constructability reviews, reviewed construction documents and provided bid phase services, including legal review coordination, bid tabulations and submittals review;
» Oversaw and supported the design and construction phases, prepared modifications and updates to standards and conduct claim analysis;
» Provided construction managers, construction coordinators, construction engineers, commissioning and start-up specialists, inspectors, safety officers and other support personnel for the successful execution of the projects and program; and,
» Processed and recommended approval of progress payments including allowance account and change orders.

QA/QC

Equipment Mobilizations

East/West Project Site Operations to Include Establishing Survey Controls

Working with Existing Utility Locations

Site Development

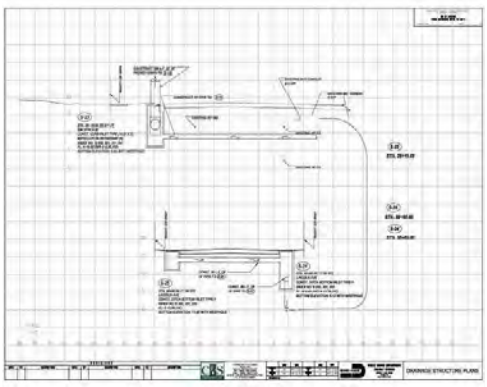
CEI for Roadways, Stormwater/ Drainage Infrastructure

SW 27TH AVE. DRAINAGE IMPROVEMENTS, ROADWAY RECONSTRUCTION & WIDENING

CES provided hydraulic analysis and engineering design for a closed stormwater management system and roadway reconstruction of approximately 0.75 mile along SW 27th Avenue from US-1 to South Bayshore Drive. The purpose of the project was to provide drainage and traffic improvements through roadway widening, median installations, redesign of intersections, and improvements to drainage, parking, lighting, signalization and landscaping in the Coconut Grove neighborhood of the City of Miami. The land use is a combination of residential and commercial. Since the roadway is part of an older, well established neighborhood, many different utilities are installed within the right of way. The project corridor includes a 30-inch water main, smaller water mains, gas, multiple fiber-optic cable duct banks, sanitary sewers and force mains, requiring extensive utility and interagency coordination. Other complicating factors in the design were the elevations, which included low grades and a high groundwater table at the southern end of the project directly adjacent to Biscayne Bay, higher elevations in the mid-section, and "normal" elevations around the northern end.

The final cross-section of the roadway included additional vehicular travel lanes, sidewalk, curbing, drainage, on-street parking, a bicycle lane, and a traffic calming circle. The design required a clean transition through planned driveway and property harmonization between the new roadway and the existing private property ingress and egress to match the new roadway elevation, width and contours. Additionally, the project required intensive utility coordination to execute the necessary utility relocations, including coordinating with FPL to remove the existing power poles and install all their assets below ground.

The stormwater drainage design was developed in accordance with the guidelines set forth by the County and the Florida Department of Transportation. The design consists of approximately 70 drainage structures to capture and convey all the stormwater, 3,000 LF of piping and 2,000 LF of French drains divided into eight (8) independent, closed systems. By creating independent systems, CES was able to develop a design that satisfied the project requirements while achieving significant cost savings to the client compared to their customary approach of creating interdependent systems.



LOCATION
Miami, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Public Works Department
Hector Aleman, PE
111 Northwest 1st Street
Miami, FL 33128
786.315.2715 / 305.375.4866
alemanh@miamidade.gov

STATUS
Completed

START
2009

COMPLETION
2016

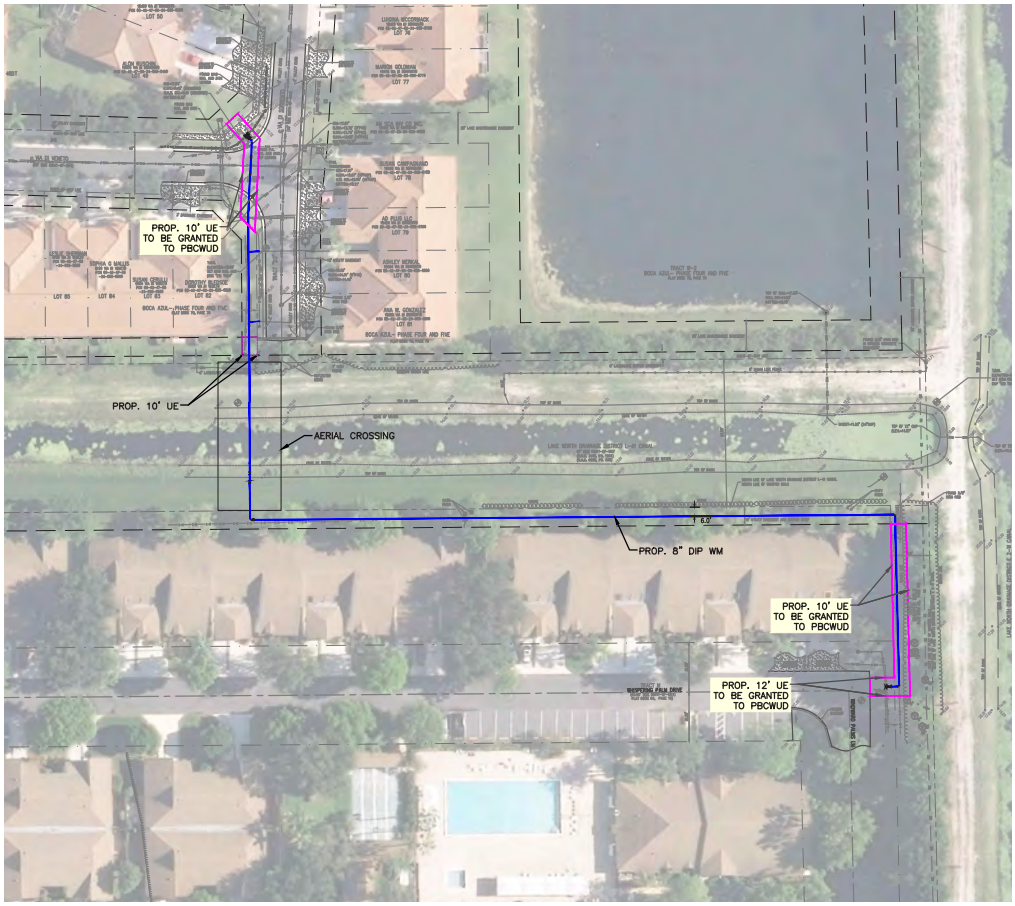
BUDGET/ COST
$5.7M/ $5.7M

KEY FEATURES
Drainage Design
Hydraulic Analysis
Permitting
Interagency Coordination
Traffic Calming
Bike Lanes
Driveway Harmonization
Utility Coordination
Roadway Reconstruction
Value Engineering
Engineering Analysis
Roadways
Water and Sewer

PBCWUD WATER MAIN REHABILITATION & LOOPING PROJECT, PHASE 1

The PBCWUD Water Main Rehabilitation and Looping project to rehabilitate various water mains involved 16,000 LF of pipelines of varying sizes from 4" to 12" including DIP, PVC and HDPE at 19 locations across Palm Beach County. Installation of the new segments of waterline and new interconnections improved system capacity and hydraulic efficiencies, eliminated dead-ends, and reduced water retention time, resulting in improved water quality. Directional Drilling was designed for critical areas such as major intersections and tree lined corridors.

CES Consultants, as lead designer, conducted design team meetings; presented and recorded progress meetings; set up site visits; reviewed and researched existing data; coordinated with utilities; coordinated with other County projects; managed the Survey, Geotechnical and Utility Location subconsultant activities; and led the design team through the 30, 60, 90 and 100% submittal phases, permitting documents, and bidding and construction phase services.



LOCATION

Palm Beach County, FL

CLIENT/POINT OF CONTACT

Palm Beach County Water Utilities Department
9045 Jog Road, Boynton Beach, Florida 33472
Ralph Estime, EI
561.493.6144
DEstime@pbcwater.com

STATUS

Completed

START

2018

COMPLETION

2019

BUDGET/ COST

$2.9M/ $2.9M

KEY FEATURES

Civil Engineering Analysis & Design

Mechanical Engineering

Surveying & Geotechnical Services

Water Mains & New Interconnections

Improved System Capacity & Hydraulic Efficiencies

Improved Water Quality

Permitting & Interagency Coordination

Utility Coordination

Directional Drill

SUE/Utility Coordination

Public Involvement

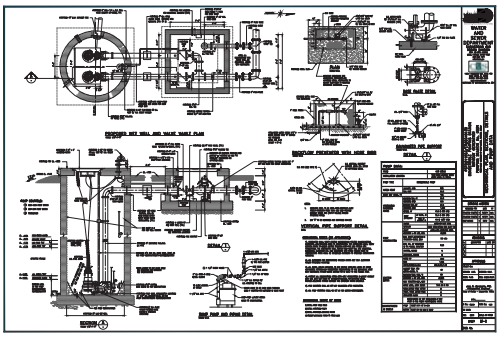
Roadway Restoration

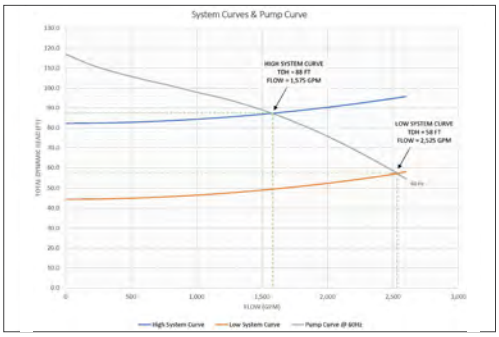
Sidewalks & Curbing

MDWASD PUMP STATION IMPROVEMENT PROGRAM (PHASE II)

The Miami-Dade County Water and Sewer Department (WASD), in an effort to comply with the 2013 Consent Decree and improve operation its wastewater collection system to achieve compliance, established the Pump Station Improvement Program. Under this program, WASD will repair or replace over 140 existing and non-compliant wastewater pump stations. The improvements vary from pump upgrades to complete pump station and force main upgrades.

CES is providing the inspection/evaluation, analysis and design for more than 35 sanitary sewer lift stations ranging from 20 HP to 60 HP and associated force mains. Our team is providing full design services, which includes surveying, geotechnical engineering, civil engineering, mechanical engineering, structural engineering, and electrical engineering. The main complexities of these projects and designs are the accelerated schedules required to meet the Consent Decree schedules. The aggressive schedule requires efficient project management and effective project controls. Some of the projects included in the PSIP Task Orders are:





» **Design of Pump Station No. 609:** Analyzed and designed the upgrades to PS 609. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. With this data, it was concluded that this station required resurfacing and recoating the inside of the existing wet well, new 40 HP pumps, and a new motor connection box.

» **Design of Pump Station No. 449:** Analyzed and designed the upgrades to PS 449. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The data indicated that this pump station had undersized pumps, wet well, discharge piping and valve vault. The design included a new 8-foot diameter wet well, a new valve vault, new 21.5 HP pumps, new 10-inch discharge piping, a new electrical panel, 250 LF of 10-inch force main, and a complete civil site redesign to optimize use of the limited space.

LOCATION

Miami-Dade County, FL

CLIENT/POINT OF CONTACT

Miami-Dade County Water & Sewer Dept.
Reinaldo J. Rivera, PE
3071 SW 38th Avenue
Miami, FL 33146
305.903.5024
Reinaldo.Rivera@miamidade.gov

STATUS

Ongoing

START

2017

COMPLETION

Multiple; Contract is Ongoing

BUDGET/ COST

$27M+/ TBD

KEY FEATURES

Lift/Pump Stations. Force Mains & Sanitary Sewer Collection System

Utility Relocation

Inspection/Evaluation & Analysis

Sidewalk/Curbing

SUE/Utility Coordination

Public Involvement

Landscaping

Interagency Coordination

Consent Decree Program & Accelerated Schedules

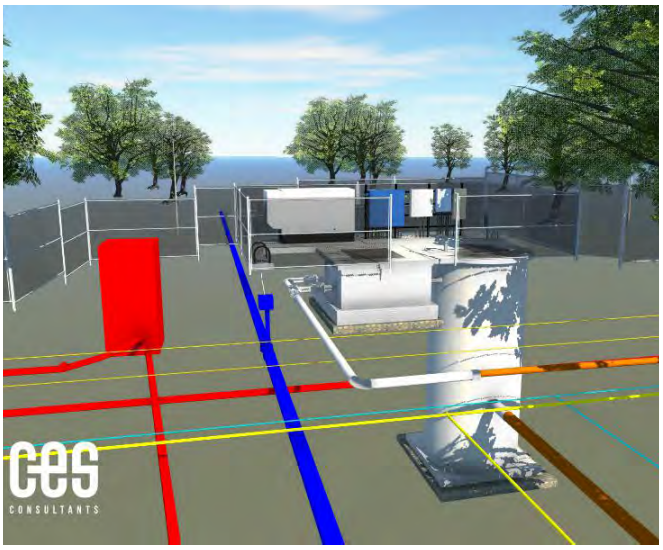
AWARDS

2019 Cuban American Association of Civil Engineers Project of the Year

2018-2019 American Society of Civil Engineers Project of the Year Category III

- **Design of Pump Station No. 147:** Analyzed and designed the upgrades to PS 147. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The data indicated that this pump station had undersized pumps, wet well, discharge piping and valve vault. The design included a new 8-foot diameter wet well, a new valve vault, new 56 HP pumps, new 10-inch discharge piping and force main, a new electrical panel, a new permanently installed 175 KW emergency generator, and a complete civil site redesign to optimize the limited space.
- **Design of Pump Station No. 331:** Analyzed and designed the upgrades to PS 331. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. This station is a large underground wet well / dry well facility with a concrete above ground enclosure. Originally, WASD requested that we retrofit this station, but our survey identified that the station was built partially outside of its designated easement. Our design incorporated a complete demolition of the existing station, and a complete layout design within the correct easement boundaries. The design included a new 8-foot diameter wet well, a new valve vault, a new receiving manhole, new 34 HP pumps, new 8-inch discharge piping, a new electrical panel, and new 18-inch gravity piping. The layout design for this pump station required early communication with FPL to relocate an existing transformer.
- **Design of Pump Station No. 440 (Phase 1):** Analyzed and designed the upgrades to PS 440 (Phase 1). The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. With this data, it was concluded that this station required resurfacing and recoating the inside of the existing wet well, new 10 HP pumps, and a new motor connection box. This station was challenging because of the existing elevation of the inflow. The existing system does not allow for a reasonable effective volume without surging the gravity system, which our PM allowed since CES also designed a new pump station to replace this station. The design, although temporary, was designed to avoid clogging during the gravity system surging and to keep surging to a minimum to protect private property.
- **Design of Pump Station No. 440 (Phase 2):** Analyzed and designed the upgrades to PS 440 (Phase 2). This design is a completely new pump station located within the public right of way to replace the existing station located in an easement behind four single family residences. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The design included a new 8-foot diameter wet well, a new valve vault, new 10 HP pumps, new 8-inch discharge piping, a new electrical panel, and complete civil site design to minimize the impact to the public right of way.
- **Design of Pump Station No. 081:** Analyzed and designed the upgrades to PS 081. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The data indicated that this pump station had undersized pumps, wet well, discharge piping and valve vault. The design included a new 8-foot diameter wet well, a new valve vault, new 20 HP pumps, new 8-inch discharge piping, a new electrical panel, 950 LF of 8-inch force main, and a complete civil site redesign to optimize use of the limited space.
- **Design of Pump Station No. 592 (24-inch Force Main):** Design of approximately 2,750 LF of 24-inch force main along SW 147th Avenue from SW 176th Street to SW 184th Street. The design consisted of connecting to an existing 12-inch and an existing 16-inch force main at SW 176th Street. The pipeline continues south utilizing an open cut method of installation. A 200-foot micro-tunnel operation was designed to cross an existing railroad easement. The pipeline then continues south and connects to an existing stub-out located at SW 184th Street. Our PM was in direct contact with the CSX Utility Coordination Department to accelerate the permitting process.
- **Design of Pump Station No. 672:** Analyzed and designed the upgrades to PS 672. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The data indicated that this pump station had undersized pumps, wet well, discharge piping and valve vault. The design included a new 8-foot diameter wet well, a new valve vault, new 47 HP pumps, new 8-inch discharge piping, a new electrical panel, and a complete civil site redesign to optimize use of the limited space.

- **Design of Pump Station No. 336:** Analyzed and designed the upgrades to PS 336. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The data indicated that this pump station had undersized pumps, wet well, discharge piping and valve vault. The design included a new 8-foot diameter wet well, a new valve vault, new 20 HP pumps, new 6-inch discharge piping, a new electrical panel, 50 LF of 6-inch force main, and a complete civil site redesign to optimize use of the limited space.
- **Design of Pump Station No. 1026:** Analyzed and designed the upgrades to PS 1026. This design is a completely new pump station located within the public right of way in an easement next to residential properties. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The design included refurbish a 6-foot diameter wet well, a new valve vault, new 30 HP pumps, new 6-inch discharge piping, a new electrical panel, and complete civil site design to minimize the impact to the public right of way.
- **Design of Pump Station No. 1065:** Analyzed and designed the upgrades to PS 1065. This design is a completely new pump station located within the public right of way in an easement next to a commercial properties (warehouses). The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The design included refurbishing a 6-foot diameter wet well, a new valve vault, new 15 HP pumps, new 6-inch discharge piping, a new electrical panel, and complete civil site design to minimize the impact to the public right of way.
- **Design of Pump Station No. 0596:** Analyzed and designed the upgrades to PS 1065. This design is a completely new pump station located within the public right of way in an easement next to residential properties. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. The design included refurbish a 6-foot diameter wet well, a new valve vault, new 20 HP pumps, new 6-inch discharge piping, a new electrical panel, and complete civil site design to minimize the impact to the public right of way.
- **Design of Pump Station No. 0394:** Analyzed and designed the demolition of PS 0394. This design was to remove a pump station located within an easement inside a private school. A new pump station had been designed and constructed within the right of way to facilitate maintenance. Once the new pump station was certified and operational, CES developed construction plans for the complete demolition of the original station.
- **Design of Pump Station No. 491:** Analyzed and designed the upgrades to PS 491. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. With this data, it was concluded that this station required a full conversion from a wet well / dry well system. The existing wet well was converted into a receiving manhole, the existing dry well area was converted into a wet well, and a new valve vault was designed. Finally, the pump station was upgraded from 20-HP pumps to a more efficient 25-HP submersible pumps.



ENGINEERING, DESIGN & RELATED SERVICES FOR THE LOCAL PUMP STATION IMPROVEMENT PROGRAM

The Miami-Dade County Water and Sewer Department (WASD), as a continuation of the PSIP Program effort and in an effort to comply with the 2013 Consent Decree to improve operation of its wastewater collection system to achieve compliance, established an internal team and consultants selected specifically for their understanding of wastewater pump station systems. With this "Local Pump Stations" contract, WASD will repair, replace and/or upgrade existing and non-compliant wastewater pump stations throughout the County. The improvements vary from pump upgrades to complete pump station and force main upgrades.

CES is providing the inspection/evaluation, analysis and design of multiple sanitary sewer lift stations ranging from 20 HP to 60 HP and associated force mains. Our team is providing full design services, which includes surveying, geotechnical engineering, civil engineering, mechanical engineering, structural engineering, and electrical engineering. The challenges found in designing these upgrades relate to two items. First, meeting the FEMA Base Flood Elevation for some of these small locations while maintaining operations and maintenance protocols is a challenge. Under this contract, we have converted several wet well / dry well systems into submersible stations. These conversions are requiring significant structural design in order to reuse the existing facilities. This effort is more cost effective than installing a new wet well. Additionally, our team looks carefully at constructability in developing creative solutions that meet all of the client's needs while maximizing construction dollars. Below are some of the pump stations awarded as task orders to CES under this contract:

- **Design of Pump Station No. 673:** Analyzed and designed the upgrades to PS 673. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. With this data, it was concluded that this station required a full conversion from a wet well / dry well system. An above ground structure was completely demolished, and all internal components removed. The existing wet well was converted into a receiving manhole, and the existing dry well area was converted into a wet well and a valve vault. Finally, the pump station was upgraded from 50-HP pumps to 58-HP submersible pumps.
- **Generator Replacement PS318, PS464 & PS475:** Analyzed and designed the upgrades of a permanent generator for PS318, PS464, and PS475. The station analysis included reviewing existing as-built information, site inspections, and existing utility information. Designs were developed to site a permanent generator on-site, which included meeting the FEMA base flood elevation plus two feet, site grading, and modification of the electrical equipment in order to connect the permanent generator to the pump station.
- **Design of Pump Station No. 063:** Analyzed the existing pump station including reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. CES staff has identified three (3) feasible locations to relocate the pump station, which included several meetings with WASD and City of Miami staff. Once the location was approved by all parties, a Basis of Design Report (BODR) was prepared defining the new location and all details necessary to complete a design for the pump station relocation.

LOCATION
Miami-Dade County, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Dept.
Juan Curiel, PE
3071 SW 38th Ave.
Miami, FL 33146
786.552.8399
juan.curiel@miamidade.gov

STATUS
Ongoing

START
2015

COMPLETION
Multiple; Contract is Ongoing

BUDGET/ COST
$30M+/ TBD

KEY FEATURES
Civil Engineering & Design

Inspection/Evaluation & Analysis

Consent Decree Program

Accelerated Schedules

Lift/Pump Stations

Force Mains

Utility Relocation

Sanitary Sewer Collection System

Mechanical, Electrical & Structural Engineering

Sidewalk/Curbing

SUE/Utility Coordination

Public Involvement

Landscaping

Interagency Coordination

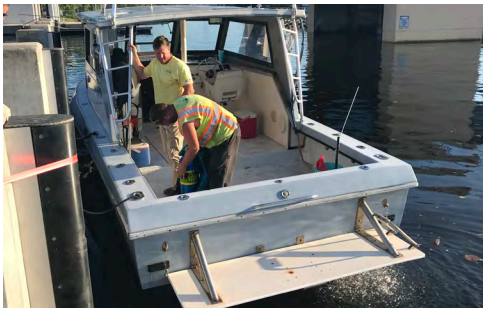
- **Design of Pump Station No. 348:** Analyzed and designed the installation of a flow meter for PS 348. This design included analyzing the existing flow meter and underground vault. We designed a new vault utilizing some of the existing facilities.
- **Design of Pump Station No. 639:** Analyzed and designed the upgrades to PS 639. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. With this data, it was concluded that this station required a full conversion from a wet well / dry well system. An above ground structure was completely demolished, and all internal components removed. The existing wet well was converted into a receiving manhole, and the existing dry well area was converted into a wet well and a valve vault. Finally, the pump station was upgraded from 20-HP pumps to a more efficient 45-HP submersible pumps.
- **Design of Pump Station No. 659:** Analyzed and designed the upgrades to PS 659. The station analysis included reviewing SCADA data, hydraulic information provided by WASD, as-built information, and site inspections. With this data, it was concluded that this station required a full conversion from a wet well / dry well system. An above ground structure was completely demolished, and all internal components removed. The existing wet well was converted into a receiving manhole, and the existing dry well area was converted into a wet well and a valve vault. Finally, the pump station was upgraded from 50-HP pumps to a more efficient 45-HP submersible pumps.

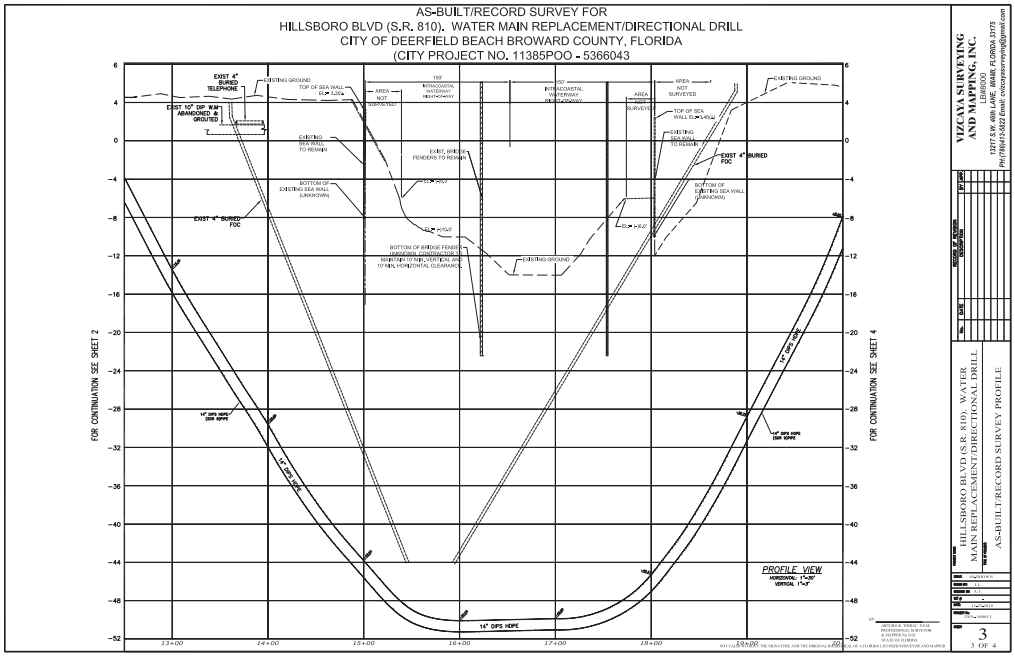
HILLSBORO BLVD. WATER MAIN REPLACEMENT

UTILITY & EXCAVATION CORP.
UNDERGROUND ENGINEERING

The Hillsboro Blvd. Water Main Replacement project was completed via Horizontal Directional Drilling (HDD). The project included the installation of a 14-inch HDPE Water Main via Subaqueous HDD across the Intracoastal near the Hillsboro Blvd (SR 810) Bridge No. 860146.

A team of professional divers monitored the bottom of the intracoastal for frac-out from the beginning to the completion of the bore. .





LOCATION

Miami, FL

CLIENT/POINT OF CONTACT

City of Deerfield Beach
Alan Fathi, PE
200 Goolsby Blvd.
Deerfield Beach, FL 33442
954.480.4400
afathi@deerfield-beach.com

ORIGINAL BUDGET

$553,000

FINAL COST

$503,000

START

05.06.2019

COMPLETION

11.06.2019

T-2114

The T-2114 project consisted of the installation of ±1835 LF of 12" DIP and ±400 LF of 16" HDPE Force Main via Horizontal Directional Drill (HDD).

The HDPE scope project was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractor RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami Dade County, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department/ AECOM
Carlos Lopez, PE
3071 SW 38th Avenue
Miami, FL 33146
787.247.9503
clopez@wadetrim.com

ORIGINAL BUDGET
$636,197

FINAL COST
$546,689

COMPLETION
2016

T-2187

The T-2187 project consisted of the installation of ±2500 LF of 12" DIP Force Main via open cut. The project scope also included a 20" x 12" Tapping Sleeve and Valve in Miami Lakes Drive.

The open-cut scope was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractors RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami Dade County, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department & AECOM
Carlos Lopez, PE
3071 SW 38th Avenue
Miami, FL 33146
787.247.9503
clopez@wadetrim.com

ORIGINAL BUDGET
$685,175.97

FINAL COST
$604,795.15

COMPLETION
2016

T-2384/CD 6.00 SEP

The T-2384/CD 6.00 SEP project consisted of the installation and construction of ±7,000 LF of 12", 10", 8", and 6" PVC Gravity Sewer Main, 29 structures, and ±1,400 LF of 12" DIP Water Main.

The Open Cut scope successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractor RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department/ AECOM
Marcelino Torres
3071 SW 38th Avenue
Miami, FL 33146
305.746.1068
Marcelino.Torres@miamidade.gov

ORIGINAL BUDGET
$3,720,934.78

FINAL COST
$3,720,934.78

COMPLETION
2019

T-2056

The T-2056 project consisted of the construction of 2,050 LF of 36-inch DIP Force Main. Installation of 36-inch Gate Valves and 36-inch Plug Valves. 36-inch by 30-inch Line Stop with temporary bypass system. Milling and paving of approximately 5,000 SY.

The 36" Open Cut/Line Stop scope was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractors RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami Dade County, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department & AECOM
Carlos Baro
3071 SW 38th Avenue
Miami, FL 33146
787.847.9503
carlos.baro@miamidade.gov

ORIGINAL BUDGET
$1,423,871.49

FINAL COST
$1,236,650.20

COMPLETION
2016

QUALIFICATIONS OF THE TEAM

For this project, CES has assembled the ideal team of partners and professionals with expert level knowledge and experience in the Design, Permitting and Construction of Consent Decree driven pipeline projects in complex urban and suburban environments. As demonstrated throughout this proposal, the CES team has successfully completed similar pipeline projects in the past and is equipped to deliver this project on-time and within-budget while minimizing impact to communities and upholding the highest standard of quality and safety!!!

THE IDEAL DBF / DESIGNER RELATIONSHIP

The classic adversarial relationship between the designer and the contractor has evolved into a successful project delivery methodology. The team that succeeds is the team that overcomes the potential adversarial relationship and evolves into one that operates as one cohesive and collaborative unit. This unit would be a close-knit team that understands the challenges at hand and can develop strategies and protocols to conquer those challenges in order to achieve success. The CES team, led by sister companies CES Construction as the DBF and CES Consultants as the Lead Designer, bring these attributes to the City of Ft. Lauderdale better than any other.

SUBCONSULTANTS / SUBCONTRACTORS

CES Consultants, Inc., located in Pembroke Pines, is a 100% minority-owned corporation with capabilities to provide engineering services to the municipal, governmental, and private sectors throughout Florida and New York. As a full-service engineering and consulting firm founded in 2001, we are eager about delivering incomparable services and cutting-edge innovation while focusing on building lasting relationships with our clients. CES has engineered some of the largest infrastructure improvement projects in Florida with a continuous need to serve our community and pioneer towards a greater future.

CES Staff has extensive experience in the design, permitting and construction of water and sewer utility projects ranging from 2" to 120" diameter piping networks, pump stations, master planning and drainage modeling. Our professional staff also brings considerable experience with roadway improvements, site development, parks and recreational facilities, stormwater management improvements, airport-related projects, program management, and commercial/ industrial facilities.

CES has full in-house capabilities to provide civil and structural engineering services for a large number of public and private projects for mixed-use and single-purpose developments. CES has participated in important infrastructure projects for numerous governmental agencies, including Miami-Dade Water and Sewer Department, Broward County, the City of Miramar, the South Florida Water Management District, and the Federal Department of Transportation.

CES Consultants, Inc. Business Location:
880 SW 145th Avenue, Suite 106, Pembroke Pines, FL 33027

Services to be Provided:
Design, QA/QC, Safety, Construction Services and Public Involvement

License:
Professional Engineering Company License #CA8811
Minority Business Enterprise

Owner: Rudy M. Ortiz

Firm References:
Miami-Dade Water & Sewer Department
T-2187, Miami-Dade County Florida
T-2114, Miami-Dade County, Florida
Carlos Lopez, PE / 787.247.9503
clopez@wadetrim.com

Miami-Dade Water & Sewer Department
T-2384/CD 6.00 SEP, Miami-Dade County, Florida
Marcelino Torres/ 305.746.1068
Marcelino.Torres@miamidade.gov

Miami-Dade County Water & Sewer Dept.
3071 SW 38th Avenue Miami, FL 33146
Reinaldo J. Rivera, PE/ 786.552.8027
Reinaldo.Rivera@miamidade.gov

RP Utility & Excavation Corp. (RPU) was established in 2011 and is an underground utility, site development, and environmental construction company specializing in commercial, municipal, and federal projects. RPU is one of the fastest growing municipal construction contracting organizations in South Florida, specializing in all aspects of infrastructure improvements and developments. RPU has successfully completed multiple projects all over the South Florida and is currently exploring opportunities to work throughout the State of Florida. RPU operates under the direction of Raidel Perez and Javier Garzon with over ten years of underground utility experience. RPU's track record and exceptional reputation with its customers has allowed it to thrive and expand. RPU has experience constructing pipeline projects alongside CES Construction Manager Ernest Cano via open-cut and horizontal directional drilling methods.

Projects completed with the Team's Construction Manager Ernest Cano referenced herein include:

- T-2114, Miami-Dade County, FL - 12" DIP Force Main and 16" HDPE Force Main via HDD; Ernest Cano Construction Manager, RPU installer, Centerline HDD subcontractor;
- T-2187, Miami-Dade County, FL - 12" DIP Force Main via Open Cut; Ernest Cano Construction Manager, RPU installer;
- T-2384, Miami-Dade County, FL - 12", 10", 8", and 6" PVC Gravity Sewer Main, 29 structures, and 12" DIP Water Main via open cut; Ernest Cano Construction Manager, RPU installer; and
- T-2056, Miami-Dade County, FL – 36" DIP Force Main, 36" Gate Valves, 36-inch Plug Valves, and 36-inch by 30-inch Line Stop with temporary bypass system.; Ernest Cano Construction Manager, RPU installer

See project sheets included here in for more details.

RPU also has a great deal of experience working with Centerline. Additional projects completed with Centerline include: Reclaimed Water System Expansion Phase 1B

- Phase 1B of the City of Miramar's Reclaimed Water System Expansion, Miramar FL - 30-inch HDPE reclaimed water main underneath I-75 via HDD; RPU installer, Centerline HDD subcontractor;
- International Drive Force Main & Reclaimed water Main Improvements Project Y13-7001-PH, Orange County, FL - 20", 24" and 30" PVC Force Mains via open cut, 36-inch steel casing under S.R.535 via Jack and Bore, 20" HDPE Force Main via Horizontal Directional Drill, 24" DIP Reclaimed Water Main via open cut, and 24" HDPE Reclaimed Water Main via HDD; RPU installer, Centerline HDD subcontractor
- Sanitary Force Main Installation, Project 2014-007, Miami-Dade County, FL (City of Margate) – 30" DIP Force Main via open cut, 30" HDPE via Horizontal Directional Drill, 36" steel casing via Jack and Bore; RPU installer, Centerline HDD subcontractor
- City of St. Petersburg – 30" DIP Force Main via open cut, 30" HDPE via Horizontal Directional Drill, 36" steel casing via Jack and Bore; RPU installer, Centerline HDD subcontractor.

RPU also has a great deal of experience working with Straight Ahead Construction, Inc. A recent project completed with Straight Ahead Construction includes:

- City of Deerfield Beach, Hillsboro Blvd. Water Main Replacement via HDD

RP Utility & Excavation Corp. Business Location:
17680 NW 78th Avenue, Suite 101, Hialeah, FL 33015

Services to be Provided:
Construction Services

License:
Certified Underground Utility and Excavation Contractor
License # CUC1224965

Owner: Raidel Perez

Firm References:
City of Deerfield Beach
Hillsboro Blvd. Water Main Replacement via HDD
Alan Fathi, PE
954.480.4400
afathi@deerfield-beach.com

Miami-Dade Water & Sewer Department
T-2187, Miami-Dade County Florida
T-2114, Miami-Dade County, Florida
787.247.9503
clopez@wadetrim.com

MBA Engineering, Inc. (MBA) was founded in 2012 and provides complete civil and structural design for projects of all types and sizes. MBA clients include architects, contractors, engineers, private owners, government and industry. They constantly strive to meet their client's needs at the lowest possible construction costs. Their staff and design teams are experienced in collaborating with other design professionals to take a variety of projects from the schematic phase through completed construction. Their designs are performed under the supervision of a registered professional engineer with the experience and background that fits each project. MBA has a great deal of experience designing Horizontal Directional Drilling projects for contractors including RPU and Centerline.

Business Location:
23110 SR54, Ste 281, Lutz, FL 33549

Services to be Provided:
Horizontal Directional Drilling Design Support

License:
Professional Engineering License # 72969

Owner: Michael A. Budin

Firm References:
Metro Equipment Service Inc.
Daniel Gonzalez
305.740.3303
dg@Mesinc.us

Arc Development, Inc
Andrew Coyer
813.952.3250
andy@arc-fl.com

Centerline Directional Drilling Services, Inc. (Centerline) is a company dedicated to tackling challenging, large-scale underground directional drilling projects. With have a fleet of Horizontal Drill machines ranging from 9,000 to the 440,000 lbs. of pull-back, CDDS is able to drill from 2'' pipe to 60"' pipe in any ground conditions. While primarily working in Florida, CDDS is able to travel anywhere in the southeast and its neighboring states for projects specializing in horizontal directional drilling. A contributing factor to CDDS success in the underground industry is its dedication to getting the job done. Not only by approaching every project prepared for any event and scenario, but through the value of taking on. While job scenarios can present varying obstacles, CDDS is able to see any job through to the end and has recorded continued success for over 10 years. See above for projects completed with RPU and Ernest Cano as Construction Manager.

Business Location:
900 Elm Street, LaBelle, FL 33975

Services to be Provided:
Underground Directional Drilling

License:
Certified Underground Utility and Excavation Contractor Professional License #CUC1225062

Owner: Lauro Acevedo

Firm References:
Town of Davie
Pump Station #1 Force Main Replacement
Bryan William, PE, Project Manager
954.921.7781
bwilliams@Cgasolutions.com

Miami Dade Water & Sewer Department
T-2056, 16 Inch Water Main
Carlos Baro, Construction Manager
786.268.5179
carlos.baro@Miamidade.gov

Vizcaya Surveying & Mapping, Inc. (Vizcaya) is a Full Service Survey and Mapping company founded in 2012. Since commencement, the firm has diligently worked to meet the needs of both our private and public sector clients. We specialize in providing Surveying and Mapping, Utility Coordination and Sub-Surface Utility Engineering (S.U.E.). Our philosophy is to create, as well as maintain, a professional attentive relationship with our clients, focusing equally on their needs together with the project's solutions. Vizcaya is committed to providing excellent professional service leading to overall solutions for our clients. The result of this commitment is proven; over 90% of our workload is from repeat business and clients. Vizcaya has worked on several occasions with the Ernest Cano, RPU and Centerline.

Business Location:
13217 SW 46th Lane, Miami, FL 33175

Services to be Provided:
Surveying & Mapping

License:
Professional Surveyor and Mapper License #LS3102

Owner: Arturo R. Toriac, Director

Firm References:
Miami Dade Water & Sewer Department
T-2056
Carlos Baro, Construction Manager
786.268.5179
carlos.baro@Miamidade.gov

City of Coral Springs
Emergency Water Service Interconnect With Coconut Creek
Naija Zerrouki, PE, Project Manager
954.345.2188
nzerrouki@Coralsprings.org

GCES Engineering Services, LLC (GCES) was founded in 2012 with the objective of providing the highest level of service in Geotechnical, Construction Materials Testing and Related Engineering Services in and around South Florida. The company stands behind this claim. All GCES Engineering Services, LLC employees strictly believe in our motto: The more challenging the work, the more motivated we are. We consistently work on improving our service so that we can find the best solution for our customers.

Business Location:
1820 N. Corporate Lakes Boulevard, Suite 206, Weston, FL 33326

Services to be Provided:
Geotechnical, Construction Materials Testing and Related Engineering

License:
Professional Engineering License #30039

Owner: Alejandro R. Montenegro

Firm References:
CIMAENG
Jose A. Gonzalez, PE, President/Senior Project Engineer
954.581.1881

Alexander Rojas, PE
Project Manager / Senior Engineer
561.242.7713 / M-305.345.7166

QUALIFICATIONS OF THE TEAM MEMBERS

Name	Years Experience	Area of Responsibility	Firm/Location	Education/Professional Certifications & Qualifications/Languages Capabilities
Rudy M. Ortiz, PE, CGC	38+	Design-Build Firm / Principal-in-Charge	CES Construction, LLC CES Consultants, Inc. Pembroke Pines	• BS, Civil Engineering • Florida Certified General Contractor #CGC1512966 • Professional Engineer Florida #52515 • Professional Engineer New York #071607 • Languages: English and Spanish
Luciano O. Perera	27+	Design/Build Firm Project Manager	CES Construction, LLC CES Consultants, Inc. Pembroke Pines	• BS, Civil Engineering • Expert level knowledge and experience • Languages: English and Spanish
Ernest Z. Cano	41	Lead Construction Project Manager	CES Construction, LLC Pembroke Pines	• BS, Civil Engineering • BS, Electrical Engineering • Associate in Arts of Architecture
Jose Caraballo, PE	19	Lead Design Project Manager	CES Consultants, Inc. Pembroke Pines	• BS, Environmental Engineering • Florida Professional Engineer #73064 • Languages: English and Spanish
Raidel Perez, CUC	11	General Superintendent	RP Utility & Excavation Corp Hialeah, FL	• State of Florida Certified Underground Contractor, CUC #1224965 • OSHA 10-hour Construction Safety and Health, Certificate #20-006016994 • FDOT Temporary Traffic Control (TTC) Advanced Course, Certificate #32906 • Trenching and Shoring Safety Training per OSHA Standard 29 CFR 1926.650-652 • Confined Space Entry Course per OSHA Standard 29 CFR 1926.1200-1213 • Languages: English and Spanish

Name	Years Experience	Area of Responsibility	Firm/Location	Education/Professional Certifications & Qualifications/Languages Capabilities
Jorge Zurita, CGC	31+	QA/QC Manager	CES Construction, LLC Pembroke Pines, FL	• BS, Construction Management with Honors, Florida International University, Miami, FL, 1995 • Florida Certified General Contractor #CGC1526982 • State of Florida Real Estate Associate #SL3310949 • US Corp of Engineers Construction Quality Management for Contractors • OSHA 500 Trainer in Construction • Certified ISO 9001 Internal Auditor • AIA/CES Registered provider (J510) Is it Really Green (Program 00006) • Management Commitment & Employer Involvement • Languages: English and Spanish
Frederick W. Ward	25	Health & Safety Manager	RP Utility & Excavation, Corp Hialeah, FL	• BS Business Administration/ Marketing and Operations Management, Sacred Heart University, Santurce, PR • OSHA 10 & 30 Hour Training • OSHA Outreach Trainer • National Safety Council Instructor • Languages: English
Luis E. Ramos, CCP	27+	Scheduler/Project Controls Specialist	CES Construction, LLC Pembroke Pines, FL	• MS Business Administration, ICESI University, Cali, Colombia • BSc, Civil Engineering, University of Cauca, Popayán, Colombia • AACE Certified Cost Professional (CCP) #33897 • I-Two Estimating and Cost Management System • Success Enterprise • OST- On Screen Take-Off • Languages: English and Spanish

ORGANIZATIONAL CHART

Please Note the Organizational Chart Highlights Key Staff & Leadership Only; Additional Resources are Available

THE CES TEAM	
1	CES Construction, LLC
2	CES Consultants, Inc.
3	MBA Engineering, Inc.
4	RP Utility & Excavation Corp.
5	Centerline Directional Drilling Service, Inc.
6	Vizcaya Surveying & Mapping, Inc.
7	GCES Engineering, LLC

Highlighted Name Denotes Requested Key Personnel

PRINCIPAL-IN-CHARGE
Rudy Ortiz, PE, CGC (1 & 2)

DESIGN-BUILD FIRM PROJECT MANAGER
Luciano O. Perera (1 & 2)

LEAD DESIGN PROJECT MANAGER
Jose A. Caraballo, PE (2)

LEAD CONSTRUCTION PROJECT MANAGER
Ernest Z. Cano (1)

DESIGN QA/QC MANAGER
David Hoot, PE (1)

SCHEDULER/PROJECT CONTROLS SPECIALIST
Luis Ramos (1)

HEALTH & SAFETY MANAGER
Frederick W. Ward (4)

CONSTRUCTION QA/QC MANAGER
Jorge Zurita, CGC (1)

DESIGN SERVICES

PIPELINE/CIVIL/RESTORATION
Gustavo Silva, PE (2)

HDD
Michael A. Budin, PE (3)

PERMITTING/ENV.
Jose A. Caraballo, PE (2)

SURVEY & MAPPING
Arturo Toriac, PSM (6)

ROADWAY/TRAFFIC/ MOT PLANNING
Bart Ciambella, PE (2)
Alphonso Brown (4)

GEOTECHNICAL
Alejandro Montenegro, PE (7)

CONSTRUCTION SERVICES

OPEN CUT PROJECT MANAGER
Javier Garzon (4)

HDD PROJECT MANAGER
Lauro Acevedo, CUC (5)

GENERAL SUPERINTENDENT
Raidel Perez, CUC (4)

FOREMAN
Maurino Garcia (5)

SUBCONTRACTORS

HDD: Centerline Directional Drilling Services, Inc.
SUE: Inframap Corp.
Surveyor: Vizcaya Surveying & Mapping, Inc.
MOT Equipment: Bob's Barricades, Inc.
QC Testing: American Engineering Testing, Inc.

LUCIANO PERERA

Executive Vice President; D/B Project Manager

Mr. Luciano O. Perera has over 27 years of experience as a leader in the fields of Engineering, Construction, Disaster Recovery and Real Estate Development with principal responsibilities over project performance as well as profit and loss. He has worked with large teams of business clients, developers, government agencies, consultants, contractors, and stakeholders, and has a track record of performance in managing large-scale complex projects and programs simultaneously from inception to completion, enhancing client relationships by delivering projects on time and within budget while upholding the highest standards of safety and quality.

Luciano's Program Management and Construction Management experience includes Owner, Principal and Senior Manager experience in transportation and infrastructure improvements performed under major capital and consent decree mandated programs in South Florida and the City of New York.

Since 2001 he has served as Operations Manager of numerous CES FEMA and FHWA funded projects, always meeting the project challenges and exceeding client expectations. His experience in Miami-Dade County dates to the early days of CES when he was embedded with Public Works Road and Bridge, managing consultants in the development of ADA design specification and standards for repair of the County's vast sidewalk system. Later, he managed a team of approximately 40 inspectors providing quality assurance during repair and construction of utilities, water distribution and sanitary sewer, roadway, sidewalk, drainage, resurfacing, and other miscellaneous areas.

EXPERIENCE INCLUDES:

D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL: D/B Construction Project Manager for the design, permitting, construction, testing and startup of a new 30" force main along NW 13th Street in an urban area of Fort Lauderdale, including connections to the existing pipe and reconnection of Pump Stations A-28 and A-29. The project also includes, the design, permitting, construction, and installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and provide isolation to perform the required tie-in work.

MDWASD D/B Water Main Replacement & Service Conversions in the Shenandoah Area, Phase B, Miami, FL: Engineering analysis and design services for the upgrade of approximately 46,000 LF of water main. The project consisted of upgrading existing 4-inch and 6-inch residential water main to 8-inch water mains. This effort improved pressure and provided fire protection within the area. Additionally, approximately 650 residents within the project area receive potable water through water mains located within easements to the rear of the properties. The project eliminated these water mains and moved them to the right-of-way. Led the effort to provide service conversions for all residents with water meters to the rear of the property, working closely with the client and Design-Build Team to produce the most technically sound and cost-effective design that incorporated all of the client's requirements and needs. Provided permitting expertise to acquire the mainline water main permits and approximately 650 private property building permits. Developed a phasing plan to accelerate the schedule by allowing surveying, design, and construction operations to occur simultaneously throughout various areas of the project boundary.

YEARS EXPERIENCE

27+

EDUCATION

BS, Civil Engineering, NYU Tandon School of Engineering (Formerly known as Polytechnic Institute of New York University), 1994

Architectural Training, New York Institute of Technology, 1988–1989

AREAS OF EXPERTISE

Program Management

Capital Improvement Projects

Airport Civil Improvements

Construction Engineering

Inspection

Highway Construction

Strategic Planning

P&L

Project and Program Management

Contract Administration Negotiations Crisis Management

Claims Avoidance and Resolution

Project Turnaround

Construction Law Consulting

Marketing

Human Resources

West Avenue North & South D/B Neighborhood Utility & Resiliency Improvements, Miami Beach, FL: A 600-acre, $100+M Design-Build project to develop a stormwater model, water/sewer/utility and roadway design, permitting and infrastructure construction of 1.2 miles of roadway to address sea level rise in the West Avenue Basin. This resiliency project will provide the community protection from flooding during storm events and high seasonal tides. The project requires raising the roadway approximately 30 inches while providing a 10-year level of service with no structure flooding. Rising seas, high groundwater, king tides, wind and deteriorating infrastructure contribute to frequent flooding of facilities in the basin. The contributing basin is 600 acres and all 19 utilities along the roadway will be affected. Modeling using AdICPR4 and upsizing and design of all curb inlets and yard inlets followed by significant upsizing and modifications of two pumps stations is required. The project includes 16,000 LF of water main, 7,050 LF of sanitary gravity sewer, 12,800 LF of storm sewer, a 120,000 GPM stormwater pump station and outfall, and water meter service conversions from the rear of private properties to new water lines and connections in the right-of-way.

Florida City Force Main 18 & 4 Replacement, Florida City, FL: The project includes the abandonment of 6" and 12" diameter PVC sewage force mains and the installation of new 6", 8", 10", 12", 16" and 20" PVC C-900 Force Mains at lengths of 75', 28', 948', 7', 58', and 773' respectively. The improvements will also include: the installation of plug, check, and air release valves, the interconnections with the existing pump station force mains, the pavement and swale restoration. The replacement of the force main will be conducted using Open Trench Installation.

PS 2, 16, 17 & 26 Improvements, Pump Station Refurbishments, SCADA Technology & Force Main Valve Replacement, Florida City, FL: Construction Project Manager for upgrades to and refurbishment of several Florida City pump stations, installation of isolation valves in the force main system, and SCADA improvements.

PortMiami Cargo Yard Densification Phase 1F, FPL Vaults 3A & 4 Miami, FL: Construction Project Manager for this project as a sub to Odebrecht, involving the construction of infrastructure improvements in the active PortMiami Cargo Yard for the use of Electric Rubber Tire Gantries (eRTG). The constructed improvements included furnishing and installation of concrete runways and turning pads, eRTG high wind/storm tie-downs and associated foundations, pavement, pavement marking and signage, grading and drainage for the runways, and a reefer rack structure and foundations. The project also required the construction of two (2) new Florida Power & Light (FPL) vaults, a ductbank from the FPL substation on the Port to the FPL transformers, electrical connections to the owner-provided bus bars, and supportive ancillary construction and coordination tasks to successfully complete all phases of the project.

FLL Construction Project Management for Expansion of Runway 9R-27L, Fort Lauderdale-Hollywood International Airport, FL: Project Principal he provided principal oversight over the Project, overseeing the participation of a staff of twelve Construction Engineering Inspector during construction and one contract administrator that provided claims avoidance and resolution services through the life of the Project.

PortMiami Program Manager, Miami, FL: Project Manager responsible for CES services on the program. Provided engineering and construction inspection services under the Capital Development division of Port Miami. These services include project management, engineering design, cost estimating, scheduling, miscellaneous engineering evaluations, and construction inspection.

Jackson Health South Hospitals Program Manager, Miami, FL: Project Manager responsible for CES services on the program. More than 200 proposed projects, including new construction and infrastructure improvements, will transform Jackson's main campus in Miami while broadening the hospital system's geographic reach with new urgent care centers and nearly $150 million in improvements to satellite hospitals in North Miami Beach and South Miami-Dade. As Principal-in-Charge of CES, recent work as Program Managers and Construction Managers at Jackson include: the $300M development of 100 bed hospital, parking garage and MOB; $5M replacement of 25 air handling units; $18M Central Energy Plant upgrades; $9M modernization of 23 elevators; $26M modernization of patient rooms and $77M vertical expansion for 54 ICU beds.

MDWASD Ocean Outfall Legislation Program Manager, Miami-Dade County FL: Project Manager responsible for CES services as part of the $3.3 billion Ocean Outfall Legislation Program Management team, an 11-year program with 28 capital projects that is the culmination of a 2008 regulatory mandate by the Florida Legislature to stop all wastewater discharge to the ocean by 2025. As a result of this mandate, WASD is implementing system-wide wastewater facility upgrades through the OOL program. Oversaw development of a Conceptual Design Report for the projects in the North District transmission and pumping system to meet the requirements of the Ocean Outfall Legislation (OOL) Compliance Plan. This report includes approximately 21,000 LF of 48" force main and approximately 1,500 LF of 36" force main.

JOSE CARABALLO, PE

Vice President; Lead Design Project Manager & Civil Engineer

Mr. Jose Caraballo has over 19 years of professional experience in the areas of civil, water, wastewater, stormwater and drainage design, transportation and environmental engineering, and project management with various public entities, including more than 180,000 LF of residential water main, 50,000 LF of sanitary sewer, and 50 pump and lift stations. He has been involved in a variety of civil and environmental engineering projects related to the improvement of roadways, public utilities, drainage systems, pump stations, lift stations, water treatment plants, ports and airports, Class IV Freshwater Wetland Permitting and SFWMD Environmental Resources Permitting, amongst others. Jose has successfully overseen projects from the initial assessment, feasibility analysis and conceptual stages through completion, including full design, permitting, construction management/administration and close-out.

YEARS EXPERIENCE

19

EDUCATION

BS, Environmental Engineering, Louisiana State University, 2002

REGISTRATIONS & CERTIFICATIONS

New York Professional Engineer #094777

Florida Professional Engineer #73064

EXPERIENCE INCLUDES:

D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL: Design Project Manager for the design, permitting, construction, testing and startup of a new 30" force main along NW 13th Street in an urban area of Fort Lauderdale, including connections to the existing pipe and reconnection of Pump Stations A-28 and A-29. The project also includes, the design, permitting, construction, and installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and provide isolation to perform the required tie-in work.

West Avenue North & South D/B Neighborhood Utility & Resiliency Improvements, Miami Beach, FL: Project Manager/ Engineer-of-Record for the 600-acre, $100+M Design-Build project to develop a stormwater model, water/sewer/utility and roadway design, permitting and infrastructure construction of 1.2 miles of roadway to address sea level rise in the West Avenue Basin. This resiliency project will provide the community protection from flooding during storm events and high seasonal tides. The project requires raising the roadway approximately 30 inches while providing a 10-year level of service with no structure flooding. Rising seas, high groundwater, king tides, wind and deteriorating infrastructure contribute to frequent flooding of facilities in the basin. The contributing basin is 600 acres and all 19 utilities along the roadway will be affected. Modeling using AdICPR4 and upsizing and design of all curb inlets and yard inlets followed by significant upsizing and modifications of two pumps stations is required. The project includes 16,000 LF of water main, 7,050 LF of sanitary gravity sewer, 12,800 LF of storm sewer, a 120,000 GPM stormwater pump station and outfall, and water meter service conversions from the rear of private properties to new water lines and connections in the right-of-way.

MDWASD D/B Water Main Replacement & Service Conversions in the Shenandoah Area, Phase B, Miami, FL: Engineer-of-Record and Design Project Manager leading the project team in providing engineering analysis and design services for the upgrade of approximately 46,000 LF of water main. The project consisted of upgrading existing 4-inch and 6-inch residential water main to 8-inch water mains. This effort improved pressure and provided fire protection within the area. Additionally, approximately 650 residents within the project area receive potable water through water mains located within easements to the rear of the properties. The project eliminated these water mains and moved them to the right-of-way. Led the effort to provide service conversions for all residents with water meters to the rear of the property, working closely with the client and Design-Build Team to produce the most technically sound and cost-effective design that incorporated all of the client's requirements and needs. Provided

permitting expertise to acquire the mainline water main permits and approximately 650 private property building permits. Developed a phasing plan to accelerate the schedule by allowing surveying, design, and construction operations to occur simultaneously throughout various areas of the project boundary.

MDWASD D/B Replacement of Water Main & Service Conversions in "Donut Hole" Area, Miami Gardens, FL: Project Manager/Engineer for the replacement of the existing undersized and deteriorated water mains and existing main loop closures in order to improve system pressure and provide fire flow protection and for water service conversions (transfer of services from the rear to the front of properties and replacement of certain existing old services in front of properties to meet new standard) in the "Donut Hole" service area. The project includes the following main elements: ±22,450 LF of 8-inch ductile iron water main and pipe fittings; ±12,060 LF of 12-inch ductile iron water main pipe and fittings; ±1,050 LF of 6-inch ductile iron water main pipe and fittings; ±560 water service conversions from rear of property to front of property. Additionally, the project involved permitting both within the right-of-way and on private property. The right-of-way permits included City of Miami Gardens and Florida Department of Transportation (FDOT) roadways. The D/B Team developed a procedure with WASD to execute the water meter conversion, with considerable time spent analyzing, developing, and testing the mechanism by which the portion of the water meter conversions within private property could be finalized. Extensive public outreach and MOT planning ensured a smooth construction process.

MDWASD 48-inch Force Main Improvements, Doral, FL: Project Designer for 48" diameter DIP pipeline improvements to increase wastewater transmission capacity within the Doral basin of the County's wastewater collection and transmission system. The project at NW 54th Street includes approximately 4,200 LF of pipe and a micro-tunneling segment under a major highway located within a high-density traffic roadway and intersects numerous utilities. Jose was directly involved in verifying that the design met the standards and requirements of WASD. He also analyzed and provided design solutions for utility conflicts.

MDWASD 72-Inch Raw Water Main BODR, Miami, FL: Project Engineer for the development of a Basis of Design Report for 8,800 LF of 72-inch steel raw water main. This project was one of three segments that WASD was developing to convey raw water from the Northwest Wellfield to Hialeah-Preston Water Treatment Plants. Jose was also responsible for utility coordination and assisting in developing viable alternative routes.

MDWASD SW 147th Avenue Force Main, Miami-Dade County, FL: MDWASD, in an effort to improve hydraulic capacity of the wastewater transmission system within Basin Number 0592, initiated design of 2,750 LF of 24-inch transmission force main to replace an existing undersized 8-inch force main, and to interconnect three hydraulically overstressed force mains. The new 24-inch force main route extends along SW 147th Avenue, between SW 184th Street and SW 176th Street, passing under a CSX rail line, and connecting to an existing 24-inch force main at SW 184th Street, and existing 12-inch and 16-inch force mains at SW 176th Street.

Miramar Infrastructure Improvements & Service Conversions, Phase III, Miramar, FL: As Engineer-of-Record, led the design team for technical engineering analysis and design services for the upgrade of approximately 72,000 LF of water main. The project consisted of upgrading existing 2-inch and 4-inch residential water mains to a 6-inch water main to improve pressure and provide fire protection within the area and relocation of water services.

Roadway Infrastructure Project, Miramar, FL: Project Manager for the design of over five miles of water main, sewer, and drainage improvements as well as sanitary sewer lift station upgrades. Performed and managed the monitoring efforts for the construction activities throughout the southern half of the City of Miramar, including daily inspections, quality assurance reviews of the inspection team's daily reports, RFI log maintenance, participating in the pressure testing of the lines, and reviewing the Contractor's monthly invoices.

MDWASD, Design of 2,200 LF of 8-inch Residential Water Main, Coral Gables, FL: As Engineer-of-Record, led the project team in providing engineering analysis and design services for the upgrade of approximately 2,200 LF of water. The project consisted of designing a residential 8-inch water main along Banos Court.

MDWASD, Design of 1,800 LF of 8-inch Residential Water Main, Miami, FL: As Engineer-of-Record, led the project team in providing engineering analysis and design services for the upgrade of approximately 1,800 LF of water main. The project consisted of designing several segments of residential 8-inch water main at NE 13 Court and NW 13 Place from NE 199 Street to North Drive within the City of Miami.

Fort Lauderdale *Waterworks* 2012, Fort Lauderdale, FL: Project Manager providing management of inspection staff and verification of the construction quantity and quality of many new systems in the construction of the Fort Lauderdale *Waterworks* Program. The projects consisted of upgrading the water, sewer, pump and lift stations, and drainage systems at various locations within the City of Fort Lauderdale.

ERNEST Z. CANO

Construction Manager

Mr. Ernest Cano has over 41 years of experience in engineering design (MEP, Civil and Electrical), construction, and project and program management for water and sewer utilities, governmental, aviation, residential, commercial, and fast track design/build projects, to include management of a $3.9B construction program and serving as Construction Manager for approximately $5M in miscellaneous projects requested by the owner and authority having jurisdiction for the completion of North Terminal project at Miami International Airport. He has extensive experience in improving the efficiency of systems and deploying procedures to ensure that project completion dates are achieved ahead of schedule and within budget. Throughout his career, he has established, managed and led effective project teams to accomplish project goals in conjunction with State and local governmental agencies. Ernie's areas of expertise include construction, contract administration, project controls, project management, and project and construction scheduling.

EXPERIENCE INCLUDES:

D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL: Lead Construction Manager for the design, permitting, construction, testing and startup of a new 30" force main along NW 13th Street in an urban area of Fort Lauderdale, including connections to the existing pipe and reconnection of Pump Stations A-28 and A-29. The project also includes, the design, permitting, construction, and installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and provide isolation to perform the required tie-in work.

Florida Power & Light D/B Electrical Transmission & Distribution Facilities Projects, Various Locations in Florida: Project Manager responsible for conceptual level planning and design of numerous electrical transmission and distribution facilities. Coordinated numerous construction project activities to minimize adverse operational impacts, negotiated contracts and property leases, and established scope of services required from consultants.

North Terminal 780K D/B Program at Miami International Airport, Miami, FL: Construction Manager for Approximately $5 M on **over 140 miscellaneous projects** requested by owner and authority having jurisdiction for the completion of North Terminal project.

Florida City Force Main 18 & 4 Replacement, Florida City, FL: Lead Construction Manager for the abandonment of 6" and 12" diameter PVC sewage force mains and the installation of new 6", 8", 10", 12", 16" and 20" PVC C-900 Force Mains at lengths of 75', 28', 948', 7', 58', and 773' respectively. The improvements will also include: the installation of plug, check, and air release valves, the interconnections with the existing pump station force mains, the pavement and swale restoration. The replacement of the force main will be conducted using Open Trench Installation.

PS 2, 16, 17 and 26 Improvements, Pump Station Refurbishments, SCADA Technology and Force Main Valve Replacement, Florida City, FL: Construction Manager for upgrades to and refurbishment of several Florida City pump stations, installation of isolation valves in the force main system, and SCADA improvements.

YEARS EXPERIENCE

41+

EDUCATION

BS, Civil Engineering, Florida International University

BS, Electrical Engineering, University of Miami

Associate in Arts of Architecture, Miami-Dade College

PROFESSIONAL AFFILIATIONS

Institute of Electrical Electronic Engineers

American Society of Civil Engineers

National Society of Professional Engineers

Cuban Engineering Society

Save International

PortMiami Cargo Yard Densification Phase 1F, FPL Vaults 3A and 4, Miami, FL: Construction Manager for this project as a sub to Odebrecht, involving the construction of infrastructure improvements in the active PortMiami Cargo Yard for the use of Electric Rubber Tire Gantries (eRTG). The constructed improvements included furnishing and installation of concrete runways and turning pads, eRTG high wind/storm tie-downs and associated foundations, pavement, pavement marking and signage, grading and drainage for the runways, and a reefer rack structure and foundations. The project also required the construction of two (2) new Florida Power and Light (FPL) vaults, a ductbank from the FPL substation on the Port to the FPL transformers, electrical connections to the owner-provided bus bars, and ancillary construction and coordination tasks to successfully complete the project.

T-2114, Miami, FL: Construction Manager for this project. The project consisted of the installation of ±1835 LF of 12" DIP and ±400 LF of 16" HDPE Force Main via Horizontal Directional Drill (HDD).

T-2187, Miami, FL: Construction Manager for this project. The project consisted of the installation of ±2500 LF of 12" DIP Force Main via open cut. The project scope also included a 20" x 12" Tapping Sleeve and Valve in Miami Lakes Drive.

T-2384/CD 6.00 SEP, Miami, FL: Construction Manager for this project. The project consisted of the installation and construction of ±7,000 LF of 12", 10", 8", and 6" PVC Gravity Sewer Main, 29 structures, and ±1,400 LF of 12" DIP Water Main.

T-2056, Miami, FL: Construction Manager for this project. The project consisted of the construction of 2,050 LF of 36-inch DIP Force Main. Installation of 36-inch Gate Valves and 36-inch Plug Valves. 36-inch by 30-inch Line Stop with temporary bypass system. Milling and paving of approximately 5,000 SY.

Miami International Airport and American Airlines, Miami, FL: MEP Manager for $2.2 billion dollar massive construction expansion (1.5 Million square feet that included 67 aircraft Gates). Globally responsible to interact and advise a staff of Project Managers, Superintendents, Schedulers, Estimators, General Contractors and Consultants in the planning, design, construction, inspections and permitting (SFBC, EPA, etc). In charge of all Special Systems such as Telecommunications, Life Safety (Fire Alarm and Smoke Evacuation), Security (Card Reader, CCTV and Automatic Doors), Electrical, HVAC (Air Handling Unit), Chill Water, Storm Drainage and Sewer/Water, coordination between Dade County Aviation Department, Consultants and General Contractors.

Miami International Airport North Terminal Development, Miami, FL: Senior Program Construction Manager for the Miami International Airport/American Airlines joint $3.9B North Terminal Development Program consisting of 3.2 million SF of construction and 48 new aircraft gates. The North Terminal Program was a multi-phase construction program segregated into 56 distinct projects. Ernie reported directly to the North Terminal Program Director and was responsible for leading Senior Project and Design Managers to ensure that all projects were maintained within budget and on-schedule. Other responsibilities included coordination of all Design/Construction Quality Control and Safety Programs, reporting any unanticipated chances in the scope of work that might potentially alter the critical path of the overall program activities. Ernie was also directly responsible for overseeing the Managing General Contractor contract and ensuring timely payments for completed work. While in this role, Ernie organized a Dispute Resolution Committee tasked to address any project issues which were not resolved at the project team level.

Miami International Airport North Terminal Development, Miami, FL: Senior Project Manager responsible for the AB Infill Building Shell and Finish Project, representing the largest portion of the North Terminal Development Program. This $400M project consisted of an expansion building shell of approximately 280,000 SF and interior finishes. The upgrade provided four new aircraft gates, two automated people mover stations, two TSA security checkpoints and a baggage handling system. Ernie ensured the project was within budget, and on-schedule. In coordination with the Design Professional, Ernie managed the General Contractor to resolve construction/design issues and supervised contractual agreements including negotiation of change orders and service orders. While in this role, Ernie also supervised a large staff including the Site Manager, Design Manager, Design Professionals, field personnel, Cost Engineer and Scheduler.

RAIDEL PEREZ, CUC

General Superintendent

UTILITY & EXCAVATION CORP.
UNDERGROUND ENGINEERING

Mr. Raidel Perez has over 11 years of experience in the fields of water, wastewater, reuse, and water resources construction management. He has completed numerous projects for various municipalities in the State of Florida. His underground utilities experience includes managing construction crews, procurement of materials/equipment, scheduling, pay requisitions, coordination of subcontractors, coordination of mobilizations, assisting Project Managers with planning and personnel needs, assisting engineers and municipalities with analyzing constructability of a project, and providing value engineering.

EXPERIENCE INCLUDES:

D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL: Superintendent for a new 30" force main along NW 13th Street in an urban area of Fort Lauderdale, including connections to the existing pipe and reconnection of Pump Stations A-28 and A-29. The project also includes, the design, permitting, construction, and installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and provide isolation to perform the required tie-in work.

Furnish & Install 12" DIP and 16" HDPE Force Main on NE 14th Ave. from Miami Gardens Drive to NE 191 Street, RPQ T-2114, Miami Dade Water & Sewer, Superintendent:

- Project Completed: 9/2016
- Contact: Ernest Cano, Construction Manager, 305-310-5389
- Contract Amount: $636,197.00
- Final Contract Amount: $546,689.85
- Installation of ± 1,835 LF of 12" DIP and ±400 LF of 16" HDPE Force Main via HDD

Furnish & Install 12" DIP Force Main on Miami Lakeway N. from Miami Lakes Drive to Turnberry Drive then to P.S. 0333, RPQ T-2187,Miami Dade Water & Sewer, Superintendent:

- Project Completed: 10/2016
- Contact: Ernest Cano, Construction Manager, 305-310-5389
- Contract Amount: $685,175.97
- Final Contract Amount: $604,795.15
- Installation of ±2,500 LF of DIP Force Main including a 20x12 Tapping Sleeve and Valve in Miami Lakes Drive

Furnish & Install ± 7,000 LF of Gravity Sewer Mains & ±1,400 LF of Water Main, T-2384, Miami Dade Water & Sewer Department, Superintendent:

- Project Completed: 12/2018
- Contact: Marcelino Torres, Construction Manager, 305-746-1068, marcelino.torres@miamidade.gov
- Contract Amount: $3,720,934.78
- Final Contract Amount: TBD
- Installation of ±7,000 LF of 12, 10, 8, & 6" PVC Gravity Sewer Main, 29 Structures, and ± 1,400 LF of 12" DIP Water Main

YEARS EXPERIENCE

11+

REGISTRATIONS, CERTIFICATIONS & TRAINING

Florida Certified Underground Contractor, #CUC1224965

OSHA 10-hour Construction Safety and Health, Certificate #20-006016994

FDOT Temporary Traffic Control (TTC) Advanced Course, Certificate #32906

Trenching and Shoring Safety Training per OSHA Standard 29 CFR 1926.650-652

Confined Space Entry Course per OSHA Standard 29 CFR 1926.1200-1213

Water Main & Force Main Replacement on Sample Road Phase I, City of Coral Springs, Superintendent:

- Project Completed: 3/2018
- Contact: Omar Khan, Project Engineer, 954-510-4700, okhan@ecklerengineering.com
- Contract Amount: $3,000,000.00
- Final Contract Amount: $3,017,070.27
- Installation of ±1,550 LF of 16" DIP Water Main, ±950 LF of 12" DIP WM, & ±1,500 LF of 20" DIP Force Main along Sample Road between University Drive & Coral Hills Drive (Broward County ROW)

Furnish & Install 16" DIP and 20" HDPE Water Main in 30" HDPE Casing, RPQ T-2056, Miami Dade Water & Sewer, Superintendent:

- Project Completed: 8/2016 Contact: Carlos Baro, Construction Manager, 786-268-5179, carlos.baro@miamidade.gov
- Contract Amount: $1,423,871.49
- Final Contract Amount: $1,236,650.20
- Installation of ± 3,750 LF of DIP and ±1,000 LF of 20" HDPE Water Main (carrier pipe) and 30" HDPE casing underneath I-95.

Pump Station #1 Force Main. Town of Davie, Superintendent:

- Project Completed: 12/2017
- Contact: Bryan Williams, Project Manager, 954-448-5828, BWilliams@cgasolutions.com
- Contract Amount: $1,142,000.00
- Final Contract Amount: $1,104,279.38
- Installation of ±2,500 LF of 16" DIP Force Main, ± 2,100 LF of 18" HDPE via HDD, and ± 200 LF of 20" HDPE via Horizontal Directional Drill method

Miami Springs Water System Fire Flow and Water Service Improvement Phase 2, Furnish & Install 8" DIP Water Main, T-2339Miami Dade Water & Sewer Department, Superintendent:

- Project Completed: 9/2018
- Contact: Pearle Khadar, Construction Manager, 305-323-3900, pearle.khadar@miamidade.gov
- Contract Amount: $1,157,212.31
- Final Contract Amount: $991,807.00
- Installation of ±4,220 LF of 8" DIP Water Main and ± 50 Water Services

NE 6th Avenue Water Main Improvements Project, City of North Miami, Superintendent:

- Project Completed: 12/2017
- Contact: Chuks Okereke, City Engineer, 305-893-6511 Ext. 15002, cokereke@northmiamifl.gov
- Contract Amount: $1,271,000.00
- Final Contract Amount: $1,094,858.42
- Installation of ±4,010 LF of 12" DIP Water Main along NE 6th Avenue (FDOT ROW)

Furnish & Install 12" Force Main from SW 128th Street North along SW 112th Avenue, T-2421, Miami Dade Water & Sewer Department, Superintendent:

- Project Completed: 12/2018
- Contact: David Brown, Project Manager, dbrown@miamidade-psip.com
- Contract Amount: $1,012,858.39
- Final Contract Amount: TBD
- Installation of ±4,460 LF of 12" DIP Force Main

Southgate Boulevard & Rock Island Force Main, City of Margate, Superintendent:

- Project Completed: TBD
- Contact: Paula Fonseca, Project Engineer, pfonseca@chenmoore.com
- Contract Amount: $949,999.98
- Final Contract Amount: TBD
- Installation of ±3,100 LF of 12" DIP Force Main and ±3,100 LF of 12" HDPE Force Main via Horizontal Directional Drill method

Replacement of 8" ACP Force Main, T-2501, Miami Dade Water & Sewer Department, Superintendent:

- Project Completed: TBD
- Contact: Marcelino Torres, Construction Manager, 305-746-1068, marcelino.torres@miamidade.gov
- Contract Amount: $835,722.04
- Final Contract Amount: TBD
- Installation of ±2,332 LF of 10" DIP Force Main and ±1,465 LF of 8" DIP Force Main along SW 280 Street in Homestead, FL

West River Drive & NW 58th Terrace Water Main Improvements, City of Margate, Superintendent:

- Project Completed: 4/2017
- Contact: Abraham Stubbins, Inspector, 954-605-0787, astubbins@margatefl.com
- Contract Amount: $725,000.00
- Final Contract Amount: $684,305.83
- Installation of ±3,000 LF of 6", ±370 LF of 8", & ±400 LF of 10" DIP Water Main

FREDERICK W. WARD

Health & Safety Manager

UTILITY & EXCAVATION CORP.
UNDERGROUND ENGINEERING

Frederick W. Ward has been a Risk and Safety Director involved in multimillion dollar projects along his 25-year career in the "Occupational Risk, Health and Safety Industry". He has been part of teams that oversee Workers Compensation, Automobile, General Liability and various other lines of insurance coverage. Frederick's achievements have always been measured through his ability of reducing losses for a clients on all lines of risk. He has been instrumental in the recognition process of hazards, and implementation of programs and policies that work towards a complete overhauling of the safety effort for companies; saving lives, minimizing accidents, creating efficiency in a safe environment and protecting corporate assets.

His experience includes the implementation of more than sixty "Comprehensive Safety and Health Programs" in companies that are still being managed after years of implementation with positive strong results that have enabled these companies to compete in the present insurance driven markets in the Construction Industry, General Industry and Maritime Industry. He has implemented "Safety Training Programs" in areas like: Safety Orientation, Fall Protection, Log Out / Tag Out, Electrical, Scaffold, Confined Space Entry, Trenching and Shoring, Defensive Driving, Ladder, Heavy Equipment Operation, Rigging and Signaling for Cranes, among many other standards covered under the Occupational Safety and Health Administration or the Occupational Safety and Health Act of 1970.

He has been in charge of Accident Investigations, Litigations up to Closure of Claims dealing with all aspects of Claims Management on the Worker's Compensation side as well as the Auto Liability and General Liability aspect of any claim; dealing with multiple Defense Counsels and Opposing Counsels, Adjusters, Subrogation Departments; coping with all the demands of legal litigations, due dates, requests to produce and interrogatories. Frederick as multiple success stories with companies reducing their Accident to Work Hours Loss Ratio and their Experience Modification Rate. In addition, he has managed visits from Insurance Carrier Loss Control Departments, City, State and Federal Environmental Departments, Fire Departments, Department of Transportation Audits and responses and litigation for various OSHA Inspections.

Since the early 2000's Frederick has been an Authorized OSHA Outreach Trainer under the Construction Industry, General Industry and Maritime Industry and have been training new employees on OSHA Standards. He also has been an instructor under the National Safety Council for Forklift Training, First Aid and C.P.R., Defensive Driving, Professional Truck Driver Defensive Driving Course among many other courses. He has trained operators in the safe handling of Loaders, Excavators, Bulldozers, Back Hoes and Aerial Lifts among other equipment.

SPECIALIZING IN:

» Hazard Recognition, Occupational Safety Training, Implementation of Safety and Health Policies and Programs and Audit and Control of Risk for Clients

EXPERIENCE INCLUDES:

D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL: New 30" force main along NW 13th Street in an urban area of Fort Lauderdale, including connections to the existing pipe and reconnection of Pump Stations A-28 and A-29. The project also includes, the design, permitting, construction, and installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and provide isolation to perform the required tie-in work.

YEARS EXPERIENCE

25

EDUCATION

BS Business Administration/ Marketing and Operations Management, Sacred Heart University, Santurce, PR

REGISTRATIONS, CERTIFICATIONS & TRAINING

OSHA 10 & 30 Hour Training

OSHA Outreach Trainer

National Safety Council Instructor

Certified Instructor for the following Courses:

- Adult, Child, & Infant CPR ~ AED (Automated External Defibrillation)
- Back Safety
- Bloodborne Pathogens
- Compressed Gas Cylinders
- Confined Space Entry
- Crane Safety
- Disaster Preparedness
- Electrical Safety
- Eye Care and Safety
- Fall Protection ~ Fire Prevention and Safety
- First Aid
- Flammables and Explosives
- Forklift Safety
- Hand and Power Tool Safety
- HAZCOM
- Healthcare CPR
- Hearing Safety
- Heat Stress

Furnish & Install 12" DIP and 16" HDPE Force Main on NE 14th Ave. from Miami Gardens Drive to NE 191 Street, RPQ T-2114, Miami Dade Water & Sewer, Project Manager:

» Project Completed: 9/2016
» Contract Amount: $636,197.00
» Final Contract Amount: $546,689.85
» Installation of ±1,835 LF of 12" DIP and ±400 LF of 16" HDPE Force Main via HDD.

Furnish & Install 12" DIP Force Main on Miami Lakeway N. from Miami Lakes Drive to Turnberry Drive then to P.S. 0333, RPQ T-2187,Miami Dade Water & Sewer, Project Manager:

» Project Completed: 10/2016
» Contract Amount: $685,175.97
» Final Contract Amount: $604,795.15
» Installation of ±2,500 LF of DIP Force Main including a 20x12 Tapping Sleeve and Valve in Miami Lakes Drive.

Furnish & Install ± 7,000 LF of Gravity Sewer Mains & ±1,400 LF of Water Main, T-2384, Miami Dade Water & Sewer Department, Project Manager

» Project Completed: 12/2018
» Contract Amount: $3,720,934.78
» Final Contract Amount: TBD
» Installation of ±7,000 LF of 12, 10, 8, & 6" PVC Gravity Sewer Main, 29 Structures, and ± 1,400 LF of 12" DIP Water Main

Water Main & Force Main Replacement on Sample Road Phase I, City of Coral Springs, Project Manager:

» Project Completed: 3/2018
» Contract Amount: $3,000,000.00
» Final Contract Amount: $3,017,070.27
» Installation of ±1,550 LF of 16" DIP Water Main, ±950 LF of 12" DIP WM & ±1,500 LF of 20" DIP Force Main along Sample Road between University Drive & Coral Hills Drive (Broward County ROW)

Furnish & Install 16" DIP and 20" HDPE Water Main in 30" HDPE Casing, RPQ T-2056, Miami Dade Water & Sewer, Project Manager:

» Project Completed: 8/2016
» Contract Amount: $1,423,871.49
» Final Contract Amount: $1,236,650.20
» Installation of ± 3,750 LF of DIP and ±1,000 LF of 20" HDPE Water Main (carrier pipe) and 30" HDPE casing underneath I-95.

Pump Station #1 Force Main, Town of Davie, Project Manager:

» Project Completed: 12/2017
» Contract Amount: $1,142,000.00
» Final Contract Amount: $1,104,279.38
» Installation of ±2,500 LF of 16" DIP Force Main, ± 2,100 LF of 18" HDPE via HDD, and ± 200 LF of 20" HDPE via Horizontal Directional Drill method

Miami Springs Water System Fire Flow and Water Service Improvement Phase 2, Furnish & Install 8" DIP Water Main, T-2339Miami Dade Water & Sewer Department, Project Manager:

» Project Completed: 9/2018
» Contract Amount: $1,157,212.31
» Final Contract Amount: $991,807.00
» Installation of ±4,220 LF of 8" DIP Water Main and ±50 Water Services

- Ladder Safety
- Lockout Tagout
- Materials Handling Safety
- MSDS's
- Personal Protective Equipment
- Respiratory Safety
- Rigging Safety
- Right-To-Know
- Chemical Hazards
- Safety Audits
- Safety Housekeeping and Accident Prevention
- Safety Orientation
- Slips, Trips and Falls
- The ANSI Material Safety Data Sheet (MSDS)
- Welding Safety
- Forklift Training
- Defensive Driving Course - 4 Hours

JORGE ZURITA, CGC

Construction Manager; QA/QC Manager

Jorge L. Zurita, a Florida Certified General Contractor is currently a professional Senior Construction Manager, holding over 31 years of combined Construction Industry experience building large and complex Projects, as well as holder of several Industry licenses. He has served as a senior manager on large complex commercial and major mixed used developments. His airport construction projects have been very specialized in all types of multifaceted construction. For over 25 years at the Miami International Airport, he has been a result driven construction professional who has performed and delivered successfully over 15 Projects at the Miami International Airport, all from start to finish including Project Contract Closeout. His vast experience and specialties at the Miami International Airport have been in Parking Garage Facilities, Cargo Building Facilities, Runway-Taxiway improvements, Concourses, Terminals, Maintenance Service Facility for the Automated People Mover and Baggage Handling Systems. All his Projects were performed in airside and landside conditions, under a fully operational airport with no disruptions to the airport.

For the past 25 years he has used his diverse strong senior leadership background of expertise in the areas of Construction Management, Corporate Quality Management, Safety and Small Business Community Mentor, Project Planning, Scheduling, Contract Administration, Budgeting, Cost Control to hold himself accountable for ensuring and promoting a success Project and exceptional Teamwork. In every Project he has always assured that everyone on the team knows & executes their role, knows the roles of the other team members and acts upon the belief that those roles will be performed in order to satisfy the Client by turning over a Quality Project. His practice of 8 things Honesty, Integrity, Hard work, Respect, Extraordinary and Excellent at what you do, Exceeding expectations, Giving back to the community and having a sense of humor will never fail you and keep you successful. As a leader he understands the critical importance of Safety, Quality, Teamwork/Team player, motivator & communicator which has benefited the members of his team as well as that of the Client's. His Construction Management roles of high profile Projects, specifically at the Miami International Airport has involved technical expertise in all phases of permitting, design coordination, schedule, budget, quality, pre-construction, project implementation, procurement, contract negotiations and execution, oversight, planning, delivery strategy, construction managing, commissioning, cost control, project controls, and contract closeout. With his oversight and implementation of a proactive Construction Management Policy, Quality Policy, and Safety Policy he has created ways that don't impact Costs, Schedule, Safety, Quality & Project Closeout. As a result, he has proven to be a successful Senior Manager for the past 25 years. He has and continues to meet all demanding completion project schedules and receive satisfaction, from all stakeholders at the Miami International Airport.

EXPERIENCE INCLUDES:

D/B Florida International University Football Stadium Expansion, Miami, FL: This $37.2M design-build project included, but was not limited to, the demolition and expansion of the existing 7,500 seat stadium to a new stadium of approximately 15,236 seats with the ability to expand to 45,000 seats. Jorge served as the Manager responsible for the management of the project costs and scheduling encompassing contract administration, subcontractor negotiations, approval of payment applications, and communication and negotiation with the Client.

YEARS EXPERIENCE

31+

EDUCATION

B.S., Construction Management with Honors, Florida International University, Miami, FL, 1995

A.A., Architecture with Honors, St. Petersburg Junior College, Clearwater, FL, 1992

Architectural Graphics and Models, New Jersey Institute of Technology, Newark, NJ, 1986

REGISTRATIONS, CERTIFICATIONS & TRAINING

Florida Certified General Contractor #CGC1526982

State of Florida Real Estate Associate #SL3310949

US Corp of Engineers Construction Quality Management for Contractors

OSHA 500 Trainer in Construction

Certified ISO 9001 Internal Auditor

AIA/CES Registered provider (J510) Is it Really Green (Program 00006)

Management Commitment & Employer Involvement

North Terminal 780K D/B Program at Miami International Airport: General Manager for Approximately $5M for **over 140 miscellaneous projects** requested by owner and authority having jurisdiction for the completion of North Terminal project.

Miami-Dade Aviation Department/Miami International Airport's South and Central Terminals Baggage Handling System Program, Miami, FL: Jorge is one of the Senior Manager's for Construction of the $200M project. Work includes construction of a new 60,000sf facility to serve as the CBIS/CBRA for a fully renovated South Terminal baggage handling system (BHS) and a new Central Terminal baggage handling system, each of which are also part of the project. Other key elements to the project involve renovations to the existing facility to make accommodations for the South and Central BHS and the construction of a new control room to support the BHS.

Miami-Dade Aviation Department/North Terminal Development Consolidation Program, Miami, FL: Jorge was a Senior Manager for this $1,055,501,216 Program that comprised of 15 airside and landside projects designated by five different design firms. The MIA North Terminal Development Consolidation Program (NTDCP). The MIA NTDCP was one of the largest construction programs in South Florida consisting of pre-construction and construction services to build the one-mile-long MIA expansion, which included the construction of new structures, renovation of the existing terminal and improvement of equipment and systems for a total of 51 gates.

Miami-Dade Aviation Department/MIA South Terminal Expansion Program, Miami, FL: One of the largest contracts ever awarded by Miami-Dade County, $840.5M, representing a major expansion to the present Miami International Airport (MIA) terminal configuration. Jorge was a senior manager in this South Terminal Program which included 7 airside and landside design projects designed by 5 different design firms. The primary components of the program are the 1,200,000 SF South Terminal, the 350,000 SF Concourse J, a new more than 40-acre aircraft apron area, and the conversion of the existing Concourse H into an international facility, all of which must be constructed within the operational constraints of the existing airport. The scope of work includes a full range of pre-construction and construction services. Special Emphasis on CSBE Small Business Participation and Goals: project renovation of the existing Concourse H including infill building structures, sterile corridor & conversion of existing domestic gates into international gates. The project was done as a set aside to promote development of over 30 small businesses. The program and project was successful and competed on time and within budget.

Miami-Dade Aviation Department / MIA Concourse E Satellite Extension and Utility Corridor, Miami, FL: Jorge was a senior manager which delivered a new $9M Tunnel Extension and Utility Corridor. This 10-phase airside project, located in the heart of MIA's airfield between taxiways P & Q, consists of both utility corridor and road work. The 500 LF utility corridor extension includes jet fuel piping, power and communication duct banks, water mains and sewer force mains. The roadwork consists of an AOA guard booth and new vehicular ramp exiting the existing active under runway cargo tunnel. Main task involved designing and installing auger cast pilings, a tremie seal and the surcharge loading necessary to prevent hydrostatic uplift of the existing tunnel and ramp during the new ramp construction.

ADDITIONAL EXPERIENCE IN COMPLEX COMMERCIAL PROJECTS WITHIN MIAMI DADE:

- Ocean Steps High Rise Condominium Miami Beach, FL
- Fortune House High Rise Condominium Brickell, FL
- Ritz Carlton Luxury Hotel, Key Biscayne, FL
- Hefler Homes - Construction of New Development and Infrastructure of over 500 New Residential Homes
- Miami Dade County Public Schools Compliance with Americans with Disabilities Act

EAP of South Florida DOT (49 CFR 382.307) Reasonable Suspicion Drug Testing Training for Supervisors

American Galvanizers Association Certification

PROFESSIONAL ASSOCIATIONS

Bureau Veritas

Project Management Institute Association

Rotaract Organization

Vocational Institute Career Association

FIU Department of Construction Management Industry Advisory Council

Florida and Miami Dade County Small Business Association

24+ Years with MIA

LUIS E. RAMOS, CCP

Sr. Cost Estimator; Scheduler/Project Controls Specialist

Mr. Luis Ramos has over 27 years of experience in several areas of Engineering, which include Construction Management, Estimating, Scheduling, Project Management, Construction Facilities, and Road Construction. He is an AACE certified Professional. He has developed cost estimates for projects including federal government facilities, aviation, rail and transit, roads and highway, water and waste water, and industrial projects. Mr. Ramos is also proficient using various software such as Success Estimator, on screen Takeoff (OST), MII, Bluebeam Microsoft Word, Microsoft Excel, Microsoft Outlook, Power Point, M-CACES, and other software related to construction estimating.

EXPERIENCE INCLUDES:

Inland Empire Utilities Agency, Regional Plants 1 and 5 Expansion Phase 2, Chino, CA: Luis was the Architectural Estimator on this project. The expansion project also consisted of replacing, relocating, and constructing new off-site facilities, including sewage lift stations, force mains, brine lines, and recycled water conveyance pipelines. Parsons completed the pre-design to expand and upgrade Regional Plant 1 and Regional Plant 5. Luis was responsible for Divisions 5, 6, 9, 10, and 14 cost estimates.

San Francisco Public Utilities Commission Sewer System Improvement Program, San Francisco, CA: As Associate Civil/Structural Estimator, Luis was responsible for preparing a structural cost estimate and was involved on superstructures. This project was one of the most prominent programs in the United States, the San Francisco Public Utilities Commission began a programmatic review of its entire wastewater collection and treatment facilities, resulting in a series of projects to enhance treatment capacity and system reliability, including advanced biosolids digestion and major wastewater treatment improvements. The Sewer System Improvement Program is a collection of capital improvements for San Francisco's treatment and collection systems to bring the sewer system into a state of good repair and to ensure continued regulatory compliance.

Washington Metropolitan Area Transit Authority (WMATA) On-Call General Architectural and Engineering Consultant Services, Tysons, VA & Washington, DC: As Associate Cost Estimator, Luis prepared architectural and structural discipline cost estimates for the Metrorail network which includes 91 transit stations (47 of which are underground) and 50 miles of subways.

Amtrak, Amtrak Baltimore and Potomac Tunnel Replacement, Preliminary Engineering Services, Baltimore, MD: Luis was the Associate Structural Estimator on this project and supported the development of the cost estimates. This project consisted of providing preliminary engineering services associated with the 144-year-old Baltimore and Potomac Tunnel, performing the entire gamut of technical activities including: railroad operations analysis; track design; civil, structural, fire and life safety, ventilation, drainage, electrical, communications, security, and construction staging design; and cost estimating associated with preliminary engineering for the replacement tunnel.

Baltimore Washington International (BWI) Expansion Concourse E, Baltimore, MD: As the Architectural & Structural Estimator for the project, Luis Provided Independent Cost estimate for change orders during the progress contract. He led all change orders associated with the architectural, structural, Mechanical and Electrical discipline cost estimates.

YEARS EXPERIENCE

27+

EDUCATION

MS Business Administration, ICESI University, Cali, Colombia

BSc, Civil Engineering, University of Cauca, Popayán, Colombia

COURSE WORK/TRAINING

I-Two Estimating and Cost Management System

Success Enterprise

OST- On Screen Take-Off

REGISTRATIONS & CERTIFICATIONS

AACE Certified Cost Professional (CCP) # 33897

PROFESSIONAL AFFILIATIONS

The Association for the Advancement of Cost Engineering (AACE)

COMPUTER/SOFTWARE SKILLS

Success Estimator, Enterprise Estimator, MCASES, Primavera

Bluebeam, Microsoft Office, Suite & On Screen Take-Off

St. Elizabeth Campus Program/DC Washington, DC: As the Associate Project Manager/Cost Estimator Luis was responsible for project scope definition and development of the project work breakdown structure (WBS) utilized as the road map for all project control system date repository and integration. He was the leader of the project estimate system, development of electronic cost interface for the project, estimating system with the project controls data management engine, and assisted with the development of required project reporting. He also assisted the project/program management team with preparation of schedules for estimate preparation, and defining resource requirements for estimate deliverables.

New York State Department of Transportation, I-81 Viaduct Environmental Impact Statement Syracuse, NY: Luis was the Associate Civil/Structural Estimator for this project. The project consisted of the preparation of an environmental impact statement for the replacement or removal of the I-81 viaduct in Syracuse, NY. The following was provided for the project: scoping, preliminary highway and bridge design, traffic studies, environmental studies, public involvement, and urban design alternatives to replace the viaduct with a new structure or an urban arterial, with an emphasis on economic, social, and environmental issues.

Airports & Auxiliary Services, New Mexico City International Airport Mexico, CDMX: Luis was the Principal Estimator for this project. The scope includes program management; design management; and program-level construction management. Luis was responsible for project scope definition and development of the project work breakdown structure (WBS). Leader of the project estimate system development of electronic cost interface for the project estimating system with the project controls data management engine and assisting with the development of required project reporting. Assisted the project/program management team with preparation of schedules for estimate preparation, defining resource requirements for estimate deliverables, review of Client task request for estimate deliverables, and documents and publication involving impacts to probable project/program cost. The overall goal of the New International Airport of Mexico City (NAICM) was to provide the world-class aviation infrastructure needed to support Mexico as an emerging world economic power. Parsons is serving as program manager and is implementing a work plan that will facilitate the efficient design, construction, transition, and implementation of operations for the new airport.

Senior Cost Estimator for the below list of projects: Responsibilities included for all assigned proposals from conceptualization through presentation with the result being a package that meets the requirements of the customer and which will allow the customer to bid competitively and profitably on project opportunities. Estimating for all kind of projects, such as Airports, Courthouses, Hospitals, Warehouses and Army-Facilities. Estimates, Pricing and quantities take off for Architectural Civil and Structural Projects. Analyzed project specifications, field technical reports, and environmental conditions. Developed and analyzed cost estimates of labor man-hours, material pricing. Some of those projects include:

- **UPH Barracks** Fort Hunter Ligget, CA 3/2012
- **Army Reserve Center** St. Joseph, MN 5/2011
- **Fort Polk Military Working Dog Facility DQCP** Ft. Polk, LA 12/2012
- **C-130 Flight Simulator Facility** Moody AFB, GA 4/2012
- **UPH Barracks Charette** Fort Hunter Ligget, CA 11/2011
- **ISBC** Camp Ripley, MN 4/2011
- **ISBC** Camp Ripley, MN 2/2011
- **Soto Cano Air Base** Sotocano, Honduras 5/2011
- **FLETC Renovation Bldg 63** Glynco, GA 1/2011
- **Building 231 2nd Floor** Robbis AFB, GA 12/2011
- **Endoscopy Suite Upgrade** Beckley, WV 2/2011
- **MARBIONC** Wilmington, NC 2/2011
- **GSA (TI)** Mariana, FL 6/2011
- **USAO (TI)** Louisville, KY 6/2011
- **ICE North Charleston** NC 6/2011
- **SSA (Shell) Base Est., Progress Const. Est & Estimate to Completion** Jackson, TN 6/2011
- **Cool Springs Call Center** Franklin, TX 5/2011
- **SSA (TI)** Lagrange, GA 5/2011
- **SSA (TI)** Jackson, TN 4/2011
- **FBI (TI)** Johnson City, TN 3/2011
- **SSA (TI)** Jackson, TN 3/2011
- **TI DEA** West Palm Beach, FL 2/2011
- **Water Source Heat Pump Replacement** Knoxville, TN 2/2011
- **Military Entrance Processing Station** Knoxville, TN 2/2011
- **USCORTS** Rome, GA 2/2011
- **ODAR** Hazard, KY 1/2011
- **ICE** Tallahassee, FL 12/2010
- **MHSA Tenant Improvement** Hazard, KY 11/2010
- **DEA Tenant Improvement** Oxford, MS 11/2010
- **Office Bldg. Tenant Improvement** Louisville, KY 10/2010
- **HSS - Tenant Improvement** Miami Lakes, FL 10/2010
- **SSA - Terminal Improvement** Laurel, MS 8/2010

PROJECT MANAGER'S EXPERIENCE

DESIGN-BUILD PROJECT MANAGER

Mr. Luciano O. Perera has over 27 years of experience as a leader in the fields of Engineering, Construction, Disaster Recovery and Real Estate Development with principal responsibilities over project performance as well as profit and loss. He has worked with large teams of business clients, developers, government agencies, consultants, contractors, and stakeholders, and has a track record of performance in managing large-scale complex projects and programs simultaneously from inception to completion; enhancing client relationships by delivering projects on time and within budget while upholding the highest standards of safety and quality. Luciano's Program Management and Construction Management experience includes Owner, Principal and Senior Manager experience in transportation and infrastructure improvements performed under major capital and consent decree mandated programs in South Florida and the City of New York.

- B.S. Civil Engineering
- Former Program Manager of large-scale Consent Decree Programs
- Expert level knowledge and experience:
  - Managing and providing professional services in large-scale Programs
  - Managing the design, permitting and construction of pipeline projects (from small to large diameter, all materials and methods of installation) in complex urban and suburban environments for more than two decades
- Track record of delivering design and construction of local pipeline projects on-time and within-budget while minimizing impact to communities and upholding the highest standard of quality and safety
- Excellent interpersonal, written and presentation skills
- Fluent in Spanish and English

Project Experience Includes:

- West Avenue North & South D/B Neighborhood Utility & Resiliency Improvements, Miami Beach, FL
- D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL
- MDWASD D/B Water Main Replacement & Service Conversions in the Shenandoah Area, Phase B, Miami, FL
- Florida City Force Main 18 & 4 Replacement, Florida City, FL

LEAD DESIGN PROJECT MANAGER

Mr. Jose Caraballo has over 19 years of professional experience in the areas of civil, water, wastewater, stormwater and drainage design, transportation and environmental engineering, and project management with various public entities. He has been involved in a variety of civil and environmental engineering projects related to the improvement of roadways, public utilities, drainage systems, pump stations, lift stations, water treatment plants, ports and airports, Class IV Freshwater Wetland Permitting and SFWMD Environmental Resources Permitting, amongst others. Jose has successfully overseen projects from the initial assessment, feasibility analysis and conceptual stages through completion, including full design, permitting, construction management/administration and close-out.

- BS, Environmental Engineering
- Florida and New York Professional Engineer
- Expert level knowledge and experience:
  - Designing pipelines projects (from small to large diameter, all materials and methods of installation) in complex urban and suburban environments for more than 20 years
  - Resolving complex field conflicts
  - Permitting pipeline designs

- Track record of delivering design and permitting of local pipeline projects on-time and within-budget while minimizing impact to communities and upholding the highest standard of quality and safety
- Excellent interpersonal and communication skills
- Fluent in Spanish and English

Project Experience Includes:

- D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL
- West Avenue North & South D/B Neighborhood Utility & Resiliency Improvements, Miami Beach, FL
- MDWASD D/B Water Main Replacement & Service Conversions in the Shenandoah Area, Phase B, Miami, FL

LEAD CONSTRUCTION MANAGER

Mr. Ernest Cano has over 41 years of experience in Engineering Design (Civil and Electrical), Construction, Project and Program Management of governmental, residential, commercial, utilities and fast track design / build facilities ranging from $40 million to $3.9 billion. He has expert level knowledge and experience managing the construction of small to large diameter pipeline project in both complex urban and suburban environments. Ernest also extensive experience in improving efficiency of systems and deploying procedures to ensure that project completion dates are achieved ahead of schedule and within budget. Throughout his career, he has established, managed and led effective project teams to accomplish project goals and professional interaction with State and Local Governmental Agencies.

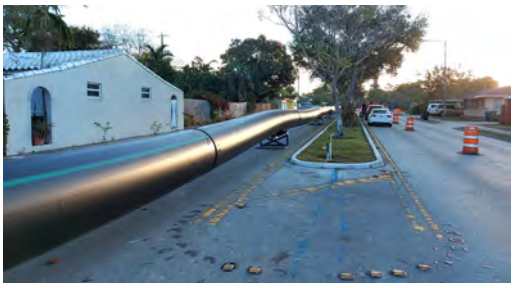
- BS, Civil Engineering
- BS, Electrical Engineering
- Expert level knowledge and experience:
  - Managing the construction of pipeline projects (from small to large diameter, all materials and methods of installation) in complex urban and suburban environments
  - Working with project owners and utility companies to resolve field conflict in a timely fashion
- Former Area Construction Manager on Miami-Dade Water and Sewer Department's Consent Decree Program
- Former Project Manager on Miami Dade Water and Sewer Department' Pump station Improvement Program (Phase I)
- Former Design and Construction Manager of FPL Transmission Lines and Substations
- Construction Manager pipeline projects successfully completed with team partners RPU and Centerline
- Track record of delivering construction of local pipeline projects on-time and within-budget while minimizing impact to communities and upholding the highest standard of quality and safety!!!
- Excellent interpersonal and communication skills
- Fluent in Spanish and English

Project Experience Includes:

- D/B NW 13th Street Phase I Force Main Replacement, Fort Lauderdale, FL
- Florida Power & Light D/B Electrical Transmission & Distribution Facilities Projects, Various Locations in Florida
- North Terminal 780K D/B Program at Miami International Airport, Miami, FL
- Florida City Force Main 18 & 4 Replacement, Florida City, FL

D/B NW 13TH STREET PHASE I FORCE MAIN REPLACEMENT

The integrated design-build team of CES Construction and CES Consultants is currently performing the design, permitting, construction, testing and startup of a new 36" diameter force main along NW 13th Street in an urban area of Fort Lauderdale, including connections to the existing pipe and reconnection of Pump Stations A-28 and A-29. The project also includes, the design, permitting, construction, and installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and provide isolation to perform the required tie-in work. Also included in the scope of work are inspection and construction certification services, as well as surveying, geotechnical exploration, preparation of completed permit submittal packages and procurement of all required permits for construction, construction phasing, maintenance of traffic and all other related work and services.



The scope of work includes all design, permitting, construction, and construction services related to:

- Installation of a new 36-inch nominal diameter force main under NW 13th Street utilizing Ductile Iron Pipe by open cut installation and/or high-density polyethylene pipe installed by horizontal directional drilling (HDD), as required.
- Connection of the proposed piping on the east end to the existing 24" nominal diameter force main that extends east along NE 13th Street and performing line stop.
- Connection of the proposed piping to the existing 24" cast iron force main that extends west along NW 13th Street and perform line stop as required.
- Provide reconnection to Pump Stations A-28 and A-29 at NW 1st Avenue and NW 2nd Avenue.
- Installation of a new plug valve and piping near NE 14th Avenue and 11th Street to replace the existing inoperable valve and providing isolation (line stop) to perform required tie-in work. This work will be completed first in order to divert flow away from the work area on NW 13th Street between NW 9th Avenue (Powerline Road) and North Andrews Avenue.

UTILITY & EXCAVATION CORP.
UNDERGROUND ENGINEERING

LOCATION
Fort Lauderdale, FL

CLIENT/POINT OF CONTACT
City of Fort Lauderdale
Raymond Rammo, PE, MS
100 N. Andrews Avenue Fort Lauderdale, FL 33301
Office: 954.828.5990
Cell: 305.922.4645
rrammo@fortlauderdale.gov

STATUS
Construction

START
Design: 07.27.20
Construction: 01.25.21

COMPLETION
Design: 01/2021
Construction: Est. 06.21.2021

BUDGET/ COST
$2,636,578/ TBD

KEY FEATURES
Civil Infrastructure

Design-Build

Force Main, Pump Station & Pipeline Reconnection, Plug Valves & Piping, Line Stops

MOT

Public Outreach

Permitting & Utility Coordination

Interagency Coordination

Scheduling & Cost Estimating

Roadway Resurfacing & Reconstruction

Signage & Street Markings

Horizontal Directional Drilling

D/B WATER MAIN REPLACEMENT & SERVICE CONVERSIONS IN THE SHENANDOAH AREA, PHASE B

The Shenandoah neighborhood is one of the older neighborhoods within the City of Miami, with the water supply for residents primarily provided through 2-inch water mains located within easements to the rear of the properties. The Miami-Dade County Water and Sewer Department (WASD) selected the Lanzo/CES D/B team to replace the water mains with 46,000 LF of 8-inch water mains relocated to the public roadway right-of-way. The project area is bounded by SW 16th Street, SW 22nd Street, SW 17th Avenue and SW 27th Avenue. Additionally, the design-build team relocated the existing water meters from the rear of the properties to the front of the properties and installed new service lines from the water meters to the residences. Over 650 private property water meter conversions from the rear of the property to the front occurred under this project. The project produced the following benefits to the residents:

- Increased water service pressure and flow
- Elimination of water mains within the easement at the rear of the properties
- Relocated water meters within the public right-of-way
- Increased fire hydrant coverage and fire protection

Because this project took place within the public right-of-way, as well as on private property, a thorough and comprehensive community outreach program was critical to its success. CES developed a communication program to provide clear dialogue between the design-build team, residents, public officials, and City of Miami staff. Additionally, CES developed an aggressive project phasing program that allows for a parallel execution of multiple sequential services.

LOCATION
Miami, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department / Lanzo
Miguel Pichardo
3750 NW 87th Ave., Suite 750
Miami, FL 33178
786.268.5170
miguel.pichardo@miamidade.gov

STATUS
Completed

START
04/2015

COMPLETION
04/2018

BUDGET/ COST
$10.4M/ $10.4M

KEY FEATURES
Design-Build

Water Distribution

Service Conversions & Connections

Surveying & Geotechnical Services

Utility Coordination

Roadway Restoration

Engineering Analysis & Design

Scheduling & Cost Estimating

Public Right of Way & Private Property Permitting

Public Outreach

Construction Phase Services

Construction Management / Inspection

Interagency Coordination

D/B REPLACEMENT OF WATER MAIN & SERVICE CONVERSIONS IN "DONUT HOLE" AREA

This project involved the replacement of the existing undersized and deteriorated water mains and existing main loop closures in order to improve system pressure and provide fire flow protection and for water service conversions (transfer of services from the rear to the front of properties and replacement of certain existing old services in front of properties to meet new standard) in the City of Miami Gardens "Donut Hole" service area. The project location is the area bounded by NW 187th Street to the north, NW 179th Street to the south, NW 7th Avenue to the west, and NW 2nd Avenue to the east, including state roads NW 183 Street and NW 2nd Avenue. The project includes the following main elements:

- ±22,450 LF of 8-inch ductile iron water main and pipe fittings
- ±12,060 LF of 12-inch ductile iron water main pipe and fittings
- ±1,050 LF of 6-inch ductile iron water main pipe and fittings
- ±560 water service conversions from rear of property to front of property

The scope also included: all required resilient plug valves and fire hydrant assemblies; tapping connections of various sizes to existing mains including tapping sleeves and valves; in-line water main connections to existing mains of various sizes; air release valve and flushing valve outlet assemblies; milling and resurfacing of existing asphalt pavement; placing existing water mains out of service upon completion of work; traffic control; installation and restoration of pedestrian curb ramps and installation of detectable warning surfaces, temporary and permanent replacement of any utilities, pavement, sidewalk, curb and gutter, valley gutter, traffic circle roundabout, tree, landscaping, sod, pavement markings, and/or driveway damaged by construction and all other appurtenant and miscellaneous items and work for a complete and fully functional installation.

Additionally, the project involved permitting both within the right-of-way and on private property. The right-of-way permits included City of Miami Gardens and Florida Department of Transportation (FDOT) roadways. The D/B Team developed a procedure with WASD to execute the water meter conversion, with considerable time spent analyzing, developing, and testing the mechanism by which the portion of the water meter conversions within private property could be finalized. Extensive public outreach and MOT planning ensured a smooth construction process.

LOCATION

Miami Gardens, FL

CLIENT/POINT OF CONTACT

Miami-Dade County Water & Sewer Department/ Lanzo Miguel Pichardo
3071 SW 38th Avenue
Miami, FL 33146
786.258.2573
miguel.pichardo@miamidade.gov

STATUS

Completed

START

2018

COMPLETION

2020

BUDGET/ COST

$10.4 M/ $9.8M

KEY FEATURES

Civil Engineering Analysis & Design

New Water Distribution System Mains & Service Meter Conversions

Design-Build

Project Fast-Tracking & Phasing

Utility Coordination

Public Right of Way & Private Property Permitting

Interagency Coordination

Construction Administration & Inspections

Roadway Resurfacing & Reconstruction

Maintenance of Traffic (MOT)

Public Outreach

Stakeholder Coordination

Site Restoration

WEST AVENUE NORTH & SOUTH D/B NEIGHBORHOOD UTILITY & RESILIENCY IMPROVEMENTS

In its continuing efforts to address sea level rise, the City of Miami Beach (CMB) awarded the RMCF/CES Consultants D/B team with two design/build contracts for neighborhood improvements throughout the West Avenue North and South Corridors. Rising seas, high groundwater, king tides, wind and deteriorating infrastructure have contributed to frequent flooding of CMB facilities, residences and business properties in the West Avenue Basin. The resiliency and sustainability project will provide the community with increased protection from flooding during storm events and high seasonal tides and a higher level of service for their infrastructure.

CES is the Project Manager, Lead Project Consultant/ Designer and Engineer of Record for the scope of work, which includes the design and construction of the complete public underground utilities of water transmission/distribution system, sanitary sewer collection system, and stormwater drainage system, including the verification and development of a stormwater model and a new 120,000 GPM master stormwater pump station, and the design, vertical rehabilitation, harmonization and ultimate construction of 1.2 miles of total roadway, sidewalks, landscaping and related infrastructure, including water meter service conversions from the rear of private properties to new water lines and connections in the right-of-way, in the projects' corridor. CES is also responsible for the pedestrian friendly "Complete Street" redesign, as well as incorporation of the findings of the 100 Resilient Cities Workshop, which includes raising the existing grade of the roadway by approximately 30 inches while providing drainage capacity for a 10-year storm event level of service with no structure flooding, a revised typical section that incorporates a pedestrian/bicyclist-friendly corridor, public/private property harmonization, new traffic signals, street lighting, and landscaping.

The North project includes the design of a "Bay Walk," for pedestrians, which extends into Biscayne Bay at the west end of the Lincoln Road Corridor and proposed stormwater pump station.

The South project includes the design and harmonization of the main commercial/high-rise condo area which required greater focus on pedestrian access, landscaping and a modified roadway cross-section from 8th to 14th Streets for bicycle traffic.

CES coordinated with the CMB, Ric-Man Construction Florida and the public/ residents via the PIO and managed and

LOCATION
Miami Beach, FL

CLIENT/POINT OF CONTACT
City of Miami Beach/ Ric-man Construction Florida
Jorge Rodriguez
1701 Meridian Ave, 3rd Floor
Miami Beach, FL 33139
305.673.7071
jorgerodriguez@miamibeachfl.gov

STATUS
Ongoing

START
2017

COMPLETION
Ongoing

BUDGET/ COST
$72M/ $100M+ Total
Budget was increased due to added scope.

KEY FEATURES
Design-Build

Water Transmission/ Distribution System

Sanitary Sewer Collection System

Urban Pump Stations, Stormwater & Drainage

Utility Relocation

Roadway Restoration

Streetscapes/Complete Streets Design

Property Harmonization with Artist's Renderings for Each Property

Water Meter Service Conversions

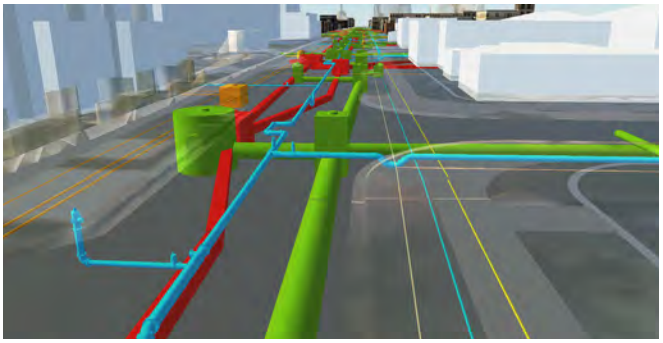
SUE/Utility Coordination

MOT & Signalization

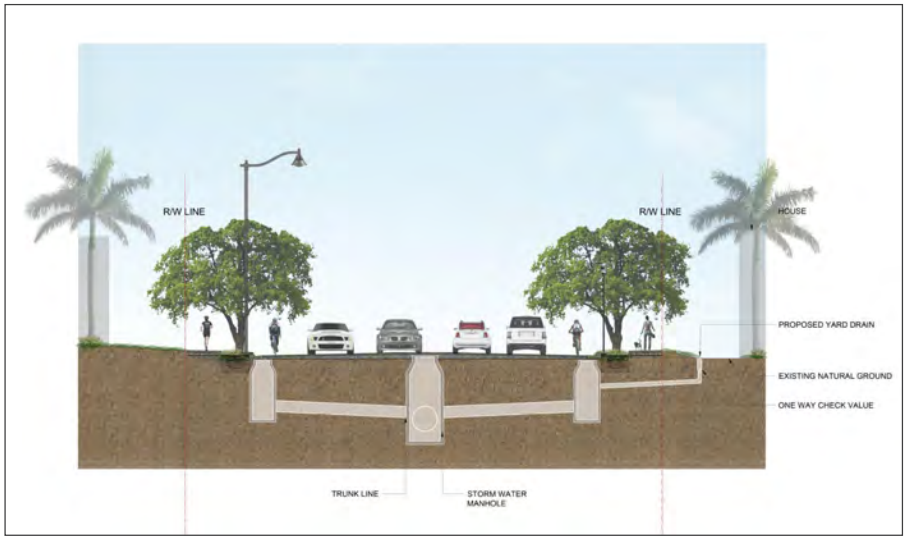
interfaced with 10 subconsultants in a variety of disciplines throughout the project development and design, project resiliency improvements, and into permitting and construction. In a collaborative effort, CES directed, held or attended bi-weekly design, utility and project meetings with CMB staff and project team/contractor members. CES also developed, coordinated and attended multiple public meetings and prepared presentations for CMB review/use, supporting resident interface. The team also participated in the 100 Resilient Cities Workshop and incorporated design changes and improvements to the project as a result of the workshop. The CES Team utilized an Urban Forester/Arborist to identify and evaluate the existing tree canopy and its viability both within and adjacent to ROW to save/maintain as much of the existing "green" infrastructure as possible.

The CES Team identified and reviewed encroachments and optional design considerations to resolve conflicts, preparing Harmonization Plans for 192 properties (137 North/55 South), with each property set including a Site Plan, Landscape Plan and 3D Perspective Rendering, specific to each property. CES also reviewed and evaluated seven existing CMB and FDOT stormwater pump stations (three North/four South) that impact or integrate with the project for Emergency Generator locations and connections, including supplemental survey and site investigations. These new Generators will allow CMB to improve and maintain stormwater disposal to reduce/minimize flooding as part of the resiliency effort.

CES coordinated with 12 different utilities along the project ROW to identify existing utility locations, potential conflicts and options/opportunities for facility relocation or adjustments. The project also involved the creation, development and maintenance of a Master Utility Plan to develop designs that incorporated or remediated affected utilities. By utilizing Civil 3D Software, CES created a 3D Model and Interactive Video of the existing and proposed utilities to represent location and subsurface conditions to minimize conflicts and to improve utility allocations and corridors.

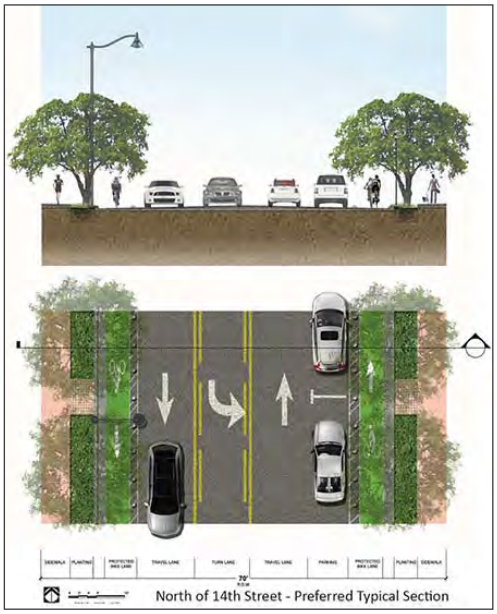


Stormwater Drainage System Improvements and Rehabilitation: CES performed a review and evaluation of two existing hydraulic models and developed an updated Stormwater and Hydraulic Model of the West Ave Project Basin that included the impacts of the City's 600-acre Basin, from the project east to the Atlantic Ocean. The project was modeled using ICPR4 and included upsizing and design of all drainage lines, curb inlets and yard piping followed by significant upsizing and modifications of the proposed pump stations. CES created the stormwater model and developed a pre vs. post scenario, along with three alternative stormwater models. The model considered the proposed roadway elevation and the actual finish floors of each existing structure. A hydraulic grade line was developed and maintained at one foot below the lowest finish floor elevation. The results of this model are being used in the complete design of the stormwater system for both the North and South projects.



THE WEST AVENUE NORTH CORRIDOR PROJECT INCLUDED:

Water Distribution and Transmission System: The North project includes replacement of the existing water main distribution and transmission system, to include 1,150 LF of 6-inch fire service lines, 7,350 LF of 12-inch distribution main, and 3,000 LF of 20-inch transmission main. New service connections, water meters, fire hydrants, and irrigation lines will be installed. The new water distribution/transmission system will be installed along West Avenue between 14th Street and Lincoln Road, along Bay Road between Flamingo Way and the Collins Canal, and along 14th Terrace to Lincoln Road between West Avenue and Alton Road. The existing water mains are being decommissioned.

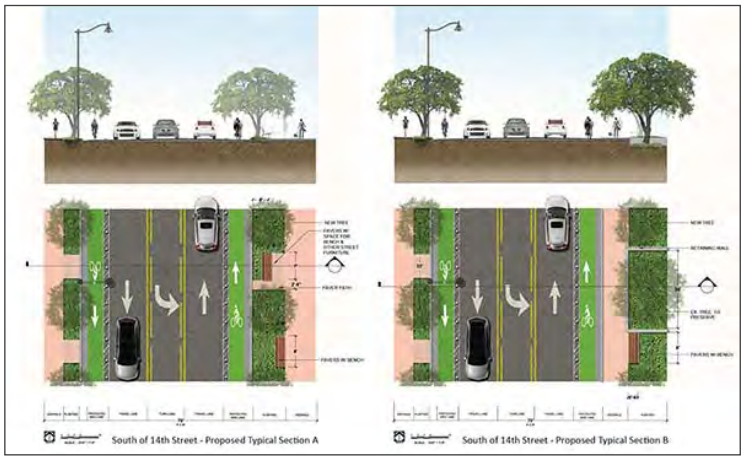


Sanitary Sewer Collection System: The North project includes rehabilitation and/or replacement-in-kind of the existing sanitary sewer collection system and adjustments to slopes and manholes to improve the existing system. The design includes the replacement of 5,400 LF of pipe of varying sizes (12-inch, 15-inch, 16-inch, and 18-inch) and 32 manholes.

Stormwater Drainage System Improvements and Rehabilitation: The North project includes replacement and upsizing of the existing stormwater drainage system. The following will be installed as part of the project: 3,600 LF of 24-inch RCP drainage, 2,100 LF of 48-inch RCP drainage, 800 LF of 60-inch RCP drainage, 2,300 LF of 72-inch RCP drainage, 400 LF of 84-inch RCP drainage, and 300 LF of 96-inch RCP drainage, with equivalent sized box culvert materials considered as an alternate. Additionally, a new 120,000 GPM stormwater pump station, including water quality treatment units and a specialized dissipator discharge structure, will be installed on the west end of Lincoln Road.

THE WEST AVENUE SOUTH CORRIDOR PROJECT INCLUDED:

Water Distribution and Transmission System: The South project includes replacement of the existing water main distribution and transmission system. The following will be installed as part of the project: 980 LF of 6-inch fire service lines, 3,900 LF of 12-inch distribution main, and 2,400 LF of 20-inch transmission main. New service connections, water meters, fire hydrants, and irrigation lines will be installed. The new water distribution/transmission system will be installed along West Avenue, between 8th and 14th Streets, and along 8th Street to 14th Street between West Avenue and Alton Road. The existing water mains are being decommissioned.



Sanitary Sewer Collection System: The South project includes rehabilitation and/or replacement-in-kind of the existing sanitary sewer collection system and adjustments to slopes and manholes to improve the existing system. The design includes the replacement of 3,350 LF of pipe of varying sizes (12-inch, 15-inch, 16-inch, and 18-inch) and 30 maintenance access structures.

Stormwater Drainage System Improvements and Rehabilitation: The South project includes replacement and upsizing of the existing stormwater drainage system and includes 2,055 LF of 24-inch RCP drainage, 30 LF of 30-inch RCP drainage, 870 LF of 48-inch RCP drainage, and 1,700 LF of 60-inch RCP drainage, with equivalent sized box culvert materials considered as an alternate.

PUMP STATION IMPROVEMENTS, REFURBISHMENTS, SCADA & FORCE MAIN VALVE REPLACEMENT

CES Construction is currently performing as the General Contractor for several City of Florida City CIP Civil Infrastructure projects including:

- **Lift Stations 2, 16 and 17:** Complete upgrades of the civil, structural (wet wells and valve vaults), site (grading and security fence), electrical (increase amp capacity and changes to voltage type), and communication (SCADA data flow) systems. Flow meters were installed to assist in determining future required upgrades to the City's sewer grid.
- **Lift Stations 3, 7, 10, 11, 12, 14, 18, 20, 22, 23, 24, 25, 27 and 29:** Installed new water service including meters and backflow preventers.
- **Lift Stations 3, 12, 14, 18, 20 and 24:** Upgraded pump guide rails.
- **Lift Stations 7, 18 and 20:** Replacement of mechanicals to include all existing valves (plug and check) and emergency pump out.
- **Lift Station 7:** Installation of new SCADA data flow communication system.
- **Water Mains:** Installation of large and small diameter water mains throughout the City, including several located in major roadways (US-1 and Krome Avenue).
- **Plug Valves:** Installation of plug valves throughout the entire force main grid. Provided value engineering that was approved by the Engineer of Record for the installation of in suction valves to eliminate interruptions to the force main grid. Several of the valves were located in major roadways (US-1 and Krome Avenue).

The projects included intense coordination with all stakeholders and authorities having jurisdiction, to include the City, the City's Program Manager, Public Works, DERM, FDOT, FPL, and other utilities.





LOCATION

Florida City, FL

CLIENT/POINT OF CONTACT

City of Florida City/Baljet Environmental
Pedro Gonzalez
10661 N Kendall Dr. #218
Miami, FL 33176
305.598.0199
pgonzalez@baljet.com

STATUS

Complete

START

07/2019

COMPLETION

11/2020

BUDGET/ COST

$1,456,756/ $1,456,756

KEY FEATURES

Civil Infrastructure Construction

Lift Stations

Isolation Valve Installation

Water & Force Main Upgrades

SCADA Improvements

Utility Coordination

Interagency Coordination

Roadway Resurfacing & Reconstruction

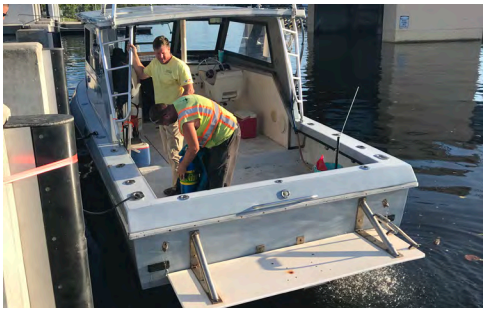
Signage & Street Markings

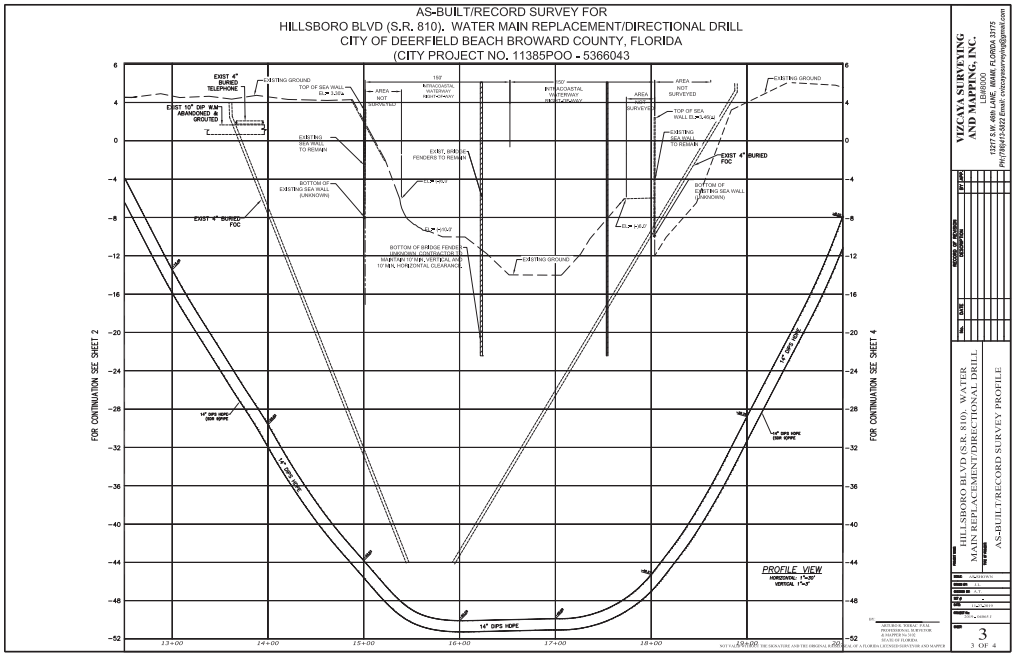
Horizontal Directional Drilling

HILLSBORO BLVD. WATER MAIN REPLACEMENT

The Hillsboro Blvd. Water Main Replacement project was completed via Horizontal Directional Drilling (HDD). The project included the installation of a 14-inch HDPE Water Main via Subaqueous HDD across the Intracoastal near the Hillsboro Blvd (SR 810) Bridge No. 860146.

A team of professional divers monitored the bottom of the intracoastal for frac-out from the beginning to the completion of the bore. .





LOCATION

Miami, FL

CLIENT/POINT OF CONTACT

City of Deerfield Beach
Alan Fathi, PE
200 Goolsby Blvd.
Deerfield Beach, FL 33442
954.480.4400
afathi@deerfield-beach.com

ORIGINAL BUDGET

$553,000

FINAL COST

$503,000

START

05.06.2019

COMPLETION

11.06.2019

T-2114

The T-2114 project consisted of the installation of ±1835 LF of 12" DIP and ±400 LF of 16" HDPE Force Main via Horizontal Directional Drill (HDD).

The HDPE scope project was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractor RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami Dade County, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department/ AECOM
Carlos Lopez, PE
3071 SW 38th Avenue
Miami, FL 33146
787.247.9503
clopez@wadetrim.com

ORIGINAL BUDGET
$636,197

FINAL COST
$546,689

COMPLETION
2016

T-2187

The T-2187 project consisted of the installation of ±2500 LF of 12" DIP Force Main via open cut. The project scope also included a 20" x 12" Tapping Sleeve and Valve in Miami Lakes Drive.

The open-cut scope was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractors RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami Dade County, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department & AECOM
Carlos Lopez, PE
3071 SW 38th Avenue
Miami, FL 33146
787.247.9503
clopez@wadetrim.com

ORIGINAL BUDGET
$685,175.97

FINAL COST
$604,795.15

COMPLETION
2016

T-2384/CD 6.00 SEP

The T-2384/CD 6.00 SEP project consisted of the installation and construction of ±7,000 LF of 12", 10", 8", and 6" PVC Gravity Sewer Main, 29 structures, and ±1,400 LF of 12" DIP Water Main.

The Open Cut scope successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractor RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department/ AECOM
Marcelino Torres
3071 SW 38th Avenue
Miami, FL 33146
305.746.1068
Marcelino.Torres@miamidade.gov

ORIGINAL BUDGET
$3,720,934.78

FINAL COST
$3,720,934.78

COMPLETION
2019

T-2056

The T-2056 project consisted of the construction of 2,050 LF of 36-inch DIP Force Main. Installation of 36-inch Gate Valves and 36-inch Plug Valves. 36-inch by 30-inch Line Stop with temporary bypass system. Milling and paving of approximately 5,000 SY.

The 36" Open Cut/Line Stop scope was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractors RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez. It was completed per the design without changes or time enhancements.

LOCATION
Miami Dade County, FL

CLIENT/POINT OF CONTACT
Miami-Dade County Water & Sewer Department & AECOM
Carlos Baro
3071 SW 38th Avenue
Miami, FL 33146
787.847.9503
carlos.baro@miamidade.gov

ORIGINAL BUDGET
$1,423,871.49

FINAL COST
$1,236,650.20

COMPLETION
2016

PROJECT METHODOLOGY & APPROACH

In compliance with the City's Consent Order (CO) 16-1487 with FDEP, the City has committed to upgrading the wastewater collection and transmission system within the deadlines mandated in the CO. One of the projects identified in phase II of the CO is to install a redundant force main to the existing 42-inch force main from Repump Station B to Sunrise Boulevard, which is currently under construction. The project in this solicitation is to design and build a 24-inch force main that will connect pump station B-4 located near the intersection of Sunrise Boulevard and Bayview Drive and connect it to the new redundant 42-inch force main which is currently under construction.

PROJECT BACKGROUND & UNDERSTANDING

The design-build project for this 24-inch force main runs through a residential and multi-family neighborhood. The roadway identified for construction is a two-lane undivided roadway. Although this road is primarily residential, it is a heavily traveled roadway providing transitional access from residential to commercial areas of the City. Traffic along the roadway includes pedestrians, bicyclists, scooters, and commuters. Minimizing impacts and restrictions from utility construction within the roadway is of paramount importance to the City.

The project scope is to design and build approximately 5,500 LF of 30-inch force main. The project will begin at pump station B-4 located in George English Park near the intersection of Sunrise Boulevard and Bayview Drive. The force main alignment will be along Bayview Drive north to NE 21st Street, where there will be a 24-inch stub-out for this project to connect to the redundant 42-inch force main. The project will commence with the installation of a tee onto the existing 16-inch discharge pipe exiting pump station B-4. The proposed pipe diameter will be increased utilizing a reducer and the alignment will be set by open cut installation method. A 4-inch plug valve with a plug will be installed facing south for a future connection. Once the alignment is set, the contractor will install approximately 5,200 LF of 24-inch (internal diameter) PE4710 DR11 HDPE along Bayview Drive from pump station B-4 to NE 21st Street. Due to the length of the pipe and the alignment of the roadway and an intermediate connection for pump station B-5, this will be achieved in four (4) individual HDD operations. At the completion of the HDD portion of the project, the approximately 200 LF of 24-inch DIP force main will be installed to make the connection to a 24-inch stub-out near the intersection of Bayview Drive and NE 21st Street, and an additional connection to an existing 10-inch force main to pump station B-5.

Local traffic considerations will be a key factor in the scheduling and execution of this project. Although we are not impacting any major arterial roadways, Bayview Drive is a very important roadway for many residential areas to access these major arterial roadways. Equally important is maintaining access to City services and emergency vehicles, hence **maintenance of traffic at all times is crucial to public safety and the community's well-being.**

Careful planning will be necessary to successfully complete all the required bores for this project. A bore plan that considers the sensitive nature of the proposed drill, a frac-out contingency plan, coordination with all stakeholders, and a drilling mud containment/ clean-up plan in the event of a frac-out are some of the items that our team is prepared and experienced to employ during the HDD portion of the scope.

SCOPE OF PROJECT

The Pump Station B-4 Force Main design-build project comprises the following elements for design and construction:

- Approximately 5,200 linear feet of 24-inch HDPE DR-11 force main installed by HDD
- Approximately 300 linear feet of 24-inch DIP force main installed by open-cut
- Cut-in tee connection into the existing 16-inch DIP discharge pipe from pump station B-4
- Connection to a 24-inch stub-out from the redundant 42-inch force main near the intersection of Bayview Drive and NE 21st Street (This is currently under construction)
- Maintenance of Traffic
- Roadway restoration

COMMITMENT TO PERFORM THE WORK

The **CES Team** is ready to begin work on this project The CES Team is ready to begin work on this project immediately upon issuance of a Notice to Proceed. The CES Team offers the City a professional Design-Build Team with an unmatched combination of design experience and construction know-how. **CES Construction** will serve as the Design-Build Firm and Lead Constructor with the capability to mobilize in-house pipeline crews, subcontractor pipeline crews and support crews, all located here in southeast Florida. The comprehensive design efforts will be led by sister company and Lead Design Firm, **CES Consultants**, a well-established, local Broward engineering design firm that offers unparalleled design experience and professional infrastructure design engineers with commensurate design-build and construction experience.

Additionally, the design and construction execution are strengthened by our Subconsultant/Subcontractor Team's expertise in open-cut utility excavation (**RP Utility & Excavation Corp.**), and in horizontal directional drilling (**Centerline Directional Drilling, Inc.**). This support team, together with CES Construction, will provide the exceptionally driven and experienced staff that only local, high-caliber firms can bring.

Our key team personnel have been hand-selected based on the value, knowledge, and experience they bring to this project and for the added value and benefits they bring to the City. With a diverse and deep bench of design engineers and construction professionals, the CES Team is ready to deliver this project quickly while maintaining the greatest standards of quality.

The CES Team fully understands the tight schedule the City must follow and the urgency of meeting all deadlines.

TIME-SAVING CONSTRUCTION TECHNIQUE

In addition to expediting the design and permitting phases of the project, the CES Team plans to complete the force main installation within the specified timeline by working multiple crews. This provides the CES Team with the ability to work on unrelated scopes simultaneously while expeditiously working around known conflicts and unforeseeable conditions. Additionally, the CES Team will be using a "rolling" maintenance of traffic plan to allow the construction crews to operate at a high production rate with minimal impact to local traffic and residents.

The CES Team commits to applying the requisite resources throughout the project duration to keep the project within the prescribed schedule requirements.

Safety and quality of work are our top priorities. Our work will adhere to the highest industry standards.

A draft copy of the CES Team's fast-track project schedule is included on the following pages. The team's strategies for fast project delivery include:

- Concurrent activities in design and construction
- Strong quality control and assurance measures on the design before going to the City for review and to the regulatory agencies having jurisdiction for permitting
- Thorough due diligence with permitting agencies
- Early preparation and submittal of shop drawings
- Early and expedited material procurement
- Constant safety and quality of work monitoring
- Multiple construction work crews

These measures, combined with a solid, well-maintained MOT, a community-conscious Public Information Plan, and constant communication with the City and the DCP Consultant will contribute to a quality project delivered on time and within budget.

DESIGN-BUILD PROJECT DELIVERY

The nature of Design-Build project delivery was, until recently, one that was less common for South Florida utilities, but has become the standard. To deliver this challenging design/construction approach, an experienced, creative, knowledgeable, and results-driven Design-Build Team is required.

The open-cut and horizontal directional drilling experience of CES Construction, RP Utility & Excavation Corp., and Centerline Directional Drilling is of great benefit to the City.

Also, of great benefit to the City is the fact that this team has worked together on numerous occasions on previous South Florida utility projects, including Project P-12388 for the City of Fort Lauderdale, the D/B NW 13th Street Phase I Emergency Force Main Replacement. In addition to lessons learned, our team brings a track record of delivering these type of projects on time, within budget, and with a zero-accident record while maintaining the highest standards of quality.

The classic adversarial relationship between the designer and the contractor has evolved into a successful integrated project delivery methodology. The team that succeeds is the team that overcomes the potential adversarial relationship and operates as one cohesive and collaborative unit. A close-knit team understands the challenges at hand and can develop strategies and protocols to conquer those challenges in order to achieve success. **The CES Team, led by sister companies CES Construction for construction and CES Consultants for design, brings exactly these attributes to the City of Ft. Lauderdale.**

To provide the City with the best-qualified and experienced personnel, our team has assembled individuals with particular skill sets which when combined, allow us to overcome each and every challenge we may face during this project. To ensure success and quality delivery of the project, we have brought together engineers with field experience who are well versed in the expected construction challenges.

As Project Managers for the CES Team, **D/B Firm Project Manager Luciano Perera and Construction Project Manager Ernest Cano** both bring an exceptional portfolio of pipeline construction projects. **Design Project Manager Jose Caraballo, PE** has previously worked on major pipeline infrastructure improvement projects within urban neighborhoods that included numerous other utilities and local traffic impacts.

Finally, the essence of the Design-Build project delivery method is to allow the team to create an approach to fast-track the design and construction phases of the project, effectively accelerating project completion, resulting in less impact to the residential and business community.

For this project, our team has developed a method of production that will allow the design and construction teams to operate in a seamless, collaborative manner. This will allow us to accelerate the schedule while complying with all regulatory agency requirements. Our team understands this goal and has developed a preliminary approach to our fast-tracking system.

KEY FACTORS

The CES Team's capable and diverse experience in pipeline design and construction brings an extensive knowledge of the key factors important to the execution of this project for the City. The following is a summary of the factors we believe are important for the City, its businesses, and residents.

Meeting the Project Schedule

The City has established targeted project execution to occur expeditiously to meet the demands of the approved "work in kind" compliance approach. CES Team designers have developed an accelerated project schedule for the design services to allow for construction completion schedules that will match the desired City timeframe.

The CES Team's personnel, including D/B Firm Project Manager Luciano Perera, Design Project Manager Jose Caraballo, PE, Construction Project Manager Ernest Cano, our design discipline leaders, and our specialty sub-consultants are all available immediately, and will be mobilized upon Notice to Proceed.

Our approach to acceleration of the project schedule is to expedite activities that will reduce the overall schedule. For example, certain design activities will be completed early for expedited permitting to get a head start on finalizing design and the initiation of construction. On the construction side, we are assigning two crews to this project. This will afford the team the ability to work on unrelated scope simultaneously while being expeditiously around known conflicts and unforeseeable conditions. This way we can guarantee meeting the Project Schedule.

Working as a Cohesive Team with the City & the Design Criteria Professional (Consultant)

The CES Team will develop complete and detailed design documents in accordance with City design and CAD standards to facilitate construction record drawing efforts. Technical reviews by senior staff will be conducted for project constructability. Interface points will be coordinated with the other designers working on the project to ensure that force main locations and interconnections are precisely detailed and responsibilities are adequately defined.

The CES Team's professionals have been working with the City and the DCP Consultant for months and have established business and professional relationships that will facilitate efficient project start-up and execution.

Community Impact Mitigation & Permitting Agency Coordination

We anticipate the following early action issues to be important for the timely completion of the project:

- Compliance with Noise Ordinances
- Traffic and pedestrian disruption along Bayview Drive and connecting local residential roads and the need to minimize impact during peak traffic hours, seasonal periods, and holidays
- Work along roads in areas adjacent to residential developments or adjacent to canals with sensitive habitat
- Construction of tunneled pipeline crossings under roadways, waterway corridors, and road intersections
- Coordination with City Public Works, and if necessary FDOT, for any roadway crossings
- Disruption of business operations along the project route and the east/west corridor of the project area
- Disruptions entailed by the cut-and-cover construction and directional drill pits for the pipeline
- Maintenance of all utility services during construction

An aggressive plan for community involvement and outreach during the early phases of design planning will be crucial in avoiding delays in implementing the project. Because of the diverse conditions that exist along the alignment corridor, there is a strong possibility that some groups may have concerns about the project, about a specific section of the alignment, or daily timing of the work. Our experience with similar infrastructure projects' public outreach and education programs brings many effective "lessons learned" when communicating with public officials, residents, businesses, and transportation agencies.

Optimizing the Pipeline Alignment & Proposed Costs

The CES Team conducted an initial screening to determine feasible pipeline section realignments based on a structured evaluation technique with respect to a wide range of technical and non-technical issues.

The CES Team will employ the following techniques to optimize cost savings for the project.

- Coordinate with City operations staff and DCP Consultant from the outset of the project to finalize the design concept development
- Implement and document quality assurance and quality control procedures, including interdisciplinary reviews and peer reviews to ensure efficient construction with minimal conflicts
- **Implement cost-saving opportunities identified through value engineering (VE)**

Successfully Managing the Design Effort

The CES Team will ensure that major design elements requiring decisions by the City will be identified at an early stage and that agreement is reached before embarking on the design. Major decision points we anticipate include:

- Developing the project schedule and identifying the critical path
- Conducting soil borings, subsurface utility explorations, and potholing investigations early on
- Establishing a detailed design work schedule with multiple and frequent opportunities to assess progress, perform QA checking, and for coordination with the City
- Establishing a clear schedule for the delivery of work products, incorporating specific dates for internal deliverables (including preliminary draft submittals, cross-checking by other technical disciplines, and QA/QC reviews)
- Monitoring the allocation of resources of the CES Team
- Regularly assessing the status of production and timely completion of project submittals
- Developing a detailed staff plan that provides a schedule for involvement of all technical disciplines
- Keeping the City and DCP Consultant involved during the entire design phase
- Conducting weekly Project Team meetings

Integrating City Standards & Requirements

A working knowledge of the City's standards and general approach is an important asset in performing this design, a criterion in which the CES Team is well qualified:

- All members of the CES Team are knowledgeable of and have first-hand working experience with City standards. Our proposed Project Manager, Design Manager, and Construction Manager have completed the design of several infrastructure projects in compliance with City and South Florida County standards.
- Members of the CES Team have established relationships with City staff and have a working knowledge of City procedures and its various departments.
- We have a comprehensive working knowledge of City Standard Drawings and Standard Details.
- We will incorporate new City standards as may be developed during design.

Construction & Start-Up

A number of technical issues associated with construction must be addressed, coordinated, and optimized during the design of the project. Connections for the proposed pipeline are critical elements to the success of this project. Connections to pipelines will require careful consideration of existing operation limitations and constructability. Since shutdown of the existing facilities will be significantly restricted or potentially ruled out, the CES Team has and will continue to consider several options that minimize disruption to existing system operations.

Our approach will consider optimizing the connection time required by requiring as much prefabrication as possible. Additionally, products on the market allow new connections while maintaining flow. The CES Team has and will continue to draw upon its staff resources and prior experience and will work with City Staff to resolve these issues.

PROPOSED DESIGN & CONSTRUCTION APPROACH

The CES Team has prepared this project approach based on our understanding of the issues, challenges and requirements expected for this project. The CES Team has the unique experience, resources, knowledge of the project scope and available personnel to provide all the required services of this very important Consent Decree project.

The CES Team understands that this is a very important project to the City, the community at-large, and visitors to the City. Our proposed project approach has been developed based on our knowledge of City procedures, the identification of the key factors for implementing the project, and our extensive experience in the successful design and implementation of similar design-build pipeline projects in the past.

Risk Management

The location of the project area within an active residential and commercial neighborhood, including the Galleria Mall, will require careful management of risk for several critical factors for successful delivery of the project. Risk management is a focal point for each phase of the project, starting with design and continuing through permitting, construction, and startup of the force main operation. Four of the most visible project risk factors that will require attention and proper management are **1) early delivery of permits, 2) early dewatering strategy, 3) every-day reduction of impacts to local residents and businesses, 4) well-planned maintenance of traffic (MOT)** for commuters, residents, visitors, and emergency vehicles, and **5) comprehensive resolution of numerous utility conflicts within the planned force main alignment**. Further development of the design and permitting approach will specifically identify key issues and address each to ensure mitigation of these project

risks. In addition to the above identified risks, **our design and permitting approach addresses connections to existing force mains, long-term pipe performance, accessibility, and maintenance of the pipeline, as well as reduction in utility conflicts.**

Expedited Permitting: Based on our team's extensive experience, we understand the schedule criticality of working with permitting agencies and utilities early to ensure the timely acquisition of permits. Any delays in permitting activities would directly affect the progress of planned construction. The permitting team assigned for this solicitation brings both local and county-wide experience and will maintain full time focus on the entire permitting process. With the expected project having a high level of permitting complexity, continuous and effective coordination with each applicable permitting agency is preeminent. The CES Team's experience in and knowledge of expediting permits is unparalleled, and similar permitting efforts are currently being executed for similar projects in Broward County.

Community Impact Mitigation: The nature of the neighborhood within the project limits is such that the construction activity and temporary traffic controls may significantly affect local residents, businesses, and commuters. Effective execution of this pipeline project is critical to reduce these impacts and to provide solid mitigation measures. Our planned MOT and public involvement program will focus on reaching out to municipal and local representatives to provide effective and constant communication and notifications of planned and on-going construction.

Maintenance of Traffic (MOT): Efficient and effective execution of a pipeline project is critical to reduce anticipated impacts and to provide solid mitigation measures. To achieve this, a comprehensive Maintenance of Traffic (MOT) plan with controlled work areas is necessary. Our well-planned MOT will involve lane closures, traffic detours, and in some cases, complete roadway closures, but minimizing the work area allows for a rolling MOT, minimizing the impact to on-street parking and business activity.

Open-cut Method: Pipeline crews will activate Index 613 to close travel lanes as the construction proceeds south of the intersection of Bayview Drive and NE 18th Street in order to set a redundant connection for pump station B-5. Additional open cut will occur at the intersection of Bayview Drive and NE 20th Court and head north for approximately 200 feet to a connection with a proposed 24-inch force main at the intersection of Bayview Drive and NE 21st Street. Finally, approximately 50 feet of open cut will be required for the final connection within George English Park to make the final connection to pump station B-4. Before the end of the workday, crews will install a 2-inch hot asphalt patch or road plates to the work areas that are trenched, then remove the MOT equipment and re-open any closed lanes.

- **HDD Method:** Much of the HDD operation will be conducted on the roadway shoulder or the swale area. Additionally, there are plenty of locations to stage the HDD operation off of the roadway. As such, we will utilize Index 602 to create a protective zone for the field crew.

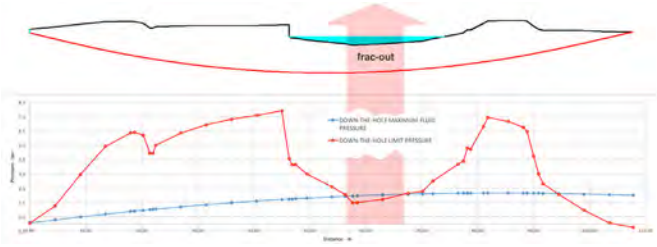
In each case, emergency vehicle traffic will always have access through the work zone. Additionally, residents and pedestrians will always be able to access homes and businesses throughout the project area.

Utilities: Mitigating and minimizing utility conflicts is a typical challenge in pipeline design and construction projects, particularly in older urban neighborhoods with numerous underground utilities at varying depths and locations. Identifying and addressing utility conflicts and conducting coordination early in the design phase allows for proactive resolution and adaptable solutions. The acquisition of Sunshine 811 design tickets from utilities early in the design development allows for advance knowledge of probable conflict challenges

and the early development of viable solutions. In the initial steps of design development, an intensive subsurface utility exploration (SUE) program is essential. SUE, when combined with utility field marking data and detailed research of record drawings, provides an extensive database of the project site utilities.

Frac-Out Plan: Frac-out, or inadvertent release (or return) of drilling fluid, is a potential concern when horizontal directional drilling (HDD) is used under environmentally sensitive areas; including bodies of water. A frac-out occurs when the bore fluid seeps to the surface through cracks or voids in the soil. Drilling fluid and cuttings can migrate from the drilled hole to the surface, along a joint, fracture, or other paths of least resistance. Additional releases may also occur with the use of HDD equipment. The intent of the Frac-Out Contingency Plan (Plan) is to establish best practices and procedures for addressing the impacts associated with a frac-out. If executed correctly, the Plan will enable the following:

1. Minimize the potential for a frac-out
2. Provide for the timely detection of frac-out events
3. Protect areas that are considered environmentally sensitive
4. Ensure an organized, timely, and "minimum-impact" response in the event a frac-out and release of drilling fluid
5. Ensure that all appropriate notifications are made to appropriate regulatory/permitting agencies within 24-hours of occurrence and that documentation is completed.



Preventive measures are in place to ensure proper fluid selection for the geology encountered at the project site. During the drilling process, the drilling fluid pressure in the borehole shall also be closely monitored by trained and experienced technicians to ensure pressures remain within safe and effective limits. The drilling contractor shall identify a qualified competent person to serve as a single point of contact onsite for implementing the frac-out plan. This person will be responsible for monitoring, documenting and reporting frac-outs to the project team and carrying out response actions as outlined in the Plan.

Additional Measures for Subaqueous HDD Operations

The CES Team will implement the following Best Management Practices (BMPs} to minimize the potential for adverse environmental impacts during horizontal directional drilling activities.

BMPs for erosion control within the staging area will be implemented and maintained at all times during the drilling and back-reaming operations to prevent siltation and turbid discharges in excess of the State Water Quality Standards pursuant to Rule 62-302, F.A.C. Methods include but are not limited to the immediate placement of turbidity containment devices such as turbidity screen, silt containment fences, hay bales, earthen berms, etc. to contain mud. Earthen berms will not be utilized to avoid impact to wetlands or other surface waters.

To provide an additional level of resource protection, the following measures will be taken to monitor any potential releases of drilling fluid:

» Measures used to prevent frac-out during the drilling operation include maintaining the proper depth for the soil conditions along the drilling route as well as proper management of drilling fluids circulation and pressure. Under the waterway, the minimum distance between the pipe and the bottom of the waterway will be 25 LF as shown in the design. This is suspected to be sufficient to prevent frac-out when drilling under the waterway.

» Non-toxic fluorescent dyes will be added to the drilling lubricant as a method for monitoring bentonite releases in the underwater portion of the drilling.

» The volume of bentonite in the drilling string will always be monitored during the directional drilling operation. Should a drop in volume of the bentonite occur, we will immediately conduct a visual inspection of the terrestrial and subaqueous portions of the HDD corridor.

Should the release of dye or a drop in volume of bentonite occur, the CES Team will follow the release procedures outlined below:

- The CES Team will mobilize additional personnel/ resources to the site within 24 hours in the event of a frac-out. The CES Team will supervise the implementation of the frac-out plan, release procedure, and containment plan outlined below. Professional divers will be present during drilling operations in order to respond to a potential frac-out release.
- All fluids associated with the horizontal directional drilling operation will be contained on site. The volume of the drilling fluids recirculation/solids settlement pit will be determined by the CES Team. Periodically during the drilling process, settled solids will be removed from the pit by a backhoe and disposed of at a site of the CES Team's choice in accordance with applicable regulations.
- At the conclusion of drilling operations, drilling fluid remaining in the pit will be settled and hauled to a disposal site of the CES Team's choice in accordance with applicable regulations. After back-reaming, drilling materials will be removed from the inside of the pipeline by pigging it from the exit point towards the rig area.
- At all times, adequate protection will be taken to avoid impacts to the Aquatic Preserve/Outstanding Florida Waters and contiguous wetlands. This will include, but is not limited to, halting of construction/drilling/or placement of turbidity containment devices.

- The CES Team will have a Vactor Truck and spill kit on site during drilling operations.

Release Procedure:

- If a frac-out is confirmed, all construction activity contributing to the frac-out will cease immediately.
- If the drilling mud is less than the projected amount to be recovered, divers will begin their search for the missing material within one hour of the potential release. Once the drilling mud and frac-out is located, then the drilling mud containment plan will be immediately implemented.
- If frac-out has occurred during the construction activities, the CES Team will notify the regulatory/ permitting agencies within 24 hours of the occurrence. The notification will include the time of the frac-out, the response time of the underwater diver, and the environmental conditions of the affected area.

Drilling Mud Containment Plan:

- Should the release of drilling materials occur on land, a sediment fence will be constructed around the site and the material will be removed by vacuum truck.
- Should the release of drilling materials occur in-water, clean-up with a vacuum system will commence within 24 hours. The CES Team's underwater divers will guide the vacuum truck's suction hose to minimize both the removal of natural bottom material and the disturbance of any existing vegetation.
- Any escaped drilling lubricant will be pumped into filter bags or directly into the Vactor Truck.
- A barge company will be contacted to transport the Vactor Truck should it be needed to respond in-water.
- Once the spill is contained, the escaped drilling lubricant will be properly disposed of in an approved upland disposal site.
- Clean-up with a vacuum system will commence within 24 hours.
- After the containment and recovery of the drilling material/resources, a detailed written report will be submitted to the regulatory/permitting agencies within 10 business days indicating the location of the frac-out, amount of drilling material discharged and the amount of drilling mud recovered, the process in which the drilling mud was recovered, and the area that was affected by the drilling discharge.

DESIGN APPROACH

The CES Team proposes to complete the project in accordance with the DCP and standard practices and procedures, to include:

1. **Preliminary Design Phase:** This phase will consist of preliminary engineering studies that will address the key factors previously identified, including:
   - » Finalizing the basis of design
   - » Finalizing the pipe alignment
   - » Finalizing connection points
   - » Permits
   - » Schedule
   - » Construction sequence
   - » Maintenance of traffic
   - » Community and public relations
2. **Final Design Phase:** This phase will include production of 60%, 90%, Permitting, and 100% Construction Documents and permit acquisition
3. **Post-Design Services/Construction:** This phase will include construction management services during the construction phases of the project

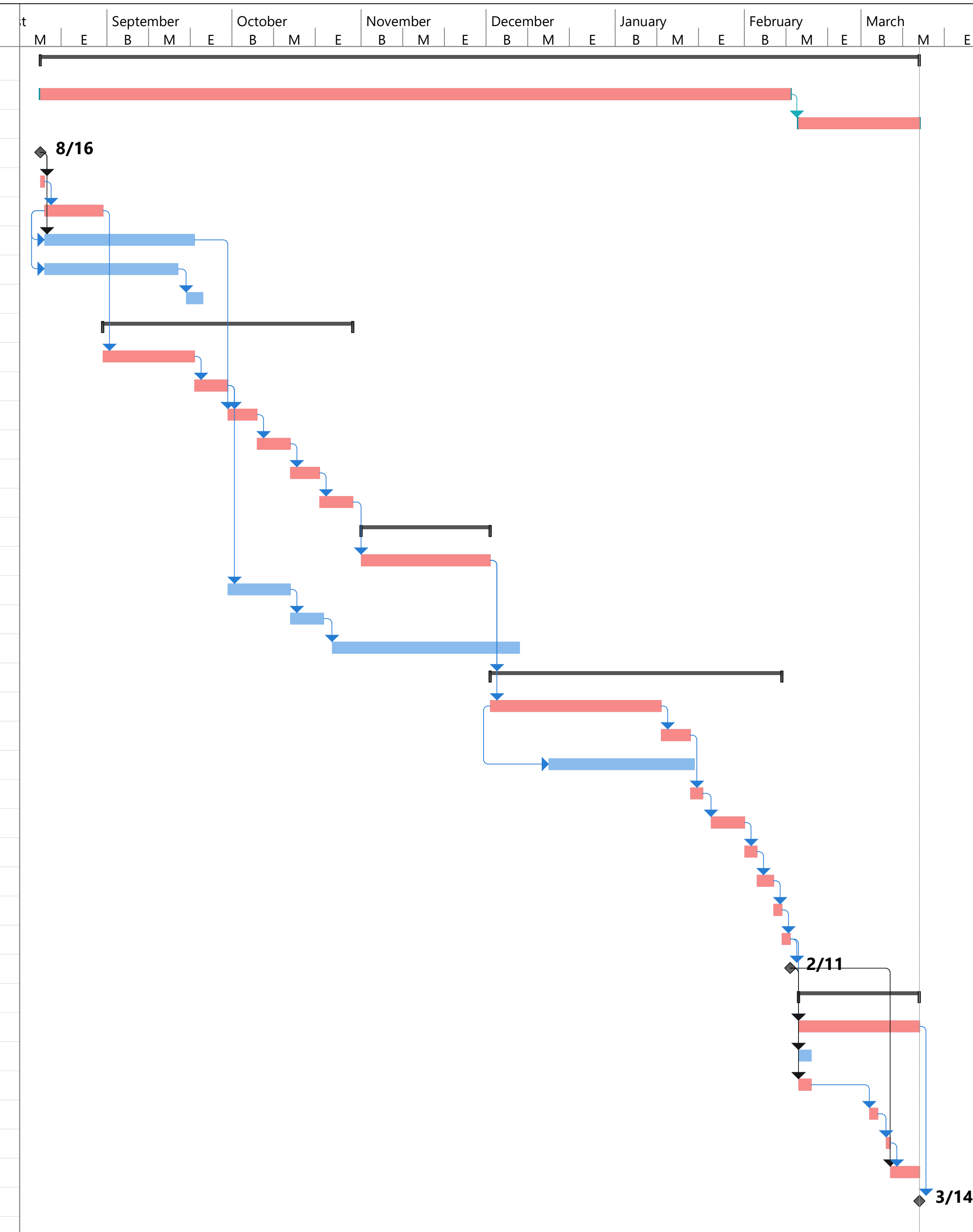
Conceptual Design Package

In preparation of this design-build submittal and to demonstrate our commitment to the City, *the CES Team has developed conceptual drawings of the project in further detail, included on the following pages.* These drawings show the force main alignment in plan and profile view and existing utilities. We have also developed the force main alignment in horizontal and vertical alignment to avoid conflicts with existing and future utilities.

Our design follows the exact alignment proposed in the DCP. Our bid package includes HDPE for the HDD and DIP for the open-cut. A preliminary schedule follows.

CES Construction, LLC
Project No. 12567 RFP No. 12470-416
Design Build Services Pump Station B-4 Force Main
Baseline Schedule

ID	Task Name	Start	Working Days	Finish
1	**P12567 - Design Build Services Pump Station B-4 Force Main**	**Mon 8/16/21**	**145 days**	**Mon 3/14/22**
2	**Contract Substantial Completion (180 Calendar Days)**	Mon 8/16/21	124 days	Fri 2/11/22
3	**Contract Final Completion (30 Calendar Days)**	Mon 2/14/22	21 days	Mon 3/14/22
4	Notice to Proceed	Mon 8/16/21	0 days	Mon 8/16/21
5	Pre-Construction Meeting	Mon 8/16/21	1 day	Mon 8/16/21
6	Survey and Site Layout	Tue 8/17/21	10 days	Mon 8/30/21
7	Soil Borings	Tue 8/17/21	25 days	Tue 9/21/21
8	Utility Investigations	Tue 8/17/21	23 days	Fri 9/17/21
9	Pothole Existing Utilities	Mon 9/20/21	4 days	Thu 9/23/21
10	**Design**	**Tue 8/31/21**	**43 days**	**Fri 10/29/21**
11	60% Design	Tue 8/31/21	15 days	Tue 9/21/21
12	City Review 60% Design	Wed 9/22/21	6 days	Wed 9/29/21
13	90% Design	Thu 9/30/21	5 days	Wed 10/6/21
14	City Review 90% Design	Thu 10/7/21	6 days	Thu 10/14/21
15	Final Design	Fri 10/15/21	5 days	Thu 10/21/21
16	City Review of Final Design	Fri 10/22/21	6 days	Fri 10/29/21
17	**Permitting**	**Mon 11/1/21**	**20 days**	**Wed 12/1/21**
18	FDEP, TAM, and Broward County Permits	Mon 11/1/21	20 days	Wed 12/1/21
19	**Submittals**	Thu 9/30/21	11 days	Thu 10/14/21
20	Review and Approval of Submittals by City	Fri 10/15/21	6 days	Fri 10/22/21
21	**Receive Materials**	Mon 10/25/21	30 days	Wed 12/8/21
22	**Installation via HDD and Open Cut**	**Thu 12/2/21**	**48 days**	**Wed 2/9/22**
23	Installation of 24-inch DR11 HDPE FM via Horizontal Directional Drill	Thu 12/2/21	27 days	Tue 1/11/22
24	Open cut installation of 24-inch DIP FM	Wed 1/12/22	5 days	Tue 1/18/22
25	HDPE Flushing & Pressure Testing	Thu 12/16/21	23 days	Wed 1/19/22
26	DIP Testing and Flushing	Wed 1/19/22	3 days	Fri 1/21/22
27	Broward County EPGMD Approval of FM	Mon 1/24/22	6 days	Mon 1/31/22
28	DIP Transition Connection between HDPE Segments	Tue 2/1/22	3 days	Thu 2/3/22
29	Tie-in 24-inch FM to Main Line at Pump Station B-4	Fri 2/4/22	2 days	Mon 2/7/22
30	Tie-in 20-inch FM to Main Line at Intersection of Bayview Drive and NW 21st St	Tue 2/8/22	2 days	Wed 2/9/22
31	Substantial Completion Walk Through	Thu 2/10/22	2 days	Fri 2/11/22
32	**Substantial Completion**	Fri 2/11/22	0 days	Fri 2/11/22
33	**Final Completion Tasks**	**Mon 2/14/22**	**21 days**	**Mon 3/14/22**
34	Closeout Documents	Mon 2/14/22	21 days	Mon 3/14/22
35	Asphalt Mill & Resurfacing	Mon 2/14/22	3 days	Wed 2/16/22
36	Temporary Striping	Mon 2/14/22	3 days	Wed 2/16/22
37	Thermoplastic Striping	Thu 3/3/22	2 days	Fri 3/4/22
38	Asphalt & Striping Inspection	Mon 3/7/22	1 day	Mon 3/7/22
39	Punch List Items	Tue 3/8/22	5 days	Mon 3/14/22
40	**Final Completion**	Mon 3/14/22	0 days	Mon 3/14/22
41	Other Conditions Allowance (30 Calendar Days)			



RFP No. 12470-416
Tue 2/16/21

Task | Summary | Milestone ◆ | Critical

DRAWING INDEX

CES CONSULTANTS
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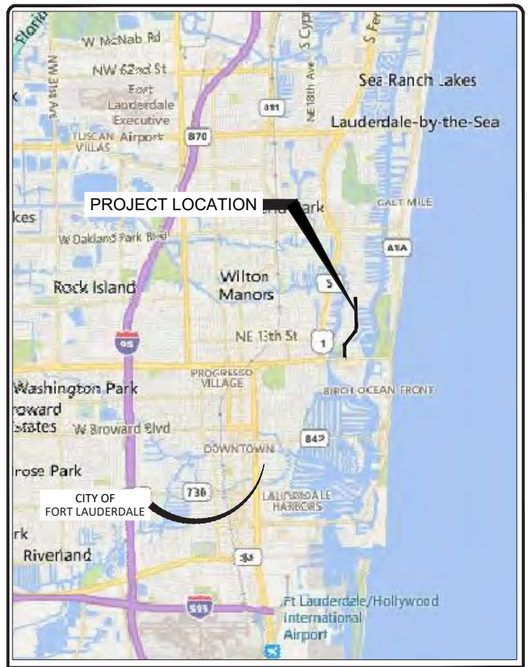
SUITE106
PEMBROKE PINES, FL 33027
PHONE: 954-613-4353
www.cesconsult.com
CERTIFICATE OF AUTHORIZATION No. 8811

CITY OF FORT LAUDERDALE

PROJECT #12567
PUMP STATION B-4
REDUNDANT FORCE MAIN

FORT LAUDERDALE, FLORIDA



LOCATION SKETCH

PROJECT #12567

PUMP STATION B-4 REDUNDANT FORCE MAIN

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

FORT LAUDERDALE CITY COMMISSION

DEAN J. TRANTALIS	MAYOR
HEATHER MORAITIS	COMMISSIONER - DISTRICT I
STEVEN GLASSMAN	COMMISSIONER - DISTRICT II
ROBERT McKINZIE	COMMISSIONER - DISTRICT III
BEN SORENSEN	COMMISSIONER - DISTRICT IV

PROJECT MANAGER	JOB TITLE	PHONE NO.
KRISHAN KANDIAL, PE	PROJECT MANAGER II	954-828-4019

DATE: 2/17/2021
CAD FILE: G00-COVR
DRAWING FILE No.: G-00

GENERAL NOTES:

1. CONTRACTOR SHALL MAINTAIN ACCESS TO PRIVATE PROPERTIES AT ALL TIMES.
2. SITE INFORMATION HAS BEEN PROVIDED BY SITE SURVEY PREPARED BY XXXXX DATED XXXXX.
3. GEOTECHNICAL INFORMATION HAS BEEN PROVIDED BY A REPORT OF SUBSURFACE EXPLORATION, PREPARED BY XXXXX AND DATED XXXXX.
4. HORIZONTAL CONTROL IS REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, BASED ON THE NORTH AMERICAN DATUM OF 1983 (NAD 83). VERTICAL CONTROL IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
5. RECORD DRAWINGS TO BE USED FOR EXISTING FEATURES, UPON COMMENCEMENT OF DESIGN EFFORT: CITY OF FORT LAUDERDALE UTILITY AS-BUILTS. AT&T MAPS, BROWARD COUNTY MAPS, COMCAST MARKUPS, CROWN CASTLE FIBER MARKUPS, FPL MAPS, TECO GAS LINE MAPS, ETC. RECORD DRAWINGS MAY BE OBTAINED FROM UTILITY OWNERS UPON REQUEST.
6. CONTRACTOR SHALL VERIFY FIELD CONDITIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND DIMENSIONS WHERE NEW WORK WILL MATCH EXISTING. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR RESOLUTION PRIOR TO THE COMMENCEMENT OF WORK.
7. CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FROM THE APPROPRIATE AUTHORITIES, DEPARTMENTS, AND/OR AGENCIES HAVING JURISDICTION PRIOR TO COMMENCING WORK.
8. ALL PRACTICAL AND NECESSARY EFFORTS SHALL BE TAKEN DURING CONSTRUCTION TO PREVENT UNNECESSARY TREE REMOVAL AND/OR DAMAGE.
9. THE LOCATION OF EXISTING UTILITIES HAS BEEN PREPARED FROM THE MOST RELIABLE INFORMATION AVAILABLE TO THE ENGINEER. THE INFORMATION IS NOT GUARANTEED. THEREFORE THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL UTILITIES IN THE FIELD PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
10. UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEY AND AS-BUILT INFORMATION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THEIR EXACT LOCATION AND TO AVOID DAMAGE TO THEM. THE CONTRACTOR SHALL CONTACT SUNSHINE 811 AT PHONE NUMBER 811 OR 1-800-432-4770 TO REQUEST UNDERGROUND UTILITY LOCATION MARK-OUT AT LEAST TWO (2) WORKING DAYS BUT NO MORE THAN TEN (10) WORKING DAYS PRIOR TO BEGINNING EXCAVATION, INCLUDING SOIL DRILLING. THE CONTRACTOR SHALL ALSO CONTACT AND REQUEST UTILITY LOCATION MARK-OUT FROM BURIED UTILITY OWNERS WITH UTILITIES ON THE PROJECT SITE THAT ARE NOT PARTICIPANTS OF SUNSHINE 811.
11. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN WORKING IN OR AROUND EXISTING CITY-OWNED UTILITIES. THE CONTRACTOR SHALL NOTIFY THE CITY AT LEAST TWO BUSINESS DAYS IN ADVANCE OF ANY EXCAVATION WITHIN TEN FEET OF A CITY-OWNED UTILITY SO THAT A CITY REPRESENTATIVE MAY BE PRESENT.
12. CONTRACTOR SHALL TAKE CARE TO AVOID DAMAGE TO EXISTING PAVEMENT, STRUCTURES, AND UTILITIES THAT ARE NOT INDICATED TO BE DEMOLISHED OR REMOVED. ANY DAMAGE TO EXISTING PAVEMENT, STRUCTURES, AND UTILITIES NOT INDICATED TO BE DEMOLISHED OR REMOVED SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
13. WHERE PROPOSED WORK IS IN THE VICINITY OF UTILITY POLES, SUCH THAT SUPPORT OF THE POLE(S) WILL BE REQUIRED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE UTILITY OF THE WORK. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH THE UTILITY FOR SUPPORT OF THE POLE.
14. DURING EXCAVATION AND PLACEMENT OF UTILITIES THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL SHEET PILING, SHORING AND/OR BRACING DESIGNS AS MAY BE NECESSARY TO COMPLY WITH THESE REGULATIONS.
15. GROUNDWATER FROM ALL DEWATERING OPERATIONS SHALL BE DISCHARGED TO AN ENVIRONMENTALLY ACCEPTABLE LOCATION IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, PERMITS, OR AS DIRECTED BY THE ENGINEER.
16. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL DEBRIS GENERATED DURING THE PROJECT OFF SITE AT A PROPERLY PERMITTED DISPOSAL FACILITY.
17. FOR REFERENCE MONUMENTS, SEE SURVEY DRAWINGS FOR DETAILS.
18. THE CONTRACTOR IS REQUIRED TO OBTAIN WRITTEN APPROVAL FROM THE ENGINEER FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.
19. THE UNDERGROUND CONTRACTOR SHALL MINIMIZE THE WORK AREA AND WIDTH OF TRENCHES TO AVOID DISTURBANCES OF NATURAL VEGETATION. SPOIL FROM TRENCHES SHALL BE PLACED ONLY ON PREVIOUSLY CLEARED AREAS, EXISTING RIGHT-OF-WAY OR APPROVED EASEMENT. THE CONTRACTOR SHALL NOT REMOVE OR DISTURB ANY TREES OR SHRUBS WITHOUT PRIOR APPROVAL FROM THE APPROPRIATE REGULATORY AGENCY.
20. ALL RESTORATION SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE AGENCIES HAVING JURISDICTION OVER THE RIGHT-OF-WAY WHERE THE PROJECT IS CONSTRUCTED.
21. ALL LOOP DETECTORS, COMMUNICATION CABLES AND CONDUITS, IF DAMAGED BY THE CONTRACTOR'S ACTIVITIES, SHALL BE REPAIRED AND/OR REPLACED IN ACCORDANCE WITH BCTED AND FDOT REQUIREMENTS.
22. PIPING, FITTINGS, AND APPURTENANCES FOR DUCTILE IRON PIPE SHALL BE RESTRAINED JOINT WHERE SHOWN ON THE PLANS.
23. NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW-OFF STRUCTURE WITHOUT FIRST OBTAINING PERMISSION AND A CONSTRUCTION METER FROM THE CITY OF FORT LAUDERDALE.
24. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING, MOVING AND RELOCATING OR REPLACING ALL WATER SERVICES OR SEWER LATERALS WHICH ARE ENCOUNTERED DURING EXCAVATION. THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN FOR WATER SERVICE AND WASTEWATER SERVICE DISRUPTION FOR APPROVAL 7 (SEVEN) CALENDAR DAYS PRIOR TO THE ANTICIPATED DISRUPTION. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS 48 HOURS IN ADVANCE OF ANY WORK ON THEIR SERVICES. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
25. THE CONTRACTOR MUST INFORM THE CITY AT LEAST 48-HOURS IN ADVANCE OF CONSTRUCTION, IN WRITING IF ANY CONFLICT IS DISCOVERED DURING POT HOLE OPERATIONS FOR CLARIFICATION BY THE CITY.
26. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE UTILITIES DEPARTMENT OF THE CITY OF FORT LAUDERDALE AT LEAST TWO (2) BUSINESS DAYS IN ADVANCE TO COORDINATE ANY ACTIVITY TO BE PERFORMED BY THE CITY'S UTILITIES DEPARTMENT.
27. CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE EXISTING RIGHTS-OF-WAY.
28. ALL WORK WITHIN STATE DEPARTMENT OF TRANSPORTATION (FDOT) RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH FDOT SPECIFICATIONS AND PERMIT REQUIREMENTS.
29. ALL WORK WITHIN BROWARD COUNTY RIGHT-OF-WAYS SHALL BE IN CONFORMANCE WITH THE BROWARD COUNTY MINIMUM STANDARDS AND/OR REQUIREMENTS.
30. CONTRACTOR SHALL COMPLY WITH ALL LOCAL CITY, COUNTY AND STATE REGULATIONS PERTAINING TO THE CLOSING OF PUBLIC STREETS FOR USE OF TRAFFIC DURING CONSTRUCTION.
31. CONTRACTOR SHALL PREPARE AND SUBMIT MAINTENANCE OF TRAFFIC (MOT) PLANS TO FDOT, CITY OF FORT LAUDERDALE, BROWARD COUNTY AS REQUIRED FOR WORK TO BE DONE WITHIN THEIR R/W PRIOR TO COMMENCEMENT OF WORK. SPECFIC AGENCY MOT REQUIREMENTS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
32. CONTRACTOR SHALL SUBMIT MOT PLANS FOR APPROVAL BY THE CITY WHEN WORKING WITHIN THE PUBLIC RIGHT-OF-WAY.
33. STATIONS SHOWN ON THE DRAWINGS ARE BASED ON THE ESTABLISHED BASELINE AND SHALL NOT BE CONSIDERED AS DISTANCES OR AS A MEASURE OF THE LINEAR FOOTAGE OF PIPE TO BE INSTALLED.
34. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAY OR WALKWAY SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
35. TRENCHES OR HOLES NEAR WALKWAYS, IN ROADWAYS OR THEIR SHOULDERS SHALL NOT BE LEFT OPEN DURING NIGHT TIME HOURS WITHOUT ADEQUATE PROTECTION.
36. CONTRACTOR SHALL PROMPTLY REPAIR AND RESTORE EXISTING PAVEMENT, SIDEWALKS, CURBS, DRIVEWAYS, PIPES, RESIDENTIAL AND COMMERCIAL SPRINKLER LINES, CONDUIT, CABLES, ETC. AND LANDSCAPE AREAS DAMAGED AS A RESULT OF CONSTRUCTION ACTIVITIES.
37. WHEN REQUIRED FOR PUBLIC SAFETY AND/OR AS REQUIRED BY REGULATORY AGENCIES HAVING JURISDICTION OVER THE PROJECT, THE CONTRACTOR SHALL PROVIDED TEMPORARY FENCING.
38. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL ACCEPTANCE OF WORK, FOR THE PROTECTION OF EXISTING AND NEWLY INSTALLED UTILITIES FROM DAMAGE OR DISRUPTION OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING SUCH MEASURES AS NECESSARY TO PROTECT THE HEALTH, SAFETY AND WELFARE OF THOSE PERSONS HAVING ACCESS TO THE WORK SITE.
39. LOCATION OF AIR RELEASE VALVES MAY BE FIELD ADJUSTED BY THE ENGINEER OR CITY OF FORT LAUDERDALE AS NECESSARY.
40. CONTRACTOR SHALL ADJUST TO GRADE ALL EXISTING UTILITY CASTINGS INCLUDING VALVE BOXES, MANHOLES, HAND HOLES, PULL BOXES, INLETS AND SIMILAR STRUCTURES IN CONSTRUCTION AREA TO BE OVERLAYED WITH ASPHALT.
41. EXISTING TRAFFIC SIGNS SHALL BE RESET UPON COMPLETION PER BROWARD COUNTY TRAFFIC ENGINEERING STANDARDS. COST SHALL BE CONSIDERED INCIDENTAL. CONTRACTOR SHALL REPAIR OR REPLACE DAMAGED TRAFFIC SIGNAL LOOPS PER BROWARD COUNTY TRAFFIC ENGINEERING SPECIFICATIONS; COST SHALL BE INCIDENTAL.
42. CONTRACTOR SHALL RESTORE EXISTING PAVEMENT AND PAVEMENT MARKINGS/SIGNAGE TO ORIGINAL PRE-CONSTRUCTION CONDITION OR AS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
43. ALL CONSTRUCTION WITHIN FDOT R/W MUST CONFORM WITH FDOT SPECIFICATIONS, STANDARDS, AND PERMIT REQUIREMENTS. NO WORK SHALL COMMENCE WITHIN FDOT R/W's WITHOUT AN FDOT PERMIT. FULL LANE WIDTH RESTORATION TO MATCH EXISTING PAVEMENT SECTION IS REQUIRED IN ACCORDANCE WITH FDOT STANDARDS FOR PROPOSED WORK WITHIN FDOT R/W.
44. THE CONTRACTOR SHALL SUBMIT ALL REQUIRED SHOP DRAWINGS FOR CITY APPROVAL PRIOR TO ORDERING MATERIALS AND INSTALLATION.
45. EXISTING GAS MAINS SHALL BE IDENTIFIED BY THE APPROPRIATE UTILITY, PRIOR TO START OF CONSTRUCTION.

MAINTENANCE OF TRAFFIC SCHOOL/PEDESTRIAN

1. THE "MAINTENANCE OF TRAFFIC" PLAN, PROVIDED BY THE CONTRACTOR, SHALL INCLUDE PROVISIONS FOR PEDESTRIAN AND/OR SCHOOL STUDENT TRAFFIC AS WELL AS VEHICULAR TRAFFIC. THE FOLLOWING ARE MINIMUM REQUIREMENTS.
2. THE SAFE WALK ROUTE FOR ALL SCHOOL STUDENTS WITHIN THE VICINITY OF THE CONSTRUCTION ZONE SHALL BE MAINTAINED DURING THE TIMES STUDENTS ARE ARRIVING AT OR LEAVING SCHOOL. IF THE CURRENT WALKING SURFACE CAN NOT BE MAINTAINED, THEN A TEMPORARY ROAD-ROCK 4' WALK WAY SHALL BE CREATED. THE SAFE WALK ROUTE SHALL BE SEPARATED FROM THE CONSTRUCTION ACTIVITY BY THE 4' HIGH ORANGE CONSTRUCTION FENCE FOR THE ENTIRE LENGTH OF THE PROJECT OR THE LENGTH OF THE WALK ROUTE, WHICHEVER IS LESS.
3. ALL CONSTRUCTION EQUIPMENT AROUND ANY DESIGNATED CROSSWALK SHALL CEASE TO OPERATE DURING THE TIMES STUDENTS ARE ARRIVING AT OR LEAVING SCHOOL. ALL CONSTRUCTION EQUIPMENT ADJACENT TO A DESIGNATED WALK ROUTE SHALL CEASE OPERATING UNLESS SATISFACTORILY BARRICADED FROM THE WALK ROUTE.
4. IN THE CASE THAT A DESIGNATED CROSSING OR ANY PORTION OF THE DESIGNATED WALK ROUTE CANNOT BE MAINTAINED, THEN THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671, A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO CLOSING THAT ROUTE IN ORDER THAT AN ALTERNATE CROSSING/ROUTE CAN BE ESTABLISHED.
5. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL ANY NECESSARY PAVEMENT, ROAD ROCK, PAVEMENT MARKING AND SIGNAGE AND/OR ANY PEDESTRIAN SIGNALIZATION AND/OR MODIFICATION TO ACCOMMODATE AN EXISTING OR ALTERNATE WALK ROUTE.
6. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE STATE CERTIFIED SCHOOL CROSSING GUARDS OFF DUTY POLICE OFFICERS TO CROSS STUDENTS AT ANY LOCATIONS OTHER THAN THOSE PREVIOUSLY DESIGNATED. THE CONTRACTOR MAY USE FLAG MEN, ONLY IF THEY ARE STATE CERTIFIED AS A SCHOOL CROSSING GUARD.
7. THIRTY (30) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE SPECIAL PROJECTS COORDINATOR AT BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671, TO ARRANGE A PRE-CONSTRUCTION – SCHOOL SAFETY MEETING.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE BROWARD COUNTY SCHOOL BOARD PUPIL TRANSPORTATION DEPARTMENT, (754) 321-4440, TO ARRANGE A PRE-CONSTRUCTION – SCHOOL BUS ROUTE MEETING. THIS MEETING IS TO DETERMINE ALL BUS ROUTES AND TO MAKE ANY NECESSARY ARRANGEMENTS FOR REROUTING. THIS MEETING SHALL INCLUDE THE SPECIAL PROJECTS COORDINATOR FROM BROWARD COUNTY TRAFFIC ENGINEERING DIVISION, (954) 847-2671.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A SAFE AND ADEQUATE WALKING SURFACE FOR ALL SCHOOL CHILDREN/PEDESTRIANS. THE SAFE WALK ROUTE SHALL BE PART OF THE MAINTENANCE OF TRAFFIC PLAN.
10. ALL VEHICLE DETECTION DEVICES SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. ANY DEVIATION SHALL REQUIRE PRIOR WRITTEN APPROVAL BY THE TRAFFIC ENGINEERING DIVISION. ALL TRAFFIC ENGINEERING COMMUNICATIONS FACILITIES LOCATED WITHIN THE PROJECT LIMITS SHALL BE MAINTAINED THROUGHOUT THE PROJECT.
11. ALL TRAFFIC CONTROL DEVICES USED WITHIN PUBLIC RIGHT OF WAY SHALL BE ON FDOT APPROVED PRODUCT LIST (APL).

INTERRUPTION OF EXISTING UTILITIES

1. ANY DEMOLITION WORK THAT REQUIRES INTERRUPTION OF SERVICE TO ANY CUSTOMER SHALL BE DONE SO WITH A MINIMUM OF SEVENTY-TWO (72) HOUR NOTICE TO, AND WRITTEN APPROVAL BY, THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR SHALL ARRANGE A MEETING WITH THE LOCAL JURISDICTIONAL AGENCIES AND OTHER GOVERNING AGENCIES, AND OTHER AFFECTED UTILITIES PRIOR TO SCHEDULING THE SHUT DOWN TO ASSESS THE SCOPE OF WORK. ALL SYSTEM SHUT DOWNS SHALL BE SCHEDULED BY THE CONTRACTOR AT SUCH TIME THAT SYSTEM DEMAND IS LOW. THIS GENERALLY REQUIRES NIGHT TIME WORK BY THE CONTRACTOR AND REQUIRES FULL TIME INSPECTION BY A REPRESENTATIVE OF THE UTILITY. ALL COST FOR OVERTIME WORK BY THE REPRESENTATIVE OF THE UTILITY SHALL BE BORNE BY THE CONTRACTOR. EACH CUSTOMER AFFECTED BY THE SHUT DOWN SHALL BE PROVIDED, MINIMUM, FORTY-EIGHT (48) HOURS WRITTEN NOTIFICATION BY THE CONTRACTOR.

GENERAL CONSTRUCTION NOTES

1. NO CONNECTIONS FOR THE PURPOSE OF OBTAINING WATER SUPPLY DURING CONSTRUCTION SHALL BE MADE TO ANY FIRE HYDRANT OR BLOW-OFF STRUCTURE WITHOUT FIRST OBTAINING PERMISSION AND A CONSTRUCTION METER FROM THE CITY OF FORT LAUDERDALE.
2. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING, MOVING AND RELOCATING OR REPLACING ALL WATER SERVICES OR SEWER LATERALS WHICH ARE ENCOUNTERED DURING EXCAVATION. THE CONTRACTOR SHALL SUBMIT A WRITTEN PLAN FOR WATER SERVICE AND WASTEWATER SERVICE DISRUPTION FOR APPROVAL PRIOR TO THE ANTICIPATED DISRUPTION. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNERS 48 HOURS IN ADVANCE OF ANY WORK ON THEIR SERVICES. THIS WORK SHALL BE CONSIDERED INCIDENTAL.
3. THE CONTRACTOR MUST USE EXTREME CARE TO AVOID DAMAGE OR DISRUPTION TO ANY EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT. ALL PLAN LOCATIONS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED. CONTRACTOR IS TO CONTACT SUNSHINE STATE ONE CALL OF FLORIDA AT 1-800-432-4770 AND ALL OTHER PARTICIPATING UTILITIES 2 FULL BUSINESS DAYS PRIOR TO CONSTRUCTION FOR FIELD MARKUP LOCATIONS OF EXISTING UTILITIES AND FACILITIES.
4. THE CONTRACTOR MUST INFORM THE CITY AT LEAST 48-HOURS IN ADVANCE OF CONSTRUCTION, IN WRITING IF ANY CONFLICT IS DISCOVERED DURING POT HOLE OPERATIONS FOR CLARIFICATION BY THE CITY.
5. IT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE UTILITIES DEPARTMENT OF THE CITY OF FORT LAUDERDALE AT LEAST TWO (2) BUSINESS DAYS IN ADVANCE TO COORDINATE ANY ACTIVITY TO BE PERFORMED BY THE CITY'S UTILITIES DEPARTMENT.
6. CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE EXISTING RIGHTS-OF-WAY. UNLESS OTHERWISE NOTED ON THE PLANS.
7. IN GENERAL, EXISTING STRUCTURES AND UTILITIES ARE NOTED AS EXISTING AND/OR SHOWN IN THIN LINES. NEW CONSTRUCTION IS IN HEAVY LINES AND/OR UNDERLINED.

TEMPORARY DEMOLITION FACILITIES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ARRANGE OR SUPPLY TEMPORARY WATER SERVICE, SANITARY FACILITIES AND ELECTRICITY TO ITS EMPLOYEES AND SUBCONTRACTORS FOR THEIR USE DURING DEMOLITION.
2. MAINTENANCE OF TRAFFIC (MOT) IN THE PUBLIC RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE MUTCD AND FDOT.
3. ALL OPEN TRENCHES AND HOLES ADJACENT TO ROADWAYS OR WALKWAYS SHALL BE PROPERLY MARKED AND BARRICADED TO ASSURE THE SAFETY OF BOTH VEHICULAR AND PEDESTRIAN TRAFFIC.
4. NO TRENCHES OR HOLES NEAR WALKWAYS OR IN ROADWAYS OR THEIR SHOULDERS ARE TO BE LEFT OPEN DURING NIGHTTIME HOURS WITHOUT EXPRESS WRITTEN PERMISSION OF THE CITY OR RESPECTIVE GOVERNING AGENCY.

GENERAL DEMOLITION SPECIFICATIONS

1. THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL VERIFY THE LOCATION, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES AND OTHER FEATURES AFFECTING THE WORK PRIOR TO DEMOLITION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY DISCREPANCIES WHICH MAY EFFECT THE DEMOLITION WORK.
2. CHAPTER 553.851 OF THE FLORIDA STATUTES REQUIRES THAT AN EXCAVATOR NOTIFY ALL UTILITIES A MINIMUM OF TWO (2) WORKING DAYS PRIOR TO EXCAVATING.
3. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, SUPERVISION, AND EQUIPMENT REQUIRED FOR THE ORDERLY DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, PAVEMENT AND UTILITIES AS SHOWN ON THE DRAWINGS AND DESCRIBED HEREIN.
4. THE CONTRACTOR IS REQUIRED TO FAMILIARIZE HIMSELF WITH THE STRUCTURES TO BE DEMOLISHED.
5. PROTECT AND SAVE ALL UTILITIES, UNLESS OTHERWISE NOTED.
6. ALL THE CONCRETE AND PAVEMENT TO BE REMOVED MUST BE SAW CUT CLEAN PRIOR TO REMOVAL
7. ALL EXISTING STRUCTURES, PAVEMENTS, SLABS, FOUNDATIONS, STEPS AND OTHER ON-SITE EXISTING FEATURES INDICATED ON THE DRAWINGS TO BE REMOVED SHALL BE DEMOLISHED AND REMOVED BY THE CONTRACTOR (AS APPLICABLE TO PROJECT).
8. ALL EXISTING SEWERS, PIPING AND UTILITIES SHOWN ARE NOT TO BE INTERPRETED AT THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. GIVE NOTICE TO ALL UTILITY COMPANIES REGARDING DESTRUCTION AND REMOVAL OF ALL SERVICE LINES AND CAP ALL LINES BEFORE PROCEEDING WITH THE WORK.
9. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE UTILITY COMPANY PRIOR TO REMOVAL OR RELOCATION OF ANY ELECTRICAL, TELEPHONE, CABLE AND/OR GAS LINES. SUFFICIENT TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.
10. CONTRACTOR MUST STOP OPERATION AND NOTIFY THE OWNER/ENGINEER FOR PROPER DIRECTION IF ANY ENVIRONMENTAL OR HEALTH RELATED CONTAMINANT IS ENCOUNTERED DURING THE DEMOLITION/EXCAVATION PROCESS.
11. CONTINUOUS ACCESS AND OPERATION SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AND BUILDINGS AT ALL TIMES DURING DEMOLITION OF THE EXISTING COMPOST FACILITY.
12. PRIOR TO DEMOLITION OCCURRING, ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED.
13. ALL SIGNS OUTSIDE THE DEMOLITION AREA ARE TO REMAIN UNLESS OTHERWISE SPECIFIED.
14. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES BEFORE EXCAVATION.
15. ALL TRASH, DEBRIS AND OTHER MATERIAL REMOVED FROM THE SITE SHALL BE PROPERLY DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

NOTES FOR HORIZONTAL DIRECTIONAL DRILLING (HDD) WITH HDPE PIPE

GENERAL NOTES:

1. CONTRACTOR TO VERIFY EXISTING GROUND CONDITIONS AND SOILS ARE SUITABLE FOR NEW PIPE RUN. COMPACTION OF EXISTING SOILS AS REQUIRED IN ROW IS THE RESPONSIBILITY OF CONTRACTOR AND SHALL COMPLY WITH JURISDICTION HAVING AUTHORITY. ALL BACKFILL MATERIALS AND SOIL COMPACTION SHALL MEET OR EXCEED CURRENT CITY OF FORT LAUDERDALE, BROWARD COUNTY, AND FDOT STANDARDS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL APPLICABLE LOCAL AND STATE BUILDING CODES AND REQUIREMENTS.
3. ALL PROPOSED BUILDING MATERIALS SHALL COMPLY WITH MOST RECENT BROWARD COUNTY STANDARDS AND SHALL BE DEVOID OF ANY STRUCTURAL IRREGULARITIES OR DEFECTS.
4. IF SITE CONDITIONS OR DIMENSIONS DIFFER FROM THOSE DESCRIBED HEREIN OR UNSUITABLE CONDITIONS ARE DISCOVERED, CONTACT THE ENGINEER OF RECORD (EOR) FOR POTENTIAL REDESIGN.
5. DRAWINGS PROVIDED HEREIN REPRESENT A TYPICAL INSTALLATION OF PROPOSED HDD HDPE FORCE MAIN. ALL APPURTENANCES THEREUNTO SHALL CONFORM TO THE LATEST BROWARD COUNTY STANDARDS AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACCEPTABLE FOR USE IN THE PROPOSED APPLICATION.
6. CONTRACTOR SHALL COMPLY WITH 29CFR – 1926 OSHA MANUAL FOR WORK SITE SAFETY AT ALL TIMES. THE ENGINEER OF RECORD (EOR) WILL NOT SUPERVISE, DIRECT, CONTROL OR HAVE AUTHORITY OVER OR BE RESPONSIBLE FOR CONTRACTOR'S MEANS AND METHODS DURING CONSTRUCTION; SAFETY PROGRAMS; OR FOR ANY FAILURE OF CONTRACTOR TO COMPLY WITH LAWS AND REGULATIONS APPLICABLE TO THE FURNISHING OR PERFORMANCE OF WORK.

SITE NOTES:

1. HDPE FORCE MAIN SHALL BE INSTALLED WITH A MINIMUM OF 48" COVER.
2. CONTRACTOR SHALL FIELD VERIFY LOCATION OF EXISTING UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION. ANY CONFLICTS SHALL BE REPORTED TO ENGINEER.
3. ALL ENGINEERING AND CONSTRUCTION NOTES FROM ORIGINAL PLAN SET AND SPECIFICATIONS SHALL REMAIN IN EFFECT UNLESS SPECIFICALLY ALTERED HERIN.
4. CONTRACTOR TO FIELD VERIFY OFFSETS FROM CENTERLINE TO AVOID ANY POTENTIAL CONFLICTS AND DETERMINE NECESSARY FITTINGS TO TIE IN REVISED HDD LOCATION TO PROPOSED DIP LOCATIONS.
5. THE ENGINEER OF RECORD (EOR) HAS NOT FIELD VERIFIED LOCATIONS OF ANY EXISTING CONFLICTS, STRUCTURES, UTILITIES, OR OTHERWISE; BOTH ABOVE GRADE AND BELOW. REVISED LAYOUT IS BASED UPON CONTRACTOR PROVIDED INFORMATION AND IS ASSUMED TO BE ACCURATE. AS SUCH, THE ENGINEER OF RECORD (EOR) BEARS NO RESPONSIBILITY FOR ANY DAMAGES TO EXISTING FACILITIES. IF IT IS DETERMINED THAT CONDITIONS VARY FROM THOSE SHOWN HEREIN, PLEASE CONTACT THE ENGINEER OF RECORD (EOR) FOR POTENTIAL REDESIGN.
6. ALL PROPOSED DIMENSIONS AND ANGLES TO BE FIELD VERIFIED PRIOR TO COMMENCEMENT OF BORING OPERATION TO ENSURE APPLICATION AT PROPOSED LOCATIONS.
7. ALL LOCATIONS AND ELEVATIONS OF PIPE & FITTINGS SHOWN ARE APPROXIMATE; CONTRACTOR TO FIELD VERIFY AND MAKE DETERMINATIONS PRIOR TO COMMENCEMENT OF HDD OPERATIONS. ANY ADJUSTMENTS TO FITTINGS OR THE LOCATIONS BY CONTRACTOR AND NOTED VIA AS-BUILT DRAWINGS.

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CERTIFICATE OF AUTHORIZATION No. 8811

PROJECT #12567
PUMP STATION B-4 REDUNDANT FORCE MAIN

GENERAL NOTES

REVIEW

	RELEASED FOR	DATE	BY
1	PROPOSAL SUBMITTAL	2/17/21	J.A.C.

NOT FOR CONSTRUCTION

ENGINEER OF RECORD:

JOSE A. CARABALLO, PE
FL REG No.73064

PROJECT #: 12567
DESIGNED: J.A.C. DRAWN: E.A./E.C.
DATE: 2/17/21 SCALE: AS SHOWN
DWG. G01-NOTE

GENERAL ABBREVIATIONS:

A	ARC DISTANCE
AB	ANCHOR BOLT
A/C	AIR CONDITIONER
ACU	AIR CONDENSATE UNIT
AL, ALUM	ALUMINUM
α	ANGLE
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
BLDG	BUILDING
BLK	BLOCK
BM	BENCHMARK
BOTT	BOTTOM
BOW	BACK OF WALK
BP	BID PACKAGE
CA	CENTRAL ANGLE
CB	CATCH BASIN
CC	CENTER TO CENTER
CHK'D	CHECKERED
C.I.	CURB INLET
CJ	CONSTRUCTION JOINT
CL, ℄	CENTER LINE
CLF	CHAIN LINK FENCE
CLR	CLEAR
COL	COLUMN
CO	COMPANY
CONC, C	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CP	CONCRETE POST
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIR	DIRECTION
DISCH	DISCHARGE
DMH	DRAIN MANHOLE
DN	DOWN
DR	DRAIN
DWL	DOWEL
DWG	DRAWING
EA	EACH
ECC	ECCENTRIC
EE	EACH END
EF	EACH FACE
EL, ELEV	ELEVATION
ELEC	ELECTRIC
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EW	EACH WAY
EQUIP	EQUIPMENT
ES	ELECTRICAL SERVICE
ESC	EROSION AND SEDIMENT CONTROL
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION
FDR	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FF	FINISH FLOOR
FG	FINISH GRADE
FIN	FINISH
FL	FLOOR
FM	FORCE MAIN
FND	FOUND
FP	FLAG POLE
FT	FOOT OR FEET
FTG	FOOTING OR FITTING
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GR	GRADE
H	HIGH
HORIZ	HORIZONTAL
HP	HIGH POINT
HS	HIGH SERVICE
HWL	HIGH WATER LEVEL
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IN	INCH
INFL	INFLUENT
INJ	INJECTION
INSUL	INSULATION
INT	INTERIOR
INV	INVERT
IP	IRON PIPE
IRRIG	IRRIGATION
IR	IRON ROD
ISO	ISOLATION
JCT	JUNCTION
JT	JOINT
LBS/FT	POUNDS PER FOOT
LG	LONG
LN	LINE
LP	LOW POINT OR LIGHT POLE
LR	LONG RADIUS
LWL	LOW WATER LEVEL
MANUF	MANUFACTURER
MAX	MAXIMUM
MECH	MECHANICAL
MGD	MILLION GALLONS PER DAY
MH	MANHOLE
MIN	MINIMUM
MO	MASONRY OPENING
MOV	MOTOR OPERATED VALVE
NAVD	NORTH AMERICAN VERTICAL
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OHW	OVERHEAD WIRES
OPNG	OPENING
P/L	PROPERTY LINE
PS	PUMP STATION
PT	PRESSURE TREATED
R	RIM
RAD, R	RADIUS
RECIR	RECIRCULATION
RE	RIM ELEVATION
REHAB	REHABILITATION
REINF	REINFORCING
REQ'D	REQUIRED
R/W,	ROW RIGHT OF WAY
SECT	SECTION
SHT	SHEET
SLB	SIGNAL LIGHT BOX
SMH	STORMWATER MANHOLE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL
STL	STEEL
STRUC	STRUCTURAL
SYMM	SYMMETRICAL
TBD	TO BE DETERMINED
TEMP	TEMPORARY
THK	THICK
TI	TEMPERATURE INDICATOR
TO	THROUGHOUT
TOB	TOP OF BANK
TOC	TOP OF CONCRETE
TOE	TOE OF SLOPE
TOP	TOP OF PIPE
TOS	TOP OF SLAB
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
UNK	UNKNOWN
V	VENT
VERT	VERTICAL
VP	VENT PIPE
VTR	VENT THROUGH ROOF
W	WIDE
W/	WITH
WATR	WATER
WGR	WOOD GUARDRAIL
W/L	WATER LEVEL
W/O	WITH OUT
WWF	WELDED WIRE FABRIC
WUP	WOOD UTILITY POLE

VALVE AND FITTING ABBREVIATIONS:

ARV	AIR RELIEF VALVE
BF	BLIND FLANGE
BFV	BUTTERFLY VALVE
BV	BALL VALVE
CO	CLEAN OUT
CPLG	COUPLING
CV	CHECK VALVE
DV	DIAPHRAGM VALVE
EXP JT	EXPANSION JOINT
FCO	FLOOR CLEAN OUT
FD	FLOOR DRAIN
FH	FIRE HYDRANT
FLG	FLANGE
FS	FLOOR SINK
GV	GATE VALVE
HB	HOSE BIBB
HD	HUB DRAIN
ICV	IRRIGATION CONTROL VALVE
LR	LONG RADIUS
MJ	MECHANICAL JOINT
NPT	NATIONAL PIPE THREAD
PE	PLAIN END
PV	PLUG VALVE
PRV	PRESSURE RELIEF VALVE
RED	REDUCER
SOV	SOLENOID OPERATED VALVE
THD	THREADED
VAC	VACUUM

FLOWSTREAM ADENTIFICATION:

ED	EQUIPMENT DRAIN
FM	FORCE MAIN
FR	FUEL RETURN
FS	FUEL SUPPLY
OF	OVERFLOW
PW	POTABLE WATER
RD	ROOF DRAIN
SA	SAMPLE
SAN	SANITARY SEWER
SPD	SUMP PUMP DISCHARGE
STRM	STORMWATER
WM	WATER MAIN

PIPING:

CIP	CAST IRON PIPE
CMP	CORRUGATED METAL PIPE
CU	COPPER OR CUBIC
DIP	DUCTILE IRON PIPE
GIP	GALVANIZED PIPE
GSP	GALVANIZED STEEL PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
IP	IRON PIPE
PCCP	PRECAST CONCRETE CYLINDER PIPE
PVC	POLYVINYLCHLORIDE
RCP	REINFORCED CONCRETE PIPE
SCP	SECONDARY CONTAINMENT PIPE
SS	STAINLESS STEEL PIPE

SYMBOLS LEGEND:

REQ'D.	REQUIRED
O/S	OFFSET
D.I.	DUCTILE IRON
REST. J.	RESTRAINED JOINT
	EXIST. GUY WIRE
	EXIST. STREET LIGHT POLE
	EXIST. UTILITY CONC. POLE
	EXIST. UTILITY POLE
	EXIST. FLOOD LIGHT
	EXIST. TRAFFIC LIGHT POLE
	EXIST. PEDESTRIAN CROSSING LIGHT
E	EXIST. ELECTRIC BOX
	EXIST. STREET LIGHT BOX
T	EXIST. TELEPHONE BOX
	EXIST. TRAFFIC SIGNAL BOX
	EXIST. CABLE TV BOX
	EXIST. C.B.
E	EXIST. ELECTRIC MH
D	EXIST. STORM MH
S	EXIST. SANITARY MH
T	EXIST. TELEPHONE MH
W	EXIST. WATER MH
	EXIST. WELL
	EXIST. SPRINKLER
	EXIST. FIRE HYDRANT
	EXIST. VALVE
	EXIST. SOIL BORING
	EXIST. SIGN
W	EXIST. SINGLE WATER METER
	LIMITS OF MILLING AND RESURFACING AND PAVEMENT RESTORATION

EXIST. UTILITIES LEGEND:

WM	EXIST. WATER MAIN
SAN	EXIST. GRAVITY SANITARY SEWER
FM	EXIST. SANITARY SEWER FORCE MAIN
ST	EXIST. STORM DRAINAGE

DENSITY TESTING NOTES:

G02LD16 - DENSITY TESTING NOTES Thursday, July 13, 2017

MINIMUM DENSITY REQUIREMENTS

LOCATION	MATERIAL	MINIMUM DENSITY (% OF MAX)	TESTING FREQUENCY
ROADS (INCLUDES SIDEWALKS, ASPHALT PATHS)	BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT TOP OF FIRST LIFT AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF ROADWAY, SIDEWALK OR PATHWAY.
	SUBGRADE	98%	
	BASE	98%	
MANHOLES AND VAULTS (IN ROADS AND PARKING AREAS)	IN-PLACE SUBGRADE BENEATH STRUCTURES	95%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT THE BOTTOM OF THE STRUCTURE AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: PERFORM TESTING AT EACH STRUCTURE.
	BACKFILL BENEATH STRUCTURES	98%	
	BACKFILL AROUND STRUCTURES	98%	
	CRUSHED STONE BENEATH STRUCTURES	NOTE 6	
PARKING AREAS	BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT TOP OF FIRST LIFT AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED EVERY 6,000 SQUARE FEET OF PARKING AREA.
	SUBGRADE	98%	
	BASE	98%	
UTILITY TRENCH BACKFILL	BEDDING AND BACKFILL	98%	VERTICAL DISTRIBUTION: ONE TEST AT EVERY LIFT STARTING AT THE SPRING LINE AND PROCEEDING UPWARD TO GRADE. HORIZONTAL DISTRIBUTION: TESTS SHALL BE PERFORMED AT RANDOMLY SELECTED LOCATIONS WITHIN EACH 300 FOOT INTERVAL (MAXIMUM) ALONG THE LENGTH OF A PIPE INSTALLATION, AND BETWEEN EACH SET OF STRUCTURES SEPARATED BY LESS THAN 300 FEET.
ROADS AND PARKING	ASPHALT	94%	ASPHALT TESTING MAY BE DONE BY CORE SAMPLING OR NUCLEAR GAUGE DENSITY TESTING. ASPHALT TESTING SHALL BE AT MAXIMUM 300 LINEAR FOOT ALONG ROADWAYS AND 6,000 SQUARE FOOT INTERVALS FOR PARKING AREAS.

NOTES:

1. THE DENSITY REQUIREMENTS PRESENTED ASSUME DRY TRENCH CONDITIONS.
2. UNLESS INDICATED OTHERWISE IN THE SPECIFICATIONS, TESTING SHALL COMPLY WITH THE REQUIREMENTS PRESENTED IN THIS TABLE.
3. LIFT THICKNESSES FOR BASE, SUBGRADE AND BACKFILL SHALL BE AS INDICATED ON THE DETAILS OR DESCRIBED IN THE SPECIFICATIONS.
4. MAXIMUM DENSITY SHALL BE DETERMINED BY ASTM D 1557 OR AASHTO T180 (MODIFIED PROCTOR).
5. FIELD DENSITY TESTS SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D 1556 OR D 2922.
6. THE AGGREGATE SHALL BE COMPACTED TO A DEGREE ACCEPTABLE TO THE ENGINEER BY USE OF A VIBRATORY COMPACTOR AND/OR CRAWLER TRACTOR.

CITY OF FORT LAUDERDALE
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ENGINEERING DETAILS
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

DENSITY TESTING NOTES

GNRL 010
2017/07/13

BENCH MARK	VERTICAL CONTROL POINTS DESCRIPTION	ELEVATION (US FEET)
PENDING SURVEY COMPLETION	–	–
PENDING SURVEY COMPLETION	–	–

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PROJECT #12567
PUMP STATION B-4 REDUNDANT FORCE MAIN

ABBREVIATIONS AND SYMBOLS

REVIEW

	RELEASED FOR	DATE	BY
1	PROPOSAL SUBMITTAL	2/17/21	J.A.C.

ENGINEER OF RECORD:

JOSE A. CARABALLO, PE
FL REG No.73064

PROJECT #: 12567
DESIGNED: J.A.C. DRAWN: E.A./E.C.
DATE: 2/17/21 SCALE: AS SHOWN
DWG. G02-LEGN

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PROJECT #12567
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PLAN AND PROFILE

REVIEW			
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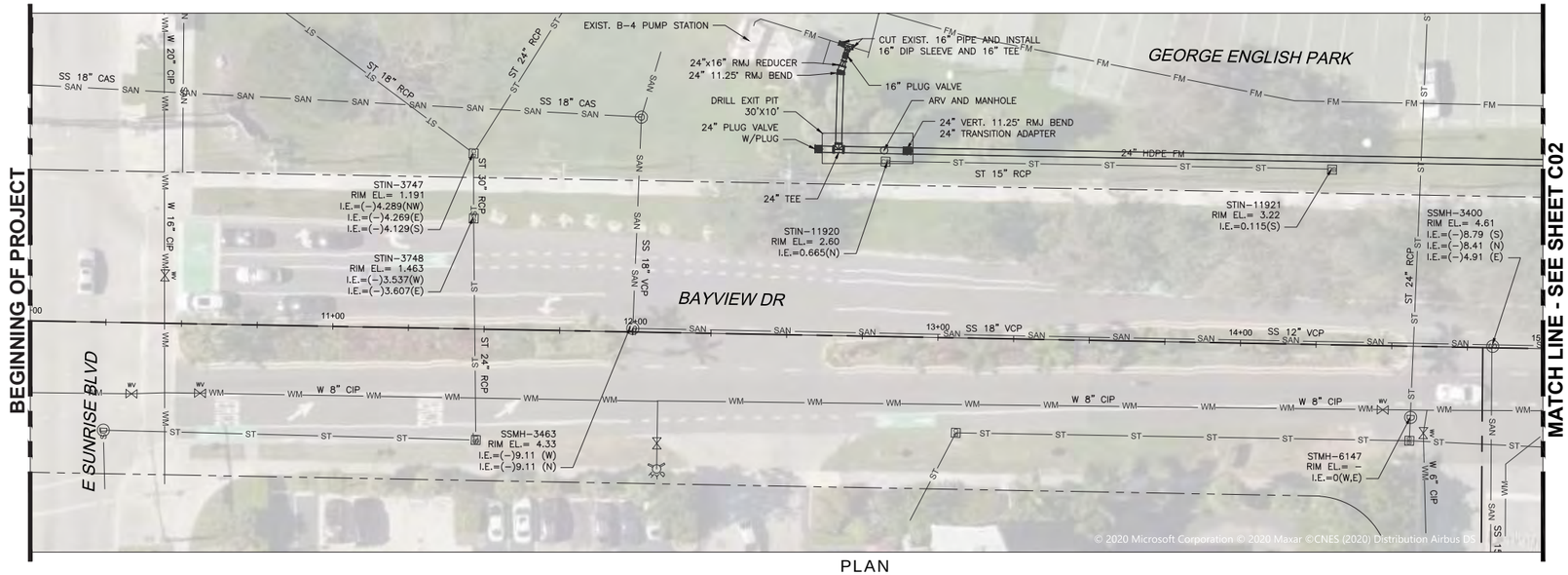
DATE: 2/17/21 | SCALE: AS SHOWN
DWG.
C00-KMAP



PLAN
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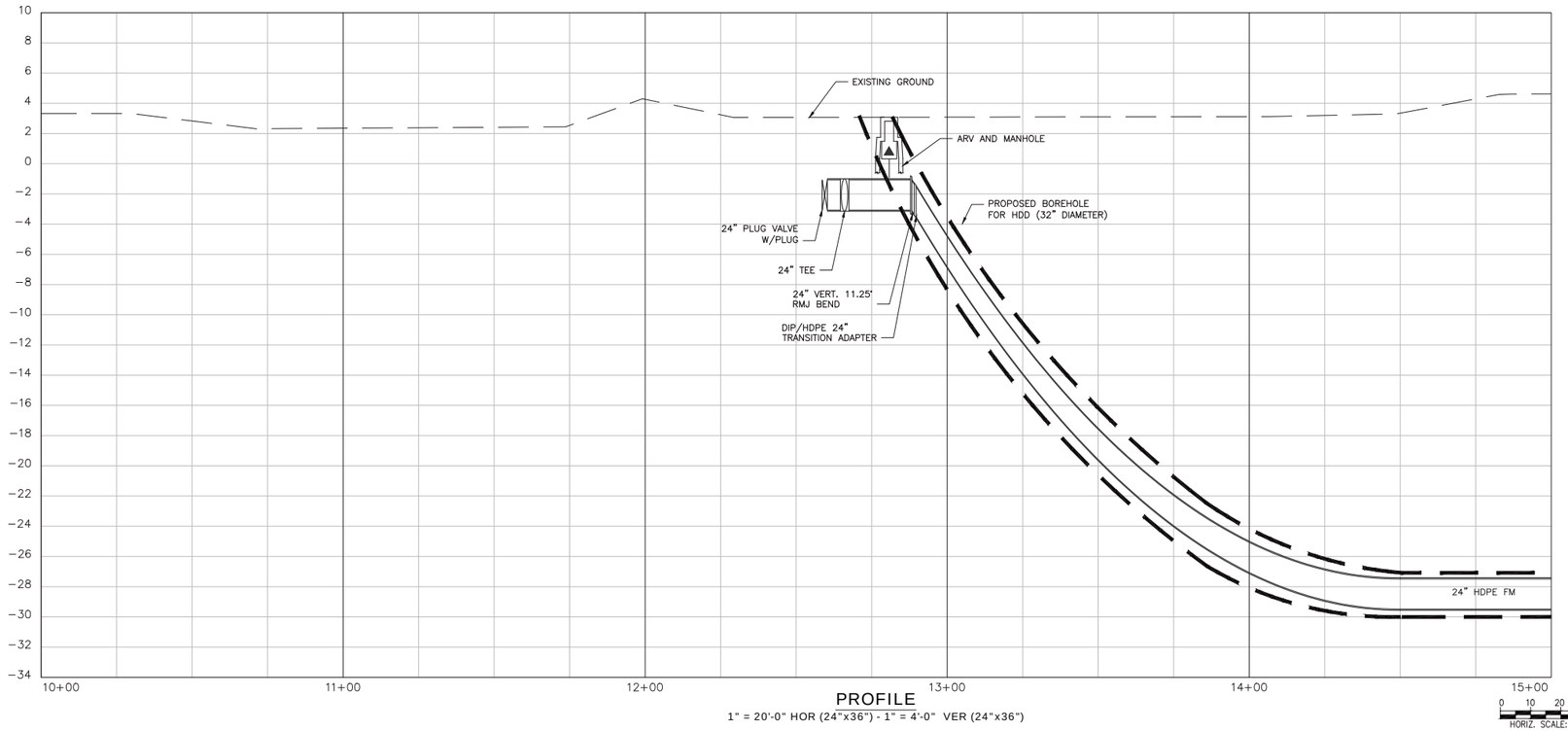

PROFILE
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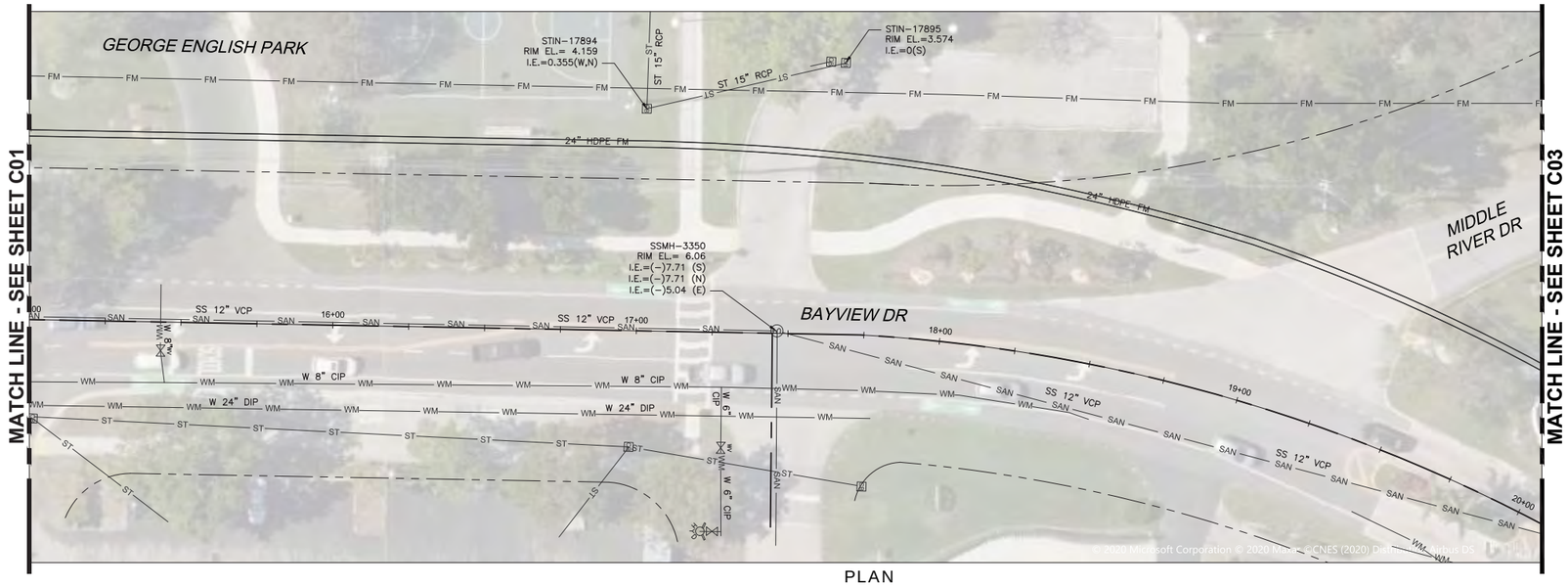
DWG.
C01-PLAN



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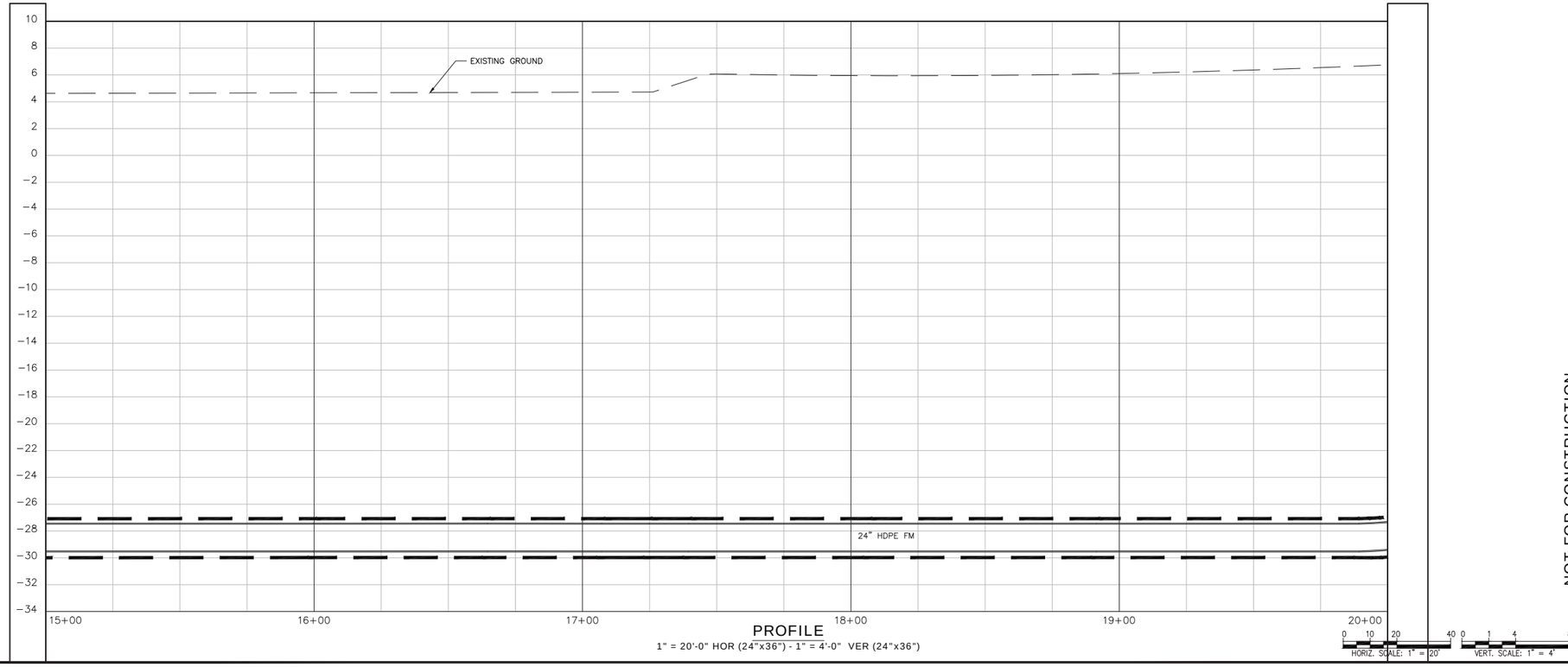

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HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

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JOSE A. CARABALLO, PE
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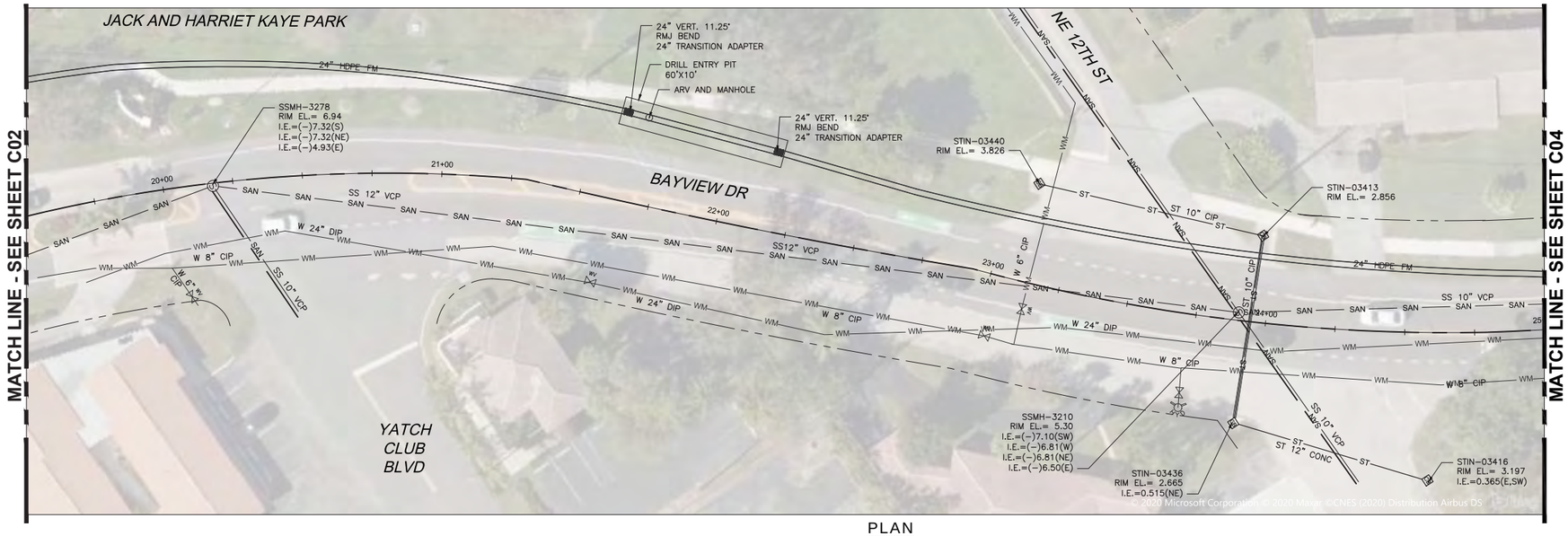
PROJECT #: 12567	
DESIGNED: J.A.C.	DRAWN: E.A./E.C.
DATE: 2/17/21	SCALE: AS SHOWN

DWG.
C02-PLAN



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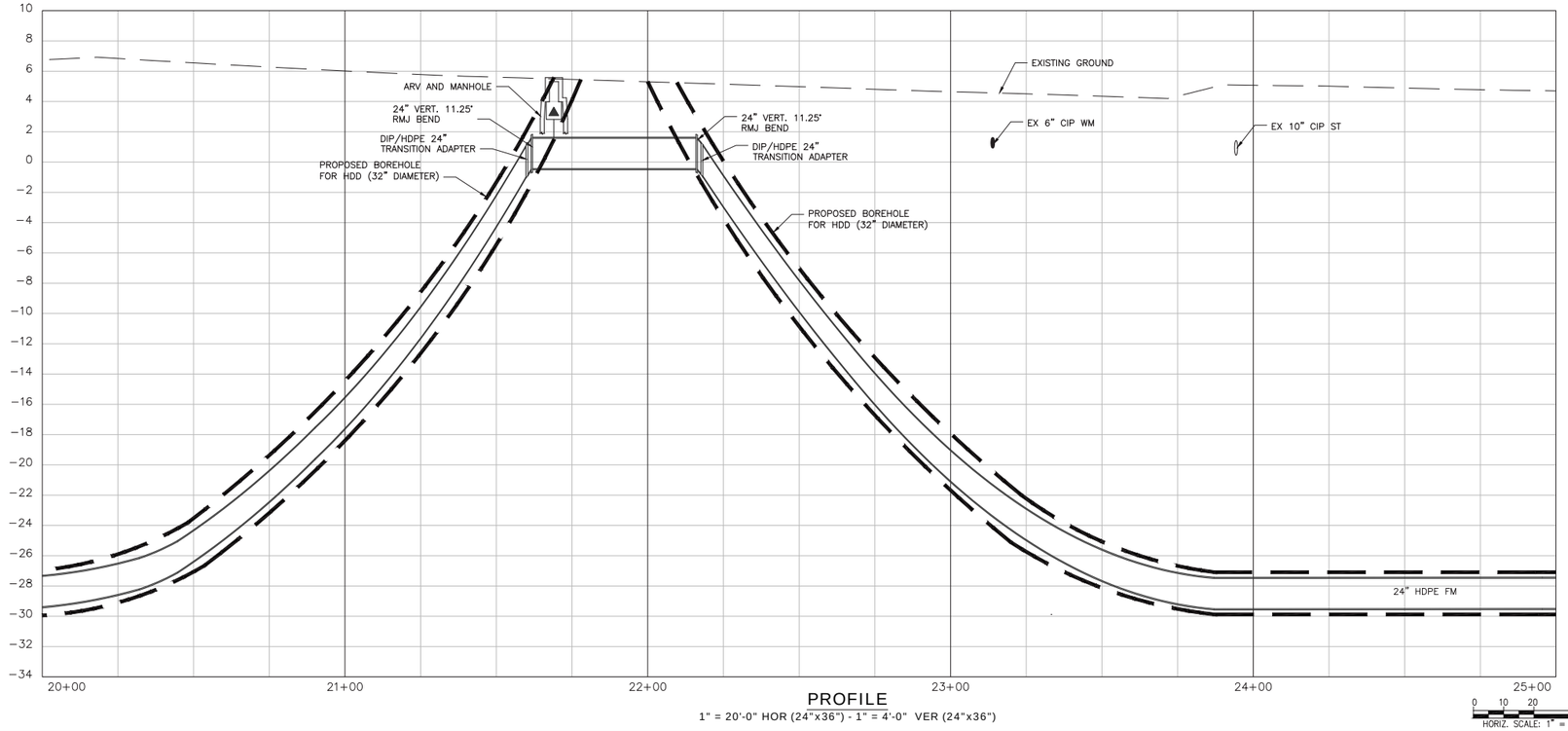

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PLAN AND PROFILE

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ENGINEER OF RECORD:
JOSE A. CARABALLO, PE
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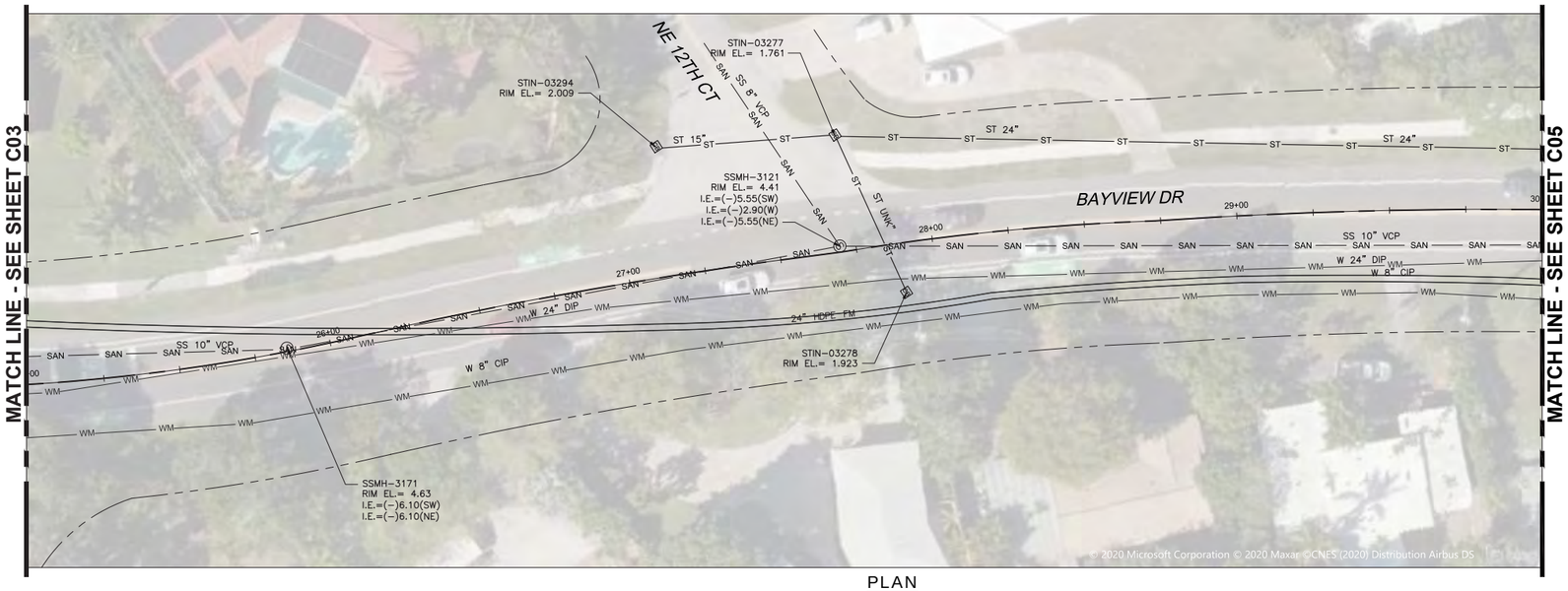
PROJECT #: 12567
DESIGNED: J.A.C. | DRAWN: E.A./E.C.
DATE: 2/17/21 | SCALE: AS SHOWN
DWG. C03-PLAN



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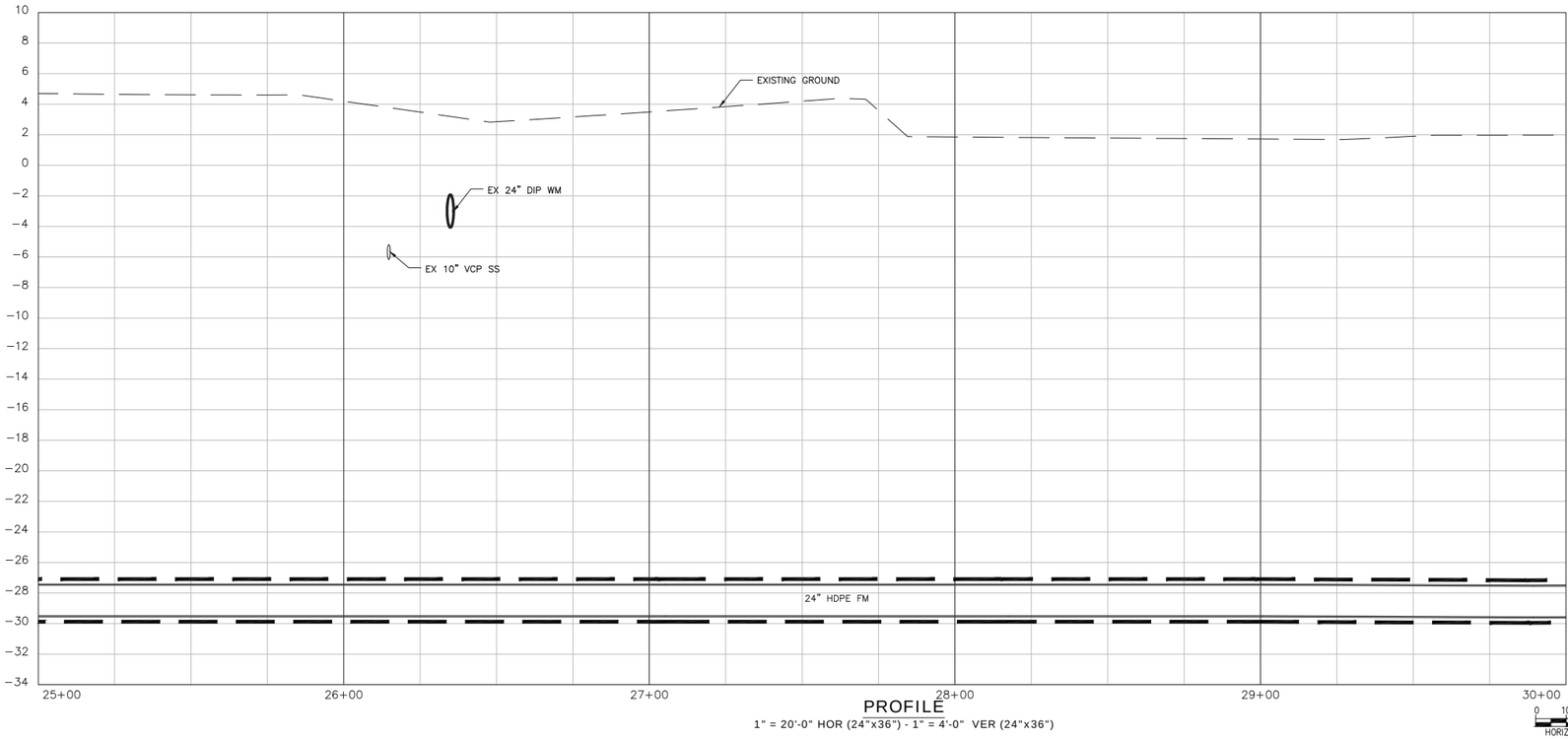

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PUMP STATION B-4 REDUNDANT FORCE MAIN

PLAN AND PROFILE

REVIEW

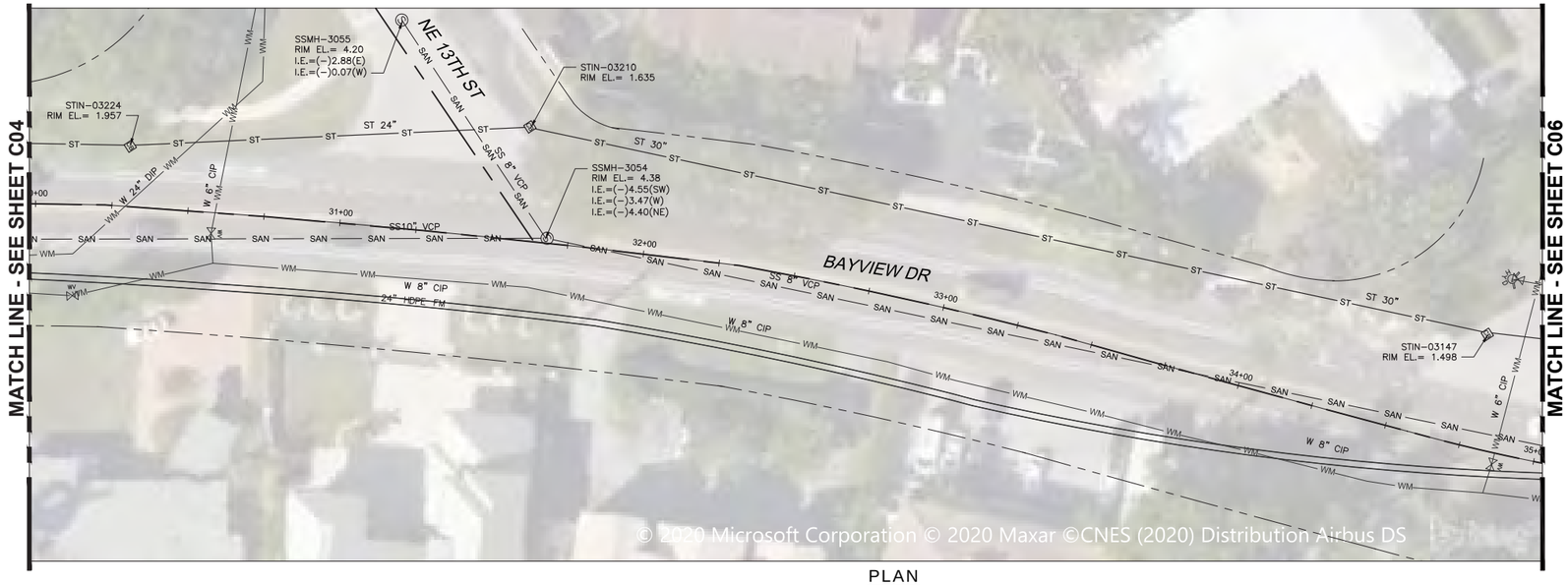
	RELEASED FOR	DATE	BY
1	PROPOSAL SUBMITTAL	2/17/21	J.A.C.

NOT FOR CONSTRUCTION

ENGINEER OF RECORD:
JOSE A. CARABALLO, PE
FL REG. No.73064

PROJECT #:	12567
DESIGNED: J.A.C.	DRAWN: E.A./E.C.
DATE: 2/17/21	SCALE: AS SHOWN

DWG.
C04-PLAN



PLAN
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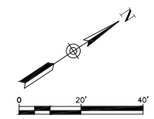

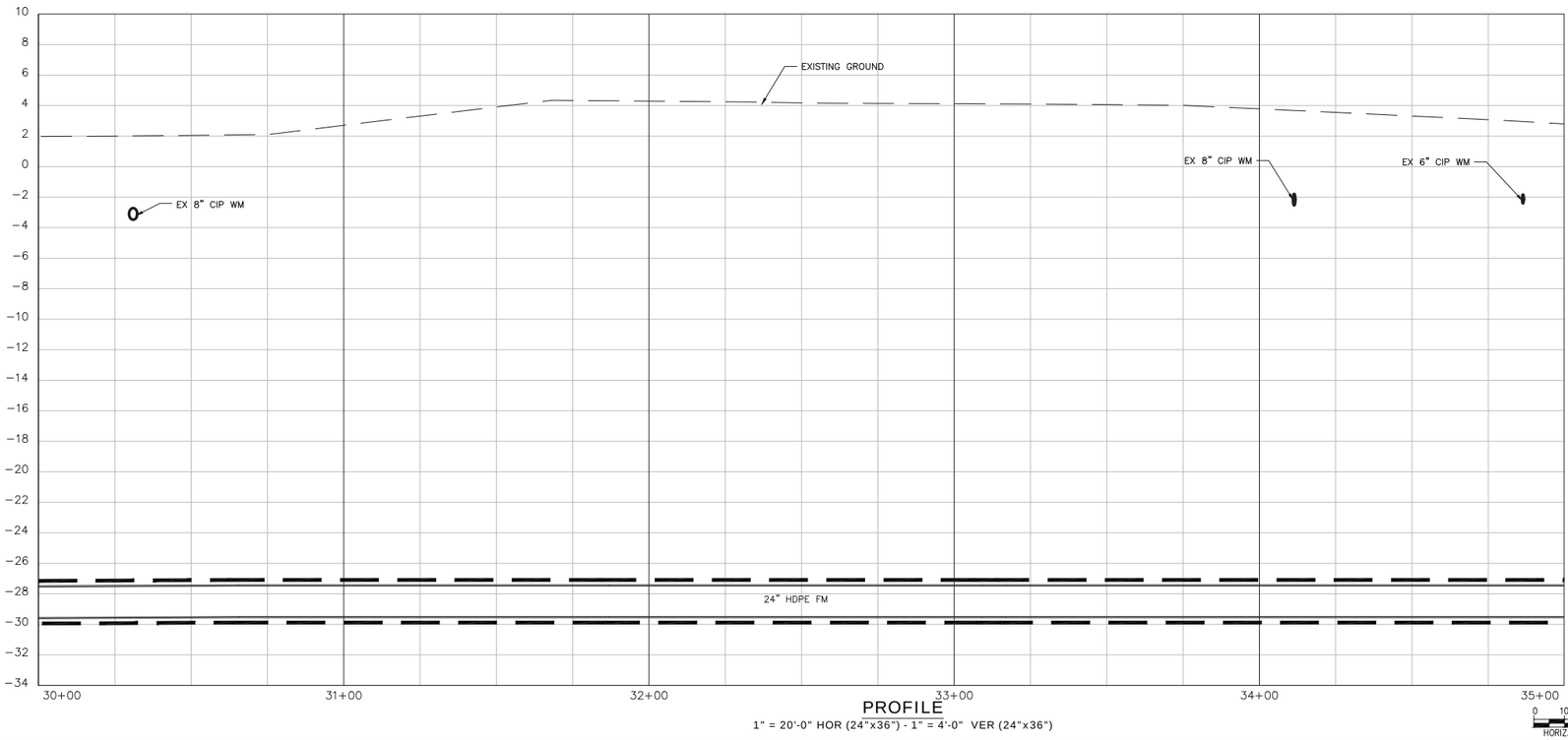

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1" = 20'-0" HOR (24"x36") - 1" = 4'-0" VER (24"x36")

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 4'

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CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
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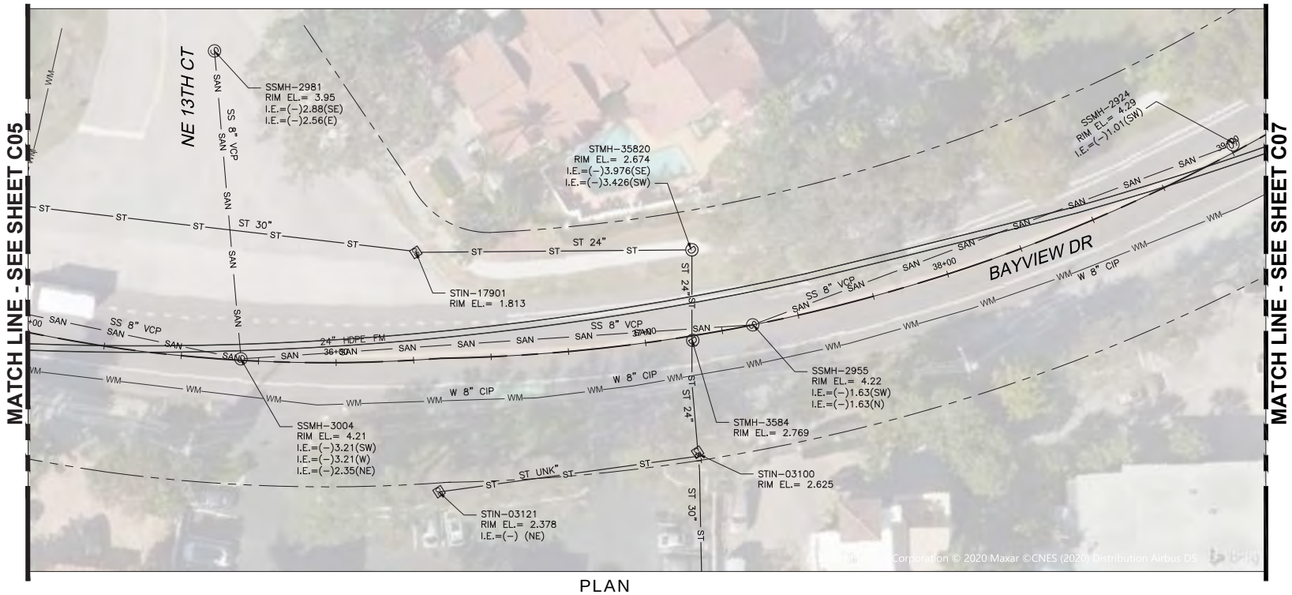
C05-PLAN



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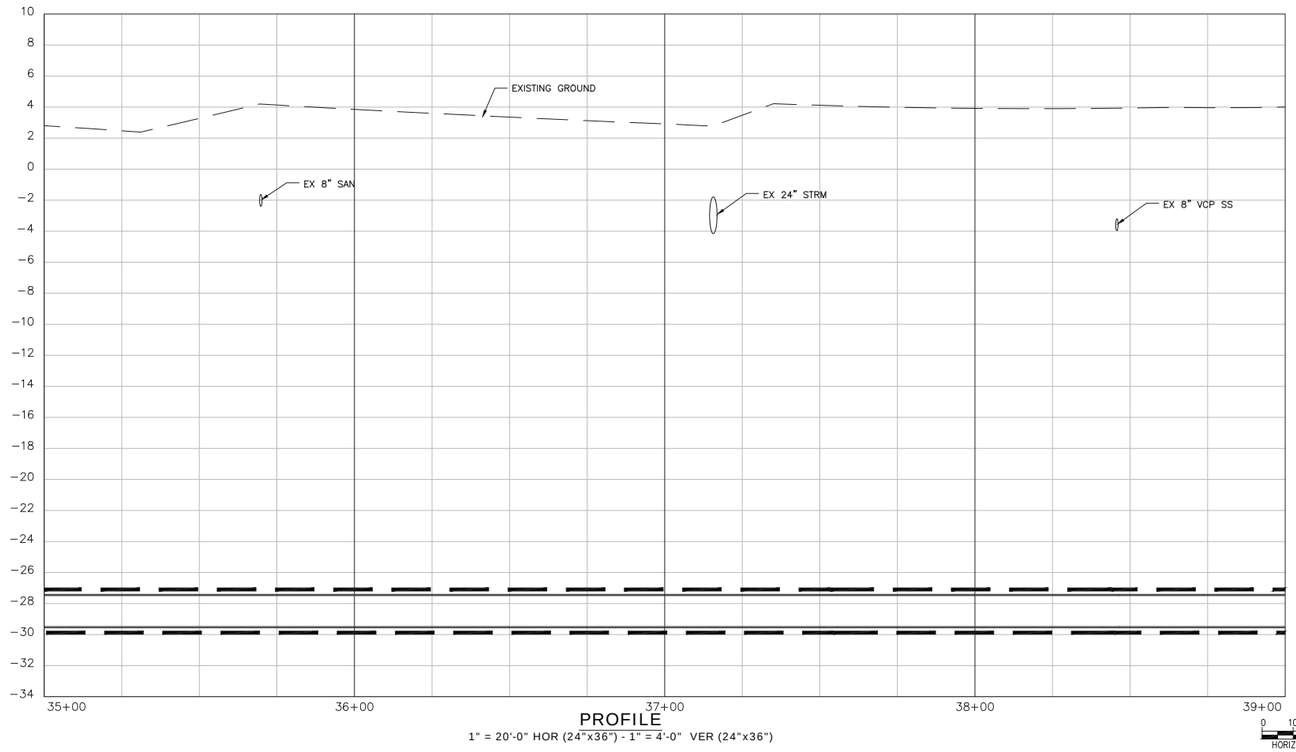

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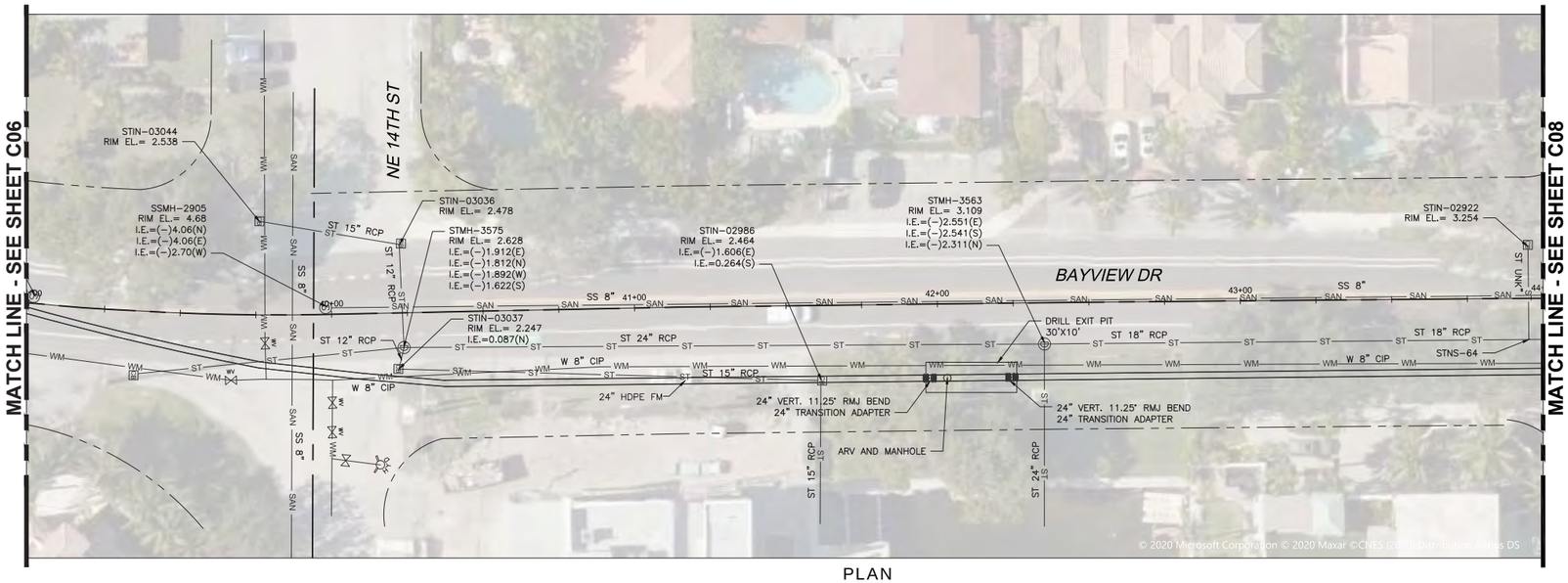
C06-PLAN



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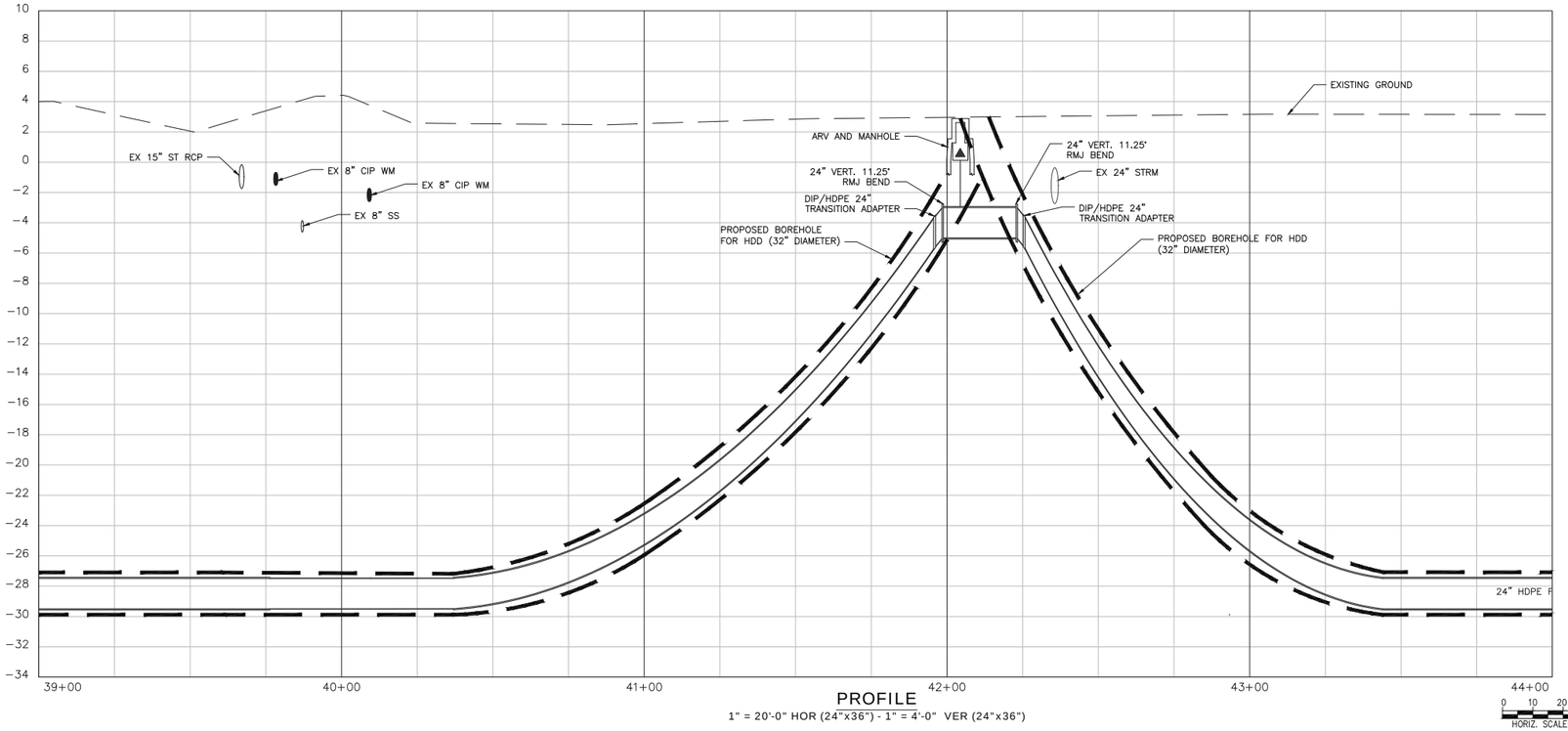

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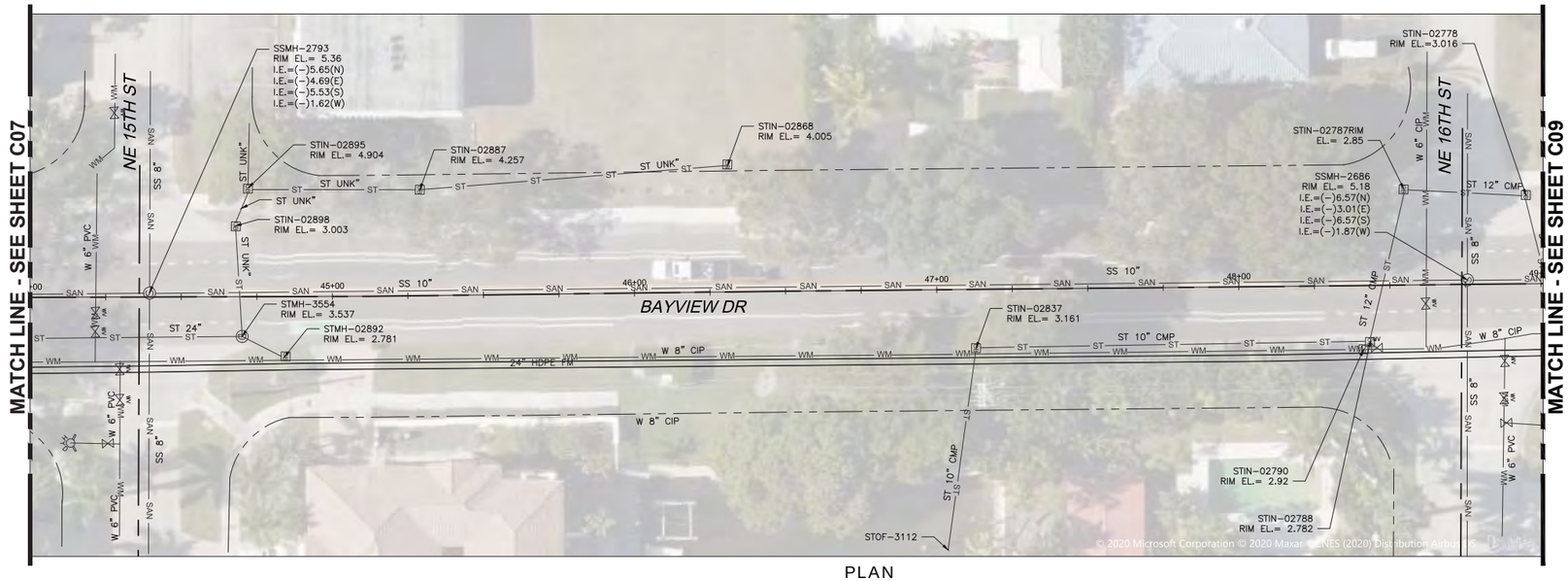
C07-PLAN



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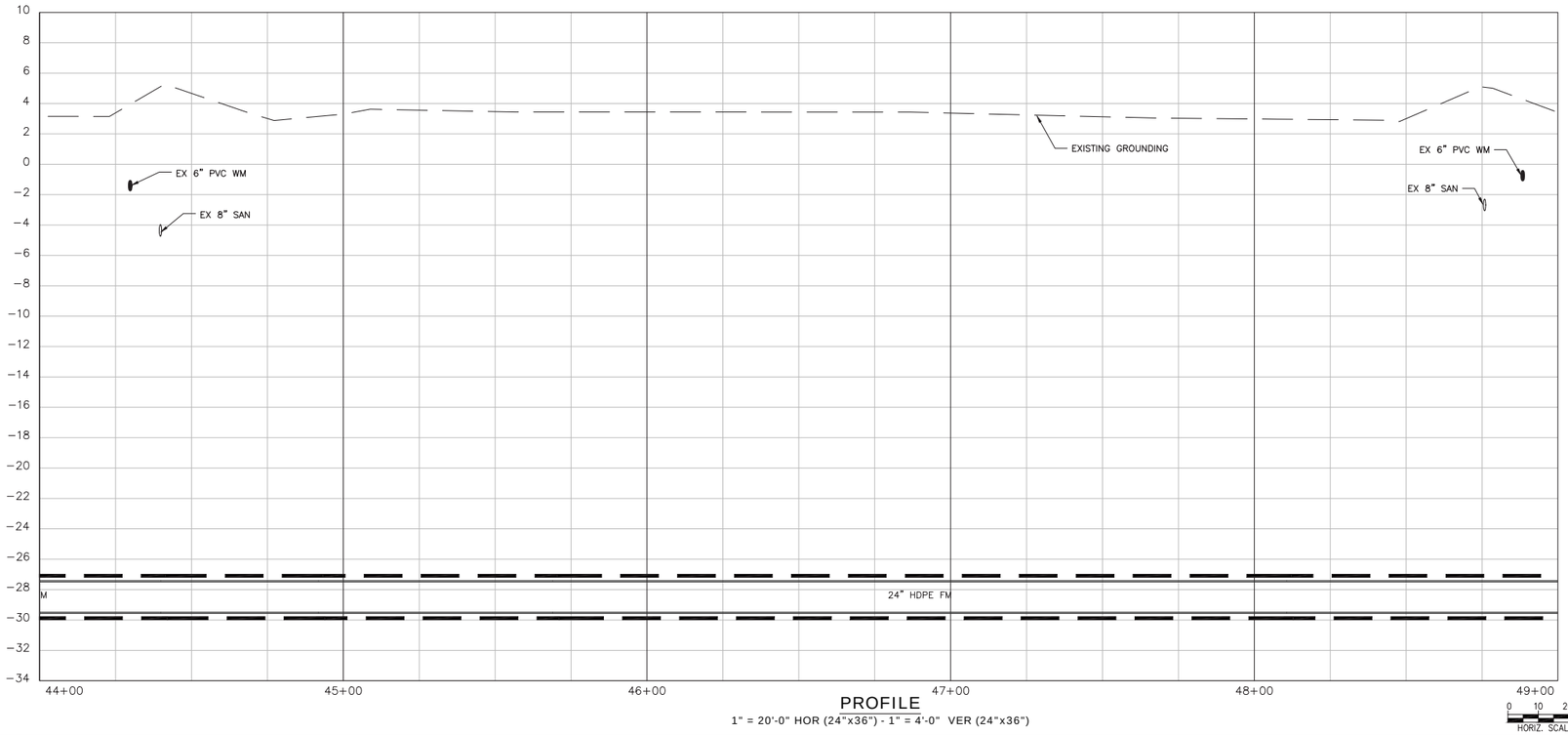

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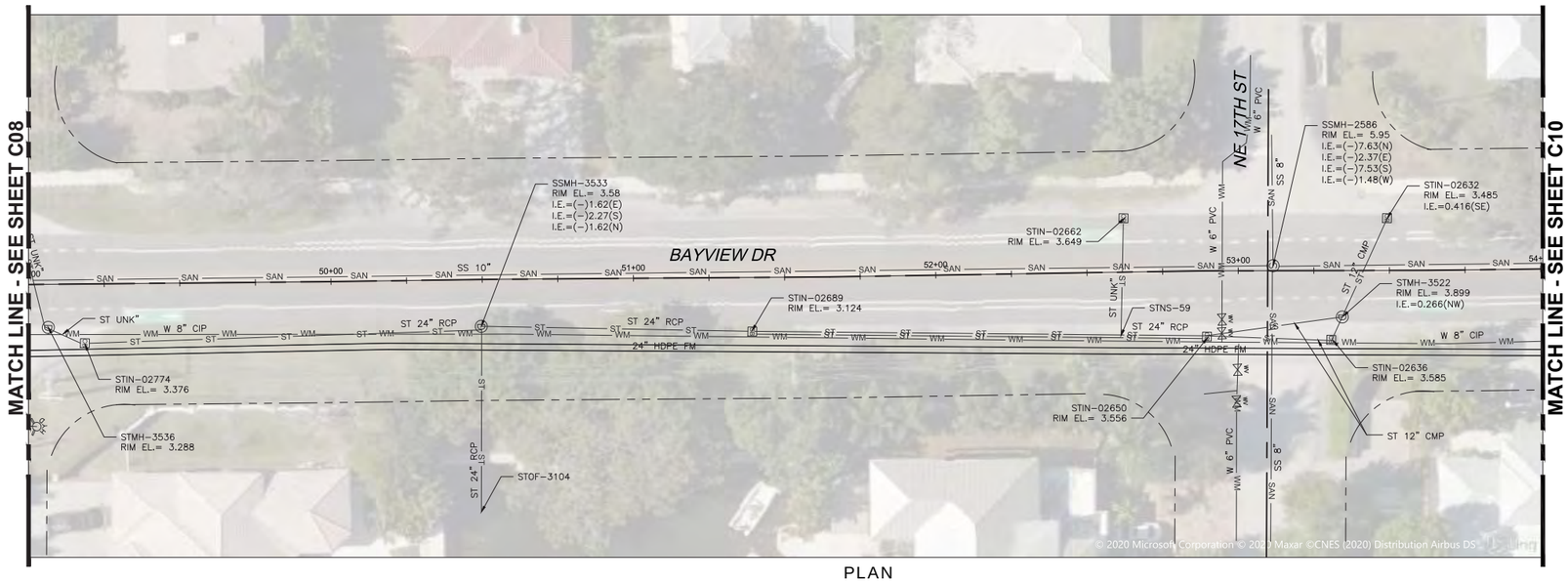
DWG.	C08-PLAN



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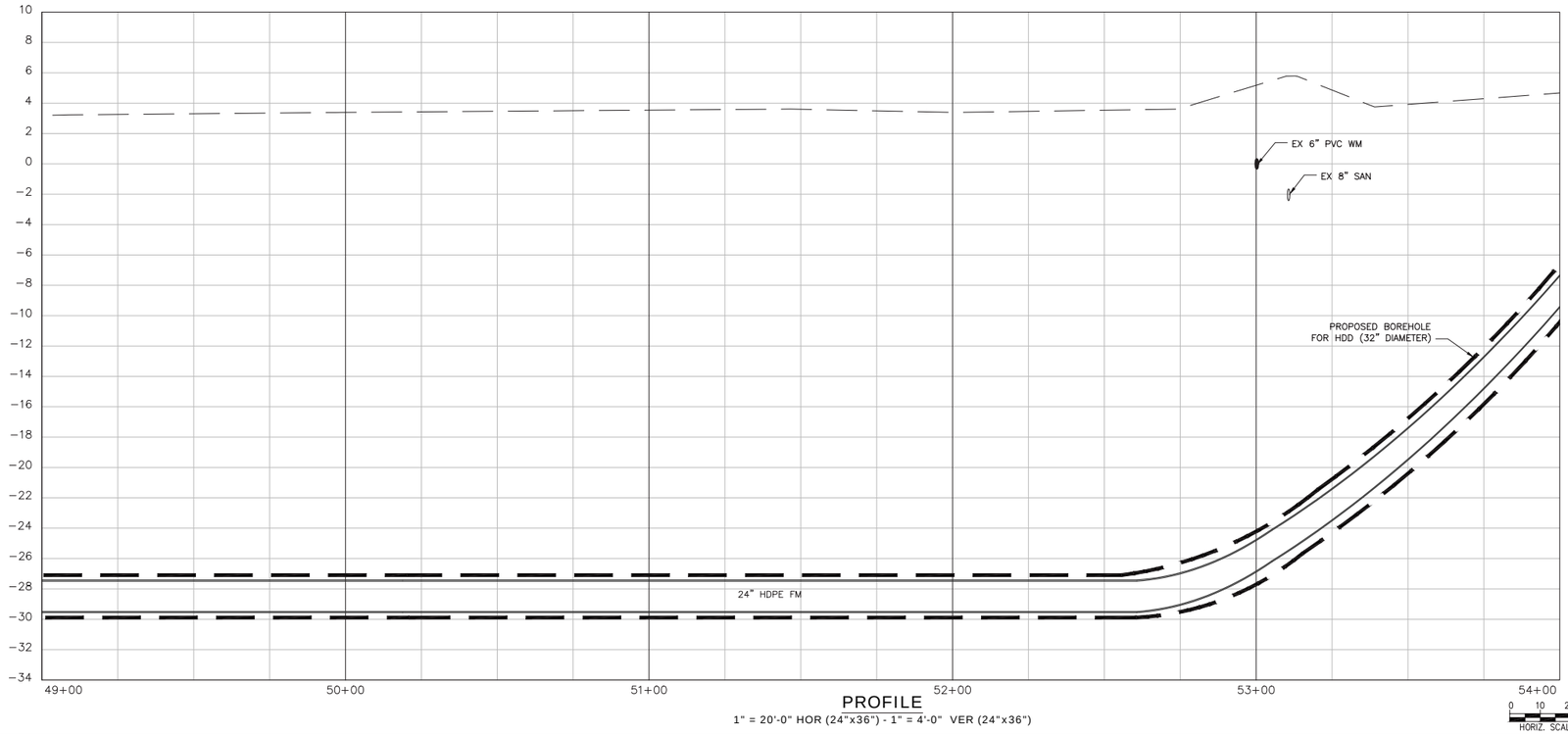

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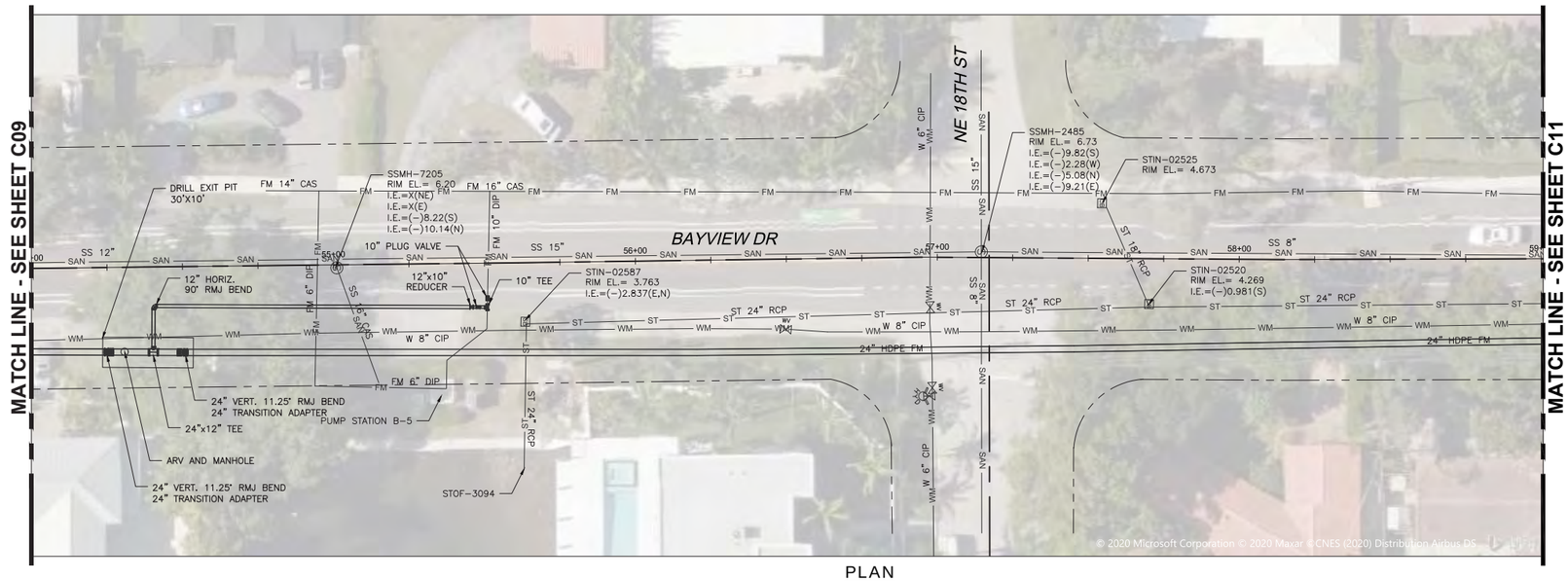
C09-PLAN



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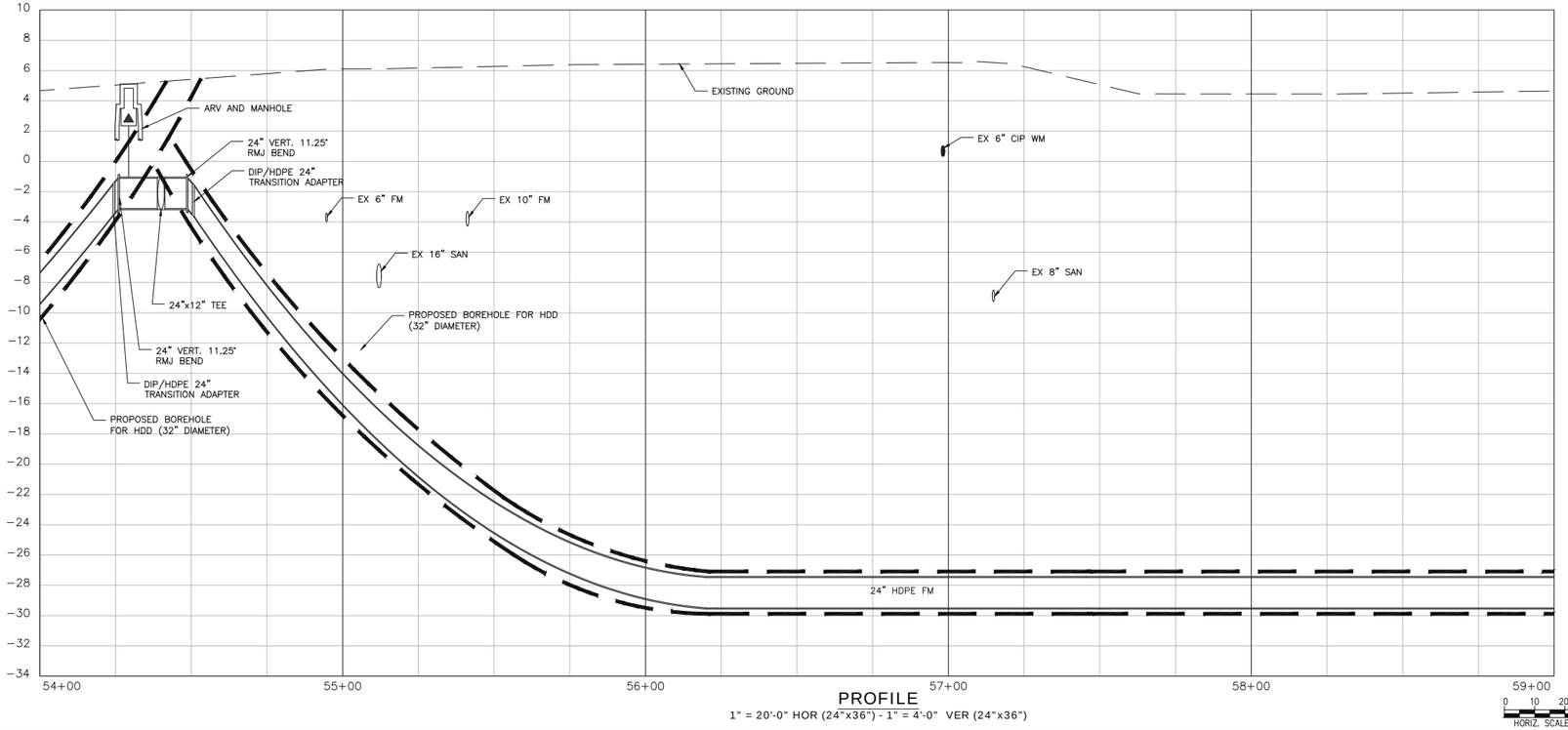

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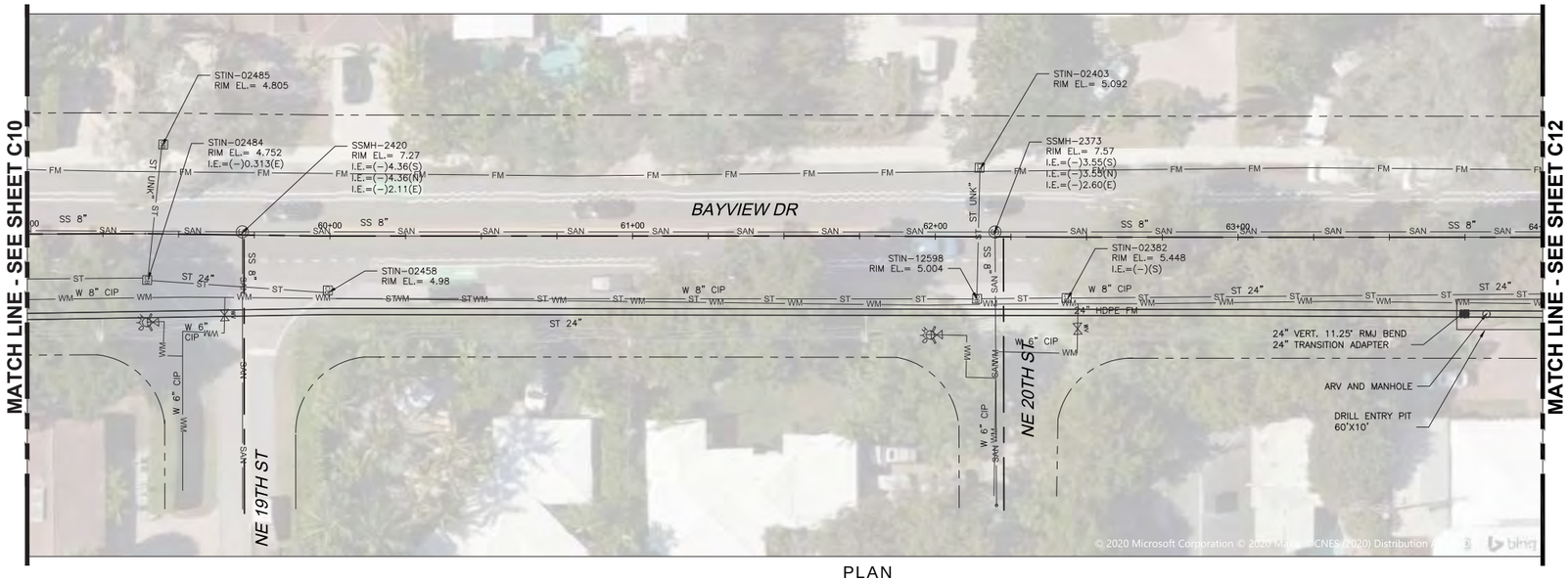
DWG.
C10-PLAN



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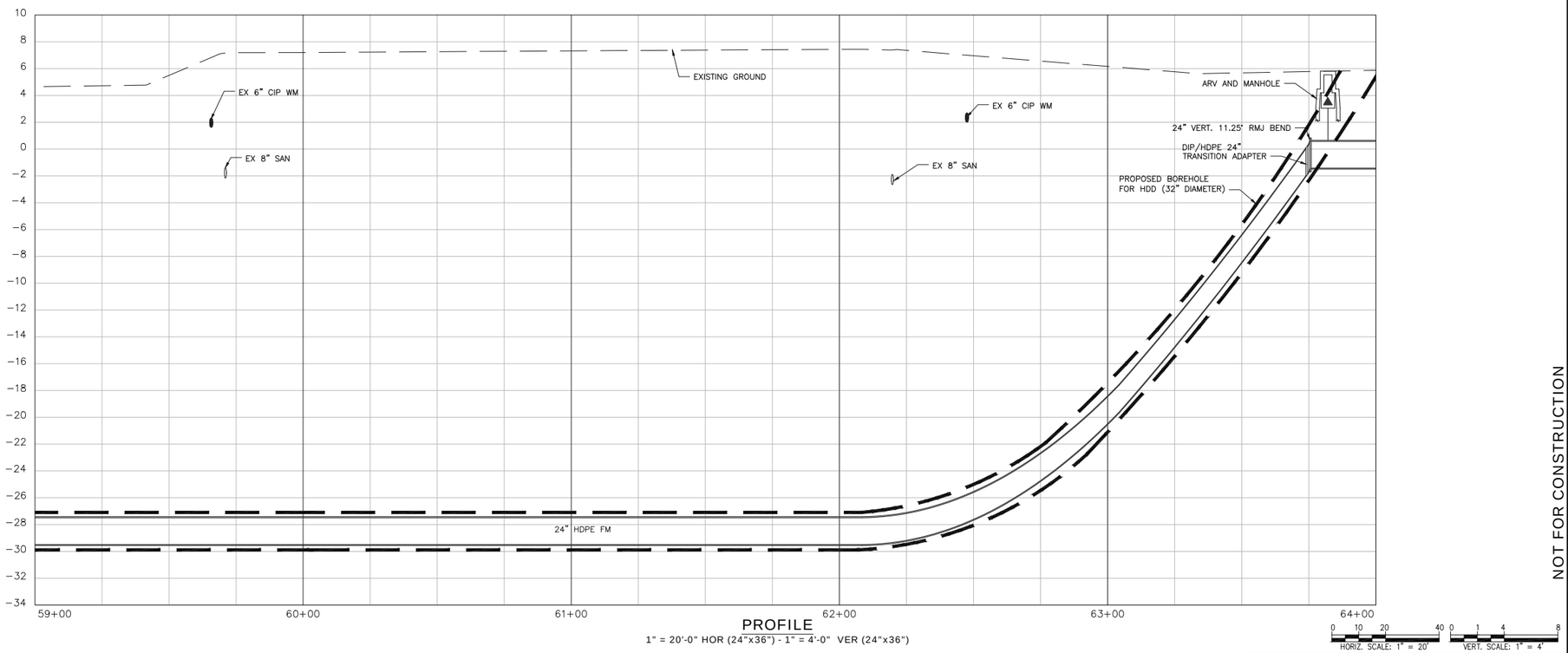

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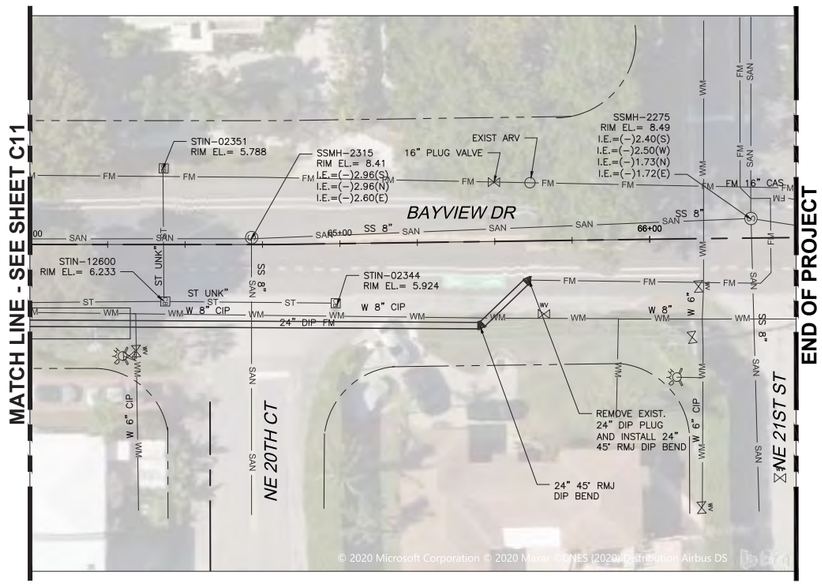
C11-PLAN



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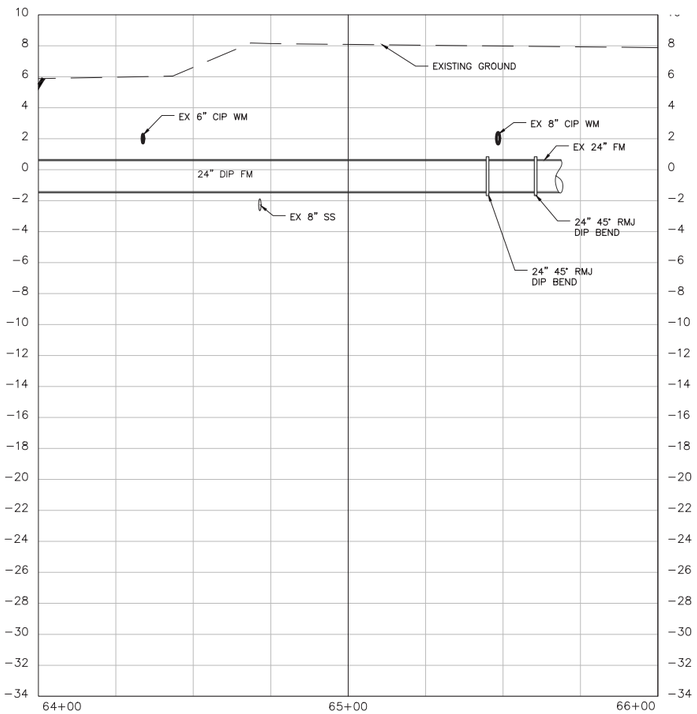

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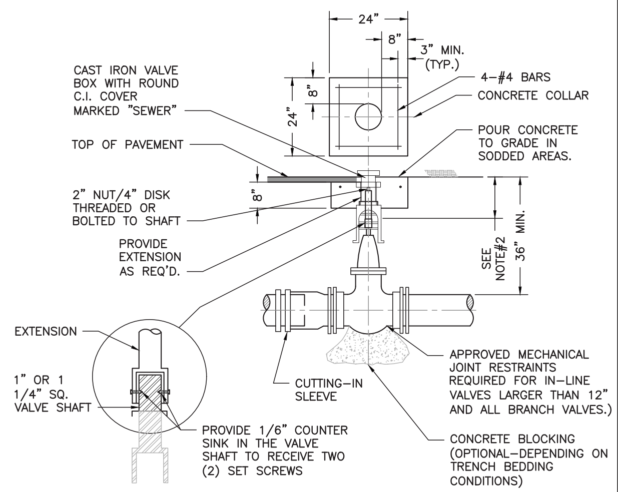
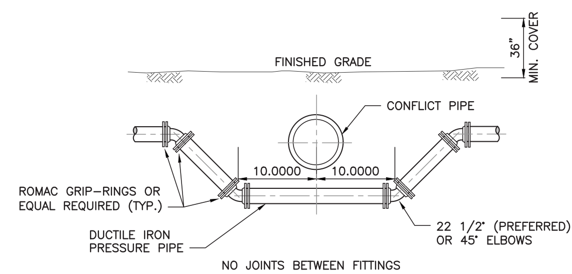
C12-PLAN



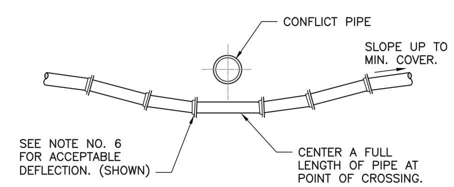
NOTES:

1. CONCRETE COLLAR IS NOT REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO CONDITIONAL FINAL INSPECTION.
2. WHEN VALVE NUT IS DEEPER THAN 36" AN EXTENSION WITH UNIVERSAL JOINT SHALL BE REQUIRED TO BRING OPERATING NUT 24"-30" BELOW FINISHED GRADE. EXTENSION BOLTS & NUTS SHALL BE 316 STAINLESS STEEL. A 316 STAINLESS STEEL CENTERING PLATE SHALL ALSO BE REQUIRED. VALVE BOXES SHALL HAVE LOCKING COVERS MARKED "SEWER" OR "WATER".
3. EXTENSION RISER TO BE D.I.P.
4. AT DEAD END OR WHERE MAIN LINES CHANGE DIRECTION, VALVES SHALL BE RESTRAINED USING MECHANICAL JOINT RESTRAINT.

TYPICAL VALVE DETAIL (XXX)



FITTING TYPE



DEFLECTION TYPE

PRESSURE PIPE CONFLICT DETAIL (400)

NOTES:

1. STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
2. MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FORCE MAIN. MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER GRAVITY MAIN OR FORCE MAIN. VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
3. FORCE MAIN CROSSING POTABLE WATER MAIN OR RECLAIMED WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.
4. FITTINGS SHALL BE RESTRAINED.
5. THE DEFLECTION TYPE CROSSING IS PREFERRED.
6. DO NOT EXCEED 75% OF MANUFACTURER'S RECOMMENDED MAXIMUM JOINT DEFLECTION FOR DUCTILE IRON PIPE. NO DEFLECTION AT THE JOINT IS ALLOWED FOR P.V.C. PIPE. BENDING OF P.V.C. PIPE SHALL NOT EXCEED THE FOLLOWING PARAMETERS:

PVC PIPE SIZE (INCH)	MIN. ALLOWED RADIUS (FT.)	MAX. DEFLECTION (INCH) PER 20' LENGTH
6"	300	8"
8"	400	6"
10"	600	4"
12"	600	4"

PRESSURE PIPE CONFLICT NOTES (401)

MINIMUM LENGTH OF PIPE (FEET) TO BE RESTRAINED

(SOURCES: EBAA IRON RESTRAINT LENGTH CALCULATION PROGRAM FOR PVC PIPE, RELEASE 3.1, AND DIPRA THRUST RESTRAINT FOR DUCTILE IRON PIPE, RELEASE 3.2)

FITTING TYPE		PIPE SIZE 4"	6"	8"	10"	12"	16"	20"	24"	30"	36"	42"	48"
90° HORIZONTAL BEND		14	20	25	30	35	45	54	62	73	84	93	101
45° HORIZONTAL BEND		6	8	11	13	15	19	22	26	30	35	38	42
22.5° HORIZONTAL BEND		3	4	5	6	7	9	11	12	15	17	18	20
11.25° HORIZONTAL BEND		1	2	3	3	4	4	5	6	7	8	9	10
90° VERTICAL OFFSET	UPPER BEND	55	79	103	125	147	189	228	266	319	368	412	454
	LOWER BEND	22	38	49	59	69	88	106	123	145	165	184	201
45° VERTICAL OFFSET	UPPER BEND	22	32	42	51	60	77	93	109	131	151	170	187
	LOWER BEND	10	14	19	23	28	35	43	50	59	67	75	82
22.5° VERTICAL OFFSET	UPPER BEND	7	12	17	21	26	34	42	49	60	70	78	87
	LOWER BEND	2	4	6	8	10	14	17	21	25	29	33	36
11.25° VERTICAL OFFSET	UPPER BEND	3	4	6	9	11	15	19	22	28	32	37	41
	LOWER BEND	1	1	1	2	3	5	7	8	10	12	14	16
PLUG (DEAD END)		32	45	59	70	83	107	129	151	190	220	244	270
IN-LINE VALVE		32	45	59	70	83	107	129	151	100	110	125	135
TEE (BRANCH RESTRAINT)	4"x 0	23											
	6"x 0	21	35										
	8"x 0	18	34	47									
	10"x 0	16	32	46	58								
	12"x 0	13	30	44	57	69							
	16"x 0	7	26	41	55	67	90						
	20"x 0	1	21	38	52	65	88	109					
	24"x 0	1	16	34	49	62	86	108	129				
	30"x 0	8	28	44	58	83	106	127	154				
	36"x 0	1	1	22	39	54	80	103	124	153	179		
	42"x 0	1	1	15	33	49	77	100	122	151	177	201	
	48"x 0	1	1	7	27	44	73	97	120	149	176	200	222
REDUCER (LARGER PIPE RESTRAINT)	6"x 0	23											
	8"x 0	38	25										
	10"x 0	57	43	24									
	12"x 0	72	60	44	41								
	16"x 0	99	90	78	75	45							
	20"x 0	123	116	107	105	81	45						
	24"x 0	146	140	132	131	111	82	45					
	30"x 0	157	153	148	141	133	113	87	56				
	38"x 0	182	179	175	169	163	147	126	101	56			
	42"x 0	205	202	199	194	189	175	158	138	100	54		
	48"x 0	226	224	221	217	213	201	187	169	138	98	53	

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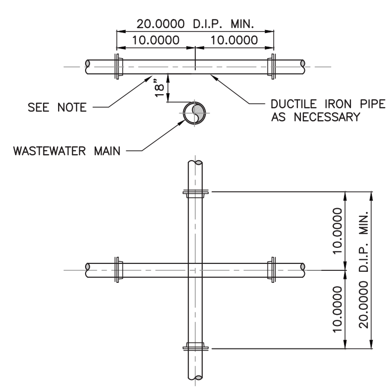


NOTES:

1. STORM SEWER, GRAVITY WASTEWATER AND RECLAIMED WATER MAIN CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE INVERT OF THE UPPER PIPE AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/WASTEWATER/RECLAIMED WATER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN TEN (10) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE 6 INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/RECLAIMED WATER PIPES CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM 18" VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION. D.I.P. IS NOT REQUIRED FOR STORM SEWERS.
2. MAINTAIN MIN. TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN AND STORM SEWER, WASTEWATER MAIN, OR FORCE MAIN. MAINTAIN MIN. THREE (3) FEET HORIZONTAL DISTANCE (WALL TO WALL) BETWEEN RECLAIMED WATER MAIN AND POTABLE WATER MAIN, STORM SEWER, WASTEWATER GRAVITY MAIN OR FORCE MAIN.
3. FORCE MAIN CROSSING POTABLE WATER MAIN OR RECLAIMED WATER MAIN SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF EIGHTEEN (18) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND OUTSIDE OF THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN WITH THE POTABLE WATER MAIN OR RECLAIMED WATER MAIN CROSSING OVER THE FORCE MAIN.

STANDARD WATER AND SEWER SEPARATION DETAIL (402)

I. FORCE MAIN AND WATER MAIN OUTSIDE OF WELLFIELD PROTECTION ZONE

MAXIMUM QUANTITY OF WATER (GALLONS PER HOUR) THAT MAY BE SUPPLIED TO MAINTAIN PRESSURE WITHIN 5 P.S.I. OF THE SPECIFIED TEST PRESSURE.

(MECHANICAL OR PUSH-ON JOINT, 18 FT. NOMINAL LENGTHS, PER 1000 FT. OF PIPE)

AVG. TEST PRESSURE PSI	PIPE DIAMETER (INCHES) 2	3	4	6	8	10	12	14	16	18	20	24	30
150	0.10	0.14	0.18	0.27	0.37	0.46	0.55	0.64	0.73	0.83	0.92	1.10	1.38

NOTES:

1. TO OBTAIN THE MAXIMUM QUANTITY OF WATER FOR PIPE WITH 20 FT. NOMINAL LENGTHS, MULTIPLY THE QUANTITY CALCULATED FROM THE TABLE BY 0.9.<<
2. THE MAXIMUM QUANTITY OF ADDED WATER FOR A PIPELINE IS CALCULATED BY MULTIPLYING THE QUANTITY PER HOUR AS OBTAINED FROM THE ABOVE TABLE, BY THE DURATION OF THE TEST IN HOURS, AND BY THE TOTAL LENGTH OF THE LINE BEING TESTED DIVIDED BY 1,000. IF THE LINE UNDER TEST CONTAINS SECTIONS OF VARIOUS DIAMETERS, THE MAXIMUM QUANTITY ADDED WILL BE THE SUM OF THE COMPUTED QUANTITIES FOR EACH SIZE.<<
3. MAXIMUM TEST LENGTH = 2,500 FEET PER SECTION.<<
4. THIS STANDARD SHALL REFLECT ANY REVISION OF A.W.W.A. C-600-05. HOWEVER, THE MAXIMUM QUANTITY OF WATER ADDED SHALL NOT EXCEED 50% OF RECOMMENDED LIMIT PER APPLICABLE AWWA C-600-05 STANDARD.<<
5. STANDARD TEST PRESSURE = 150 P.S.I.
6. FORMULA BASIS: $L = \frac{(S)x(D)x(P)1/2}{148,000}$

   L = MAXIMUM QUANTITY OF WATER TO BE ADDED (GALLONS PER HOUR)
   S = LENGTH OF PIPE TESTED (FEET)
   D = DIAMETER OF PIPE (INCHES)
   P = TEST PRESSURE (P.S.I.)

7. PRESSURE TEST DURATION TO BE MIN. 2 HOURS.
8. DISINFECTION OF MAINS SHALL COMPLY WITH A.N.S.I./A.W.W.A. C-651-05 STANDARD.
9. DUCTILE IRON WATER MAIN PIPE SHALL CONFORM TO THE REQUIREMENTS OF A.N.S.I./A.W.W.A. C-151-'02.

II. FORCE MAIN AND WATER MAIN WITHIN WELLFIELD PROTECTION ZONE.

NOTES:

1. PRESSURE TEST PROCEDURE TO FOLLOW THE CURRENT AWWA C-600-05 STANDARD (150psi, (2) HOUR DURATION). THERE SHALL BE NO PRESSURE DROP IN THE PIPE DURING THE TEST ("ZERO" FILL-UP TOLERANCE).

PRESSURE TEST CRITERIA (403)

TESTS

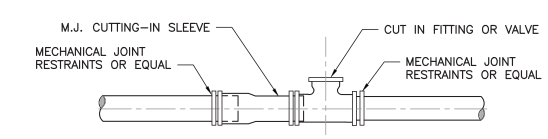
1. ALL INSTALLED SANITARY SEWER FORCE MAIN CONSTRUCTED OF HDPE SHALL BE TESTED IN ACCORDANCE WITH ASTM F 2164 (LATEST REVISION).
2. FOR HDPE PIPE, THE MINIMUM TEST PRESSURE IS ONE AND A HALF TIMES THE SYSTEM DESIGN PRESSURE. THE MAXIMUM ALLOWABLE TEST PRESSURE IS DEFINED BY:

   $P_{(T)} = 2*HDS*Ft*Ht/(DR-1)$

   $P_{(T)}$ = LEAK TEST PRESSURE, PSI, FOR LEAK TEST TIME, T
   HDS = PE MATERIAL HYDROSTATIC DESIGN STRESS FOR WATER AT 73°F, PSI.
   Ft = PE MATERIAL TEMPERATURE REDUCTION FACTOR.
   Ht = LEAK TESTE DURATION FACTOR FOR LEAK TEST TIME, T.
   DR = PIPE DIMENSION RATIO.

3. FOR HDPE PIPE, THE TEST PROCEDURE IS TO FOLLOW ASTM F 2164 (LATEST REVISION) WHICH INCLUDES THE INITIAL EXPANSION PHASE FOR FOUR (4) HOURS FOLLOWED BY LOWERING THE PRESSURE BY 10 PSI FOR THE TESTING PHASE. THE TESTING PHASE IS FOR ONE HOUR, WHEREBY THE PRESSURE SHALL REMAIN STEADY (WITHIN 5%) TO CONFIRM PASSAGE OF THE LEAK TEST. IF A PRESSURE TEST ON HDPE PIPE IS NOT COMPLETED, THE TEST SECTION SHALL BE DE-PRESSURIZED FOR REPAIRS. DE-PRESSURIZATION SHALL LAST FOR A MINIMUM OF EIGHT (8) HOURS.
4. THE SECTION OF MAIN BEING TESTED SHALL BE LIMITED TO A MAXIMUM LENGTH OF 2000'.

PRESSURE TEST CRITERIA FOR HDPE



DUCTILE IRON-MECHANICAL JOINT (FORCE MAIN)

1. MECHANICAL JOINTS RESTRAINTS ARE REQUIRED THROUGHOUT ASSEMBLY.

PRESSURE PIPE STANDARD CUT-IN DETAIL (404)

NOT FOR CONSTRUCTION

PROJECT #12567
PUMP STATION B-4 REDUNDANT FORCE MAIN

STANDARD DETAILS

REVIEW

	RELEASED FOR	DATE	BY
1	PROPOSAL SUBMITTAL	2/17/21	J.A.C.

ENGINEER OF RECORD:

JOSE A. CARABALLO, PE
FL REG No.73064

PROJECT #: 12567
DESIGNED: J.A.C. DRAWN: E.A./E.C.
DATE: 2/17/21 SCALE: AS SHOWN
DWG. D01-STDR

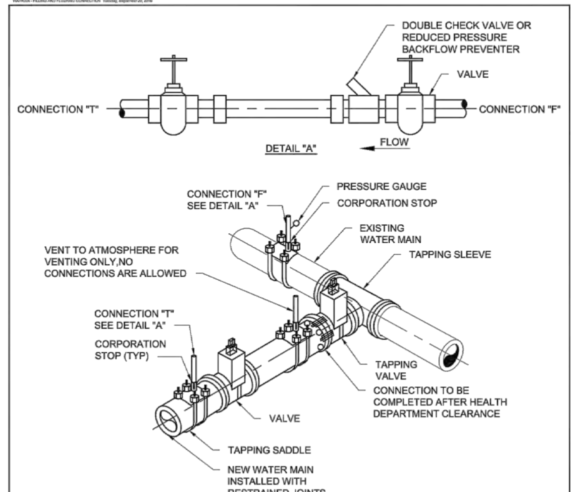
WATER MAIN SEPARATION IN ACCORDANCE WITH F.A.C. RULE 62-555.314

OTHER PIPE	HORIZONTAL SEPARATION	CROSSINGS (NOTE 1)	JOINT SPACING AT CROSSINGS (FULL JOINT CENTERED)
STORM SEWER, STORM WATER FORCE MAIN, RECLAIMED WATER (NOTE 2)	WATER MAIN / 3 FT. MINIMUM / OTHER PIPE	WATER MAIN / 12 INCHES IS THE MINIMUM, EXCEPT FOR STORM SEWER, THEN 6 INCHES IS THE MINIMUM AND12 INCHES IS PREFERRED / OTHER PIPE	NOTE 4 / WATER MAIN / JOINT (TYP.)
VACUUM SANITARY SEWER	WATER MAIN / 10 FT PREFERRED / 3 FT. MINIMUM / OTHER PIPE	WATER MAIN / 12 INCHES IS PREFERRED 6 INCHES MINIMUM / OTHER PIPE	NOTE 4 / WATER MAIN
GRAVITY SANITARY SEWER, (NOTE 3) SANITARY SEWER FORCE MAIN, RECLAIMED WATER	WATER MAIN / 10 FT PREFERRED / 6 FT. MINIMUM / OTHER PIPE	WATER MAIN / 12 INCHES IS THE MINIMUM, EXCEPT FOR GRAVITY SEWER, THEN 6 INCHES IS THE MINIMUM AND 12 INCHES IS PREFERRED / OTHER PIPE	NOTE 4 / WATER MAIN / OTHER PIPE (TYP.)
ON-SITE SEWAGE TREATMENT & DISPOSAL SYSTEM	10 FT. MINIMUM	—	—

NOTES:

1. WATER MAIN SHOULD CROSS ABOVE OTHER PIPE. WHEN WATER MAIN MUST BE BELOW OTHER PIPE, THE MINIMUM SEPARATION IS 12 INCHES.
2. RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, F.A.C.
3. 3 FT. FOR GRAVITY SANITARY SEWER WHERE THE BOTTOM OF THE WATER MAIN IS LAID AT LEAST 6 INCHES ABOVE THE TOP OF THE GRAVITY SANITARY SEWER.
4. ONE FULL LENGTH OF WATER MAIN PIPE SHALL BE CENTERED ABOVE OR BELOW THE OTHER PIPE SO THAT THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATE JOINT LOCATIONS ALLOWED UNDER FAC 62-555.314 WILL ONLY BE ALLOWED BY THE ENGINEER ON A CASE-BY-CASE BASIS.

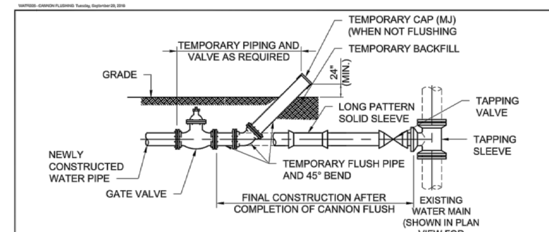
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | WATER MAIN SEPARATION | DETAIL NO. WATR 001 | REVISED: 2016/09/01



NOTES:

1. REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON EXISTING MAIN AFTER FILLING AND FLUSHING OF NEW LINE.
2. DO NOT REMOVE TEMPORARY CONNECTION AT CORPORATION STOP ON NEW MAIN UNTIL ALL TESTING HAS BEEN CLEARED BY HEALTH DEPARTMENT.
3. CLOSE CORPORATION STOPS AND PLUG/CAP WITH LEAD-FREE BRASS FITTINGS AFTER SAMPLING IS COMPLETED.
4. CONTRACTOR WILL INSTALL A PRESSURE GAUGE AT OR NEAR THE FILL AND FLUSH LOCATION AND MAINTAIN A MINIMUM PRESSURE OF 40 PSI AT ALL TIMES. THE FILL VALVE WILL BE OPENED AND CLOSED SLOWLY TO AVOID RAPID PRESSURE CHANGES IN THE WATER SYSTEM.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | FILLING AND FLUSHING CONNECTION | DETAIL NO. WATR 004 | REVISED: 2016/09/21

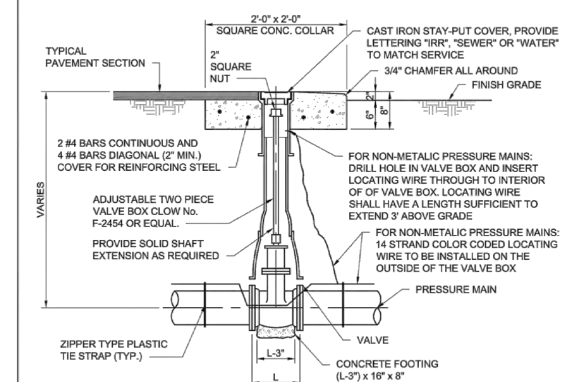


NOTES:

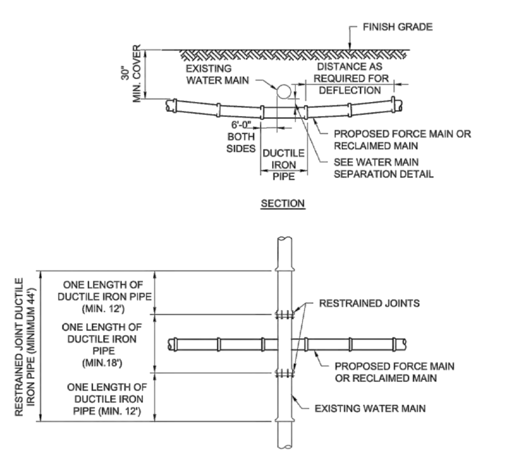
1. FLUSHING LOCATIONS ARE TO BE PROPOSED BY CONTRACTOR AND APPROVED BY ENGINEER OF RECORD.
2. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAINS SHALL BE CANNON FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER.
3. INSTALL A TEMPORARY 45° BEND, VALVE AND ASSOCIATED TEMPORARY PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA AND EXERCISE DUE CARE SO AS TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR INFLICT PROPERTY DAMAGE.
4. BENDS AND PIPING SHALL BE THE SAME SIZE OR LARGER AS THE LINE BEING FLUSHED.
5. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION THE CONTRACTOR SHALL PROPERLY NOTIFY OWNER'S INSPECTOR OF SUCH INTENDED WATER USE.
6. NO EXISTING VALVES SHALL BE OPERATED, EXCEPT BY AUTHORIZED OWNER PERSONNEL.
7. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF THE OWNER'S INSPECTOR.
8. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED, THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.
9. ALL PIPING SHALL BE RESTRAINED.
10. CONTRACTOR WILL INSTALL A PRESSURE GAUGE AT OR NEAR THE FILL AND FLUSH LOCATION AND MAINTAIN A MINIMUM PRESSURE OF 40 PSI AT ALL TIMES. THE FILL VALVE WILL BE OPENED AND CLOSED SLOWLY TO AVOID RAPID PRESSURE CHANGES IN THE WATER SYSTEM.
11. CONTRACTOR IS CAUTIONED THAT GOVERNING AGENCIES OR UTILITIES MAY HAVE REGULATIONS LIMITING OR PROHIBITING DISCHARGE INTO SEWERS, SURFACE WATERS, CANALS, DITCHES AND OTHER CONVEYANCES/RETENTION AREAS. ALL COMPLIANCE WITH GOVERNING AGENCY REQUIREMENTS (INCLUDING PERMITTING, IF REQUIRED) IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
12. CANNON FLUSHING TO PROCEED AFTER HEALTH DEPARTMENT CLEARANCE IS RECEIVED.

FLUSHING CONNECTION
NOT TO SCALE

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | CANNON FLUSHING | DETAIL NO. WATR 005 | REVISED: 2016/09/21



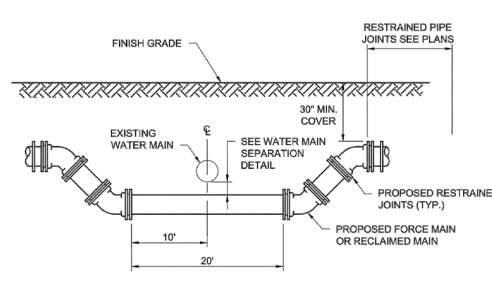
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | VALVE BOX | DETAIL NO. WATR 015 | REVISED: 2016/09/21



NOTE:

1. JOINTS SHALL NOT BE DEFLECTED MORE THAN 50% OF MANUFACTURER'S RECOMMENDED DEFLECTION.

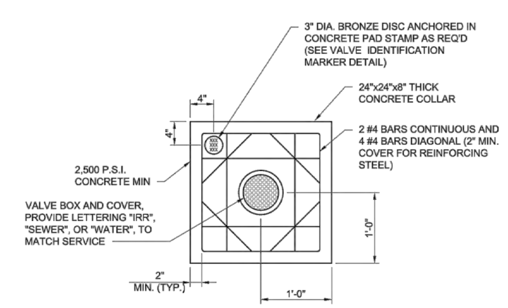
CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | UTILITY CROSSING DEFLECTION TYPE | DETAIL NO. WATR 013 | REVISED: 2016/09/21



NOTE:

1. WHEREVER POSSIBLE, DEFLECTION OF THE PIPE (PER THE DETAIL TITLED "UTILITY CROSSING - DEFLECTION TYPE") SHALL BE USED TO AVOID EXISTING OBSTRUCTIONS. THIS DETAIL SHALL BE USED ONLY WHEN APPROVED BY ENGINEER.

CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | UTILITY CROSSING FITTING TYPE | DETAIL NO. WATR 014 | REVISED: 2016/09/21



CITY OF FORT LAUDERDALE PUBLIC WORKS DEPARTMENT ENGINEERING DETAILS 100 North Andrews Avenue, Fort Lauderdale, Florida 33301 | VALVE BOX COLLAR | DETAIL NO. WATR 016 | REVISED: 2016/09/21

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

CES CONSULTANTS
880 SW 145TH AVE SUITE106
PEMBROKE PINES, FL 33027
PHONE: 954-613-4353
www.cesconsult.com
CERTIFICATE OF AUTHORIZATION No. 8811

PROJECT #12567
PUMP STATION B-4 REDUNDANT FORCE MAIN

STANDARD DETAILS

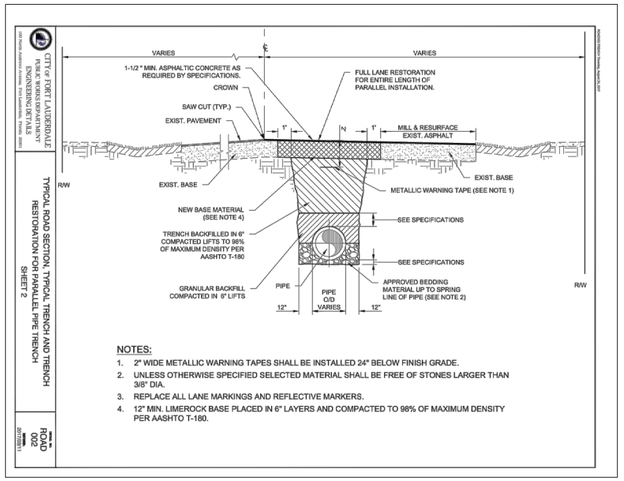
REVIEW

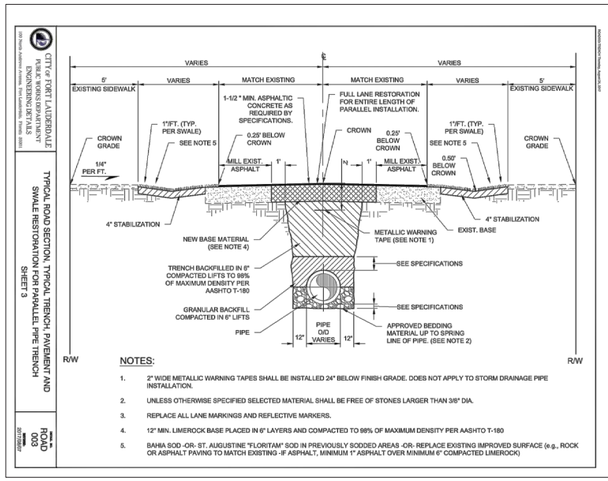
	RELEASED FOR	DATE	BY
1	PROPOSAL SUBMITTAL	2/17/21	J.A.C.

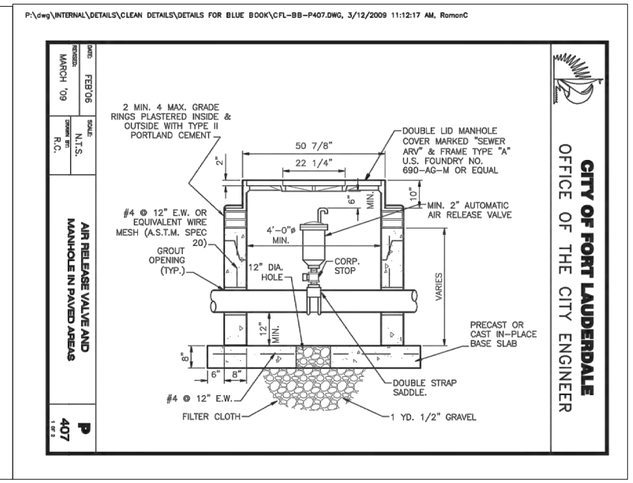
NOT FOR CONSTRUCTION

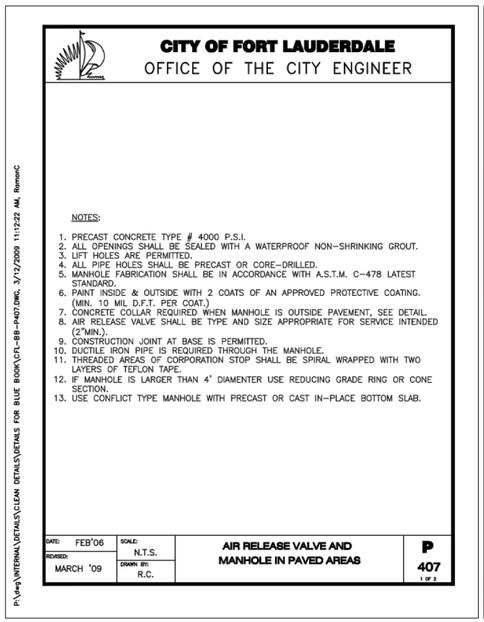
ENGINEER OF RECORD:
JOSE A. CARABALLO, PE
FL REG No.73064

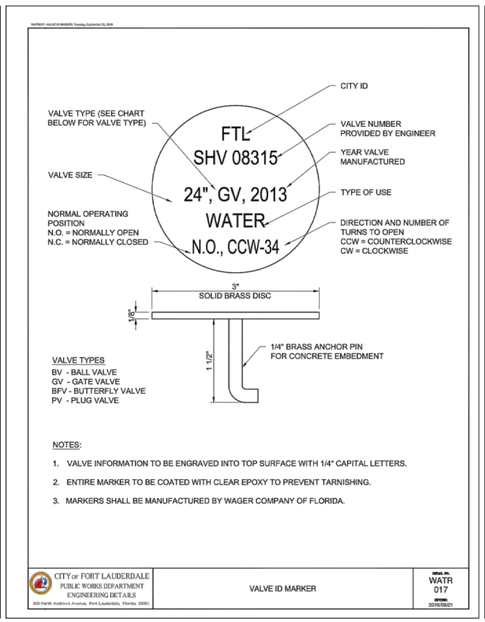
PROJECT #: 12567
DESIGNED: J.A.C. DRAWN: E.A./E.C.
DATE: 2/17/21 SCALE: AS SHOWN
DWG. D02-STDR

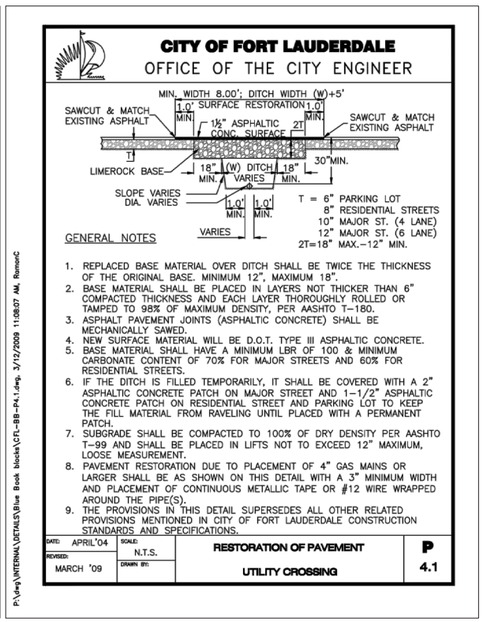












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ENGINEER OF RECORD:
JOSE A. CARABALLO, PE
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PROJECT #: 12567
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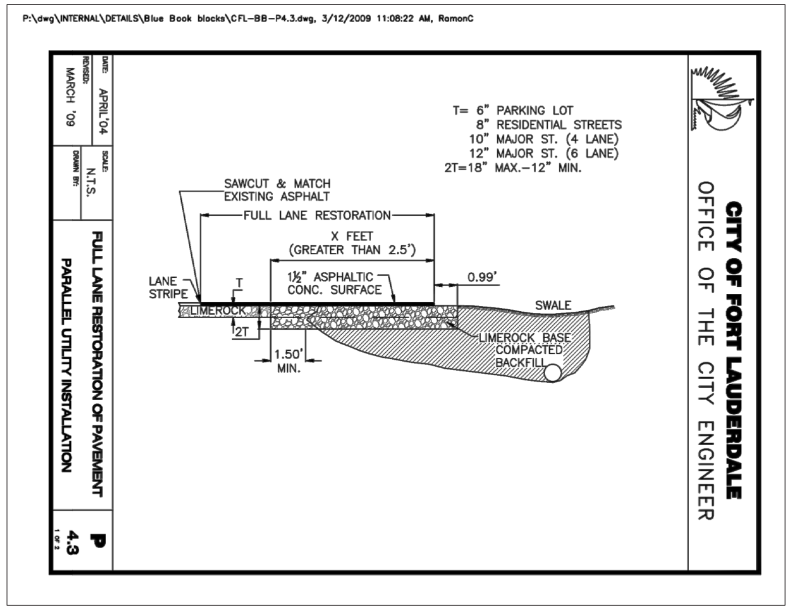
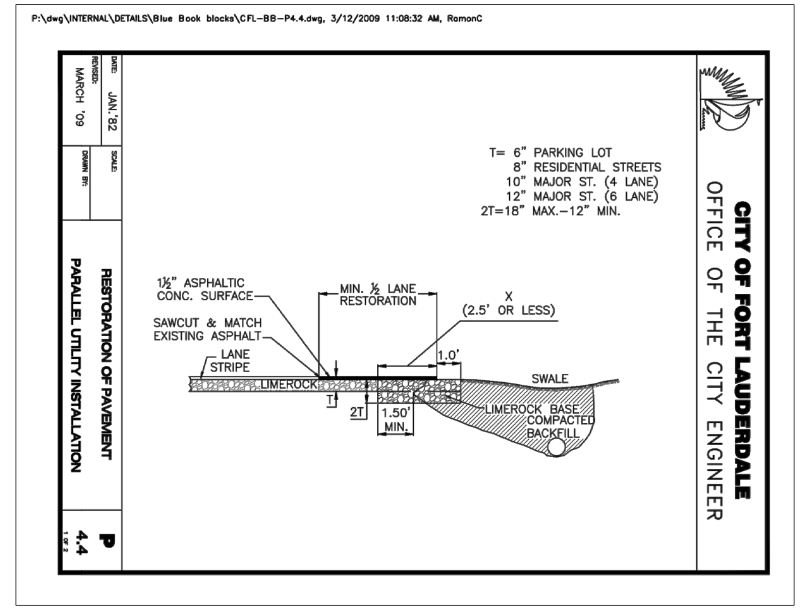
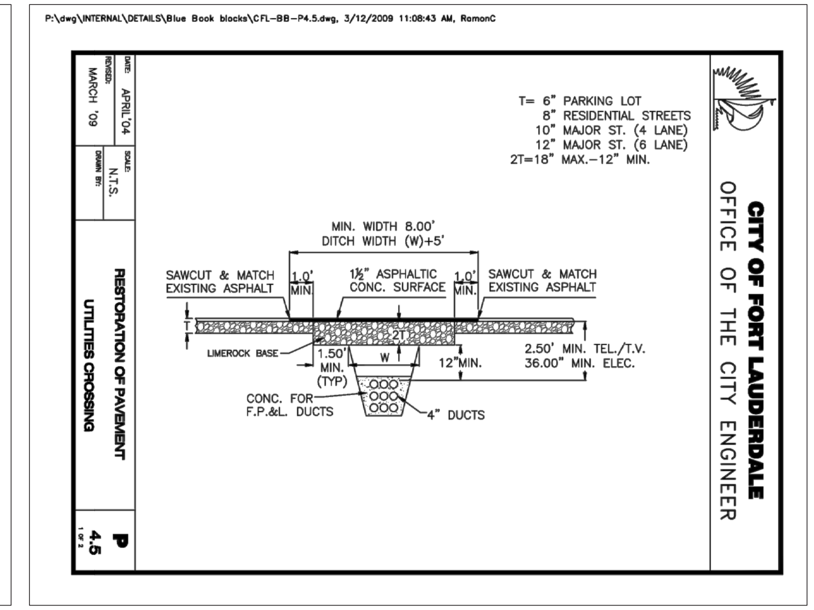
DATE: 2/17/21 | SCALE: AS SHOWN
DWG. D03-STDR







CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

GENERAL NOTES

1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE. MINIMUM 12", MAXIMUM 18".
2. BASE MATERIAL SHALL BE PLACED IN LAYERS NOT THICKER THAN 6" COMPACTED THICKNESS ND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T–180.
3. ASPHALT PAVEMENT JOINTS (ASPHALTIC CONCRETE) SHALL BE MECHANICALLY SAWED.
4. NEW SURFACE MATERIAL WILL BE D.O.T. TYPE III ASPHALTIC CONCRETE.
5. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 & MINIMUM CARBONATE CONTENT OF 70% FOR MAJOR STREETS AND 60% FOR RESIDENTIAL STREETS.
6. IF THE DITCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH ON MAJOR STREET AND 1–1/2" ASPHALTIC CONCRETE PATCH ON RESIDENTIAL STREET AND PARKING LOT TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL PLACED WITH A PERMANENT PATCH.
7. SUBGRADE SHALL BE COMPACTED TO 100% OF DRY DENSITY PER AASHTO T–99 AND SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" MAXIMUM, LOOSE MEASUREMENT.
8. PAVEMENT RESTORATION DUE TO PLACEMENT OF 4" GAS MAINS OR LARGER SHALL BE AS SHOWN ON THIS DETAIL WITH A 3" MINIMUM WIDTH AND PLACEMENT OF CONTINUOUS METALLIC TAPE OR #12 WIRE WRAPPED AROUND THE PIPE(S).
9. THE DIMENSION 'X' FEET IS ANY WIDTH GREATER THAN 2.5'.
10. THE PROVISIONS IN THIS DETAIL SUPERSEDES ALL OTHER RELATED PROVISIONS MENTIONED IN CITY OF FORT LAUDERDALE CONSTRUCTION STANDARDS AND SPECIFICATIONS.

DATE: APRIL '04	SCALE: N.T.S.	FULL LANE RESTORATION OF PAVEMENT	P
REVISED: MARCH '09	DRAWN BY:	PARALLEL UTILITY INSTALLATION	4.3

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

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9. THE DIMENSION 'X' FEET IS ANY WIDTH LESS THAN OR EQUAL TO 2.5'.
10. THE PROVISIONS MENTIONED IN THIS DETAIL SUPERSEDES ALL OTHER RELATED PROVISIONS MENTIONED IN CITY OF FORT LAUDERDALE CONSTRUCTION STANDARDS AND SPECIFICATIONS.

DATE: JAN.'82	SCALE:	RESTORATION OF PAVEMENT	P
REVISED: MARCH '09	DRAWN BY:	PARALLEL UTILITY INSTALLATION	4.4

CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

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4. NEW SURFACE MATERIAL WILL BE D.O.T. TYPE III ASPHALTIC CONCRETE.
5. BASE MATERIAL SHALL HAVE A MINIMUM LBR OF 100 & MINIMUM CARBONATE CONTENT OF 70% FOR MAJOR STREETS AND 60% FOR RESIDENTIAL STREETS.
6. IF THE DITCH IS FILLED TEMPORARILY, IT SHALL BE COVERED WITH A 2" ASPHALTIC CONCRETE PATCH ON MAJOR STREET AND 1–1/2" ASPHALTIC CONCRETE PATCH ON RESIDENTIAL STREET AND PARKING LOT TO KEEP THE FILL MATERIAL FROM RAVELING UNTIL PLACED WITH A PERMANENT PATCH.
7. SUBGRADE SHALL BE COMPACTED TO 100% OF DRY DENSITY PER AASHTO T–99 AND SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" MAXIMUM, LOOSE MEASUREMENT.
8. PAVEMENT RESTORATION DUE TO PLACEMENT OF 4" GAS MAINS OR LARGER SHALL BE AS SHOWN ON THIS DETAIL WITH A 3" MINIMUM WIDTH AND PLACEMENT OF CONTINUOUS METALLIC TAPE OR #12 WIRE WRAPPED AROUND THE PIPE(S).
9. THE DIMENSION 'W' FEET IS ANY WIDTH EXCEEDING 2.5'.
10. THE PROVISIONS MENTIONED IN THIS DETAIL SUPERSEDES ALL OTHER RELATED PROVISIONS MENTIONED IN CITY OF FORT LAUDERDALE CONSTRUCTION STANDARDS AND SPECIFICATIONS.

DATE: APRIL '04	SCALE: N.T.S.	RESTORATION OF PAVEMENT	P
REVISED: MARCH '09	DRAWN BY:	UTILITIES CROSSING	4.5

NOT FOR CONSTRUCTION

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT
ENGINEERING & ARCHITECTURE
100 North Andrews Avenue, Fort Lauderdale, Florida 33301

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CERTIFICATE OF AUTHORIZATION No. 8811

PROJECT #12567
PUMP STATION B-4 REDUNDANT FORCE MAIN

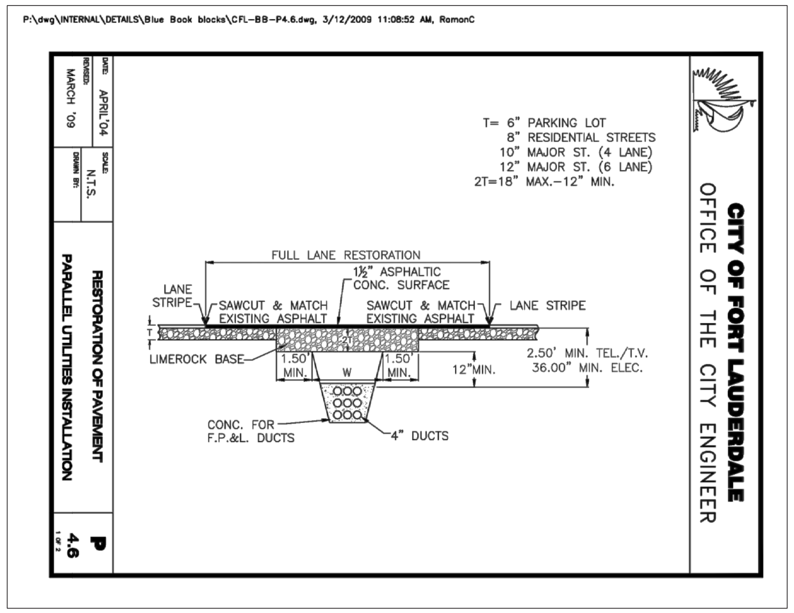
STANDARD DETAILS

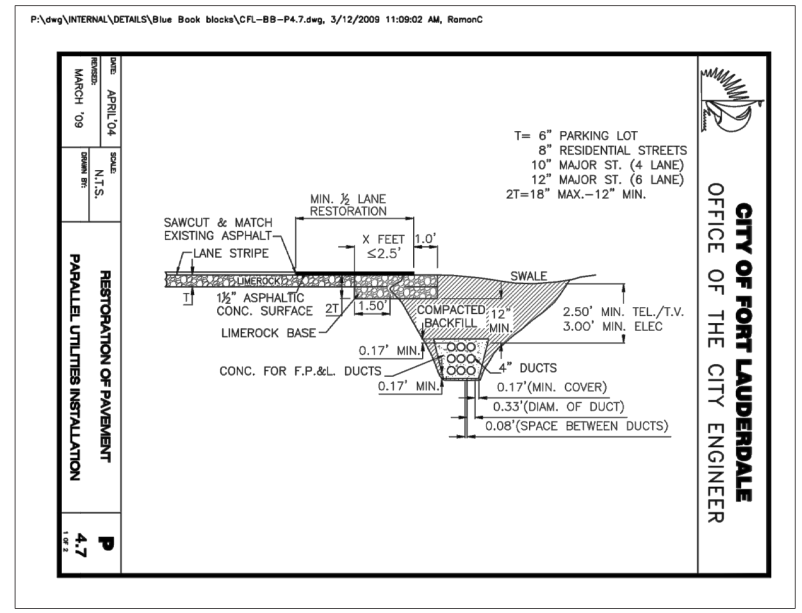
REVIEW

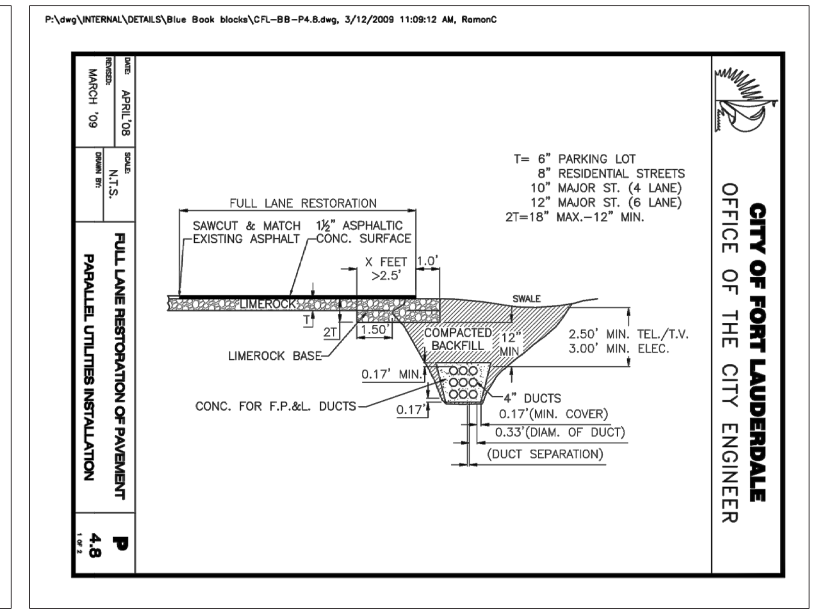
	RELEASED FOR	DATE	BY
1	PROPOSAL SUBMITTAL	2/17/21	J.A.C.

ENGINEER OF RECORD:
JOSE A. CARABALLO, PE
FL REG No.73064

PROJECT #: 12567
DESIGNED: J.A.C. DRAWN: E.A./E.C.
DATE: 2/17/21 SCALE: AS SHOWN
DWG. D04-STDR







CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

GENERAL NOTES

1. REPLACED BASE MATERIAL OVER DITCH SHALL BE TWICE THE THICKNESS OF THE ORIGINAL BASE. MINIMUM 12", MAXIMUM 18".
2. BASE MATERIAL SHALL BE PLACED IN LAYERS NOT THICKER THAN 6" COMPACTED THICKNESS AND EACH LAYER THOROUGHLY ROLLED OR TAMPED TO 98% OF MAXIMUM DENSITY, PER AASHTO T–180.
3. ASPHALT PAVEMENT JOINTS (ASPHALTIC CONCRETE) SHALL BE MECHANICALLY SAWED.
4. NEW SURFACE MATERIAL WILL BE D.O.T. TYPE III ASPHALTIC CONCRETE.
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DATE: APRIL'04	SCALE: N.T.S.	RESTORATION OF PAVEMENT	P
REVISED: MARCH '09	DRAWN BY:	PARALLEL UTILITIES INSTALLATION	4.6 2 OF 2

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CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

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7. FP&L SHALL ENCASE THE DUCTS IN CONCRETE UNLESS OTHERWISE APPROVED.
8. TELEPHONE COMPANY SHALL SECURE THE DUCTS WITH SUITABLE STRAPS, AND SPACERS AT INTERVALS AS NECESSARY TO MAINTAIN LINE AND GRADE UNLESS OTHERWISE APPROVED.
9. SUBGRADE SHALL BE COMPACTED TO 100% OF DRY DENSITY PER AASHTO T–99 AND SHALL BE PLACED IN LIFTS NOT TO EXCEED 12" MAXIMUM, LOOSE MEASUREMENT.
10. THE DIMENSION 'X' FEET IS ANY WIDTH LESS THAN OR EQUAL TO 2.5'.
11. THE PROVISIONS IN THIS DETAIL SUPERSEDES ALL OTHER RELATED PROVISIONS MENTIONED IN CITY OF FORT LAUDERDALE CONSTRUCTION STANDARDS AND SPECIFICATIONS.

DATE: APRIL'04	SCALE: N.T.S.	RESTORATION OF PAVEMENT	P
REVISED: MARCH '09	DRAWN BY:	PARALLEL UTILITIES INSTALLATION	4.7 2 OF 2

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CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

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DATE: APRIL'08	SCALE: N.T.S.	FULL LANE RESTORATION OF PAVEMENT	P
REVISED: MARCH '09	DRAWN BY:	PARALLEL UTILITIES INSTALLATION	4.8 2 OF 2

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PROJECT #12567
PUMP STATION B-4 REDUNDANT FORCE MAIN

STANDARD DETAILS

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	RELEASED FOR	DATE	BY
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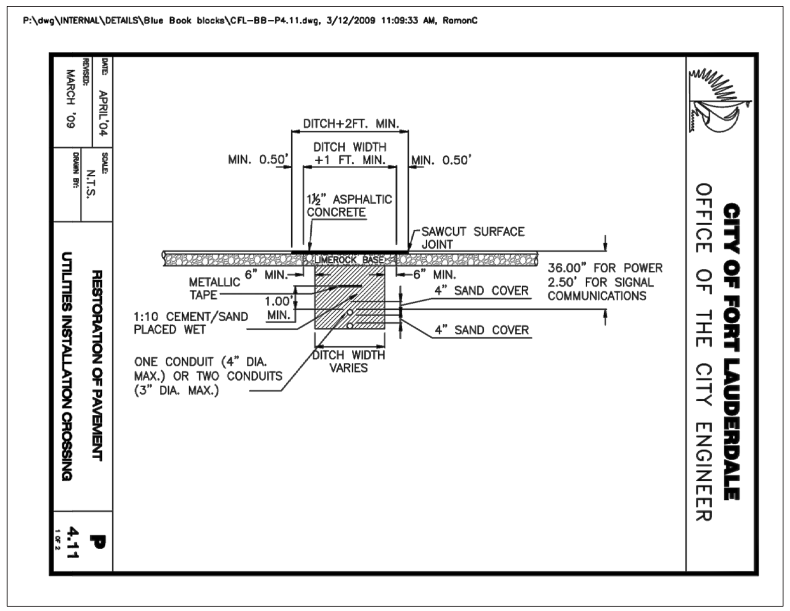
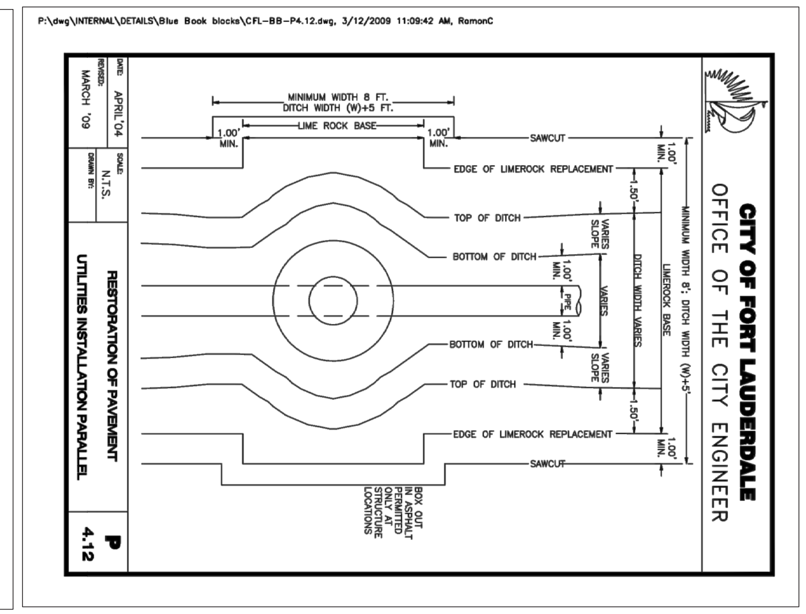
ENGINEER OF RECORD:

JOSE A. CARABALLO, PE
FL REG No.73064

PROJECT #: 12567
DESIGNED: J.A.C. DRAWN: E.A./E.C.
DATE: 2/17/21 SCALE: AS SHOWN
DWG. D05-STDR





CITY OF FORT LAUDERDALE
OFFICE OF THE CITY ENGINEER

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6. GAS MAINS 4" OR SMALLER IN SIZE SHALL BE CONSTRUCTED AS SHOWN IN THIS DETAIL WITH THE PROVISION OF 3" MINIMUM WIDTH CONTINUOUS METALLIC TAPE OR #12 WIRE WRAPPED AROUND THE CONDUITS.
7. THE PROVISIONS IN THIS DETAIL SUPERSEDES ALL OTHER RELATED PROVISIONS MENTIONED IN CITY OF FORT LAUDERDALE CONSTRUCTION STANDARDS AND SPECIFICATIONS.
8. THIS DETAIL APPLIES FOR ROAD CROSSINGS ONLY. FOR PARALLEL INSTALLATIONS WITHIN THE ROADWAY, EITHER HALF A LANE OR A FULL RESTORATION SHALL BE CONSTRUCTED IN CONFORMANCE WITH APPLICABLE DETAILS.

DATE: APRIL'04	SCALE: N.T.S.	RESTORATION OF PAVEMENT	P
REVISED: MARCH '09	DRAWN BY:	UTILITIES INSTALLATION CROSSING	4.11

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THE PROCEDURE FOR BACKFILL AND PAVEMENT RESTORATION SHALL BE AS FOLLOWS: "DENSITY TESTS OF COMPACTED FILL, BACKFILL SHALL BE TAKEN AT EACH 12" PRIOR TO PLACEMENT OF THE SUCCEEDING LIFT OF MATERIAL ACCORDING TO THE FOLLOWING SCHEDULE".

1. FOR ANY ROAD CROSSING IN WHICH THE ROAD IS CUT AND RESTORED ONE LANE AT A TIME, ONE DENSITY TEST SHALL BE TAKEN IN EACH LANE.
2. FOR ANY ROAD CROSSING IN WHICH THE ROAD IS CUT AND RESTORED THREE LANES AT A TIME, DENSITIES SHALL BE TESTED IN TWO LOCATIONS STAGGERED WITH EACH SUCCESSIVE LIFT.
3. FOR ANY ROAD CROSSING IN WHICH THE ROAD IS CUT AND RESTORED TWO LANES AT A TIME, DENSITIES SHALL BE TESTED IN ONE LANE PER LIFT, ALTERNATING LANES WITH EACH LIFT.
4. CUTS ACROSS ROADS SHALL NOT BE LEFT OPENED OVER NIGHT UNLESS ABSOLUTELY NECESSARY. TRENCHES SHALL BE BACKFILLED AND A TEMPORARY ASPHALT APPLIED TO MAKE A SMOOTH LEVEL PATCH. THE TRENCHES SHALL THEN BE EXCAVATED THE NEXT DAY AND PERMANENT BACKFILL AND PAVEMENT INSTALLED IN ACCORDANCE WITH THESE STANDARDS. THE ONLY EXCEPTIONS WILL BE IN CASES WHERE THE FACILITY INSTALLED MUST BE TESTED BEFORE THE ROADS ARE RESTORED. IN THESE CASES, THE PERMANENT RESTORATION MUST BE PERFORMED ON THE DAY OF TESTING OR THE NEXT DAY.
5. IN CASES WHERE THE INSTALLATION PARALLELS THE ROADWAY AND DAMAGES THE PAVEMENT, THE DENSITY TESTS SHALL BE MADE EVERY 100 L.F. WITH TEST LOCATIONS STAGGERED 25' EACH LIFT.
6. SHOULDER AREAS AND SWALE AREAS BEYOND SHOULDERS SHALL BE COMPACTED TO A MINIMUM OF 98% OF MAXIMUM DRY DENSITY, ALL AS DETERMINED BY AASHTO T–99–C STANDARD PROCTOR TEST.
7. RESTORATION OF STRIPING, SIGNING, AND SIGNALIZATION DEVICES SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PAVEMENT RESTORATION IS COMPLETED.

A COPY OF ALL PROCTOR AND FIELD DENSITY TESTS SHALL BE FURNISHED TO THE ENGINEERING DIVISION.

DATE: APRIL'04	SCALE: N.T.S.	PROCEDURE FOR RESTORATION	P
REVISED: MARCH '09	DRAWN BY:	OF FLEXIBLE PAVEMENT	4.13

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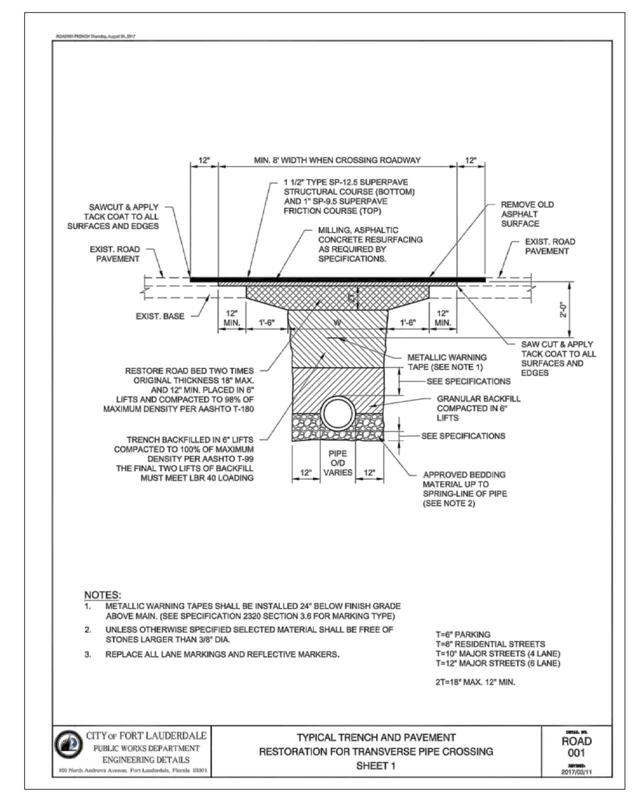

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PROJECT #12567
PUMP STATION B-4 REDUNDANT FORCE MAIN

STANDARD DETAILS

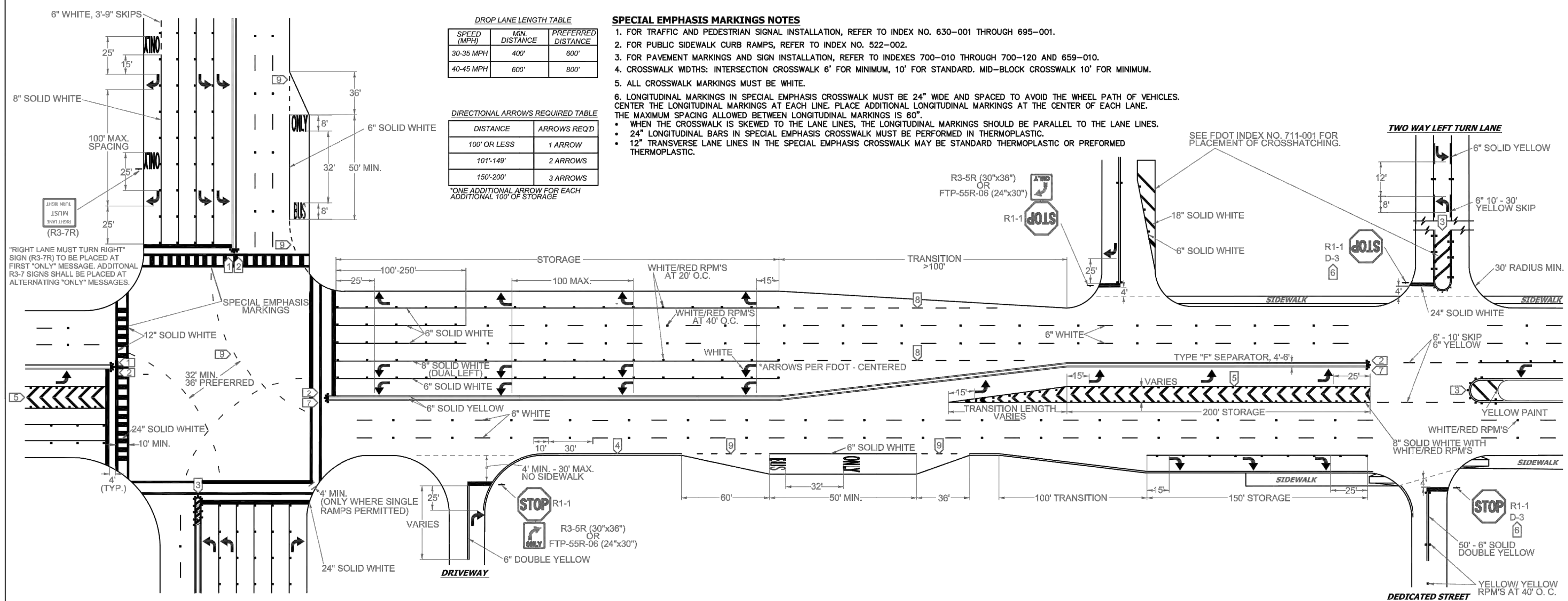
NOT FOR CONSTRUCTION

REVIEW

	RELEASED FOR	DATE	BY
1	PROPOSAL SUBMITTAL	2/17/21	J.A.C.

ENGINEER OF RECORD:
JOSE A. CARABALLO, PE
FL REG No.73064

PROJECT #: 12567
DESIGNED: J.A.C. DRAWN: E.A./E.C.
DATE: 2/17/21 SCALE: AS SHOWN
DWG. D06-STDR



DROP LANE LENGTH TABLE

SPEED (MPH)	MIN. DISTANCE	PREFERRED DISTANCE
30-35 MPH	400'	600'
40-45 MPH	600'	800'

DIRECTIONAL ARROWS REQUIRED TABLE

DISTANCE	ARROWS REQ'D
100' OR LESS	1 ARROW
101'-149'	2 ARROWS
150'-200'	3 ARROWS

*ONE ADDITIONAL ARROW FOR EACH ADDITIONAL 100' OF STORAGE

SPECIAL EMPHASIS MARKINGS NOTES

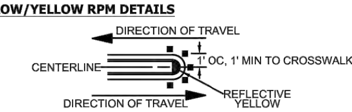
1. FOR TRAFFIC AND PEDESTRIAN SIGNAL INSTALLATION, REFER TO INDEX NO. 630–001 THROUGH 695–001.
2. FOR PUBLIC SIDEWALK CURB RAMPS, REFER TO INDEX NO. 522–002.
3. FOR PAVEMENT MARKINGS AND SIGN INSTALLATION, REFER TO INDEXES 700–010 THROUGH 700–120 AND 659–010.
4. CROSSWALK WIDTHS: INTERSECTION CROSSWALK 6' FOR MINIMUM, 10' FOR STANDARD. MID–BLOCK CROSSWALK 10' FOR MINIMUM.
5. ALL CROSSWALK MARKINGS MUST BE WHITE.
6. LONGITUDINAL MARKINGS IN SPECIAL EMPHASIS CROSSWALK MUST BE 24" WIDE AND SPACED TO AVOID THE WHEEL PATH OF VEHICLES. CENTER THE LONGITUDINAL MARKINGS AT EACH LINE. PLACE ADDITIONAL LONGITUDINAL MARKINGS AT THE CENTER OF EACH LANE. THE MAXIMUM SPACING ALLOWED BETWEEN LONGITUDINAL MARKINGS IS 60".
   - WHEN THE CROSSWALK IS SKEWED TO THE LANE LINES, THE LONGITUDINAL MARKINGS SHOULD BE PARALLEL TO THE LANE LINES.
   - 24" LONGITUDINAL BARS IN SPECIAL EMPHASIS CROSSWALK MUST BE PERFORMED IN THERMOPLASTIC.
   - 12" TRANSVERSE LANE LINES IN THE SPECIAL EMPHASIS CROSSWALK MAY BE STANDARD THERMOPLASTIC OR PREFORMED THERMOPLASTIC.

NOTES

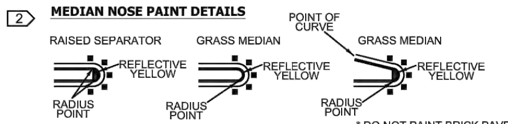
1. ALL PAVEMENT MARKINGS SHALL BE ALKYD BASED THERMOPLASTIC AND FULLY RETROREFLECTORIZED.
2. ALL PAVEMENT MARKINGS ON PAVER SYSTEMS SHALL BE 3M 380/381 SERIES TAPE OR EQUIVALENT AND APPLIED WITH P60 ADHESIVE AS PER MANUFACTURERS SPECIFICATIONS.
3. ALL PAVEMENT MARKINGS AND SIGNING SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", BCTED STANDARDS, AND FDOT DESIGN STANDARDS.
4. SEE FDOT INDEX NO 706–001 FOR PLACEMENT OF RPM's (FOR BULLNOSE RPM TREATMENT, SEE LEGEND NO. 1)
5. RPM's SHALL BE CLASS "B" OR EQUIVALENT, APPLIED WITH EPOXY OR BITUMINOUS ADHESIVE.
6. FDOT APPROVED SEALER SHALL BE USED WHEN APPLYING MARKINGS ON CONCRETE.
7. FOR BIKE LANE DETAILS SEE FDOT INDEX NO. 711–002.
8. MARKINGS IN AND ADJACENT TO BIKE LANES SHALL BE THERMOPLASTIC WITH A MIXTURE OF 50% GLASS SPHERES AND 50% SHARP SILICA SAND APPLIED AT A RATE DETERMINED BY THE MANUFACTURER'S SPECIFICATIONS.
9. EXISTING MARKINGS SHALL BE REMOVED BY WATER BLASTING OR SAND BLASTING.
10. ALL STOP LINES TO BE 4' BEHIND CROSSWALK OR SIDEWALK.
11. PAVEMENT MARKING REFLECTIVITY SHALL BE UNIFORM ACROSS THE ENTIRE STRIPE AND SHALL HAVE A MINIMUM REFLECTIVITY READING OF 250 MILLICANDELAS FOR WHITE AND 175 MILLICANDELAS FOR YELLOW.
12. ALL PRODUCTS MUST BE ON FDOT'S APPROVED PRODUCTS LIST (APL).
13. RPMS SHALL NOT BE INSTALLED ADJACENT TO BIKE LANES.

LEGEND

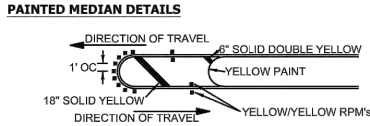
1 YELLOW/YELLOW RPM DETAILS



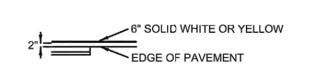
2 MEDIAN NOSE PAINT DETAILS



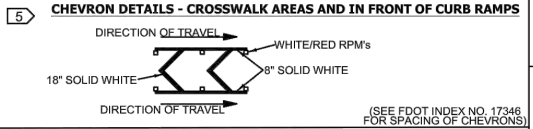
3 PAINTED MEDIAN DETAILS



4 EDGE LINE DETAILS



5 CHEVRON DETAILS - CROSSWALK AREAS AND IN FRONT OF CURB RAMPS

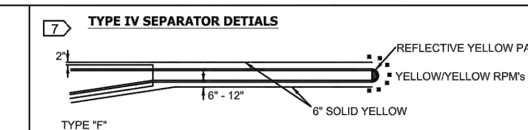


(SEE FDOT INDEX NO. 17346 FOR SPACING OF CHEVRONS)

6 STREET NAME BLADE DETAILS

SEE BCTED STOP SIGN AND STREET IDENTIFICATION ASSEMBLY TYPICAL DETAILS.

7 TYPE IV SEPARATOR DETIALS



8 6'-10' SKIP DETAILS

6' - 10' SKIPS 6" WHITE SHALL BE USED FOR THE FOLLOWING CONDITIONS:
- HORIZONTAL CURVE SECTIONS
- CHANGES IN HORIZONTAL ALIGNMENT
- TRANSITIONS GREATER THAN 100'

9 2'-4' SKIP DETAILS

2' - 4' SKIPS 6" WHITE SHALL BE USED FOR THE FOLLOWING CONDITIONS:
- RADIUS GUIDE LINES BETWEEN DUAL LEFTS TURN MOVEMENT (90' RADIUS PREFERRED OR AS NOTED ON PLANS)
- BUS BAY TRANSITIONS

STOP SIGN NOTE

WHERE SIDE ROADS INTERSECT A MULTI LANE STREET OR HIGHWAY THAT HAS A SPEED LIMIT OF 45 MPH OR HIGHER, THE MINIMUM SIZE OF THE STOP SIGNS FACING THE SIDE ROAD APPROACHES, EVEN IS THE SIDE ROAD ONLY HAS ONE APPROACH LANE, SHALL BE 36"X36".

WHERE SIDE ROADS INTERSECT A MULTI–LANE (INCLUDING TURN LANE) STREET OR HIGHWAY THAT HAS A SPEED LIMIT OF 40 MPH OR LOWER, THE MINIMUM SIZE OF THE STOP SIGN FACING THE SIDE ROAD APPROACHES SHALL BE 36"X36".

REVISIONS

DATE	DESCRIPTION
01-15-2016	N/A
06-11-2018	UPDATED FDOT INDEX REFERENCE
08-23-2018	UPDATED NOTES

BROWARD COUNTY FLORIDA

PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING DIVISION

DESIGN BY: CARMELO CARATOZZOLO, P.E. SCALE: NTS
DRAWN BY: STEPHON RAMOUTAR
CHECKED BY: ANDREW SEBO, P.E., PTOE

PAVEMENT MARKINGS AND SIGNS DETAILS

SHEET NO. 1 OF 1

NOT FOR CONSTRUCTION

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DWG. D07-STDR

Project Implementation Methodology

The CES Team recognizes that the project will require the implementation of a multi-phased approach. This approach will ensure that unnecessary pitfalls are avoided and that impacts to businesses and residents are minimized.

The CES Team will continue to analyze and carefully plan each project aspect, including interagency coordination, permitting and regulatory compliance, throughout the pre-design, design and construction phases, relying on proven project implementation methods.

Existing Conditions Confirmation

- Field checking of topographic and utility survey, existing ROW, and verifying project limits
- Conducting test pits or air/vacuum extractions to locate unclearly defined utilities *(air/vacuum soil extraction is a proven technology for locating and verifying underground utilities while essentially eliminating the potential for damage to the utility)*
- Confirming utility clearances and potential relocation requirements

Existing ROW & Easements

- Early coordination and planning with the City for acquisition of deficient ROW
- Field checking of project limits and existing and potential for new easements and ROW

Route Optimization

- Field walkover and confirming proposed pipeline route, reviewing sidewalks, grassed medians, side roads, and other locations
- Identifying and resolving potential utility conflicts
- Verifying new pipeline location to minimize conflict with planned infrastructure improvements

Materials & Methods of Construction

- Locating air/vacuum release valves at pipe high points and isolation valves
- Location of new interconnections
- Sub-aqueous crossing
- Directional drilling of the pipeline and significant conflicts

Uninterrupted Service During Construction

- Early planning of the sequence of construction and emergency plans for existing utility damage/failures due to construction activities
- Maintaining water and sewer service throughout construction

Regulatory Permitting

- Early meetings with agencies to define permit requirements and schedules for prompt submittal and approvals
- Special construction activity limitations for installing pipelines under major roadways and traffic management

Design & Construction Documents

- Simplified value engineering analysis of the project and possible alternatives
- Preparing plans and specifications in accordance with City standards

The CES Team has expended significant time and energy to develop solutions to address the anticipated and identified design and construction factors. The following demonstrates the CES Team's insight into accomplishing the planning, design and construction of the project.

Subsurface Utility Exploration (SUE)

As-built information provided from utilities is quite often insufficiently accurate for a reliable design, resulting in unforeseen conflicts during construction. Subsurface utility exploration (SUE) is an engineering process for accurately

identifying the quality of subsurface utility information needed for design projects, assists with verifying the elevation and horizontal location for existing utilities, and is useful for acquiring and managing that information during the development of a project.

The CES Team, when applicable and necessary, will verify vertical elevations and horizontal locations (VVHs) for existing public and private utilities. The exact location of critical utilities will be confirmed by field survey.

Utility Coordination & Conflict Resolution

The location of existing utilities plays a major role in the pre-design phase. The CES Team will continue to collect utility as-built drawings and information from various departments and agencies and will correlate these to the survey, at times requiring the location to be confirmed by potholing.

If utilities require relocation or significant realignment of the pipe line to avoid conflicts, they will be a factor in construction but are not typically an obstacle to pipe installation. The CES Team's experience and working relationships with all major utilities will prove positive because we are familiar with all relevant design standards and permitting procedures. The CES Team will identify if utilities can be relocated and will plan to address these relocations in the design and construction sequencing ahead of the proposed pipeline installation. This proactive approach will minimize construction impacts and the duration of maintenance of traffic detours for a specific section and facilitate utility conflict resolution.

Value Engineering/Construction Alternatives

An important issue related to project development is validation of the methods of construction in the DCP documents as the best option.

Additionally, key pipeline construction alternative factors to be considered include:

- ROW and Permits
- Utility Conflicts
- Geotechnical Factors
- Traffic/Pedestrian Impacts
- Environmental Impacts
- Community Disruption
- Constructability

Pipeline Design Criteria

Based on the DCP, the CES Team has prepared a summary of relevant technical criteria for the pipeline design and materials. Through pipeline material evaluations for many pipeline projects, the CES Team has developed strong technical knowledge of the advantages and disadvantages of varying pipeline materials. Below are a number of important criteria for pipelines which will be used to ensure that the final design will produce the best results for the project.

- DIP – AWWA C-151
- HDPE Pipe – PE 4710, DR 11
- 200 PSI Pressure Rating
- Minimum 36-inch Cover
- Joint Flexibility
- Laying Length
- Weight per Length
- Joint Restraint
- Cathodic Protection
- Roughness Coefficient
- Anticipated Pressure
- Pressure Class
- Manufacturers Experience
- Useful Lifespan
- Constructability
- Type of Connections to Existing Lines
- Geological and Hydrogeological Conditions

Pipeline Materials

The City has indicated that high-density polyethylene (HDPE) will be used for open cut construction and horizontal directional drilling. We are recommending PVC for the open cut construction. Several preliminary evaluation criteria consider the following requirements:

- Construction will be conducted in an urban setting where interference with traffic must be minimized and space for construction activity is limited, full of obstacles, and dangerous
- Water-tight connections under an operating pressure of 100 PSI may be required
- Pipe operating at a pressure of 100 PSI will require a method of restraint to maintain the integrity of the joints

Ductile Iron Pipe

Ductile Iron Pipe (DIP) has long been the standard for force main installation. The nature of the product typically keeps its smooth interior over long years of service with virtually no loss in carrying capacity. The pipe can be easily field-cut with a power saw and spigot ends beveled in the field without the use of expensive or complicated machinery.

DIP utilizes push-on joints with fittings for directional changes. There are no special requirements for bedding, backfill, and compaction of these materials; however, care should be taken in placing the pipe in the trench and in placing manufacturer recommended backfill around the pipe. Special fittings are installed to join the pipe with mechanical or flanged joint fittings onto pipes of varying material.

HDPE Pipe

High-density polyethylene (HDPE) pipe is typically made with engineered PE 3408/3608 or PE 4710 resin material with maximum pressure ratings above 150 PSI and is available in ½-inch to 63-inch internal diameters. The pipe's physical properties make it applicable to open-trench installations and is regularly used in horizontal directional drill and slip-lining applications. The pipe can be manufactured with color striping to identify the particular application, such as a blue stripe for potable water, a green stripe for sewer applications and a purple stripe for reclaimed water.

HDPE pipe utilizes butt-fused joints effectively which eliminates potential leak points. It is highly resistant to corrosion and weather, light-weight, and flexible, making it easy to handle and install and eliminating the need for fittings required with directional changes.

There are no special requirements for bedding, backfill, and compaction of these materials; however, care should be taken in placing the pipe in the trench and in placing sand backfill around the pipe. Special fittings are installed to join the pipe with mechanical or flanged joint fittings on DIP.

Pipeline Appurtenances

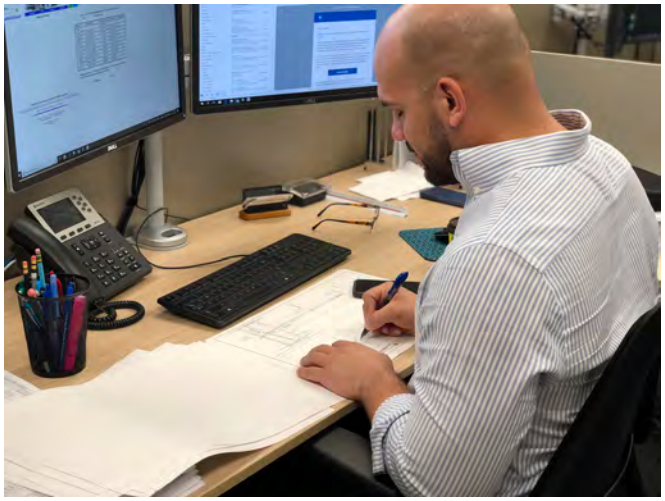
The pipe will require isolation plug valves, air release valves, end caps, and typical fittings. Locations for blow-offs and air release valves need to be placed to allow for safe access in high traffic areas. Valves should be placed away from gutters to reduce water entry and out of tire track portions of traffic lanes to reduce noise and damage. Locating valves at street intersections should be avoided when possible to improve future maintenance and access to the valve and actuator. Location of the valves should consider a safe zone for Operators to access the valve actuator, and actuator boxes/manholes should be located for access by a truck-mounted mechanical valve operator. Lateral connections for future pipelines should have a restrained isolation valve directly placed adjacent to tee connection.

Pipeline Connections

The connections to the existing force main will be through the "cut-in" method. This will require the installation of a line stop to isolate the existing pipe and prevent fluid from temporarily flowing through the work segment. Once the flow is restricted,

a segment of the existing force main will be removed and replaced with a plug valve and a tee. Once this installation is complete, the line stop can be removed and the flow along the existing force main can resume. Several factors that may need to be considered include:

- The condition of the existing force main
- A detailed analysis of pipe installation records and site investigations are required to determine the location of fittings, joints, and the extent of restrained joints along the pipe
- Special anchorage and thrust support may need to be installed along the existing force main



Pipe Thrust Restraint

The locations where thrust restraint will likely be required along the pipeline alignment are pipeline deflections at utility conflicts within the pre-existing utility infrastructure. Although in some cases, the most economical method to deal with a utility conflict may be to relocate or adjust the utility, it may not be possible for this to be accomplished in a timely manner, consequently, the pipeline will need locational adjustment. Proper restrained joints are required to resist the forces developed by the internal fluid pressure at bends, tees, and other fittings, including any proposed connections to existing lines. Thrust restraint design calculations are required to determine the minimum number of restrained joints adjacent to the required restraint point on the pipe and are based on the AWWA standard practices. It is important to note that the City of Fort Lauderdale has been requesting to restrain all pipe joints, and this is mentioned in the technical specifications.

Dewatering Strategy

The dewatering strategy will include identifying all relevant permitting agencies, understanding the needs of each agency, and preparing a dewatering plan that will successfully dewater the excavation, and protect the environment from contamination. In order to accomplish these goals, CES will develop a dewatering plan utilizing well points, sedimentation tanks, and appropriate stormwater pollution prevention devices in order to safely discharge the excavation groundwater, while significantly reducing turbidity. The key permitting agencies requiring permits will be the South Florida Water Management District (SFWMD), the Broward County Environmental Protection and Growth Management Department (BEPGM) Division of Environmental Engineering and Permitting, and the Florida Department of Environmental Protection which will issue the National Pollution Discharge Elimination Program (NPDES).

PIPELINE CONSTRUCTION

Open-Cut Trench Pipeline Construction

The standard pipe open-cut trench method of installation of the proposed pipeline will require excavation of the existing subsurface materials. ***The CES Team understands the City's requirement for installation of the pipe "in the dry" and will develop a workable solution, with the City's approval, to balance the requirements for pipe installation and the difficulty of dewatering porous, sandy soils.*** The high groundwater table in the project area, as evidenced by canal water levels and the required depth of cover, requires dewatering methods for installation of the pipeline. Temporary excavation side slopes of 1V:1.5H in the granular subsurface materials and 1V:1H in the Limestone Formation are stable and have a minimum factor of safety of 1.3. If steeper sides are used, the excavations will require temporary ground support systems to maintain the stability of the excavations and for safety reasons. An unsupported vertical cut may cause cracks on the surface of an adjacent asphalt-paved roadway because the angle of repose of the granular soils will be exceeded and a failure surface will develop behind the vertical face of the excavation.

Managing Utility Conflicts

Mitigating and minimizing utility conflicts is a typical challenge in pipeline construction projects, particularly in older urban neighborhoods with numerous underground utilities at varying depths and locations. Identifying and addressing utility conflicts early in the design phase allows for proactive resolution and adaptable solutions. The presence of several City, County, and franchise utility companies' infrastructure along the project corridor requires an in-depth utility coordination effort. In many cases, conflicting utilities are primarily located at roadway intersections. These locations are where side street utilities typically intersect with linear utilities extending along the primary roadway. Design efforts must ensure that utility and pipeline conflicts are effectively mitigated by coordinating with utility owners from the onset of the project, verifying existing utility locations with proposed improvements, scheduling utility meetings early in the coordination process, and resolving all utility conflicts to the satisfaction of the City, County, and the utility owner. Any impact to existing structures, facilities, or utilities should be avoided to the greatest extent possible.

Trenchless Technologies

Construction of pipelines in the urban areas of South Florida, or the replacement/rehabilitation of existing pipelines, can be a challenge from many perspectives, but the most influential are major roadways, railroads, canals/waterways, other large utility conflicts, and structures. Subsurface construction techniques have a long history of successful applications, particularly in South Florida.

Directional Drilling Technology

Horizontal Directional Drilling (HDD) has become a very effective, efficient, and common method of installing pipelines when crossing waterways, crossing heavily congested intersections, or avoiding areas with significant utility impacts. This method is used to install new pipe, conduits or cable in a shallow arc below ground, using a surface mounted drill rig with steering capabilities. The technology is designed specifically for installations beneath waterways, environmentally sensitive areas, existing utilities and other obstacles.

The pilot bore is launched from the surface and proceeds downward at a pre-determined angle until the necessary depth is reached. During the drilling process, the bore path is traced by interpreting signals sent by electronic sensors located near the drill head. The operator receives information regarding the position, depth and orientation of the drilling tool enabling him to navigate the drill head towards its target. The path of the pilot bore is gradually brought horizontal and the bore head is steered to the designated exit point where it is brought to the surface on a curved path. After the pilot string breaks the surface at the exit location, the bit is removed from the drill string and replaced with a back-reamer. The pilot hole is then backreamed, enlarging the hole to the desired diameter while simultaneously pulling back the product pipe behind the reamer.

During the boring process, drilling fluid (typically bentonite slurry) is injected under pressure ahead of the advancing bit. The fluid stabilizes the borehole, reduces friction during the pull-back operation, transports the drill cuttings to the surface and cools the electronics at the drill head.

Directional Drilling Considerations

The selection and implementation of any trenchless technology requires careful analysis and evaluation for a particular situation, with the major factors being cost, geotechnical conditions, and size of bore for the pipe. For any pipeline project, there may be one or more special crossings encountered within any selected alternative pipeline routing. The CES Team has the experience and know-how to analyze, evaluate, and design special crossings with the least disruption to the environment and the community, and with the highest value to the Owner.

Directional drilling projects are subject to similar potential problems as encountered in similar technologies such as micro-tunneling. The presence of groundwater above planned subgrade at the break-in and break-out locations may need to be addressed. In potentially unstable soils, ground treatment is typically required to prevent cave-ins at these locations.

Unexpected conditions encountered during tunneling operations must be addressed proactively to minimize costly delays. Geotechnical methods such as dewatering, artificial ground freezing and grouting are tools for addressing trenchless technology challenges, but the effectiveness of each method is controlled by LOCAL site conditions. Based on our local knowledge of general geotechnical conditions, some of the risks and issues that should be considered include:

Obstacles: Any obstruction that would stop the directional drill progress and is beyond the alignment flexibility, possibly including cobbles, boulders, pipes, timber, etc., must be removed during construction, or avoided and the pipe alignment re-calibrated. Removing an obstruction often requires a contingency plan for the removal of the obstruction.

Groundwater: Groundwater levels can be expected to be within a few feet or less of the ground surface. Groundwater levels can vary as a response to tides, seasonal, and storm events. The potential problems caused by groundwater are uplift/buoyancy of the pipe and inflows through the drilling entry and exit. All of these risks have solutions that can be effective.

Pipe Friction: Pipe friction is an important consideration in directional drilling as it affects several key issues that have direct impact on the success of installing the pipe (i.e. completing the drive) and also the cost of the project. When drilling or pulling a pipe through the ground, the friction generated along the pipe is the fundamental factor as it determines the total pulling force required to install the pipe. The magnitude of the force affects the pipe strength requirements, capacity of the main drilling system, maximum possible drive length, and the need for intermediate drill stations. All of these factors will influence the feasibility, construction plans, and/or cost of the project.

The magnitude of the pipe friction depends on the pipe material, type of soil, the depth of cover, and the type and amount of pipe lubricant used, as well as the details of the drilling equipment and construction methods. Construction details such as the amount of overcut by the drilling, misalignment of the pipe, steering corrections, dewatering, and duration of work stoppages can greatly influence observed pipe friction and installation forces. Minimizing pipe friction and pulling loads has a number of important benefits such as promoting longer drive lengths and reducing the risk of pipe damage during installation.

Settlement: The potential for settlement damage is a key concern for drilled/tunneled installations. Settlements associated with trenchless installations include two types: large settlements and systematic settlements. Large settlements occur primarily as a result of loss of ground due to over-excavation. Large ground losses can lead to the creation of voids above the installed pipe. Large settlements are almost always the result of using inappropriate means and methods, improper operation, or sudden, unexpected changes in ground conditions. The risk of large settlements can be minimized with a comprehensive geotechnical investigation, proper means and methods, and good workmanship by the contractor.

Systematic settlements associated with trenchless construction are primarily caused by the collapse of the overcut, or annular space, between the new pipe and the excavation. An overcut is a necessary component for all tunneled pipe installations to reduce friction loads on the pipe string, to allow the injection of lubricant, and to facilitate steering. During or after drilling, the soil surrounding the annulus may collapse or squeeze onto the pipe, filling the void. The soil collapse continues upward until the void appears at the ground surface as a trough. These systematic settlements can be controlled by reducing the radial overcut, as well as by keeping the annulus filled with bentonite lubricant during tunneling, and potentially by grouting the annulus after pipe installation.

COMMUNITY IMPACTS/PUBLIC PERCEPTION

Force main and roadway work, by its very nature, has major impacts on the communities in which it is located. Construction of these critical infrastructure improvements very often involves noise, dust, and heavy machinery. Parking often is disrupted, utility service temporarily turned off, and traffic rerouted. Residents and businesses quite reasonably want to know what is being done, when it will be done, how they will be affected, and when it will all end.

The CES Team will work directly with the City, the DCP's Public Information Officer (PIO) and with the community early in the project to ensure that public concerns are understood and considered. Our team members are well versed and experienced in working with the public on similar projects, bringing a local insight into public concerns and aspirations for any project.

Our local knowledge indicates that many communities are active and politically aware and may not be receptive to large construction projects at first. When involved early in the process, an active, politically aware community can be an asset in developing large projects. Therefore, our public involvement effort will capitalize on a community's active nature.

As part of the project's analysis, public involvement will help determine viable solutions to mitigate public impacts. Our experience shows that understanding the benefits and being involved in reviewing the impacts/options can help create public "buy-in" for the project. To accomplish this, the CES Team will assist the City and the DCP's PIO with public meetings to discuss and gather feedback about the project and outline various issues and trade-offs associated with them. We can also assist the City/DCP PIO with a project web site to provide easy access to updated information on the project that can be used both during design and throughout construction.

The public involvement effort may also focus on soliciting ideas from the community for minimizing the impacts of the project. This will be particularly important for our MOT planning. We have experience in altering MOT plans based on input gathered from public meetings as well as meetings with local emergency services, and we understand the value of ideas brought forward by those who will be directly affected by a project.

The CES Team proposes to work with interested stakeholders along the project site to better understand and address their needs. We may use flyers specific to the business community, public meetings, and one-on-one personal meetings to help understand access needs and inform local business owners of the project.

The CES Team proposes to work with interested stakeholders along the project site to better understand and address their needs. We may use flyers specific to the business community, public meetings, and one-on-one personal meetings to help understand access needs and inform local business owners of the project.

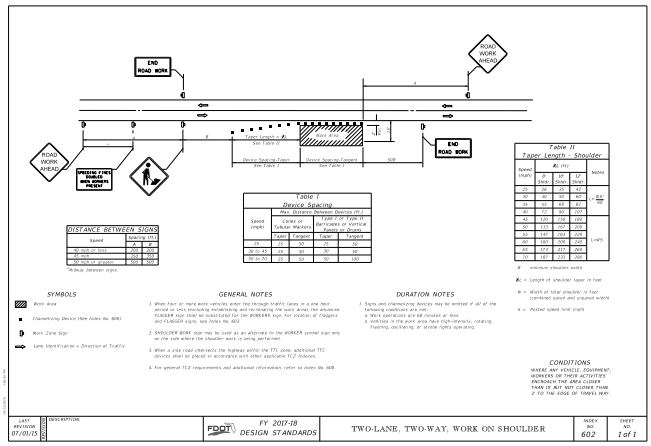
Discussions with local law enforcement and emergency management services will also be held to address any concerns with maintaining emergency services for the community during the project.

MAINTENANCE OF TRAFFIC (MOT) PLANNING

The impact of a major construction project within the project area will disrupt local residential, business, and emergency vehicular and pedestrian traffic. Early planning and coordination with the City and its departments is necessary to ensure address all issues and concerns.

Traffic control plans will be developed in accordance with City and FDOT standards as construction activities will encroach on the public right-of-way. Emphasis will be placed on public safety and maintaining the traffic flow status quo. The successful completion of any construction project requires

safety. When working on public roadways, safety needs to be extended not only to workers, but also to the general public using these roadways, and the only way to extend safety to the workers and the general public is through a Maintenance of Traffic plan. Selecting and implementing the most effective MOT possible will reduce work related accidents. It will also reduce project costs and avoid schedule delays due to accidents. Northeast 9th Street is predominately a four-lane divided roadway with a raised median and several residential side streets, with commercial and residential properties on the south side and the Galleria Mall and parking garage on the north side.



- **Open-cut Method:** Much of the open cut will be performed in the swale areas. As such, the MOT for these areas will follow Index 602, which is work on or near the shoulder. The work near pump station B-4 does not require an MOT due to the proximity of the work to the roadway, but the 200 feet near 21st Street, as well as each of the transition connections at the boring pits will require the use of Index 602..
- **HDD Method:** Much of the HDD operation will be conducted on the roadway shoulder or the swale area. Additionally, there are plenty of locations to stage the HDD operation off of the roadway. As such, we will utilize Index 602 to create a protective zone for the field crew.

  This MOT will be in close proximity to the general public. The work area will typically take one full lane. Channelizing devices will allow pedestrians to navigate clear of equipment and work areas while affording drivers with the required time and space to properly merge into adjacent lanes. Since the work zone will constantly move, use of concrete barriers is not expected. Proper traffic control signs and devices will help all pedestrians and drivers safely maneuver around our work zone(s).

Our construction crews will require a Maintenance of Traffic plan that will allow installation of the force main at a high production rate that will have minimal impact on local pedestrian and vehicular traffic. The CES Team's experience with installations in areas with similar traffic patterns will be helpful in the installation of the proposed force main. Crews will typically activate the lane closures between the hours of 9:00 am to 4:30 pm so not to encroach on peak traffic times. When necessary, and with the approval of the City, crews may work at night to accommodate any special events or to accelerate construction.

PERMITTING

The CES Team has more than 20 years of experience with

City of Fort Lauderdale and County, regional, local and federal agencies in the permitting of various project sizes. Throughout the years, CES Team members have developed strong professional relationships with these agencies.

Through field reconnaissance and knowledge gained on previous pipeline projects, we will prepare a preliminary assessment of regulatory/permitting issues affecting design and construction of the pipeline. Permitting and environmental concerns includes:

- Wetlands and waterways
- Traffic, dust, and noise
- Utility conflicts
- Pipeline design and construction
- Dewatering
- Roadway restoration

The CES Team will continue to gather information from regulatory and municipal agencies early in the process, as numerous permits including City of Ft. Lauderdale, Florida Department of Transportation (FDOT), Florida Department of Environmental Protection (FDEP), South Florida Water Management District (SFWMD), Broward County Environmental Protection and Growth Management Department (BCEPGM), Broward County Traffic Engineering Division (BCTED), Broward County Health Department, City of Fort Lauderdale Fire Department, and other agencies with jurisdiction will be necessary for this project. The CES Team's focus in this task will be to develop construction plans that minimize impacts to sensitive natural and community resources. This facilitates approvals and regulatory agency permitting, reduces mitigation requirements, and decreases public controversy.

Permitting is an important component of any project, but it is not a one-stop process. For most, permitting can feel like a confusing maze of agencies, applications, and regulations. The most effective way to navigate the permitting process is to understand the process, the agencies, and their regulatory goals. Although permitting may seem like a nuisance, it is important in minimizing impacts to the environment and the community. Properly disposing of contamination, guaranteeing fresh drinking water, reducing the impact to traffic and maintaining the safety of the residents are some of the reasons why permits are required.

A poorly executed permitting process can cause unnecessary delays to a project. Similarly, a properly executed permitting plan will never make the process enjoyable, but it will make the process more bearable and less stressful. The CES Team understands this and has brought together a group of professionals with extensive permitting experience. The team is well versed in the typical permits required for pipeline project and has engaged many agencies in similar pipeline projects.

Permit Tracking and Document Control: With the various permitting agencies and corresponding requirements and timelines, our team will develop a permitting database that will assist us in organizing all the required permits, logging activities for each permit, tracking the progress of each permit, and closing each permit. This database will work in conjunction with a detailed document control process that will identify, log, and store all paperwork generated for each permit. The permitting tracking database and the document control process are just as important as the actual construction activities.

DESIGN PROJECT MANAGEMENT

The CES Team's project management principles, procedures and methods, established over the years through the execution of large numbers of engineering projects, will be tailored to the needs of this project. The CES Team's Project Manager, Design Manager, and Construction Manager will finalize the design project-specific Project Management Plan (PMP). It will provide the City and CES Team designers internal management with assurance that the objectives of each project are defined, understood and achieved. The team is ready to use and implement an outlined PMP plan.

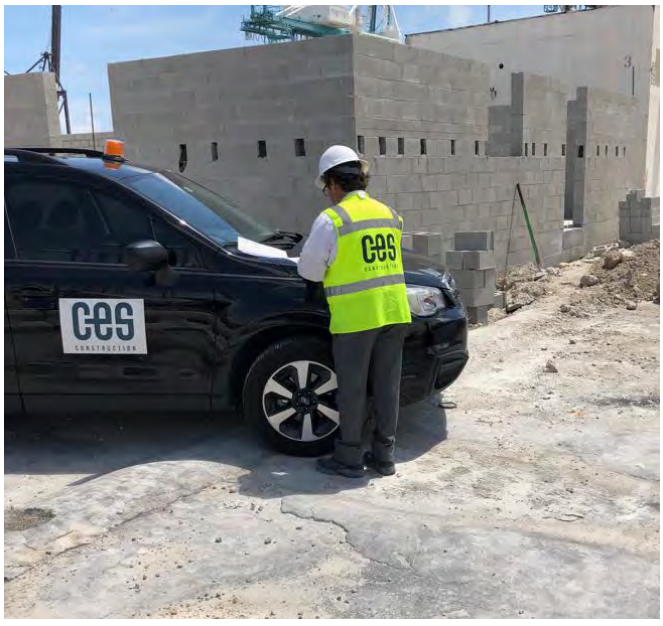
The PMP will represent how CES Team designers will manage and implement its services on the project. The intent of the PMP is to establish the project requirements; set a basis for controlling scope, schedule, and budget of the project tasks;

and describe the principal responsibilities and authority of the project participants. The PMP is intended to be a dynamic document and will be reviewed quarterly, and its contents revised as necessary to address changes in the policies and procedures of both our team and the City.

Project Kick-off Meeting: The CES Team will begin with a kick-off meeting to identify the key participants, to discuss the project purpose and goals, to define team member roles and responsibilities, and to identify expectations. The planning and scheduling of the implementation conference will be the responsibility of our Project Manager, working in conjunction with the City's Project Manager.

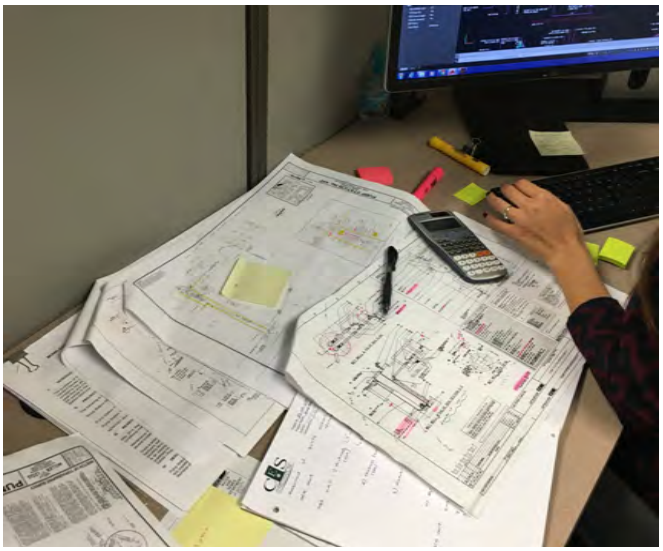
Project Reporting: CES will distribute minutes of meetings within three working days of the conclusion of any meeting. Action items resulting from the meeting will be identified, including a responsible individual and a date when the action is to be completed. Action items will be entered into a tracking database and will be reviewed by the Project Manager on a weekly basis. Any action item that is delinquent will be reviewed to determine the reason it has not been completed.

Monthly status reports will be the primary method for officially communicating the status of the project. The preparation of these reports will be the responsibility of the Project Manager with support from the project staff. The report will include cost and schedule updates, variance analyses, recommended corrective actions, and updated forecasts. The status report will also include an executive summary with narratives regarding the accomplishments for the month, projected activities for the following month, and the identification of any issues that may have arisen along with suggested approaches and resolutions.



Project Design Schedule: As part of the PMP, a design schedule will be prepared based on the tasks outlined in the project scope of work. The design schedule will indicate the overall project schedule and the duration of each major component which leads to the construction documents. Submittal dates, review periods, and the printing schedule will also be included. The schedule will not only depict the most efficient flow of work from design discipline to design discipline, but it will also illustrate the required deliverable production schedule. Adherence to the project schedule is achieved by a continuous analysis of staffing requirements and production cost/schedule monitoring.

Budget Monitoring and Control: The CES Team will develop and implement a Work Breakdown Structure (WBS) based on a logical organization of the work with flexibility to adjust to evolution of the project. The WBS will include all tasks and any overall management tasks, but it will be primarily directed towards deliverable products. The WBS will form the basis for identifying schedule activities and monitoring cost. Regular monitoring will allow the Project Manager to identify negative cost trends, determine the root cause of the variances, and establish corrective actions to rectify the situation..



Design Quality Assurance/Quality Control: Our Project Manager will develop a QA/QC Plan at the onset of the project that defines the formal QA/QC requirements that will be implemented throughout the project. CES Team members will conduct QA/QC reviews for all project aspects. Internal reviews, checks, and coordination will be conducted on an on-going basis by the CES Team to coordinate between various disciplines to ensure a fully integrated product. We will conduct weekly internal meetings to review the status of drawings, specifications, process calculations, permitting issues, vendor coordination, and sub-consultant work.

The final interdisciplinary review is conducted at the 90% complete level and primarily represents a coordination check between design disciplines to ensure complete compatibility. Representatives of each discipline and the Construction Manager will convene at a meeting chaired by the Project Manager.

Health and Safety: The CES Team is committed to establishing and maintaining safe and healthy work practices for the project. This policy reduces risk for the team from the potential hazards inherent to construction activities. Our policy is to ensure our employees have all the tools needed to perform their work safely, including knowledge. All of our staff regularly receive safety training and certification refresher courses. Competent personnel presence is essential to keeping safety a priority in a work zone and, as such, each Foreman and Superintendent is trained in this capacity. Our safety program is managed by our dedicated Safety Manager who ensures our employees have all the tools and resources they need to do their job safely.

Maintaining a healthy and safe environment requires the concentrated effort of a firm's management and employees. CES Team members are expected to be cognizant of the health and safety of themselves, fellow workers, subcontractors, and visitors through the knowledge of, and compliance with, City and company programs and policies and abiding by established rules and procedures. CES Team members will be responsible for implementing and maintaining a Health and Safety Plan specific for their work areas.

CONSTRUCTION KEY FACTORS

Maintenance of Traffic

The CES Team will finalize the details of the draft MOT plan for permitting and will implement the plan throughout the project duration, making modifications as necessary if conditions change.

Managing Utilities

Based on the CES Team's collective experience in the region — particularly with infrastructure improvements in the City of Ft. Lauderdale—we find that proactive utility coordination plays a critical role in completing a project successfully. Conflicts with utilities do not only affect project costs, they also have a direct impact in the project timeline, generate inconveniences to residents and businesses in the vicinity, and disrupt essential services to the public. As such, coordination and the precise determination of utility conflicts is essential to delivering a successful project. Based on our experience in the design-build of similar neighborhood projects, particularly projects that require significant undergrounding in urban residential areas, we anticipate that our utility scope of work will include highly involved coordination with underground utilities such as FPL and communication utilities, as well as all other utilities located in the ROW.

In addition, the CES Team will conduct SUE as needed and will proactively meet with utility companies to review design plans and to discuss utility coordination details. Vacuum excavations of potential locations of conflict will be performed to verify the depth, extent and horizontal location of the utility conflict. The potential conflict locations will be presented to the design team to determine the most appropriate design modifications, if feasible. For locations where design adjustments may not be feasible, the CES Team will coordinate with the utility companies for temporary or permanent utility relocations.

CONSTRUCTION QUALITY CONTROL, QUALITY ASSURANCE & SAFETY

Quality Assurance

The CES Team's quality assurance program is centered on the concept of "right the first time." Our team makes this possible by rigorous testing and planning during the design phase to prepare a suitable construction approach for the project. Should unforeseen conditions or record drawing inconsistencies result in issues encountered during construction, we are flexible in our services so that the situation can be handled properly and remains consistent with the City's expectations. Testing and inspections will be conducted by qualified personnel following guidelines outlining procedures for conducting the tests. The results will be available and provided to the City and Construction Inspection team..

Safety

Commitment to safety is an important pledge that our team makes part of its quality assurance plan. The CES Team prides itself on developing a site-specific safety plan for each segment of the project to ensure proper safety precautions and procedures are implemented. This will be monitored

and documented by the Safety Manager. A commitment to hiring experienced and knowledgeable personnel is also part of the CES Team's quality assurance plan. Because staff is assigned to areas in which they are fully competent, our goal of quality construction means and methods can be achieved. Furthermore, our construction management team maintains an "open door policy" so that all issues, regardless of size or severity, are brought to the attention of the responsible manager.

Maintenance

The CES Team's Quality Assurance plan does not end with the completion of construction. Maintenance at the end of a project is part of our commitment to quality. This entails restoring the project site to the expectations set forth by the City and agreed upon in the contract.

Quality Control

The CES Team's Quality Control plan during the construction phase consists of auditing its services to verify that construction acceptance criteria are being met. The responsible personnel conduct inspections to recognize any construction deficiencies, and if discovered, are reported and corrective action is taken. Inspections and test results will be provided to the City. Before any changes to construction methods are begun, they must be explicitly stated and approved by the required personnel. Revisions are to be are governed by methods set forth in the quality assurance approach. Our quality control reports typically include:

- Procedures for observing work processes
- Daily Inspection Reports, which include:
  - Item(s) inspected
  - Quality characteristics in compliance
  - Quality characteristics not in compliance
  - Corrective/remedial action taken
  - Statement of certification
  - QC manager's signature
- Instructions for recording all observations
- Procedures to preclude the covering of deficient or rejected work:
  - Procedures for halting or rejecting work
  - Procedures for resolution of differences between the QA/QC representative and the production representative
- All construction records are kept, managed, and updated daily
- Daily testing records include:
  - Item(s) tested
  - Quality characteristics in compliance
  - Statement of correctness and certification
  - Quality characteristics not in compliance
  - Corrective/remedial actions taken
  - QC manager's signature
  - Individual test records include:
  - Item tested – number and description
  - Test results
  - Test designation
  - Test work sheet
  - Acceptance or rejection
  - Date sample was obtained
  - Retest information, if applicable
  - Control requirements
  - Tester signature
  - Testing QC staff initials
- Subaqueous crossing monitoring of frac-out
  - Diving team reports
  - Diver's photographs of the bottom of the intracoastal
  - Diver monitoring for mud dye that would indicate a frac-out
  - Monitoring of drill mud pressure
  - GPS tracking of the bore equipment beneath the intracoastal
  - Daily reports by Project Manager

APPROACH FOR MINIMIZING COMMUNITY IMPACTS

Our community outreach approach is proactive, as we anticipate issues and strive to minimize public complaints before they occur. We will generate clear messages that explain the project purpose and outline what is to be expected during construction. We will assist the City and DCP's PIO in identifying major stakeholders and will coordinate with them throughout the duration of the project. We will clearly communicate construction efforts to not only affected neighborhoods, but to the City to allow for city-wide communication. We will use the following approach to minimize construction impacts to the local community:

Night Temporary Illumination: We anticipate little or no night construction; most of the construction will be during the day. In the unlikely event of night time work, portable light plants will be utilized in a manner to screen the residents from glare by directing the fixtures down toward the work activity and utilizing screening as necessary.

Construction Noise: : Our team is knowledgeable of AS 2436: A Guide to Noise Control on Construction, Maintenance and Demolition Sites, which establishes that during the construction planning phases, minimal annoyance shall be conferred upon the people living and working in nearby premises and to people outdoors in the vicinity. Our construction manager will work closely with our safety manager to implement proper noise control methods, and feedback will be provided regarding the effectiveness of noise control measures during safety meetings. Hearing protection and the selection and use of hearing protection devices will be included to safeguard employees and all persons present on the job site from hearing damage and/or impairments.

Our team will outline methods for sound management that are to be followed by working personnel. Our approach will provide guidance on noise control and will include guidance in the investigation and identification of noise sources, measurements of sound, and guidance in the assessment of planning measures for noise control and monitoring of their effectiveness.

Dust Prevention: The inherent moisture content of excavated materials will significantly limit the total amount of dust associated with this project. However, where necessary, we will use wet suppression to control dust dispersions. This will be the primary means to provide temporary dust control and will be applied to aggregate stock piles, bare ground work sites and drilling operation sites on a routine basis several times a day, if needed. Wet suppression consists of applying water or wetting agents from sprinkler pipelines, hoses, tank trucks or other devices capable of providing regulated flow, uniform spray, and positive shut-off. Dust suppression wetting agents will be water-soluble, nontoxic, non-reactive, non-volatile, non-foaming, and will not be applied to planted soil areas. Accumulation of dirt/dust on sidewalks and temporary and/or permanent restoration paving will not be allowed. A street sweeper will be on site as needed to ensure no build-up of dirt and debris occurs.

Truck Hauling Devices: Trucks hauling soil, muck or rock will have a truck bed completely covered with a tarp or similar protective cover before leaving the site. Before leaving the site, the vehicle body and/or wheels will be cleaned of mud and dirt to control tracking on to roadways. Gravel wheel-tracking areas will be installed, in addition to any water-cleaning areas to reduce mud tracking on to public roadways.

Street Sweeper: Our team will be responsible for daily clean-up on public roadways and walkways affected by work on this project as necessary. A wet spray power vacuum sweeper or similar equipment will be used for necessary cleanup on paved roadways, dry power sweeping will not be used.

Stockpile Tarps: If wet control measures will not work for inactive stockpiles, plastic tarps will be placed over stockpiles and secured with sand bags or an equivalent method to prevent covers from being dislodged by wind. Covers will be repaired or replaced whenever damaged or dislodged.

Earthwork Activities: During front-end loader, clamshell bucket, or backhoe activities, the free drop height of excavated or aggregate material will be minimized as much as practical to reduce dust generation. During transport, a free-board space between the material and the top of the dump track bed will be maintained to avoid spilling materials that can generate dust.

Vibration: Support of excavation construction will be the highest vibration source on this project. Monitoring of ground vibrations at sensitive building locations with portable monitoring equipment capable of providing record measurements of frequency and peak particle velocity, if necessary, will be used at the beginning of each type of construction activity to verify that vibrations do not exceed the established limits. We will adhere to the use of a maximum total gross weight of three (3) tons for vibratory roadway compaction equipment. Existing structures will be surveyed prior to construction, monitored during compaction operations and verified that no damage has occurred.

Pre-treatment of Construction Water Prior to Disposal: In accordance with permit requirements we will implement a dewatering approach designed for this project in accordance with the required permit limiting conditions and will maintain sufficient pumping equipment and machinery in good working order. We have available competent workmen for operating the pumping equipment. Adequate standby equipment will be kept available to avoid delays caused by equipment failures.

We will dispose of construction-derived water from the work area in a suitable manner without damage to adjacent property or structures. Water will be filtered using sediment tanks and other approved methods to remove sand and fine soil particles before being discharged into any drainage system or transported off-site. The return of groundwater to its static level will be performed to maintain the undisturbed state of the natural foundation soils, to prevent disturbance of compacted backfill, and to prevent flotation or movement of structures and pipelines.

CONSTRUCTION HEALTH AND SAFETY

Our experience in infrastructure construction has created a culture of safety among CES Team staff. Our team shares a common goal of ensuring that every person on site makes it home safely at the end of every shift, every day. Each member of our team brings comprehensive experience implementing procedures to mitigate the health and safety risks faced daily during construction. Our management staff is sincerely committed to the safety and welfare of our employees, which is why our safety program is modeled to be in accordance with OSHA Standards as well as state and local government regulations for construction safety. Our policy is to ensure our employees have all the tools needed to perform their work safely, including knowledge. As such, our staff regularly receives safety training and certification refresher courses. Competent personnel presence is essential to keeping safety a priority in a work zone, and each Foreman and Superintendent is trained in this capacity. Our safety program is managed by our Safety Manager who ensures our employees have all the tools and resources they need to do their job safely.

Maintaining a Safe Workplace

The CES Team is committed to ensuring that all personnel have the tools they need to perform their jobs in a safe manner and the training to recognize the various hazards that they may encounter. We are fully versed in requisite construction safety and health practices and in safety and loss prevention. Our employees also undertake basic safety training including, but not limited to:

1. Safety Orientation for all employees when starting to work for our team
2. Confined Space Entry Training
3. Trenching and Excavation Training
4. Heavy Equipment Training (Backhoe, Loader, Excavator, etc.)
5. OSHA 30 Hours and OSHA 10 Hours (depending on position)
6. Basic Maintenance of Traffic and Flagger Training
7. Fall Protection Training
8. Competent Person Training
9. First Aid, CPR and Blood-borne Pathogens Training
10. Safety Meetings at the jobsite on a weekly basis covering multiple topics including:
    - Accident Procedures
    - Avoiding Injuries & Wounds
    - Back Safety
    - Vehicle Backing Safety
    - Blood Borne Pathogens
    - Body Protection
    - Caught or Crushed Injuries
    - Cell Phone Use
    - Chain Saw Safety
    - Climbing onto Trucks and Equipment
    - Compressed Gas Cylinder Safety
    - Defensive Driving
    - Diesel Exhaust and Carbon Monoxide
    - Drug Free Workplace
    - Electrical Safety and Electrical Cords
    - Eye and Face Protection
    - Fall Protection
    - Fire Safety
    - First Aid: Helping an Injured Worker
    - Flagger Safety
    - Foot Protection
    - Forklift and Pedestrian Safety
    - Head and Hand Protection
    - Haz - Com - Right to Know - GHS
    - Health Effects by Gasoline

- Hearing Protection
- Heat Stress
- Housekeeping
- How to place emergency triangles
- Hurricane Preparedness
- Ladder Safety
- Lock Out/Tag Out
- Machine Guarding
- Maintenance of Traffic
- Maintenance Safety
- Masonry Concrete Saw
- Mobile Crane Safety
- Portable Grinders
- Preventing Injuries from falling objects
- Signs and Tags
- Slips, Trips, and Falls
- Welding Safety
- What Not to Do at an Accident Scene
- Work Zone Safety
- Working Around Heavy Equipment

In the pre-planning phase, a Site Safety Committee will be established. This committee will be made up of project staff, safety advisors and subcontractors. The Site Safety Committee will be tasked with the development of a site-specific Safety Plan which will establish safety expectations, identify at-risk activities, and establish the procedures for those at-risk activities for the project. Our Project Safety Manual will include OSHA and Federal, State and Local regulatory programs as they pertain to the construction project.

At the beginning of the construction phase, the Site Safety Committee will conduct a Pre-Job Safety Conference involving all key members of the Management Team, also engaging subcontractors. This will be the final check to ensure that all team members are informed of the hazards identified during the pre-planning phase and how those hazards are to be managed.

Once construction has begun, we will complete both daily Safety Toolbox Talk Meetings (STTM) and weekly safety meetings. The purpose behind the daily meetings are to break down tasks, to identify and analyze hazards, and to mitigate given hazards associated with the work to be performed that day. The weekly safety meetings will discuss broader, more general topics and are led by the Management Team. Any ongoing safety issues are discussed at this meeting and new hires are trained for the week's events. Records of these meetings are kept by the Project Superintendent.

It is our philosophy that by having a constant, consistent approach to safety from project conception through close-out, we manage the results that we expect versus witnessing the results that occur when there is no plan in place. We believe our results confirm this philosophy.

Securing Work Areas

Given the urban setting of this project, it will be imperative to maintain a safe work environment for the personnel working on the project, as well as the general public that will be affected by our construction activities. The CES Team has reviewed the project conditions and has prepared a draft Maintenance of Traffic (MOT) plan where both vehicular and pedestrian traffic will be impacted.

Understanding that work like this can be an attractive nuisance, all work areas that require excavations to remain open overnight will be secured using chain link fencing and will be clearly delineated with signage. Should the need for any night work arise, temporary lighting will be provided at the site.

As a final step, once the MOT plans have been approved by all governing agencies, all emergency services will be contacted, and the plans will be reviewed with them. We will closely coordinate with emergency services as we progress through the project and move from worksite to worksite.

Measures to Address Emergencies

The two largest at-risk safety items inherent with the scope of this project are excavation and shoring. Neither item is an issue that can't be dealt with internally in the case of an emergency. As such, prior to beginning any construction activities and as a part of developing our site-specific safety plan, we will meet with the emergency services in the area to understand the location of the closest emergency services and the location of the closest fire department containing a high angle/technical rescue team. We will review the scope of this project to ensure they understand all project aspects, including but not limited to MOT, ingress/egress points, excavation areas and working hours.

To ensure that all personnel involved in the project understand the risks and protocols associated with confined space requirements, all personnel will be certified in confined space. For those who already carry that certification, a refresher course will be held.

REFERENCES

RFP No. 12443-916 SPECIFIC REFERENCES FORM

Firms should submit any information they deem appropriate for evaluation of past performance with projects similar in nature to the one under consideration by the City.

The contractor shall have previous construction experience in underground water and wastewater piping installation in the State of Florida within the last ten (10) years.

Bidder shall submit proof of the construction of a minimum of 3 similar projects in accordance with the requirements of the solicitation specifications / scope of work. Include the owner's name, address, phone number, and current e-mail address.

Note: Do not include proposed team members or parent/subsidiary/affiliated companies as references in your submittals.

A. PRIME BIDDER'S NAME: CES Construction, LLC

CLIENT NO.1 - Name of firm to be contacted: Miami-Dade County Water & Sewer Department & AECOM

Address: 3071 SW 38th Avenue Miami, FL 33146

Contact Person: Carlos Lopez, PE

Phone No: (787) 247.9503

Contact E-Mail Address: clopez@wadetrim.com

Project Performance Period: 04/2016 to 10/2016
Dates should be in mm/yy format

Project Name : T-2187

Location of Project: Miami-Dade County, FL

T-2187

Miami-Dade County, FL

The T-2187 project consisted of the installation of ±2500 LF of 12" DIP Force Main via open cut. The project scope also included a 20" x 12" Tapping Sleeve and Valve in Miami Lakes Drive.

The open-cut scope was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractors RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez, and Lauro Acevedo of Centerline Directional Drilling, Inc. It was completed per the design without changes or time enhancements.

STATUS
Completed

ORIGINAL BUDGET
$685,175.97

FINAL COST
$604,795.15

RFP No. 12443-916 SPECIFIC REFERENCES FORM

CLIENT NO.2 - Name of firm to be contacted: Miami-Dade County Water & Sewer Department & AECOM

Address: 3071 SW 38th Avenue Miami, FL 33146

Contact Person: Carlos Lopez, PE

Phone No: (787) 247.9503

Contact E-Mail Address: clopez@wadetrim.com

Project Performance Period: 03/2016 to 09/2016
Dates should be in mm/yy format

Project Name : T-2114

Location of Project: Miami-Dade County, FL

T-2114

Miami-Dade County, FL

The T-2114 project consisted of the installation of ±1835 LF of 12" DIP and ±400 LF of 16" HDPE Force Main via Horizontal Directional Drill (HDD).

The HDPE scope project was successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractor RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez, and Lauro Acevedo of Centerline Directional Drilling, Inc. It was completed per the design without changes or time enhancements.

STATUS

Completed

ORIGINAL BUDGET

$636,197

FINAL COST

$546,689

RFP No. 12443-916 SPECIFIC REFERENCES FORM

CLIENT NO.3 - Name of firm to be contacted: Miami-Dade County Water & Sewer Department & AECOM

Address: 3071 SW 38th Avenue Miami, FL 33146

Contact Person: Marcelino Torres

Phone No: (305) 746.1068

Contact E-Mail Address: Marcelino.Torres@miamidade.gov

Project Performance Period: 2017 to 03/2019
Dates should be in mm/yy format

Project Name : T-2384/CD 6.00 SEP

Location of Project: Miami-Dade County, FL

T-2384/CD 6.00 SEP

Miami-Dade County, FL

The T-2384/CD 6.00 SEP project consisted of the installation and construction of ±7,000 LF of 12", 10", 8", and 6" PVC Gravity Sewer Main, 29 structures, and ±1,400 LF of 12" DIP Water Main.

The Open Cut scope successfully completed by proposed CES Construction Manager Ernest Cano and our proposed subcontractor RP Utility and Excavation Corp. team, Javier Garzon and Raidel Perez, and Lauro Acevedo of Centerline Directional Drilling, Inc. It was completed per the design without changes or time enhancements.

STATUS
Completed

ORIGINAL BUDGET
$3,720,934.78

FINAL COST
$3,720,934.78

RFP No. 12443-916 SPECIFIC REFERENCES FORM

CLIENT NO.4 - Name of firm to be contacted: City of Deerfield Beach

Address: 200 Goolsby Blvd., Deerfield Beach, FL 33442

Contact Person: Alan Fathi, PE

Phone No: (954)480.4400

Contact E-Mail Address: afathi@deerfield-beach.com

Project Performance Period: 05/6/2019 to 11/6/2019
Dates should be in mm/yy format

Project Name : Hillsboro Blvd. Water Main Replacement via HDD

Location of Project: Deerfield Beach, FL

HILLSBORO BLVD. WATER MAIN REPLACEMENT VIA HDD

Deerfield Beach, FL

The Hillsboro Blvd. Water Main Replacement project was completed via Horizontal Directional Drilling (HDD). The project included the installation of a 14-inch HDPE Water Main via Subaqueous HDD across the Intracoastal near the Hillsboro Blvd (SR 810) Bridge No. 860146. A team of professional divers monitored the bottom of the intracoastal for frac-out from the beginning to the completion of the bore. The scope was successfully completed by the proposed subcontractors R.P. Utility & Excavation Corp. team (Javier Garzon and Raidel Perez) and the Straight Ahead Construction, Inc. team (Michael MacDonell and Shaune Rogers).

STATUS

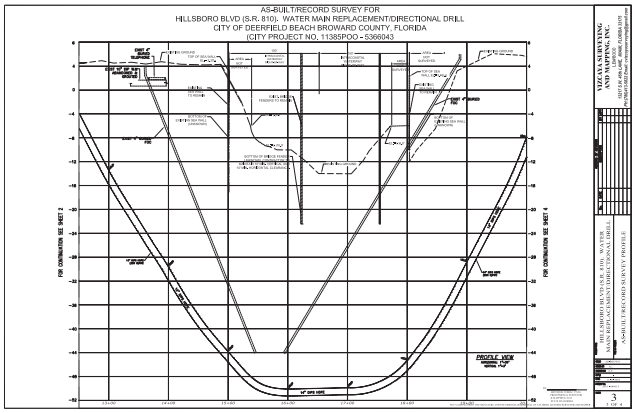
Completed

ORIGINAL BUDGET

$553,000.00

FINAL COST

$503,000.00



RFP No. 12443-916 SPECIFIC REFERENCES FORM

CLIENT NO.5 - Name of firm to be contacted: Miami-Dade County Water & Sewer Dept.

Address: 3071 SW 38th Avenue Miami, FL 33146

Contact Person: Reinaldo J. Rivera, PE, ENV SP

Phone No: (786) 552-8027

Contact E-Mail Address: Reinaldo.Rivera@miamidade.gov

Project Performance Period: 2017 to Ongoing
Dates should be in mm/yy format

Project Name : MDWASD Pump Station Improvement Program (Phase II)

Location of Project: Miami-Dade County, FL

MDWASD PUMP STATION IMPROVEMENT PROGRAM (PHASE II)

Miami-Dade County, FL

The Miami-Dade County Water and Sewer Department (WASD), in an effort to comply with the 2013 Consent Decree and improve operation its wastewater collection system to achieve compliance, established the Pump Station Improvement Program. Under this program, WASD will repair or replace over 140 existing and non-compliant wastewater pump stations. The improvements vary from pump upgrades to complete pump station and force main upgrades.

CES is providing the **inspection/evaluation, analysis and design for more than 20 sanitary sewer lift stations ranging from 20 HP to 60 HP and associated force mains.** Our team is providing full design services, which includes surveying, geotechnical engineering, civil engineering, mechanical engineering, structural engineering, and electrical engineering. The main complexities of these projects and designs are the accelerated schedules required to meet the Consent Decree schedules. The aggressive schedule requires efficient project management and effective project controls.

AWARDS

2019 Cuban American Association of Civil Engineers Project of the Year
2018-2019 American Society of Civil Engineers Project of the Year Category III

STATUS

Ongoing

ORIGINAL BUDGET

$27M

FINAL COST

$27M

KEY FEATURES

Consent Decree Program

Accelerated Schedules

Civil Engineering & Design

Inspection/Evaluation & Analysis

Mechanical, Electrical & Structural Engineering

Lift/Pump Stations

Force Mains

Utility Relocation

Sanitary Sewer Collection System

Sidewalk/Curbing

SUE/Utility Coordination

Public Involvement

Landscaping

Interagency Coordination

RFP No. 12443-916 SPECIFIC REFERENCES FORM

CLIENT NO.6 - Name of firm to be contacted: City of Miami Beach

Address: 1701 Meridian Ave, 3rd Floor Miami Beach, FL 33139

Contact Person: Jorge Rodriguez

Phone No: (305)673.7071

Contact E-Mail Address: jorgerodriguez@miamibeachfl.gov

Project Performance Period: 2017 to Ongoing
Dates should be in mm/yy format

Project Name : West Avenue North & South D/B Neighborhood & Resiliency

Location of Project: Miami Beach, FL

WEST AVENUE NORTH & SOUTH D/B NEIGHBORHOOD & RESILIENCY

Miami Beach, FL

In its continuing efforts to address sea level rise, the City of Miami Beach (CMB) awarded the CES Consultants D/B team with two design/build contracts for neighborhood improvements throughout the West Avenue North and South Corridors. Rising seas, high groundwater, king tides, wind and deteriorating infrastructure have contributed to frequent flooding of CMB facilities, residences and business properties in the West Avenue Basin. The resiliency and sustainability project will provide the community with increased protection from flooding during storm events and high seasonal tides and a higher level of service for their infrastructure.

CES acted as Project Manager, Lead Project Consultant/ Designer and Engineer of Record for the scope of work, which includes the design and construction of the complete public underground utilities of water transmission/distribution system, sanitary sewer collection system, and stormwater drainage system, including the verification and development of a stormwater model and a new 120,000 GPM master stormwater pump station, and the design, vertical rehabilitation, harmonization and ultimate construction of 1.2 miles of total roadway, sidewalks, landscaping and related infrastructure in the projects' corridor. CES is also responsible for the pedestrian friendly "Complete Street" redesign, as well as incorporation of the findings of the 100 Resilient Cities Workshop, which includes raising the existing grade of the roadway by approximately 30 inches while providing drainage capacity for a 10-year storm event level of service with no structure flooding, a revised typical section that incorporates a pedestrian/bicyclist-friendly corridor, public/private property harmonization, new traffic signals, street lighting, and landscaping.

STATUS

Ongoing

BUDGET/ COST

$72M/ $100M+ Total
Budget was increased due to added scope.

KEY FEATURES

Design-Build

Water Transmission/ Distribution System

Sanitary Sewer Collection System

Urban Pump Stations, Stormwater & Drainage

Utility Relocation

Roadway Restoration

Streetscapes/Complete Streets Design

Property Harmonization with Artist's Renderings for Each Property

Water Meter Service Conversions

SUE/Utility Coordination

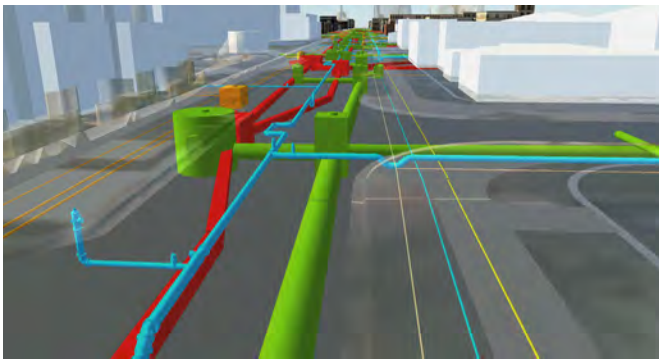
MOT & Signalization

The North project includes the design of a "Bay Walk," for pedestrians, which extends into Biscayne Bay at the west end of the Lincoln Road Corridor and proposed stormwater pump station. The South project includes the design and harmonization of the main commercial/high-rise condo area which required greater focus on pedestrian access, landscaping and a modified roadway cross-section from 8th to 14th Streets for bicycle traffic.

CES coordinated with the CMB, Ric-Man Construction Florida and the public/residents via the PIO and managed and interfaced with 10 subconsultants in variety of disciplines throughout the project development and design, project resiliency improvements, and into permitting and construction. In a collaborative effort, CES directed, held or attended bi-weekly design, utility and project meetings with CMB staff and project team/contractor members. CES also developed, coordinated and attended multiple public meetings and prepared presentations for CMB review/use, supporting resident interface. The team also participated in the 100 Resilient Cities Workshop and incorporated design changes and improvements to the project as a result of the workshop. The CES Team utilized an Urban Forester/Arborist to identify and evaluate the existing tree canopy and its viability both within and adjacent to ROW to save/maintain as much of the existing "green" infrastructure as possible.

The CES Team identified and reviewed encroachments and optional design considerations to resolve conflicts, preparing Harmonization Plans for 172 properties (127 North/45 South), with each property set including a Site Plan, Landscape Plan and 3D Perspective Rendering, specific to each property. CES also reviewed and evaluated nine existing CMB and FDOT stormwater pump stations (five North/four South) that impact or integrate with the project for Emergency Generator locations and connections, including supplemental survey and site investigations. These new Generators will allow CMB to improve and maintain stormwater disposal to reduce/minimize flooding as part of the resiliency effort.

CES coordinated with 12 different utilities along the project ROW to identify existing utility locations, potential conflicts and options/opportunities for facility relocation or adjustments. The project also involved the creation, development and maintenance of a Master Utility Plan to develop designs that incorporated or remediated affected utilities. By utilizing Civil 3D Software, CES created a 3D Model and Interactive Video of the existing and proposed utilities to represent location and subsurface conditions to minimize conflicts and to improve utility allocations and corridors.



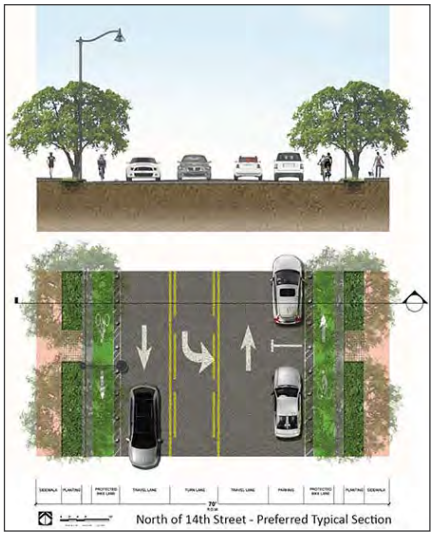
Stormwater Drainage System Improvements and Rehabilitation: CES performed a review and evaluation of two existing hydraulic models and developed an updated Stormwater and Hydraulic Model of the West Ave Project Basin that included the impacts of the City's 600-acre Basin, from the project east to the Atlantic Ocean. The project was modeled using AdICPR4 and included upsizing and design of all curb inlets and yard inlets followed by significant upsizing and modifications of two pump stations. CES created the stormwater model and developed a pre vs. post scenario, along with three alternative stormwater models. The model considered the proposed roadway elevation and the actual finish floors of each existing structure. A hydraulic grade line was developed and maintained at one foot below the lowest finish floor elevation. The results of this model are being used in the complete design of the stormwater system for both the North and South projects.

THE WEST AVENUE NORTH PROJECT ALSO INCLUDED:

Sanitary Sewer Collection System: The North project includes rehabilitation and/or replacement-in-kind of the existing sanitary sewer collection system and adjustments to slopes and manholes to improve the existing system. The design includes the replacement of 5,400 LF of pipe of varying sizes (12-inch, 15-inch, 16-inch, and 18-inch) and 32 manholes.

Water Distribution and Transmission System: The North project includes replacement of the existing water main distribution and transmission system, to include 1,150 LF of 6-inch fire service line, 7,350 LF of 12-inch distribution main, and 3,000 LF of 20-inch transmission main. New service connections, water meters, fire hydrants, and irrigation lines will be installed. The new water distribution/transmission system will be installed along West Avenue between 14th Street and Lincoln Road, along Bay Road between Flamingo Way and the Collins Canal, and along 14th Terrace to Lincoln Road between West Avenue and Alton Road. The existing water mains are being decommissioned.

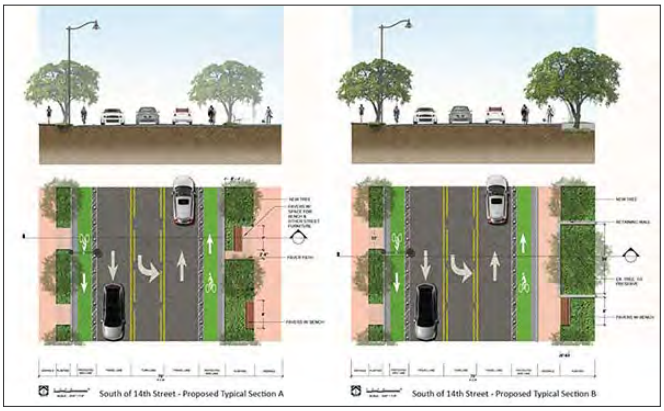
Stormwater Drainage System Improvements and Rehabilitation: The North project includes replacement and upsizing of the existing stormwater drainage system. The following will be installed as part of the project: 3,600 LF of 24-inch RCP drainage, 2,100 LF of 48-inch RCP drainage, 800 LF of 60-inch RCP drainage, 2,300 LF of 72-inch RCP drainage, 400 LF of 84-inch RCP drainage, and 300 LF of 96-inch RCP drainage, with equivalent sized box culvert materials considered as an alternate. Additionally, a new 120,000 GPM master stormwater pump station, including water quality treatment units and a specialized dissipator discharge structure, will be installed on the west end of Lincoln Road. The team also reviewed and evaluated eight different potential locations for the 120,000 GPM Master Stormwater PS, including PS Controls, Emergency Generator and FPL Power Transfer Vault, researched and coordinated locations and criteria with residents, CMB, Ric-Man Construction Florida, FPL and DERM, and developed concepts and ROM budgets for each viable option.



THE WEST AVENUE SOUTH PROJECT ALSO INCLUDED:

Sanitary Sewer Collection System: The South project includes rehabilitation and/or replacement-in-kind of the existing sanitary sewer collection system and adjustments to slopes and manholes to improve the existing system. The design includes the replacement of 3,350 LF of pipe of varying sizes (12-inch, 15-inch, 16-inch, and 18-inch) and 30 maintenance access structures.

Water Distribution and Transmission System: The South project includes replacement of the existing water main distribution and transmission system. The following will be installed as part of the project: 980 LF of 6-inch fire service line, 3,900 LF of 12-inch distribution main, and 2,400 LF of 20-inch transmission main. New service connections, water meters, fire hydrants, and irrigation lines will be installed. The new water distribution/transmission system will be installed along West Avenue, between 8th and 14th Streets, and along 8th Street to 14th Street between West Avenue and Alton Road. The existing water mains are being decommissioned.



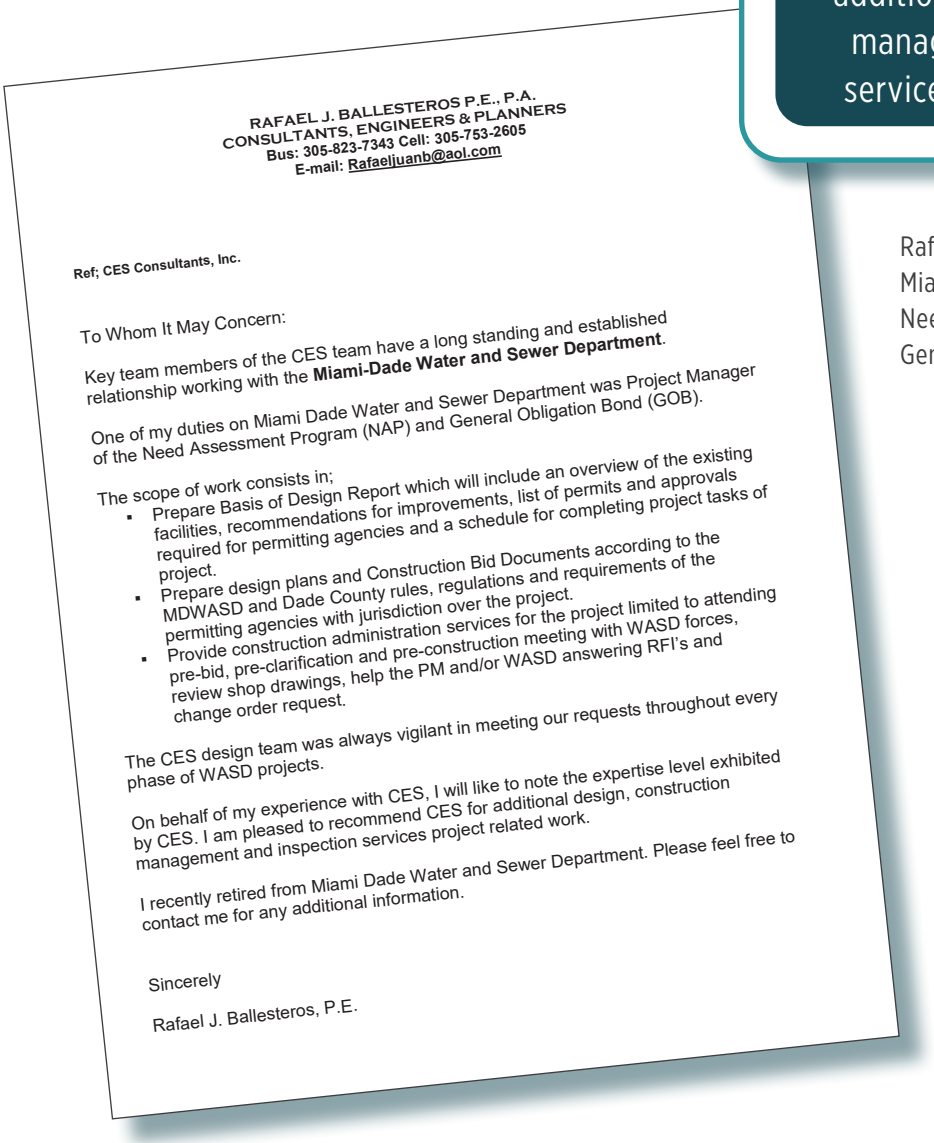
Stormwater Drainage System Improvements and Rehabilitation: The South project includes replacement and upsizing of the existing stormwater drainage system and includes 2,055 LF of 24-inch RCP drainage, 30 LF of 30-inch RCP drainage, 870 LF of 48-inch RCP drainage, and 1,700 LF of 60-inch RCP drainage, with equivalent sized box culvert materials considered as an alternate.

REFERENCE LETTERS

CES has an excellent past performance history with municipal, county and governmental agency clients. Please see the reference letters and evaluations included herein.

> The CES design team was always **vigilant in meeting our requests** throughout every phase of WASD projects. On behalf of my experience with CES, I will like to note the **expertise** level exhibited by CES. **I am pleased to recommend CES** for additional design, construction management and inspection services project related work.

Rafael J. Ballesteros, PE
Miami-Dade Water and Sewer Department
Need Assessment Program (NAP) &
General Obligation Bond (GOB) Program



RAFAEL J. BALLESTEROS P.E., P.A.
CONSULTANTS, ENGINEERS & PLANNERS
Bus: 305-823-7343 Cell: 305-753-2605
E-mail: Rafaeljuanb@aol.com

Ref; CES Consultants, Inc.

To Whom It May Concern:

Key team members of the CES team have a long standing and established relationship working with the **Miami-Dade Water and Sewer Department**.

One of my duties on Miami Dade Water and Sewer Department was Project Manager of the Need Assessment Program (NAP) and General Obligation Bond (GOB).

The scope of work consists in;

- Prepare Basis of Design Report which will include an overview of the existing facilities, recommendations for improvements, list of permits and approvals required for permitting agencies and a schedule for completing project tasks of project.
- Prepare design plans and Construction Bid Documents according to the MDWASD and Dade County rules, regulations and requirements of the permitting agencies with jurisdiction over the project.
- Provide construction administration services for the project limited to attending pre-bid, pre-clarification and pre-construction meeting with WASD forces, review shop drawings, help the PM and/or WASD answering RFI's and change order request.

The CES design team was always vigilant in meeting our requests throughout every phase of WASD projects.

On behalf of my experience with CES, I will like to note the expertise level exhibited by CES. I am pleased to recommend CES for additional design, construction management and inspection services project related work.

I recently retired from Miami Dade Water and Sewer Department. Please feel free to contact me for any additional information.

Sincerely

Rafael J. Ballesteros, P.E.

CMTS

January 22nd, 2010

To Whom It May Concern,

It is my pleasure to provide a reference for CES Consultants, Inc. I was pleased with their staff's performance and ability to provide quality services on time and within budget. CES was contracted to provide construction oversight for the installation of various infrastructure improvements on the Waterworks 2011 projects for the City of Ft. Lauderdale. The CES staff worked on a full time basis to observe several work crews in various stages of completion.

CES always placed the client's concerns and needs first, and they assisted with attaining the clients' satisfaction. CES successfully performed the requested duties, and as Principle in Charge for this project I would highly recommend CES to perform similar work on future pursuits. Please don't hesitate to call me with any questions at 904-739-9804.

Sincerely,

Yvonne McClain
President

3215 NW 10th Terrace, Suite 207 * Oakland Park, FL 33309 * (954) 561-9197 office * (954) 561-9180 fax * www.cmtsinc.com

> I was pleased with their staff's performance and **ability to provide quality services on time and within budget.**
>
> CES always placed the **client's concerns and needs first**, and they assisted with attaining the clients' satisfaction. I would **highly recommend CES** to perform similar work on future pursuits.

Yvonne McClain
Fort Lauderdale WaterWorks 2011 Program

ecology and environment, inc.
Global Environmental Specialists
90 Broad Street, Suite 1906
New York, New York 10004
Tel: (212) 742-1713, Fax (212) 742-1718

June 26, 2015

To Whom It May Concern,

CES Consultants served as a subcontractor to Ecology and Environment, Inc. for the New York Rising Community Reconstruction Program. The program, run through the Governor's Office of Storm Recovery, was a nine month planning effort designed to identify resiliency and recovery strategies and projects for communities affected by Hurricane Sandy, Irene and Tropical Storm Lee.

CES Consultants assisted E & E with project identification and feasibility assessments. The project was a fast paced effort with high visibility. CES Consultants performed as a seamless member of the team providing E & E and the client with detailed descriptions and cost estimations for projects proposed by the local planning body. I highly recommend CES Consultants as a team partner. They are incredibly professional, easy to work with and quickly grasp how their work contributes to the larger project effort.

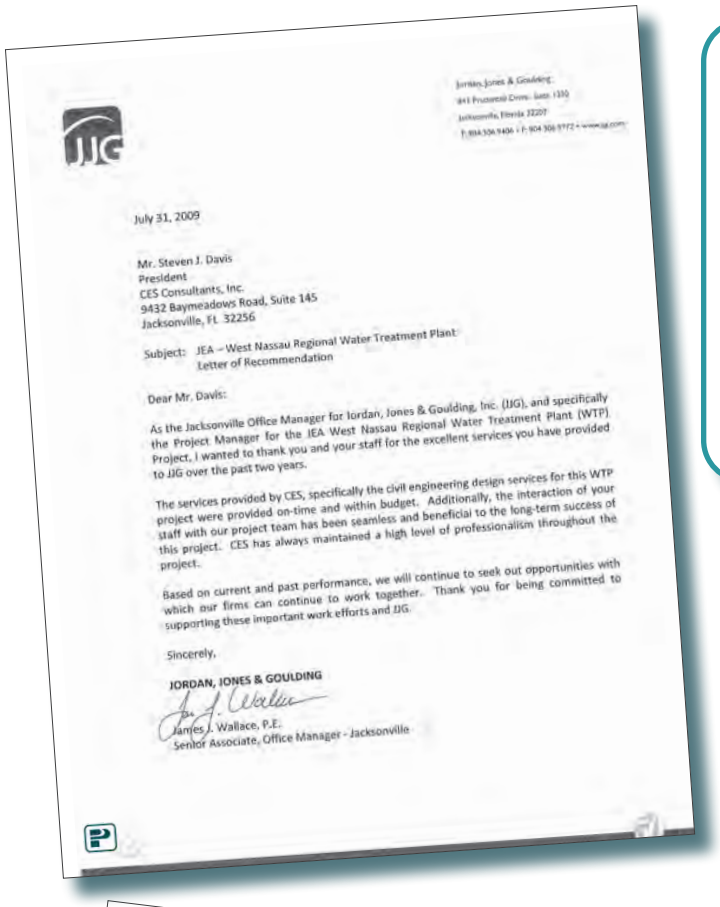
I recommend CES Consultants without reservation. If you have specific questions, please do not hesitate to contact me at jchang@ene.com

Best Regards,

Julie Chang
Operations Manager, E & E New York City Office

> The program, run through the Governor's Office of Storm Recovery, was a nine month planning effort designed to identify **resiliency** and recovery strategies and projects. The project was a **fast paced** effort with **high visibility.** They are incredibly **professional**, **easy to work with** and **quickly grasp how their work contributes to the larger project effort.**
>
> **I recommend CES Consultants without reservation.**

Julie Chang
New York Rising
Community Reconstruction Program



July 31, 2009

Mr. Steven J. Davis
President
CES Consultants, Inc.
9432 Baymeadows Road, Suite 145
Jacksonville, FL 32256

Subject: JEA – West Nassau Regional Water Treatment Plant
Letter of Recommendation

Dear Mr. Davis:

As the Jacksonville Office Manager for Jordan, Jones & Goulding, Inc. (JJG), and specifically the Project Manager for the JEA West Nassau Regional Water Treatment Plant (WTP) Project, I wanted to thank you and your staff for the excellent services you have provided to JJG over the past two years.

The services provided by CES, specifically the civil engineering design services for this WTP project were provided on-time and within budget. Additionally, the interaction of your staff with our project team has been seamless and beneficial to the long-term success of this project. CES has always maintained a high level of professionalism throughout the project.

Based on current and past performance, we will continue to seek out opportunities with which our firms can continue to work together. Thank you for being committed to supporting these important work efforts and JJG.

Sincerely,

JORDAN, JONES & GOULDING

James J. Wallace, P.E.
Senior Associate, Office Manager - Jacksonville

> The services provided by CES, specifically the civil engineering design services for this WTP project were provided **on-time and within budget.** CES has always maintained a **high level of professionalism** throughout the project.

James J. Wallace, PE
JEA West Nassau Regional Water Treatment Plant

AECOM

August 2nd, 2011

Re: To Whom It May Concern

Please accept this letter as confirmation that CES Consultants is currently a sub-consultant to AECOM providing Construction Engineering and Inspection (CEI) services for the SDWWTP High Level Disinfection Upgrades Project in Miami, Florida. Under the program, CES has provided specialty inspections, construction management, and contract administration services. The professional services rendered have been exemplary, with a demonstrated commitment to quality, budget, and schedule. CES is a prompt and responsive organization and an absolute pleasure to work with. I therefore recommend the firm for any opportunity that you can offer.

Please do not hesitate to contact me at 305-718-4828 if further clarification is required.

Sincerely,

Roger F. Williams, PE
Project Manager

cc: Ken Watson, PE

> The professional services rendered have been **exemplary**, with a **demonstrated commitment to quality, budget, and schedule.** CES is a **prompt and responsive** organization and an **absolute pleasure to work with**. I therefore **recommend the firm** for **any opportunity that you can offer.**

Roger F. Williams
SDWWTP High Level Disinfection Upgrades

J.B. Coxwell Contracting, Inc.
6741 Lloyd Road West
Jacksonville, Florida 32254
Office (904) 786-1120 Fax (904) 783-2970

May 1, 2012

City of Jacksonville
Department of Public Works
Ed Ball Building, 214 Hogan St., 10th Floor
Jacksonville, FL 32202

Attention: Mr. Paul Masters, Project Manager
Via e-mail: masters@coj.net

RE: Rogero Road Box Culvert Extension
COJ Contract No. 6533-50
JBCCI Project No. 1133

LETTER OF APPRECIATION

Dear Mr. Masters:

As the project has been completed I wanted to take the time to thank you and the engineering team of Connelly & Wicker, Inc. and CES Consultants. It was a pleasure to work with the Engineer, Mr. William Flick on this project. Mr. Flick provided quick responses to our questions and concerns and I must say in my 26 years of working in this industry, I have not come across an Engineer like Mr. Flick, who dedicated so much time and effort to make sure things went efficiently.

If I can be of further assistance, please do not hesitate to contact me.

Respectfully,

J. B. COXWELL CONTRACTING, INC.

Ken Jenkins
Project Manager

1133, ltr05, Corres

CG C050919 * CU C053588
An Equal Opportunity Employer

"I wanted to take the time to thank you and the engineering team of...CES Consultants. It was a pleasure to work with the Engineer, [who] provided **quick responses to our questions and concerns** and I must say in my 26 years of working in this industry, **I have not come across an Engineer...who dedicated so much time and effort to make sure things went efficiently.**"

Ken Jenkins
Rogero Road Box Culvert Extension

JACOBS

Jacobs Engineering Group, Inc.
245 Riverside Avenue, Suite 300
Jacksonville, FL 32202
904.636.5432 Fax 904.636.5433

April 30, 2012

CES Consultants, Inc.
9432 Baymeadows Road, Suite 145
Jacksonville, FL 32256

Subject: JEA Total Water Management Plan (TWMP) Segment 3 – 36" Water Main
Letter of Recommendation

As the Jacobs Project Manager for the JEA TWMP Segment 3 – 36" Water Main Project, I wanted to thank you and your staff for the excellent services you have provided to Jacobs on this project.

The services provided by CES, specifically the civil site engineering design services for this water main project met all schedule and budget expectations. Additionally, the interaction of your staff with our project team has been seamless and beneficial to the long-term success of this project. CES has always maintained a high level of professionalism throughout the project.

Thank you again for your service and I look forward to future opportunities to work together with CES.

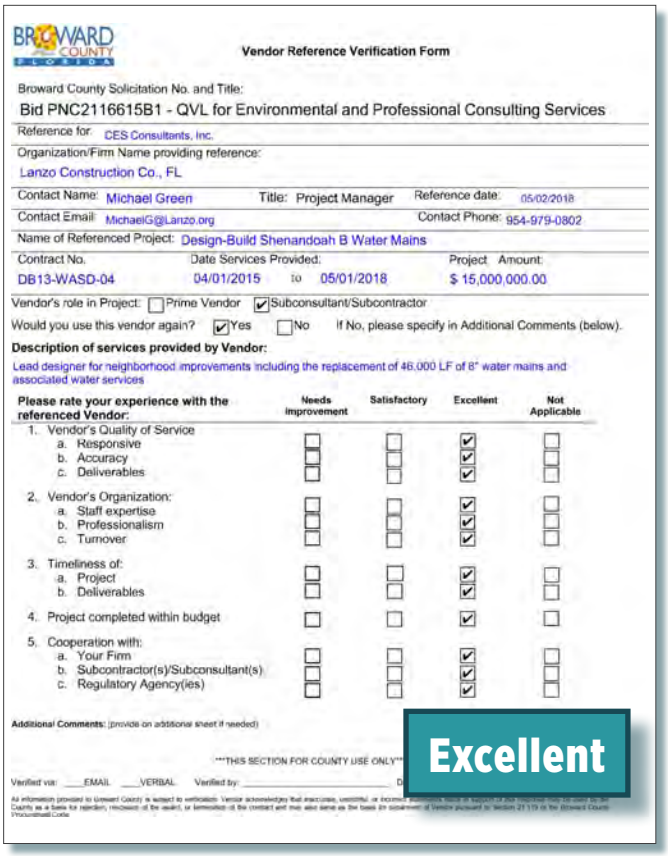
Sincerely,

Christine S. Ellenberger, P.E.
Project Manager

"The services provided by CES, specifically the civil site engineering design services for this water main project **met all schedule and budget expectations.** CES has always maintained a **high level of professionalism** throughout the project."

Christine S. Ellenberger, PE
JEA Total Water Management Plan

PAST PERFORMANCE EVALUATIONS



BROWARD COUNTY FLORIDA

Vendor Reference Verification Form

Broward County Solicitation No. and Title:
Bid PNC2116615B1 - QVL for Environmental and Professional Consulting Services

Reference for: CES Consultants, Inc.
Organization/Firm Name providing reference:
Lanzo Construction Co., FL

Contact Name: Michael Green Title: Project Manager Reference date: 05/02/2018
Contact Email: MichaelG@Lanzo.org Contact Phone: 954-979-0802
Name of Referenced Project: Design-Build Shenandoah B Water Mains
Contract No. DB13-WASD-04 Date Services Provided: 04/01/2015 to 05/01/2018 Project Amount: $ 15,000,000.00
Vendor's role in Project: ☐ Prime Vendor ☑ Subconsultant/Subcontractor
Would you use this vendor again? ☑ Yes ☐ No If No, please specify in Additional Comments (below).

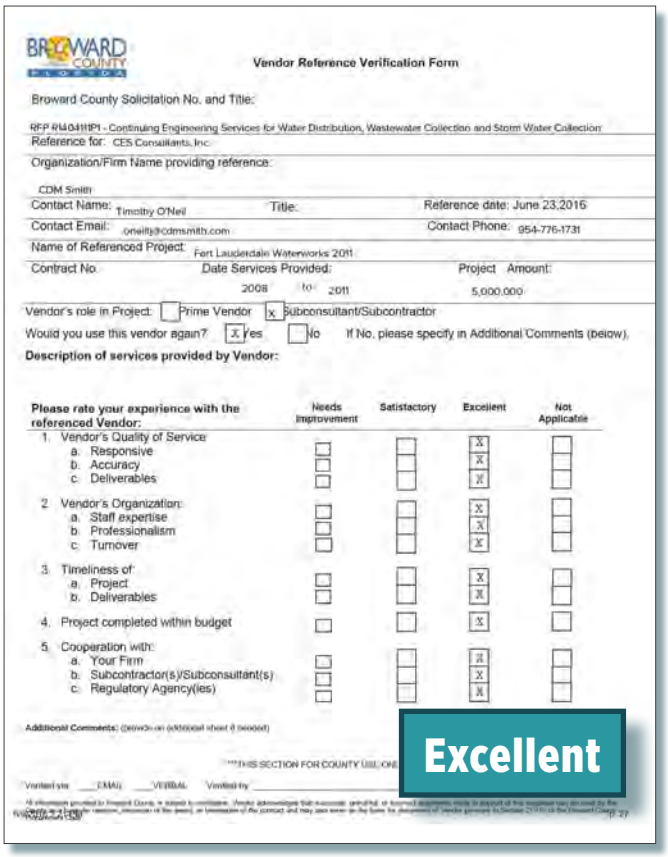
Description of services provided by Vendor:
Lead designer for neighborhood improvements including the replacement of 46,000 LF of 8" water mains and associated water services

Please rate your experience with the referenced Vendor:	Needs Improvement	Satisfactory	Excellent	Not Applicable
1. Vendor's Quality of Service				
a. Responsive	☐	☐	☑	☐
b. Accuracy	☐	☐	☑	☐
c. Deliverables	☐	☐	☑	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☑	☐
b. Professionalism	☐	☐	☑	☐
c. Turnover	☐	☐	☑	☐
3. Timeliness of:				
a. Project	☐	☐	☑	☐
b. Deliverables	☐	☐	☑	☐
4. Project completed within budget	☐	☐	☑	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☑	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☑	☐
c. Regulatory Agency(ies)	☐	☐	☑	☐

Additional Comments: (provide on additional sheet if needed)

THIS SECTION FOR COUNTY USE ONLY
Verified via: ___EMAIL ___VERBAL Verified by:

Excellent



BROWARD COUNTY FLORIDA

Vendor Reference Verification Form

Broward County Solicitation No. and Title:
RFP R1404111P1 - Continuing Engineering Services for Water Distribution, Wastewater Collection and Storm Water Collection
Reference for: CES Consultants, Inc.
Organization/Firm Name providing reference:
CDM Smith
Contact Name: Timothy O'Neil Title: Reference date: June 23,2016
Contact Email: oneilty@cdmsmith.com Contact Phone: 954-776-1731
Name of Referenced Project: Fort Lauderdale Waterworks 2011
Contract No. Date Services Provided: 2008 to 2011 Project Amount: 5,000,000
Vendor's role in Project: ☐ Prime Vendor ☒ Subconsultant/Subcontractor
Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

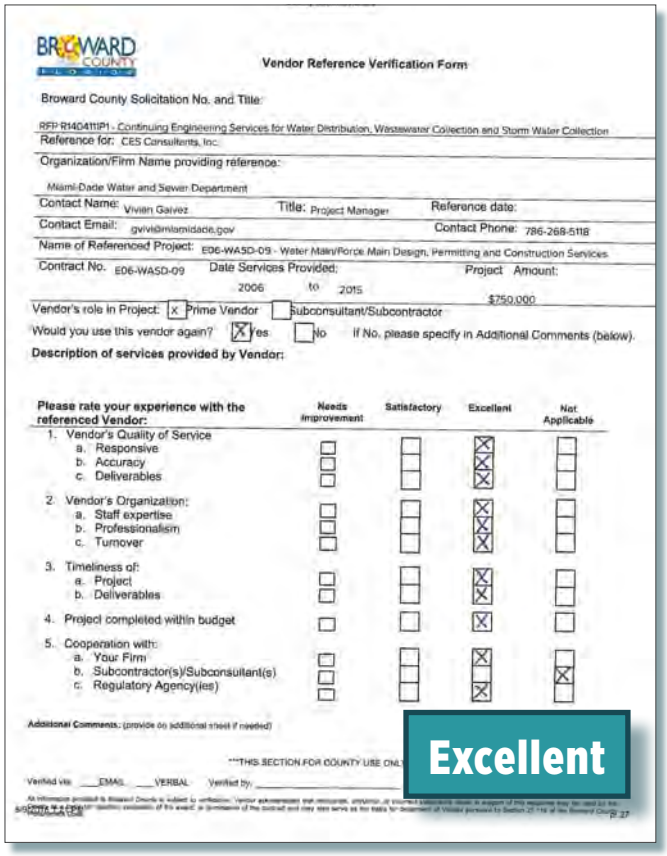
Description of services provided by Vendor:

Please rate your experience with the referenced Vendor:	Needs Improvement	Satisfactory	Excellent	Not Applicable
1. Vendor's Quality of Service				
a. Responsive	☐	☐	☒	☐
b. Accuracy	☐	☐	☒	☐
c. Deliverables	☐	☐	☒	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☒	☐
b. Professionalism	☐	☐	☒	☐
c. Turnover	☐	☐	☒	☐
3. Timeliness of:				
a. Project	☐	☐	☒	☐
b. Deliverables	☐	☐	☒	☐
4. Project completed within budget	☐	☐	☒	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☒	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☒	☐
c. Regulatory Agency(ies)	☐	☐	☒	☐

Additional Comments: (provide on additional sheet if needed)

THIS SECTION FOR COUNTY USE ONLY
Verified via: ___EMAIL ___VERBAL Verified by:

Excellent



BROWARD COUNTY FLORIDA

Vendor Reference Verification Form

Broward County Solicitation No. and Title:
RFP R1404111P1 - Continuing Engineering Services for Water Distribution, Wastewater Collection and Storm Water Collection
Reference for: CES Consultants, Inc.
Organization/Firm Name providing reference:
Miami-Dade Water and Sewer Department
Contact Name: Vivian Galvez Title: Project Manager Reference date:
Contact Email: gvivi@miamidade.gov Contact Phone: 786-268-5118
Name of Referenced Project: E06-WASD-09 - Water Main/Force Main Design, Permitting and Construction Services
Contract No. E06-WASD-09 Date Services Provided: 2006 to 2015 Project Amount: $750,000
Vendor's role in Project: ☒ Prime Vendor ☐ Subconsultant/Subcontractor
Would you use this vendor again? ☒ Yes ☐ No If No, please specify in Additional Comments (below).

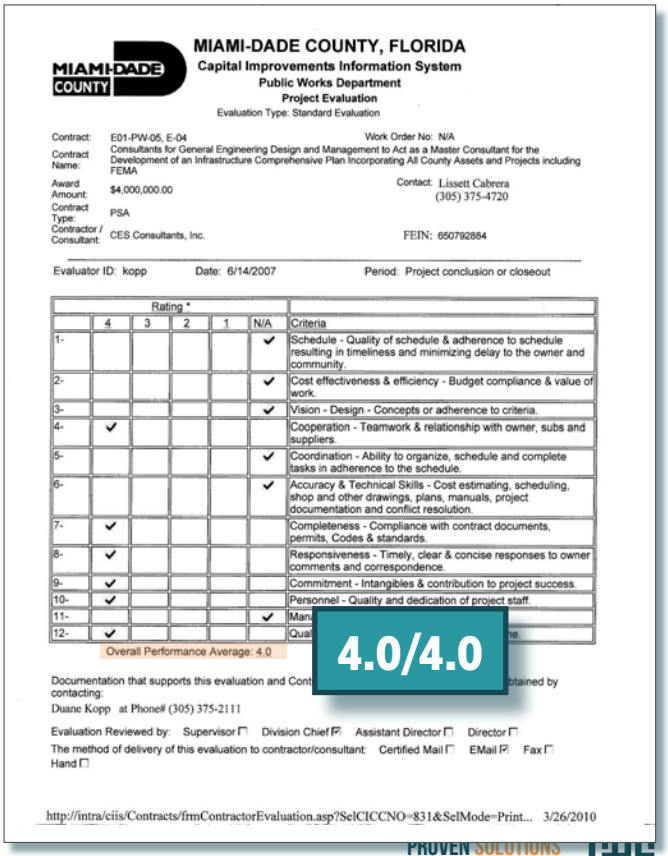
Description of services provided by Vendor:

Please rate your experience with the referenced Vendor:	Needs Improvement	Satisfactory	Excellent	Not Applicable
1. Vendor's Quality of Service				
a. Responsive	☐	☐	☒	☐
b. Accuracy	☐	☐	☒	☐
c. Deliverables	☐	☐	☒	☐
2. Vendor's Organization:				
a. Staff expertise	☐	☐	☒	☐
b. Professionalism	☐	☐	☒	☐
c. Turnover	☐	☐	☒	☐
3. Timeliness of:				
a. Project	☐	☐	☒	☐
b. Deliverables	☐	☐	☒	☐
4. Project completed within budget	☐	☐	☒	☐
5. Cooperation with:				
a. Your Firm	☐	☐	☒	☐
b. Subcontractor(s)/Subconsultant(s)	☐	☐	☒	☐
c. Regulatory Agency(ies)	☐	☐	☒	☐

Additional Comments: (provide on additional sheet if needed)

THIS SECTION FOR COUNTY USE ONLY
Verified via: ___EMAIL ___VERBAL Verified by:

Excellent



MIAMI-DADE COUNTY

MIAMI-DADE COUNTY, FLORIDA
Capital Improvements Information System
Public Works Department
Project Evaluation
Evaluation Type: Standard Evaluation

Contract: E01-PW-05, E-04 Work Order No: N/A
Contract Name: Consultants for General Engineering Design and Management to Act as a Master Consultant for the Development of an Infrastructure Comprehensive Plan Incorporating All County Assets and Projects including FEMA
Award Amount: $4,000,000.00 Contact: Lissett Cabrera (305) 375-4720
Contract Type: PSA
Contractor / Consultant: CES Consultants, Inc. FEIN: 650792884

Evaluator ID: kopp Date: 6/14/2007 Period: Project conclusion or closeout

Rating *						
	4	3	2	1	N/A	Criteria
1-					✓	Schedule - Quality of schedule & adherence to schedule resulting in timeliness and minimizing delay to the owner and community.
2-					✓	Cost effectiveness & efficiency - Budget compliance & value of work.
3-					✓	Vision - Design - Concepts or adherence to criteria.
4-	✓					Cooperation - Teamwork & relationship with owner, subs and suppliers.
5-					✓	Coordination - Ability to organize, schedule and complete tasks in adherence to the schedule.
6-					✓	Accuracy & Technical Skills - Cost estimating, scheduling, shop and other drawings, plans, manuals, project documentation and conflict resolution.
7-	✓					Completeness - Compliance with contract documents, permits, Codes & standards.
8-	✓					Responsiveness - Timely, clear & concise responses to owner comments and correspondence.
9-	✓					Commitment - Intangibles & contribution to project success.
10-	✓					Personnel - Quality and dedication of project staff.
11-					✓	Mana
12-	✓					Qua

Overall Performance Average: 4.0

4.0/4.0

Documentation that supports this evaluation and Cont obtained by contacting:
Duane Kopp at Phone# (305) 375-2111

Evaluation Reviewed by: Supervisor ☐ Division Chief ☑ Assistant Director ☐ Director ☐
The method of delivery of this evaluation to contractor/consultant: Certified Mail ☐ EMail ☑ Fax ☐ Hand ☐

http://intra/ciis/Contracts/frmContractorEvaluation.asp?SelCICCNO=831&SelMode=Print... 3/26/2010

ADDITIONAL REFERENCES

CES Construction, LLC
Miami-Dade Water & Sewer Department
T-2187 & T-2114, Miami-Dade County Florida
Carlos Lopez, PE
787.247.9503 / crlopez25@gmail.com

Miami-Dade Water & Sewer Department
T-2384/CD 6.00 SEP, Miami-Dade County, Florida
Marcelino Torres
305.746.1068 / Marcelino.Torres@miamidade.gov

RP Utility & Excavation Corp.
City of Deerfield Beach
Hillsboro Blvd. Water Main Replacement via HDD
Alan Fathi, PE
954.480.4400 / afathi@deerfield-beach.com

Miami Dade Water & Sewer Department
T-2056, 16 Inch Water Main
Carlos Baro, Construction Manager
786.268.5179 / carlos.baro@miamidade.gov

Miami-Dade Water & Sewer Department
T-2187 & T-2114, Miami-Dade County Florida
Carlos Lopez, PE
787.247.9503 / crlopez25@gmail.com

Centerline Directional Drilling, Inc.
Town of Davie
Pump Station #1 Force Main Replacement
Bryan William, PE, Project Manager
954.921.7781 / bwilliams@cgasolutions.com

Miami Dade Water & Sewer Department
T-2056, 16 Inch Water Main
Carlos Baro, Construction Manager
786.268.5179 / carlos.baro@miamidade.gov

CES Consultants, Inc.
Miami-Dade County Water & Sewer Department
MDWASD Pump Station Improvement Program (Phase II)
Reinaldo J. Rivera, PE
786.552.8027 / Reinaldo.Rivera@miamidade.gov

City of Miramar Utilities Department
Robin Bain, PE
623.217.7202 / rbain.reclaim@gmail.com

Vizcaya Surveying & Mapping, Inc.
Miami Dade Water & Sewer Department
T-2056
Carlos Baro, Construction Manager
786.268.5179 / carlos.baro@miamidade.gov

City of Coral Springs
Emergency Water Service Interconnect with Coconut Creek
Naija Zerrouki, PE, Project Manager
954.345.2188 / nzerrouki@coralsprings.org

MBA Engineering, Inc.
Metro Equipment Service Inc.
Daniel Gonzalez
305.740.3303 / dg@mesinc.us

Arc Development, Inc
Andrew Coyer
813.952.3250 / andy@arc-fl.com

GCES Engineering, LLC
Alexander Rojas, PE Project Manager / Senior Engineer
561.242.7713 / M: 305.345.7166

CIMAENG
Jose A. Gonzalez, PE, President/Senior Project Engineer
954.581.1881

PRICE PROPOSAL FORM

CITY OF FORT LAUDERDALE

PRICE PROPOSAL FORM

RFP #12470-416 RE-BID DESIGN-BUILD SERVICES FOR

PUMP STATION B-4 REDUNDANT FORCE MAIN P12567

DESIGN

1.	**Design Development**	$ 93,959.00
2.	**Construction Administration**	$ 10,000.00
	SUB-TOTAL DESIGN COSTS	$ 103,959.00

CONSTRUCTION

GENERAL

3.	**Mobilization/Demobilization**	$ 186,520.00
4.	**Maintenance of Traffic**	$ 166,515.00
5.	**Restoration**	$ 117,680.00

FORCEMAIN

6.	**24-Inch Opencut Piping** *(Includes labor, material, fittings, valves, ARV's, manholes, testing, connection to existing force mains, connections to existing pump stations, reducers, etc.)*	$ 335,380.00
7.	**24-Inch HDPE Pipeline – Directional Drill**	$ 2,377,100.00
	SUBTOTAL CONSTRUCTION COSTS	$ 3,183,195.00

PERMIT ALLOWANCE

8.	**Permitting** *(For both Design and Construction)*	**$ 10,000.00**

TOTAL PROPOSAL – Design, Construction, and Permit Allowance Costs (proposed "Contract Price"). Enter this figure in Bidsync, Item Response Form, to indicate your total price.

Three Million, Two Hundred Ninety-Seven Thousand, One Hundred Fifty Four Dollars and Zero Cents
(IN WORDS)

$ 3,297,154.00
(FIGURES)

1. The prices listed in the Price Proposal Form shall include the total cost to complete the Work including but not limited to materials, labor, equipment, profit, bonds, insurances, etc., as necessary to ensure proper execution of the design-build services and product requested by the City of Fort Lauderdale. Any pricing, quantities, costs or services that are not listed above, and are known to be required, must be added by the Proposer and listed on a separate sheet and included in the total.
2. I hereby certify that I am authorized to act on behalf of the firm, individual, partnership, corporation or association making this proposal and that all statements made in this document are true and correct to the best of my knowledge. I agree to hold this proposal open for a period of one hundred and eighty (120) days from the deadline for receipt of proposals.
3. I understand and agree to be bound by the conditions contained in the Request for Proposal and shall conform with all requirements of the Request for Proposal.

Rudy M. Ortiz, PE, CGC
Name: (Please Print)

Proposer Signature | CEO & Owner (Title:) | 02.17.21 (Date:)

SCHEDULE OF VALUES

ITEM NO.	DESCRIPTION	UNIT	QUANTITIES	UNIT PRICE	TOTAL
1	DESIGN DEVELOPMENT				
2	Geotechnical Report	LS	1	28,484.00	28,484.00
3	Design 60% Submittal	LS	1	44,332.50	44,332.50
4	Design 90% Submittal	LS	1	10,571.25	10,571.25
5	Design Final Submittal	LS	1	10,571.25	10,571.25
6	Design Permitting	LS	1	5,000.00	5,000.00
7	CONSTRUCTION ADMINISTRATION	LS	1	5,000.00	5,000.00
8	MOBILIZATION				
9	Mobilization	LS	1	151,520.00	151,520.00
10	Bonding and Insurance	LS	1	70,000.00	70,000.00
11	MOT	LS	1	131,515.00	131,515.00
12	RESTORATION	LS	1	117,680.00	117,680.00
13	24-inch Open Cut Piping	LS	1	335,380.00	335,380.00
14	24-inch HDPE Pipeline - Directional Drill	LS	1	2,377,100.00	2,377,100.00
15	ALLOWANCE - PERMITTING	LS	1	10,000.00	10,000.00
				BID	**3,297,154.00**

STATEMENT OF QUALIFICATION CERTIFICATION

STATEMENT OF QUALIFICATION CERTIFICATION

Please Note: It is the sole responsibility of the bidder to ensure that his bid is submitted electronically through www.BidSync.com prior to the bid opening date and time listed. Paper bid submittals will not be accepted. All fields below must be completed. If the field does not apply to you, please note N/A in that field.

If you are a foreign corporation, you may be required to obtain a certificate of authority from the Department of State, in accordance with Florida Statute §607.1501 (visit http://www.dos.state.fl.us/).

Company: (Legal Registration) CES Construction, LLC

Address: 880 SW 145th Avenue, Suite 106

City: Pembroke Pines State: FL Zip: 33027

Telephone No. 954.613.4353 FAX No. N/A Email: cesinfo@cesconstruct.com

Check box if your firm qualifies for MBE / SBE / WBE: ☒

ADDENDUM ACKNOWLEDGEMENT - Proposer acknowledges that the following addenda have been received and are included in the proposal:

Addendum No.	Date Issued	Addendum No.	Date Issued	Addendum No.	Date Issued
1	02.09.2021				

VARIANCES: **TIME IS OF THE ESSENCE, NO EXCEPTIONS TO ANY ELEMENT OF THE SOLICITATION DOCUMENTS INCLUDING BUT NOT LIMITED TO THE RFP, DCP, DRAWINGS, CONSTRUCTION TIME FRAME, SAMPLE AGREEMENT, GENERAL TERMS AND CONDITIONS, ETC. SHALL BE CONSIDERED.**

The below signatory hereby agrees to furnish the following article(s) or services at the price(s) and terms stated subject to all instructions, conditions, specifications addenda, legal advertisement, and conditions contained in the bid/proposal. I have read all attachments including the specifications and fully understand what is required. By submitting this signed proposal, I will accept a contract if approved by the City and such acceptance covers all terms, conditions, and specifications of this bid/proposal. The below signatory also hereby agrees, by virtue of submitting or attempting to submit a response, that in no event shall the City's liability for respondent's direct, indirect, incidental, consequential, special or exemplary damages, expenses, or lost profits arising out of this competitive solicitation process, including but not limited to public advertisement, bid conferences, site visits, evaluations, oral presentations, or award proceedings exceed the amount of Five Hundred Dollars ($500.00). This limitation shall not apply to claims arising under any provision of indemnification or the City's protest ordinance contained in this competitive solicitation.

Submitted by:

Rudy M. Ortiz, PE, CGC
Name (printed)

Signature

02.16.21
Date:

Owner & Chief Executive Officer
Title:

NON-COLLUSION STATEMENT

Supplier Response Form

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

> 3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).
>
> 3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS
N/A	

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Rudy M. Ortiz — Authorized Signature

CEO & Owner — Title

Rudy M. Ortiz — Name (Printed)

01.15.21 — Date

Please enter your password below and click Save to update your response.

Please be aware that typing in your password acts as your electronic signature, which is just as legal and binding as an original signature. (See Electronic Signatures in Global and National Commerce Act for more information.)

To take exception:

1) Click Take Exception.
2) Create a Word document detailing your exceptions.
3) Upload exceptions as an attachment to your offer on BidSync's system.

By completing this form, your bid has not yet been submitted. Please click on the place offer button to finish filling out your bid.

Username **construction@cesconsult.com**

Password *

Save | Take Exception | Close

* Required fields

CONTRACT PAYMENT METHOD

Supplier Response Form

CONTRACT PAYMENT METHOD

The City of Fort Lauderdale has implemented a Procurement Card (P-Card) program which changes how payments are remitted to its vendors. The City has transitioned from traditional paper checks to credit card payments via MasterCard or Visa as part of this program.

This allows you as a vendor of the City of Fort Lauderdale to receive your payments fast and safely. No more waiting for checks to be printed and mailed.

In accordance with the contract, payments on this contract will be made utilizing the City's P-Card (MasterCard or Visa). Accordingly, bidders must presently have the ability to accept these credit cards or take whatever steps necessary to implement acceptance of a card before the start of the contract term, or contract award by the City.

All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

By signing below you agree with these terms.

Please indicate which credit card payment you prefer:

☐ MasterCard

☑ Visa

CES Construction, LLC *
Company Name

Rudy M. Ortiz *
Name (Printed)

Rudy M. Ortiz *
Signature

01.15.21 *
Date

CEO & Owner *
Title

Please enter your password below and click Save to update your response.
Please be aware that typing in your password acts as your electronic signature, which is just as legal and binding as an original signature. (See Electronic Signatures in Global and National Commerce Act for more information.)

To take exception:
1) Click Take Exception.
2) Create a Word document detailing your exceptions.
3) Upload exceptions as an attachment to your offer on BidSync's system.
By completing this form, your bid has not yet been submitted. Please click on the place offer button to finish filling out your bid.

Username **construction@cesconsult.com**
Password *

Save | Take Exception | Close

* Required fields

SAMPLE INSURANCE CERTIFICATES

ACORD

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 7/1/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
RSC Insurance Brokerage, Inc. 3350 S Dixie Hwy Miami FL 33133	PHONE (A/C, No, Ext): (305)446-2271	FAX (A/C, No): (305)448-3127
	E-MAIL ADDRESS: MIA-Certificates@risk-strategies.com	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Continental Casualty Co	20443
INSURER B : American Casualty Co of Reading PA	20427
INSURER C : Continental Insurance Co	35289
INSURER D : Valley Forge Ins Co	20508
INSURER E :	
INSURER F :	

INSURED
CES Construction, LLC
880 SW 145 Ave #106
Pembroke Pines FL 33027

COVERAGES **CERTIFICATE NUMBER:** CL207166214 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE / X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY X PRO-JECT LOC OTHER:			6057448400	7/2/2020	7/2/2021	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 100,000 $ 15,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
B	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS / SCHEDULED AUTOS X HIRED AUTOS / X NON-OWNED AUTOS			C 6071959514	7/2/2020	7/2/2021	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
C	X UMBRELLA LIAB / X OCCUR EXCESS LIAB / CLAIMS-MADE DED X RETENTION $ 10,000			6075689940	7/2/2020	7/2/2021	EACH OCCURRENCE AGGREGATE	$ 5,000,000 $ 5,000,000
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		WC6057448395	7/2/2020	7/2/2021	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

For Proposal Use Only

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

M Christian/MARPER

ACORD 25 (2014/01) The ACORD name and logo are registered marks of ACORD
INS025 (201401)

Client#: 1053638 CESCON

ACORD™ CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 12/07/2020

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
USI Insurance Services, LLC 2502 N Rocky Point Drive Suite 400 Tampa, FL 33607	PHONE (A/C, No, Ext): 813 321-7500	FAX (A/C, No):
	E-MAIL ADDRESS:	

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Travelers Property Cas. Co. of America	25674
INSURER B : Phoenix Insurance Company	25623
INSURER C : XL Specialty Insurance Company	37885
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
CES Consultants, Inc.
880 Southwest 145th Avenue, Suite 106
Pembroke Pines, FL 33027

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE / X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY / X PRO-JECT / LOC OTHER:	X	X	6609D349718	12/06/2020	12/06/2021	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$1,000,000 $1,000,000 $10,000 $1,000,000 $2,000,000 $2,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY / SCHEDULED AUTOS X HIRED AUTOS ONLY / X NON-OWNED AUTOS ONLY	X	X	BA2R165655	12/06/2020	12/06/2021	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$1,000,000 $ $ $
A	X UMBRELLA LIAB / X OCCUR EXCESS LIAB / CLAIMS-MADE DED / X RETENTION $10,000	X	X	CUP4K364717	12/06/2020	12/06/2021	EACH OCCURRENCE AGGREGATE	$5,000,000 $5,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? Y / N (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	N / A	X	UB0P573198	12/06/2020	12/06/2021	X PER STATUTE / OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $1,000,000 $1,000,000 $1,000,000
C	Professional Liability			DPR9969869	12/06/2020	12/06/2021	$5,000,000 per claim $5,000,000 annl aggr.	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Professional Liability coverage is written on a claims-made basis.

CERTIFICATE HOLDER
For Proposals

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2016/03) 1 of 1 The ACORD name and logo are registered marks of ACORD
#S30563749/M30563004 USBZP

NON-DISCRIMINATION CERTIFICATION FORM

Supplier Response Form

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").
2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.
3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.
4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.
5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Rudy M. Ortiz * Authorized Signature

Rudy M. Ortiz, CEO & Owner * Print Name and Title

01.15.21 * Date

Please enter your password below and click Save to update your response.
Please be aware that typing in your password acts as your electronic signature, which is just as legal and binding as an original signature. (See Electronic Signatures in Global and National Commerce Act for more information.)

To take exception:
1) Click Take Exception.
2) Create a Word document detailing your exceptions.
3) Upload exceptions as an attachment to your offer on BidSync's system.
By completing this form, your bid has not yet been submitted. Please click on the place offer button to finish filling out your bid.

Username **construction@cesconsult.com**

Password *

Save | Take Exception | Close

* Required fields

TRENCH SAFETY

Supplier Response Form

TRENCH SAFETY

Bidder acknowledges that included in the appropriate bid items of his bid and in the Total Bid Price are costs for complying with the Florida Trench Safety Act, Florida Statutes 553.60 – 553.64. The bidder further identifies the costs of such compliance to be summarized below:

Trench Safety Measure (Description)	Units of Measure (LF/SF)	Unit (Quantity)	Unit Cost	Extended Cost
A. Trench Box *	LF *	500 *	$ 10.00 *	$ 5,000.0 *
B. Trench Box	SF	300	$ 5.00	$ 1,500.0
C.			$	$
D.			$	$

Total: $ 6,500.00 *

The bidder certifies that all trench excavation done within his control in excess of five feet (5') in depth shall be in accordance with the Occupational Safety and Health Administration's excavation safety standards, C.F.R. s. 1926.650 Subpart P., and the Florida Trench Safety Act, Florida Statutes 553.60-553.64.

Failure to complete the above may result in the bid being declared non-responsive.

DATE: 01.19.21 Rudy M. Ortiz, PE, CGC
(SIGNATURE)

STATE OF: Florida COUNTY OF: Broward

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

Rudy M. Ortiz, PE, CGC
(Name of Individual Signing)

Rudy M. Ortiz
Lisette Marie Sierra
who, after first being duly sworn by me, affixed his/her signature in the space provided above on this 19th day of January, 20 21.

Lisette Marie Sierra
NOTARY PUBLIC

My Commission Expires: 09/13/2022

LISETTE MARIE SIERRA
Notary Public - State of Florida
Commission # GG 258610
My Comm. Expires Sep 13, 2022
Bonded through National Notary Assn.

Please enter your password below and click Save to update your response.
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By completing this form, your bid has not yet been submitted. Please click on the place offer button to finish filling out your bid.

Username **construction@cesconsult.com**
Password *

Save | Take Exception | Close

* Required fields

CITB PRIME CONTRACTOR IDENTIFICATION

Supplier Response Form

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT

MINORITY BUSINESS ENTERPRISE (MBE) - WOMEN BUSINESS ENTERPRISE (WBE)

PRIME CONTRACTOR IDENTIFICATION FORM

In order to assist us in identifying the status of those companies doing business with the City of Fort Lauderdale, this form must be completed and returned with your bid package.

Name of Firm:	CES Construction, LLC	*
Address of Firm:	880 SW 145th Avenue, Suite 106	*
Telephone Number:	954.613.4353	*
Name of Person Completing Form:	Rudy M. Ortiz	*
Title:	CEO & Owner	*
Signature:	Rudy M. Ortiz	*
Date:	02.17.21	*
City Project Number:	Bid #12470-416	*
City Project Description:	RE-BID Design Build Pump Station B-4 F	*

Please check the item(s) which properly identify the status of your firm:

- ☐ Our firm is not a MBE or WBE.
- ☑ Our firm is a MBE, as at least 51 percent is owned and operated by one or more socially and economically disadvantaged individuals.
  - ☐ American Indian ☐ Asian ☐ Black ☑ Hispanic
- ☐ Our firm is a WBE, as at least 51 percent is owned and operated by one or more women.
  - ☐ American Indian ☐ Asian ☐ Black ☐ Hispanic

MBE/WBE CONTRACTOR INFORMATION

The City, in a continuing effort, is encouraging the increased participation of minority and women-owned businesses in Public Works Department related contracts. Along those lines, we are requiring that each firm provide documentation detailing their own programs for utilizing minority and women-owned businesses.

Submit this information as a part of this bid package and refer to the checklist, to ensure that all areas of concern are covered. The low responsive bidder may be contacted to schedule a meeting to discuss these objectives. It is our intention to proceed as quickly as possible with this project, so your cooperation in this matter is appreciated.

CONTRACTOR CHECKLIST

☑ List Previous City of Fort Lauderdale Contracts

Currently we have one contract for NW 13th Street Phase I Emergency Force Main Replacement - Design Build P12388. *

☑ Number of Employees in your firm 12 *

--Percent (8.33 * %) Women

--Percent (100 * %) Minorities

--Job Classifications of Women and Minorities

Owner, Construction Manager, Superintendent, Excavator/Backhoe Operators, Pipe Layers, Laborers, Clerical *

☑ Use of minority and/or women subcontractors on past projects.

Yes, exceeded or met goals on all projects. *

☑ Nature of the work subcontracted to minority and/or women-owned firms.

CES Construction is an MBE so all self-performed work (42.5%) will be to an MBE firm. Additionally, our design team is composed of M/WBE firms. *

☑ How are subcontractors notified of available opportunities with your firm?

Via E-mail *

☑ Anticipated amount to be subcontracted on this project.

57.5% *

☑ Anticipated amount to be subcontracted to minority and/or women-owned businesses on this project.

42.5% of construction self-performed by MBE firm; 100% of design will be subcontracted to MBE firms. *

Please enter your password below and click Save to update your response.
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3) Upload exceptions as an attachment to your offer on BidSync's system.

By completing this form, your bid has not yet been submitted. Please click on the place offer button to finish filling out your bid.

Username **construction@cesconsult.com**
Password *

Save Take Exception Close

* Required fields

E-VERIFY AFFIRMATION STATEMENT

Supplier Response Form

E-VERIFY AFFIRMATION STATEMENT

RFP/Bid /Contract No: Bid #12470-416

Project Description: RE-BID Design Build Pump Station B-4 Redundant Force Main

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

(a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,

(b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: CES Construction, LLC

Authorized Company Person's Signature: Rudy M. Ortiz

Authorized Company Person's Title: CEO & Owner

Date: 01.15.21

Please enter your password below and click Save to update your response.
Please be aware that typing in your password acts as your electronic signature, which is just as legal and binding as an original signature. (See Electronic Signatures in Global and National Commerce Act for more information.)

To take exception:
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2) Create a Word document detailing your exceptions.
3) Upload exceptions as an attachment to your offer on BidSync's system.

By completing this form, your bid has not yet been submitted. Please click on the place offer button to finish filling out your bid.

Username **construction@cesconsult.com**

Password *

Save | Take Exception | Close

* Required fields

ACKNOWLEDGMENT OF ADDENDUM #1

City of Fort Lauderdale • Procurement Services Division
100 N. Andrews Avenue, 619 • Fort Lauderdale, Florida 33301
954-828-5933 Fax 954-828-5576
purchase@fortlauderdale.gov

ADDENDUM NO. 1

RFP No. 12470-416

TITLE: RE-BID Design Build pump Station B-4 Redundant Force Main

ISSUED: February 9, 2021

This addendum is being issued to make the following change(s):

1. Section 4, Submittal Requirements, 4.2.2 *Qualifications of the Firm*,

Business Structure
CHANGE FROM:
Corporations, Joint Ventures, LLC or Partnerships – submit a copy indicating when the corporation was organized as a legal entity in the State of Florida, corporation number. ~~Shall be a minimum of ten (10) years to do business in the State of Florida.~~

CHANGE TO:
Corporations, Joint Ventures, LLC or Partnerships – submit a copy indicating when the corporation was organized as a legal entity in the State of Florida, corporation number.

All other terms, conditions, and specifications remain unchanged.

Penelope Burger,
Procurement Administrator

Company Name: CES Construction, LLC
(please print)

Bidder's Signature: _____

Date: 02.16.21

SURETY 2000 PROPOSAL BOND

Bond Number: SFL21685705

Contractor Information

Principal: CES Construction, LLC

Address: 880 SW 145 Ave Ste 106 Pembroke Pines Florida 33027 United States

Owner/Obligee Information

Bond Form: Bid Bond in accordance with Contract Specifications

Owner/Obligee: City of Fort Lauderdale

Address: 100 North Andrews Ave Fort Lauderdale Florida 33301 United States

Bond Information

Surety: QBE Insurance Corporation

Bid Date: 2/17/2021

Estimated Contract Price:

Time For Completion:

Liquidated Damages:

Estimated Work On Hand:

Amount of Bid Security: Five Percent of Amount Bid

Contract # or IFB #: 12470-416

Description of Job: RE-BID Design Build Pump Station B-4 Redundant Force Main P12567

Job Breakdown:

Electronic Bidding Information

Bid Security Percentage: 5

Bid Security Maximum:

Owner Assigned Contractor Number:1839940383

Primary Agency:

Alter Surety Group, Inc.
Power of Attorney Limited to: 10,000,000
Executed

Entered By: Jonathan A. Bursevich - 2/17/2021 9:49:27 AM ET

Approved & Executed By:

Jonathan A. Bursevich

Jonathan A. Bursevich (Signed: 17-Feb-2021 09:50 AM EST (UTC-05:00))
Signature Information

Know all men by these presents that QBE Insurance Corporation, a Corporation duly organized under the laws of the State of Pennsylvania, are held and firmly bound unto the above owner/obligee by this transmission. The surety agrees to waive the Statute of Fraud defense and further agrees that the owner/obligee is a third party beneficiary of the waiver for the purposes of enforcing this bid bond.

Document ID: S2000-1001088755

GENERAL CONDITIONS

Unless otherwise modified in the Projects Special Conditions, the following General Conditions shall be part of the Contract:

GC - 01 - DEFINITIONS - The following words and expressions, or pronouns used in their stead, shall wherever they appear in the Contract and the Contract Documents, be construed as follows:

"Addendum" or "Addenda" - shall mean the additional Contract provisions issued in writing, by the Engineer, prior to the receipt of bids.

"Bid" – shall mean the offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

"Bidder" – shall mean any person, firm, company, corporation or entity submitting a Bid for the Work.

"Bonds" –shall mean bid, performance and payment bonds and other instruments of security, furnished by Contractor and his surety in accordance with the Contract Documents.

“City” – shall mean the City of Fort Lauderdale, Florida, a Florida municipal corporation. In the event the City exercises its regulatory authority as a government body, the exercise of such regulatory authority and the enforcement of any rules, regulations, codes, laws and ordinances shall be deemed to have occurred pursuant to City’s authority as a governmental body and shall not be attributable in any manner to the City as a party to this Contract. For the purpose of this Contract, “City” without modification shall mean the City Commission, and/or City Manager or his/her designee(s) as applicable.

“Construction Manager” - shall mean the Public Works Director or his/her designee.

“Construction Project Manager” - shall mean the Public Works Director or his/her designee.

"Consultant" – shall mean a person, firm, company, corporation or other entity employed by the City to perform the professional services for the project.

“Contract Work” - shall mean everything expressed or implied to be required to be furnished and furnished by the Contractor by any one or more of the parts of the Contract Documents referred to in the Contract hereof except Extra Work as hereinafter defined, it being understood that, in case of any inconsistency in or between any part or parts of this Contract, the Public Works Director shall determine which shall prevail.

“Design Documents” – shall mean the construction plans and specifications included as part of a Bid/Proposal Solicitation prepared either by the City or by the Consultant under a separate Agreement with the City.

“Engineer” - shall mean the Public Works Director or his/her designee.

"Extra Work" - shall mean work other than that required by the Contract.

"Inspector" – shall mean an authorized representative of the City assigned to make necessary inspections of materials furnished by Contractor and of the Work performed by Contractor.

"Notice" - shall mean written notice sent by certified United States mail, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or via fax or email, or by hand delivery with a request for a written receipt of acknowledgment of delivery and shall be served upon the Contractor either personally or to its place of business listed in the Bid.

“Owner” - shall mean the City of Fort Lauderdale.

“Project Manager” - shall mean the Public Works Director or his/her designee.

"Public Works Director" – shall mean the Public Works Director of the City of Fort Lauderdale, Florida or his/her designee(s).

"Site" - shall mean the area upon or in which the Contractor's operations are carried out and such other areas adjacent thereto as may be designated as such by the Public Works Director.

"Sub-contractor" - shall mean any person, firm, company, corporation or other entity, other than employees of the Contractor, who or which contracts with the contractor, to furnish, or actually furnishes labor and materials, or labor and equipment, or labor, materials and equipment at the site.

"Surety" - shall mean any corporation or entity that executes, as Surety, the Contractor's performance and payment bond securing the performance of this Contract.

GC - 02 - SITE INVESTIGATION AND REPRESENTATION - The Contractor acknowledges that it has satisfied itself as to the nature and location of the Work under the Contract Documents, the general and local conditions of the Site, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, and roads, the conformation and conditions at the ground based on City provided reports, the type of equipment and facilities needed preliminary to and during the prosecution of the Work and all other matters which can in any way affect the Work or the cost thereof under the Contract Documents.

The Contractor acknowledges that it has conducted extensive tests, examinations and investigations and represents and warrants a thorough familiarization with the nature and extent of the Contract Documents, the Work, locality, soil conditions, moisture conditions and all year-round local weather and climate conditions (past and present), and, in reliance on such tests, examination and investigations conducted by Contractor and the Contractor’s experts, has determined that no conditions exist that would in any manner affect the Bid Price and that the project can be completed for the Bid Price submitted.

The Contractor, on its own, has made or caused to be made examinations, investigations, tests and studies of reports and related data in addition to those referred above, as Contractor deemed necessary to perform the Work at the Bid price set by the Contractor, within the contract time and in accordance with the other terms and conditions of the Contract Documents and the bid made by the Contractor; and no additional examinations, investigations, tests, reports or similar data are, or will be, required by Contractor to assure that the Work can be done at the Bid price set by the Contractor.

The Contractor further acknowledges that it has satisfied itself based on any geotechnical reports the City may provide and inspection of the project Site as to the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site and from evaluating information derived from exploratory work that may have been done by the City or included in the Contract Documents and finds and has further determined that no conditions exist that would in any manner affect the Bid price and that the project can be completed for the Bid price submitted.

Any failure by the Contractor to acquaint itself with all the provided information and information obtained by visiting the project Site will not relieve Contractor from responsibility for properly estimating the difficulty or cost thereof under the Contract Documents. In the event that the actual subsurface conditions vary from the actual City provided reports, the Contractor shall notify the City and the Contract amount may be adjusted depending on the conditions, at the approval of the City.

GC - 03 - SUBSTITUTIONS - If the Contractor desires to use materials and/or products of manufacturer's names different from those specified in the Contract Documents, the Bidder requesting the substitution shall make written application as described herein. The burden of proving the equality of the proposed substitution rests on the Bidder making the request. To be acceptable, the proposed substitution shall meet or exceed all expressed requirements of the Contract Documents and shall be submitted upon the Contractor's letterhead, in addition to the "Contractor's Request for Substitution" form provided by the Public Works Director. The following requirements shall be met in order for the substitution to be considered:

1. Requests for substitution shall reach the Public Works Director no less than ten (10) Working Days prior to the date set for opening of Bids; and

2. Requests for substitution shall be accompanied by such technical data, as the party making the request desires to submit. The Public Works Director will consider reports from reputable independent testing laboratories, verified experience records from previous users and other written information valid in the circumstances; and

3. Requests for substitution shall completely and clearly indicate in what respects the materials and/or products differ from those indicated in the Contract Documents; and

4. Requests for substitution shall be accompanied by the manufacturer's printed recommendations clearly describing the installation, use and care, as applicable, of the proposed substitutions; and

5. Requests for substitution shall be accompanied by a complete schedule of changes in the Contract Documents, if any, which must be made to permit the use of the proposed substitution; and

If a proposed substitution is approved by the Public Works Director, an addendum will be issued to prospective bidders not less than three (3) working days prior to the date set for opening of bids. Unless substitutions are received and approved as described above, the successful Bidder shall be responsible for furnishing materials and products in strict accordance with the Contract Documents.

GC - 04 - CONTROL OF THE WORK - The Public Works Director shall have full control and direction of the Work in all respects. The Public Works Director and/or his authorized designee(s) shall, at all times, have the right to inspect the Work and materials. The Contractor shall furnish all reasonable facilities for obtaining such information, as the Public Works Director may desire respecting the quality of the Work and materials and the manner of conducting the Work. Should the Contractor be directed or permitted to perform night Work, or to vary the period which work is ordinarily carried on in the daytime, he shall give ample notice to the Public Works Director so that proper and adequate inspection may be provided. Such Work shall be done only under such regulations as are furnished in writing by the Public Works Director, and no extra compensation shall be allowed to the Contractor therefore. In the event of night work, the Contractor shall furnish such light, satisfactory to the Public Works Director, as will ensure proper inspection. Nothing herein contained shall relieve the Contractor from compliance with any and all City ordinances relating to noise or Work during prohibited hours.

The Contractor shall keep the Public Works Director informed, a reasonable time in advance, as to his need for grades and lines in order that the same may be furnished and all necessary measurements made for records and for payment with the minimum of inconvenience to the Public Works Director or of delay to the Contractor. The Contractor shall submit to the Public Works Director or Inspector on the job a written request outlining the streets, etc., for which the Contractor desires lines and grades. It is the intention not to delay the Work for the giving of lines and grades, but when necessary, work operations shall be suspended for such reasonable time as the Public Works Director may require for this purpose. However, such cost increases shall be authorized either by the City Manager and/or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale’s Code of Ordinances.

GC - 05 - SUB-CONTRACTOR - The Contractor shall not sublet, in whole or any part of the Work without the written consent and approval of the Public Works Director. Within ten (10) days after official notification of starting date, the Contractor must submit in writing, to the Public Works Director, a list of all Sub-contractors. No Work shall be done by any Sub-contractor until such Subcontractor has been officially approved by the Public Works Director. A sub-contractor not appearing on the original list will not be approved without written request submitted to the Public Works Director and approved by the Public Works Director. In all cases, the Contractor shall give his personal attention to the Work of the Sub-contractors and the Sub-contractor is liable to be discharged by the Contractor, at the direction of the Public Works Director, for neglect of duty, incompetence or misconduct.

Acceptance of any sub-contractor, other person, or organization by the Public Works Director shall not constitute a waiver of any right of Public Works Director to reject defective Work or Work not in conformance with the Contract Documents.

Contractor shall be fully responsible for all acts and omissions of his Sub-contractors and of persons and organizations directly or indirectly employed by them and of persons and organizations for whose acts any of them may be liable to the same extent that he is responsible for the acts and omissions of persons directly employed by him. Nothing in the Contract Documents shall create any contractual relationship between City and any sub-contractor or other person or organization having a direct contract with Contractor, nor shall it create any obligation on the part of City to pay or to see to the payment of any moneys due to any sub-contractor or other person, or organization, except as may otherwise be required by law.

GC - 06 - **QUANTITIES** - It is mutually agreed that the proposal shows the approximate amounts only along with the Plans and the general location. It is also mutually agreed that no change will be made involving any departure from the general scheme of the Work and that no such change involving a material change in cost, either to the City or Contractor, shall be made, except upon written permission of the City. However, the Public Works Director shall have the right to make minor alternations in the line, grade, plan, form or materials of the Work herein contemplated any time before the completion of the same. That if such alterations shall diminish the quantity of the Work to be done, such alterations shall not constitute a claim for damages or anticipated profits. That if such alterations increase the amount of the Work to be done, such increase shall be paid for according to the quantity actually performed and at the unit price or prices stipulated therefore in the Contract.

The City shall, in all cases of dispute, determine the amount or quantity of the several kinds of Work which are to be paid for under this Contract, and shall decide all questions relative to the execution of the same, and such estimates and decisions shall be final and binding.

Any Work not herein specified, which might be fairly implied as included in the Contract, of which the City shall judge, shall be done by the Contractor without extra charge. However, such cost increases shall be authorized either by the City Manager and/or designee, or the City Commission based upon the purchasing threshold amounts provided for in Chapter 2 of the City of Fort Lauderdale's Code of Ordinances.

GC - 07 - NO ORAL CHANGES - Except to the extent expressly set forth in the Contract, no change in, or modification, termination or discharge of the Contract in any form whatsoever, shall be valid or enforceable unless it is in writing and signed by the parties charged, therewith or their duly authorized representative.

GC - 08 - PERMITS AND PROTECTION OF PUBLIC – Permits on file with the City and or those permits to be obtained, shall be considered directive in nature, and will be considered a part of this Contract. A copy of all permits shall be given to the City and become part of the Contract Documents. Terms of permits shall be met prior to acceptance of the Work and release of the final payment.

The Contractor shall be required to observe all the ordinances in relation to obtaining permits for occupying, excavating, or in any way obstructing the streets and alleys. He shall erect and maintain barricades and sufficient safeguards around all excavations, embankments or obstructions; he shall place sufficient warning lights at or near the Work; keep the same burning from sunset to sunrise, employ watchmen, and strictly obey all laws and ordinances controlling or limiting those engaged in similar work.

Where there are telephones, light or power poles, water mains, conduits, pipes or drains or other construction, either public or private, in or on the streets or alleys, the Work shall be so conducted that no interruption or delay will be caused in the operation or use of the same. Proper written notice shall be given, and all the facilities, afforded the owners of such construction encountered or likely to be encountered, as will enable them to preserve the same from injury.

The Contractor shall not be permitted to interfere with public travel and convenience by grading or tearing up streets indiscriminately, but the Work of constructing the various items in this contract shall proceed in an orderly, systematic and progressive manner.

Contractor shall not load nor permit any part of any structure to be loaded with weights that will endanger the structure, nor shall he subject any part of the Work to stresses or pressures that will endanger it.

Where lifting operations involving the use of specialized cranes are required as part of construction, Contractor must undertake the following investigation and submit the results and documentation to the Engineer prior to commencing any lifting operations: marking a very specific area in the field for the placement of the crane; a drawing showing the limitations of the job operation (i.e. not over adjacent properties or pedestrian and high vehicular traffic areas); underground utility exploration in the vicinity of the crane location, which may include ground penetrating radar to identify voids or old pipe or other subsurface features that could lead to sudden failure; assessment of the underlying soil and roadway materials and a worst case analysis based on entire load being distributed on just one or two outriggers; provision of properly sized pads under the outriggers; loading charts from manufacturer showing allowable configurations/loads; and inspection to make sure crane operation is in accordance with the permit conditions.

GC - 09 - DISEASE REGULATIONS - The Contractor shall enforce all sanitary regulations and take all precautions against infectious diseases as the Public Works Director may deem necessary. Should any infectious or contagious diseases occur among his employees, he shall arrange for the immediate removal of the employee from the Site and isolation of all persons connected with the Work.

GC - 10 - CONTRACTOR TO CHECK PLANS, SPECIFICATIONS, AND DATA - The Contractor shall verify all dimensions, quantities, and details shown on the plans, supplementary drawings, schedules, or other data received from the Public Works Director, and shall notify the Public Works Director of all errors, omissions, conflicts and discrepancies found therein within three (3) working days of discovery. Failure to discover or correct errors, conflictions, or discrepancies shall not relieve the Contractor of full responsibility for unsatisfactory Work, faulty construction, or improper operation resulting therefrom nor from rectifying such condition at its own expense.

GC - 11 - SUPPLEMENTARY DRAWINGS - When, in the opinion of the Public Works Director, it becomes necessary to explain more fully the Work to be done, or to illustrate the work further, or to show any changes which may be required, drawings, known as supplementary drawings, with specifications pertaining thereto, will be prepared by the Public Works Director and copies will be given to the Contractor.

The supplementary drawings shall be binding upon the Contractor with the same force as the original Plans. Where such supplementary drawings require either less or more than the estimated quantities of work, credit to the City or compensations therefore to the Contractor shall be subject to the terms of the Contract.

GC - 12 - MATERIALS AND WORKMANSHIP - All material and workmanship shall, in every respect, be in conformity with approved modern practice and with prevailing standards of performance and quality. In the event of a dispute, the Public Works Director's decision shall be final. Wherever the Plans, Specifications, Contract Documents, or the directions of the Public Works Director are unclear as to what is permissible and/or fail to note the quality of any Work, that interpretation will be made by the Public Works Director, which is in accordance with approved modern practice, to meet the particular requirements of the Contract.

In all cases, new materials shall be used, unless this provision is waived by notice from the City in writing.

GC - 13 - SAFEGUARDING MARKS - The Contractor shall safeguard all points, stakes, grade marks, monuments, and bench marks made or established on the Work, bear the cost of re-establishing same if disturbed, or bear the entire expense of rectifying Work improperly installed due to not maintaining or protecting or for removing without authorization, such established points, stakes and marks. The Contractor shall safeguard all existing and known property corners, monuments and marks not related to the Work and, if required, shall bear the cost of having them re-established by a licensed surveyor if disturbed or destroyed during the course of construction.

GC - 14 - EXISTING UTILITY SERVICE - All existing utility service shall be maintained with a minimum of interruption at the expense of the Contractor.

GC - 15 - JOB DESCRIPTION SIGNS – Contractor, at Contractor's expense, shall furnish, erect, and maintain suitable weatherproof signs on jobs over $100,000 containing the following information:

1. City Seal (in colors)
2. Project or Improvement Number
3. Job Description
4. Estimated Cost
5. Completion Date

Minimum size of sign shall be four feet high, eight feet wide and shall be suitably anchored. The entire sign shall be painted and present a pleasing appearance. Exact location of signs will be determined in the field. Two (2) signs will be required, one at each end of the job. All costs of this work shall be included in other parts of the work.

GC - 16 - FLORIDA EAST COAST RIGHT-OF-WAY - Whenever a City contractor is constructing within the Florida East Coast Railway Company's Right-of-Way, it will be mandatory that the contractor carry bodily injury and property damage insurance in amounts satisfactory to the Florida East Coast Company. This insurance requirement shall be verified by the contractor with the Florida East Coast Company prior to commencing work, and maintained during the life of the Contract.

GC - 17 - ACCIDENTS - The Contractor shall provide such equipment and facilities as are necessary and/or required, in the case of accidents, for first aide services to be provided to a person who may be injured during the project duration. The Contractor shall also comply with the OSHA requirements as defined in the United States Labor Code 29 CFR 1926.50.

In addition, the Contractor must report immediately to the Public Works Director every accident to persons or damage to property, and shall furnish in writing full information, including testimony of witnesses regarding any and all accidents.

GC - 18 - SAFETY PRECAUTIONS - Contractor must adhere to the applicable environmental protection guidelines for the duration of a project. If hazardous waste materials are used, detected or generated at any time, the Project Manager must be immediately notified of each and every occurrence. The Contractor shall comply with all codes, ordinances, rules, orders and other legal requirements of public authorities (including OSHA, EPA, DERM, the City, Broward County, State of Florida, and Florida Building Code), which bear on the performance of the Work.

The Contractor shall take the responsibility to ensure that all Work is performed using adequate safeguards, including but not limited to: proper safe rigging, safety nets, fencing, scaffolding, barricades, chain link fencing, railings, barricades, steel plates, safety lights, and ladders that are necessary for the protection of its employees, as well as the public and City employees. All riggings and scaffolding shall be constructed with good sound materials, of adequate dimensions for their intended use, and substantially braced, tied or secured to ensure absolute safety for those required to use it, as well as those in the vicinity. All riggings, scaffolding, platforms, equipment guards, trenching, shoring, ladders and similar actions or equipment shall be OSHA approved, as applicable, and in accordance with all Federal, State and local regulations.

GC - 19 - DUST PREVENTION - The Contractor shall, by means of a water spray, or temporary asphalt pavement, take all necessary precautions to prevent or abate a dust nuisance arising from dry weather or Work in an incomplete stage. All costs of this Work shall be included in cost of other parts of the Work.

Should the Contractor fail to abate a dust nuisance by the above methods, he will be required to immediately construct temporary patches per City standards.

GC - 20 - PLACING BARRICADES AND WARNING LIGHTS - The Contractor shall furnish and place, at his own expense, all barricades, warning lights, automatic blinker lights and such devices necessary to properly protect the work and vehicular and pedestrian traffic. Should the Contractor fail to erect or

maintain such barricades, warning lights, etc., the Public Works Director may, after 24 hours' notice to the Contractor, proceed to have such barricades and warning lights placed and maintained by City or other forces and all costs incurred thereof charged to the Contractor and may be retained by the City from any monies due, or to become due, to the Contractor.

GC - 21 - TRAFFIC CONTROL - The Contractor shall coordinate all Work and obtain, through the City's Transportation and Mobility Department, Broward County, Florida Department of Transportation, as applicable, any permits required to detour traffic or close any street before starting to work in the road. The following section: Part VI Traffic Controls for Street and Highway Construction and Maintenance Operations, MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, U.S. Department of Transportation Federal Highway Administration, 2009, or current edition, shall be used as a guide for requirement and placement of traffic control devices, signs and barricades. The Public Works Director shall determine requirements for the above. The above publication is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. In the event that a Maintenance of Traffic (MOT) Plan is required, the Plan shall be prepared by an A.A.S.T.A. certified technician.

All traffic control devices, flashing lights, signs and barricades shall be maintained in working condition at all times.

GC - 22 - COORDINATION - The Contractor shall notify all utilities, transportation department, etc., in writing, with a copy to the Public Works Director before construction is started and shall coordinate its Work with them. The Contractor shall cooperate with the owners of any underground or overhead utility lines in their removal, construction and rearrangement operations in order that services rendered by these parties will not be unnecessarily interrupted.

The Contractor shall arrange its Work and dispose of his materials so as to not interfere with the operation of other contractors engaged upon adjacent work and to join its Work to that of others in a proper manner and to perform its Work in the proper sequence in relation to that of other contractors all as may be directed by the Public Works Director.

Each Contractor shall be responsible for any damage done by it or its agents to the work performed by another contractor.

The Contractor shall contact the Broward County Transportation Department and the Florida Department of Transportation, as applicable, to verify and obtain location of any and all traffic conduits, loops, and street light underground services.

GC - 23 - WATER - Bulk water used for construction, flushing pipelines, and testing shall be obtained from fire hydrants. Contractor shall make payment for hydrant meter at Treasury Billing Office, 1st Floor, City Hall, 100 N. Andrews Avenue. With the paid receipt, contractor can pick up hydrant meter at the utility location office. No connection shall be made to a fire hydrant without a meter connected.

GC - 24 - PROHIBITION AGAINST CONTRACTING WITH SCRUTINIZED COMPANIES - As to any contract for goods or services of $1 million or more and as to the renewal of any contract for goods or services of $1 million or more, subject to *Odebrecht Construction, Inc., v. Prasad*, 876 F.Supp.2d 1305 (S.D. Fla. 2012), *affirmed*, *Odebrecht Construction, Inc., v. Secretary, Florida Department of Transportation*, 715 F.3d 1268 (11th Cir. 2013), with regard to the "Cuba Amendment," the Contractor certifies that it is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, and that it does not have business operations in Cuba or Syria, as provided in section 287.135, Florida Statutes (2019), as may be amended or revised. As to any contract for goods or services of any amount and as to the renewal of any contract for goods or services of any amount, the Contractor certifies that it is not on the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2019), and that it is not engaged in a boycott of Israel. The City may terminate this Agreement at the City's option if the Contractor is found to have submitted a false certification as provided under subsection (5) of section 287.135, Florida Statutes (2019), as may be amended or revised, or been placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List or the Scrutinized Companies that Boycott Israel List created pursuant to Section 215.4725, Florida Statutes (2019), or is engaged in a boycott of Israel or has been

engaged in business operations in Cuba or Syria, as defined in Section 287.135, Florida Statutes (2019), as may be amended or revised.

GC - 25 - LOCATION OF UNDERGROUND FACILITIES - If the Proposer, for the purpose of responding to this solicitation, requests the location of underground facilities through the Sunshine State One-Call of Florida, Inc. notification system or through any person or entity providing a facility locating service, and underground facilities are marked with paint, stakes or other markings within the City pursuant to such a request, then the Proposer shall be deemed non-responsive to this solicitation in accordance with Section 2-184(5) of the City of Fort Lauderdale Code of Ordinances.

GC - 26 - USE OF FLORIDA LUMBER TIMBER AND OTHER FOREST PRODUCTS - In accordance with Florida Statute 255.20 (3), the City specifies that lumber, timber, and other forest products used for this Project shall be produced and manufactured in the State of Florida if such products are available and their price, fitness, and quality are equal. This requirement does not apply to plywood specified for monolithic concrete forms, if the structural or service requirements for timber for a particular job cannot be supplied by native species, or if the construction is financed in whole or in part from federal funds with the requirement that there be no restrictions as to species or place of manufacture. The Bidder affirms by submitting a bid response to this solicitation that they will comply with section 255.20 (3) Florida Statutes.

GC - 27 - PUBLIC RECORDS/TRADE SECRETS/COPYRIGHT: The Proposer's response to the Solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this Solicitation and the Contract to be executed for this Solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

Any language contained in the Proposer's response to the Solicitation purporting to require confidentiality of any portion of the Proposer's response to the Solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the Solicitation constitutes a Trade Secret. The City's determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as public records. In addition, the proposer agrees to defend, indemnify, and hold harmless the City and the City's officers, employees, and agents, against any loss or damages incurred by any person or entity as a result of the City's treatment of records as exempt from disclosure or confidential. Proposals purporting to be subject to copyright protection in full or in part will be rejected. The proposer authorizes the City to publish, copy, and reproduce any and all documents submitted to the City bearing copyright symbols or otherwise purporting to be subject to copyright protection.

EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT:

Telephone Number: (954) 828-5002

Mailing Address: **City Clerk's Office**
100 N. Andrews Avenue
Fort Lauderdale, Florida 33301-1016

E-mail: **prrcontract@fortlauderdale.gov**

Contractor shall:

1. Keep and maintain public records required by the City in order to perform the service.

2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes (2019), as may be amended or revised, or as otherwise provided by law.

3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of this contract if the Contractor does not transfer the records to the City.

4. Upon completion of the Contract, transfer, at no cost, to the City all public records in possession of the Contractor or keep and maintain public records required by the City to perform the service. If the Contractor transfers all public records to the City upon completion of this Contract, the Contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the Contractor keeps and maintains public records upon completion of this Contract, the Contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

Rev. 5/8/2020

NON-COLLUSION STATEMENT:

By signing this offer, the vendor/contractor certifies that this offer is made independently and *free* from collusion. Vendor shall disclose below any City of Fort Lauderdale, FL officer or employee, or any relative of any such officer or employee who is an officer or director of, or has a material interest in, the vendor's business, who is in a position to influence this procurement.

Any City of Fort Lauderdale, FL officer or employee who has any input into the writing of specifications or requirements, solicitation of offers, decision to award, evaluation of offers, or any other activity pertinent to this procurement is presumed, for purposes hereof, to be in a position to influence this procurement.

For purposes hereof, a person has a material interest if they directly or indirectly own more than 5 percent of the total assets or capital stock of any business entity, or if they otherwise stand to personally gain if the contract is awarded to this vendor.

In accordance with City of Fort Lauderdale, FL Policy and Standards Manual, 6.10.8.3,

> 3.3. City employees may not contract with the City through any corporation or business entity in which they or their immediate family members hold a controlling financial interest (e.g. ownership of five (5) percent or more).
>
> 3.4. Immediate family members (spouse, parents and children) are also prohibited from contracting with the City subject to the same general rules.

Failure of a vendor to disclose any relationship described herein shall be reason for debarment in accordance with the provisions of the City Procurement Code.

NAME	RELATIONSHIPS
N/A	

In the event the vendor does not indicate any names, the City shall interpret this to mean that the vendor has indicated that no such relationships exist.

Rudy M. Ortiz Authorized Signature	**CEO & Owner** Title
Rudy M. Ortiz Name (Printed)	**01.15.21** Date

CONTRACT PAYMENT METHOD

The City of Fort Lauderdale has implemented a Procurement Card (P-Card) program which changes how payments are remitted to its vendors. The City has transitioned from traditional paper checks to credit card payments via MasterCard or Visa as part of this program.

This allows you as a vendor of the City of Fort Lauderdale to receive your payments fast and safely. No more waiting for checks to be printed and mailed.

In accordance with the contract, payments on this contract will be made utilizing the City's P-Card (MasterCard or Visa). Accordingly, bidders must presently have the ability to accept these credit cards or take whatever steps necessary to implement acceptance of a card before the start of the contract term, or contract award by the City.

All costs associated with the Contractor's participation in this purchasing program shall be borne by the Contractor. The City reserves the right to revise this program as necessary.

By signing below you agree with these terms.

Please indicate which credit card payment you prefer:

- [ ] MasterCard
- [x] Visa

CES Construction, LLC
Company Name

Rudy M. Ortiz
Name (Printed)

Rudy M. Ortiz
Signature

01.15.21
Date

CEO & Owner
Title

CONTRACTOR'S CERTIFICATE OF COMPLIANCE WITH NON-DISCRIMINATION PROVISIONS OF THE CONTRACT

The completed and signed form should be returned with the Contractor's submittal. If not provided with submittal, the Contractor must submit within three business days of City's request. Contractor may be deemed non-responsive for failure to fully comply within stated timeframes.

Pursuant to City Ordinance Sec. 2-187(c), bidders must certify compliance with the Non-Discrimination provision of the ordinance.

The Contractor shall not, in any of his/her/its activities, including employment, discriminate against any individual on the basis of race, color, national origin, religion, creed, sex, disability, sexual orientation, gender, gender identity, gender expression, or marital status.

1. The Contractor certifies and represents that he/she/it will comply with Section 2-187, Code of Ordinances of the City of Fort Lauderdale, Florida, as amended by Ordinance C-18-33 (collectively, "Section 2-187").

2. The failure of the Contractor to comply with Section 2-187 shall be deemed to be a material breach of this Agreement, entitling the City to pursue any remedy stated below or any remedy provided under applicable law.

3. The City may terminate this Agreement if the Contractor fails to comply with Section 2-187.

4. The City may retain all monies due or to become due until the Contractor complies with Section 2-187.

5. The Contractor may be subject to debarment or suspension proceedings. Such proceedings will be consistent with the procedures in section 2-183 of the Code of Ordinances of the City of Fort Lauderdale, Florida.

Rudy M. Ortiz
Authorized Signature

Rudy M. Ortiz, CEO & Owner
Print Name and Title

01.15.21
Date

TRENCH SAFETY

Bidder acknowledges that included in the appropriate bid items of his bid and in the Total Bid Price are costs for complying with the Florida Trench Safety Act, Florida Statutes 553.60 – 553.64. The bidder further identifies the costs of such compliance to be summarized below:

Trench Safety Measure (Description)	Units of Measure (LF/SF)	Unit (Quantity)	Unit Cost	Extended Cost
A. **Trench Box**	**LF**	**500**	$**10.00**	$**5,000.00**
B. **Trench Box**	**SF**	**300**	$**5.00**	$**1,500.00**
C.			$	$
D.			$	$

Total: $**6,500.00**

The bidder certifies that all trench excavation done within his control in excess of five feet (5') in depth shall be in accordance with the Occupational Safety and Health Administration's excavation safety standards, C.F.R. s. 1926.650 Subpart P., and the Florida Trench Safety Act, Florida Statutes 553.60-553.64.

Failure to complete the above may result in the bid being declared non-responsive.

DATE: **01.19.21** **Rudy M. Ortiz, PE, CGC**
(SIGNATURE)

STATE OF: **Florida**COUNTY OF: **Broward**

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

Rudy M. Ortiz, PE, CGC
(Name of Individual Signing)

Rudy M. Ortizwho, after first being duly sworn by me,
Lisette Marie Sierraaffixed his/her signature in the space provided above on this **19th**day of **January**, 20**21**.

Lisette Marie Sierra
NOTARY PUBLIC

My Commission Expires: **09/13/2022**

CITY OF FORT LAUDERDALE
PUBLIC WORKS DEPARTMENT

MINORITY BUSINESS ENTERPRISE (MBE) - WOMEN BUSINESS ENTERPRISE (WBE)

PRIME CONTRACTOR IDENTIFICATION FORM

In order to assist us in identifying the status of those companies doing business with the City of Fort Lauderdale, this form must be completed and returned with your bid package.

Name of Firm:	**CES Construction, LLC**
Address of Firm:	**880 SW 145th Avenue, Suite 106**
Telephone Number:	**954.613.4353**
Name of Person Completing Form:	**Rudy M. Ortiz**
Title:	**CEO & Owner**
Signature:	**Rudy M. Ortiz**
Date:	**02.17.21**
City Project Number:	**Bid #12470-416**
City Project Description:	**RE-BID Design Build Pump Station B-4 Redundant Force Main**

Please check the item(s) which properly identify the status of your firm:

☐ Our firm is not a MBE or WBE.

☑ Our firm is a MBE, as at least 51 percent is owned and operated by one or more socially and economically disadvantaged individuals.

☐ American Indian ☐ Asian ☐ Black ☑ Hispanic

☐ Our firm is a WBE, as at least 51 percent is owned and operated by one or more women.

☐ American Indian ☐ Asian ☐ Black ☐ Hispanic

MBE/WBE CONTRACTOR INFORMATION

The City, in a continuing effort, is encouraging the increased participation of minority and women-owned businesses in Public Works Department related contracts. Along those lines, we are requiring that each firm provide documentation detailing their own programs for utilizing minority and women-owned businesses.

Submit this information as a part of this bid package and refer to the checklist, to ensure that all areas of concern are covered. The low responsive bidder may be contacted to schedule a meeting to discuss these objectives. It is our intention to proceed as quickly as possible with this project, so your cooperation in this matter is appreciated.

CONTRACTOR CHECKLIST

☑ List Previous City of Fort Lauderdale Contracts

Currently we have one contract for NW 13th Street Phase I Emergency Force Main Replacement - Design Build P12388.

☑ Number of Employees in your firm **12**

--Percent (**8.33**%) Women

--Percent (**100**%) Minorities

--Job Classifications of Women and Minorities

Owner, Construc on Manager, Superintendent, Excavator/Backhoe Operators, Pipe Layers, Laborers, Clerical

☑ Use of minority and/or women subcontractors on past projects.

Yes, exceeded or met goals on all projects.

☑ Nature of the work subcontracted to minority and/or women-owned firms.

CES Construc on is an MBE so all self-performed work (42.5%) will be to an MBE firm. Addi onally, our design team is composed of M/WBE firms.

☑ How are subcontractors notified of available opportunities with your firm?

Via E-mail

☑ Anticipated amount to be subcontracted on this project.

57.5%

☑ Anticipated amount to be subcontracted to minority and/or women-owned businesses on this project.

42.5% of construction self-performed by MBE firm; 100% of design will be subcontracted to MBE firms.

E-VERIFY AFFIRMATION STATEMENT

RFP/Bid /Contract No: **Bid #12470-416**

Project Description: **RE-BID Design Build Pump Station B-4 Redundant Force Main**

Contractor/Proposer/Bidder acknowledges and agrees to utilize the U.S. Department of Homeland Security's E-Verify System to verify the employment eligibility of,

(a) all persons employed by Contractor/Proposer/Bidder to perform employment duties within Florida during the term of the Contract, and,

(b) all persons (including subcontractors/vendors) assigned by Contractor/Proposer/Bidder to perform work pursuant to the Contract.

The Contractor/Proposer/Bidder acknowledges and agrees that use of the U.S. Department of Homeland Security's E-Verify System during the term of the Contract is a condition of the Contract.

Contractor/Proposer/ Bidder Company Name: **CES Construction, LLC**

Authorized Company Person's Signature: **Rudy M. Ortiz**

Authorized Company Person's Title: **CEO & Owner**

Date: **01.15.21**

9/15/2020