

DEPARTMENTAL INPUT
CONTRACT/PROJECT MEASURE ANALYSIS AND RECOMMENDATION

☒ New Contract ☐ OTR ☐ Sole Source ☐ Bid Waiver ☐ Emergency
☐ Re-Bid ☐ Other

Previous Contract/Project No.

RTQ-00103

LIVING WAGE APPLIES: ☐ YES ☒ NO

Requisition No./Project No.: **189719**

TERM OF CONTRACT **90 DAYS**

Requisition

/Project Title:

**SDWWTP OXYGENATION BASIN No. 4 REHABILITATION
CONSENT DECREE PROJECT 1.03(1)
PCTS No. 13176**

Description:

**SDWWTP OXYGENATION BASIN No. 4 REHABILITATION
CONSENT DECREE PROJECT 1.03(1)
PCTS No. 13176**

Issuing Department: **WASD**

Contact Person: **Joseph Lee**

Phone: **786-268-5676**

Estimate Cost: **\$1,310,059**

GENERAL FEDERAL OTHER

Funding Source: **GENERAL**

ANALYSIS

Commodity Codes: **630**

Contract/Project History of previous purchases three (3) years
Check here ☐ if this is a new contract/purchase with no previous history.

EXISTING

2ND YEAR

3RD YEAR

Contractor:

Small Business Enterprise:

Contract Value:

Comments:

Continued on another page (s): ☐ Yes ☐ No

RECOMMENDATIONS

	Set-aside	Sub-contractor goal	Bid preference	Selection factor
SBE			x	

Basis of recommendation:

Signed:

Date sent to SBD:

Date returned to PMS:

MIAMI-DADE COUNTY, FLORIDA

BOARD OF COUNTY COMMISSIONERS

CARLOS A. GIMENEZ, MAYOR

ESTEBAN BOVO, Jr., CHAIRPERSON

BARBARA J. JORDAN

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JOE A. MARTINEZ

JOSE "PEPE" DIAZ

SDWWTP OXYGENATION BASIN No. 4 REHABILITATION CONSENT DECREE PROJECT 1.03(1) PCTS No. 13176

ER No. S049287

BID SET

August 2018

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**SPECIAL PROVISIONS
RPQ XXXXXX**

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SPECIAL PROVISIONS
RTQ 00103

These Special Provisions are intended to modify, clarify, or quantify items within the General Terms and Conditions and Instructions to Bidders based on the unique requirements of this contract.

Compliance with the foregoing requirements shall not relieve the Contractor of his liability and obligation under this section or under any other section of this agreement.

SP 1.0 ADDITIONAL QUALIFICATIONS OF BIDDERS

In order to aid the County in making an award of the Contract, the Bidder shall be pre-qualified under County Contract RTQ-00103.

SP 2.0 INSURANCE REQUIREMENTS

Refer to requirements under County Contract RTQ-00103.

SP 3.0 LIQUIDATED DAMAGES

This project is mandated by a Consent Decree and has established construction schedule milestones that are critical for completion of this construction contract. These milestones have either "Contract Liquidated Damages", "Consent Decree Liquidated Damages", or both associated with them.

SP 3.1 Contract Liquidated Damages

The parties to the Contract agree that time, in the completion of the Work, is of the essence. The County and the Contractor recognize and agree that the precise amount of actual damages for delay in the performance and completion of the Work is impossible to determine as of the date of execution of the Contract and that proof of the precise amount will be difficult. Therefore, the Contractor shall be assessed Contract Liquidated Damages on a daily basis for each Day that individual milestones, as specified below, are not timely achieved or that Contract Time is exceeded due to a non-excusable delay. These Contract Liquidated Damages shall be assessed, not as a penalty, but as compensation to the County for expenses which are difficult to quantify with any certainty and which were incurred by the County due to the delay. The amount of Contract Liquidated Damages assessed shall be an amount, as stipulated below, per day for each calendar day that individual milestones as specified in the Contract are not timely achieved or that the Project is delayed due to a non-excusable delay.

In the event the Contractor fails to perform any other covenant or condition (other than time-related) of this Contract relating to the Work, the Contractor shall become liable to the County for any actual damages which the owner may sustain on the part of the Contractor. The County reserves the right to retain these amounts from monies due the Contractor.

Failure to complete Milestone(s) 2 within the duration indicated in Table 1 below shall result in Contract Liquidated Damages.

SPECIAL PROVISIONS
RTQ 00103

Table 1

Milestones	Description	Duration (Calendar days from NTP)	Contract Liquidated Damages ⁽¹⁾
1	Accepted Safety Plan/Accepted Schedule/Company Background Check & Acquire WASD Security ID Badges	45	
2	Substantial Completion ⁽²⁾	105	\$300 Per Calendar Day
3	Final Completion	135	

NOTES:

(1) The above Contract Liquidated Damages are specifically related to Contract Time. Additional Liquidated Damages may be incurred as noted in Section SP 3.2. Contract Liquidated Damages listed in this table are cumulative with those listed in Section SP 3.2.

(2) Substantial Completion entails completion of work, conducting a substantial completion inspection, resolution of all substantial completion inspection punchlist items, and turning over the facility to WASD for full beneficial usage.

SP 3.2 Consent Decree Liquidated Damages

Miami-Dade County has entered into a Consent Decree (United States District Court for the Southern District of Florida, Case No. 1:12-cv-24400-FAM, herein referred to as Consent Decree) with the United States, Environmental Protection Agency, the State of Florida, and Florida Department of Environmental Protection (FDEP) (collectively "Regulatory Agencies"), to remediate its aging wastewater infrastructure. This project is intended to satisfy the requirements identified in the Consent Decree as CD Project CD 1.03. The full text of the Consent Decree is available online at:

<http://www.miamidade.gov/water/library/reports/consent-decree/consent-decree-signed.pdf>

The Consent Decree provides that the Regulatory Agencies may impose stipulated penalties against Miami-Dade County for failure to meet the project's Consent Decree Compliance Date and for certain sanitary sewer overflows (SSOs). In the event the Regulatory Agencies impose such penalties against Miami-Dade County and such penalties are a result of the Contractor's lack of performance, failure to meet the Consent Decree Compliance Date, or an SSO that occurs during construction, the Contractor shall be liable to the County for such amounts as additional Liquidated Damages ("Consent Decree Liquidated Damages"). Please note these Consent Decree Liquidated Damages are in addition to the Contract Liquidated Damages and may be assessed separately and/or in combination.

SPECIAL PROVISIONS
RTQ 00103

- (a) Failure to complete work on or before the Consent Decree Compliance Date per table below shall result in Consent Decree Liquidated Damages as listed below.

CD Project No.	Consent Decree Compliance Date
1.03	November 16, 2025

***Note: In the event the above Consent Decree Compliance Date occurs before the Substantial Completion date established in Section SP 3.1, Table 1, the Consent Decree Liquidated Damages shall commence on the later of the two dates.**

Period of Noncompliance per Violation per Day (Calendar Days from NTP):

One (1) to fourteen (14) days	\$1,000
Fifteen (15) to thirty days (30) days	\$2,000
Thirty one (31) to sixty (60) days	\$3,000
Sixty one (61) to one hundred eighty (180) days	\$4,000
More than one hundred eighty (180) days	\$5,000

- (b) Consent Decree Liquidated Damages for each SSO reaching waters of the United States due to a release of wastewater caused by Contractor may be assessed as:

Description	Before 4/09/2019	After 4/09/2019
1 to 10,000 gallons	\$1,000	\$1,000
10,000 to 250,000 gallons	\$2,000	\$4,000
250,000 to 1,000,000 gallons	\$5,000	\$10,000
Greater than 1,000,000 gallons	\$10,000	\$20,000

- (c) Consent Decree Liquidated Damages for each SSO NOT reaching waters of the United States due to a release caused by Contractor may be assessed as:

Description	Before 4/09/2019	After 4/09/2019
1 to 10,000 gallons	\$500	\$500
10,000 to 250,000 gallons	\$1,000	\$2,000
250,000 to 1,000,000 gallons	\$2,500	\$5,000
Greater than 1,000,000 gallons	\$5,000	\$10,000

SP 4.0 SMALL BUSINESS MEASURES

Pursuant to Section 10-33.02 of the Code of Miami-Dade County, Florida, “a contractor who fails to meet an established CSBE goal shall submit a CSBE Make-Up Plan for approval of the [Small Business Development (“SBD”)] Division Director. A Make-up Plan and a corresponding Schedule of Intent Affidavit must be submitted as part of any bid or proposal submitted for future contracts at the time of bid or proposal submittal.” Failure to include the required Schedule of Intent Affidavit with bids or proposals for any future contracts shall result in the submittal being deemed non-responsive. **To verify whether your company has a SBE make-up requirement**, please refer to the SBD webpage at:

<http://www.miamidade.gov/smallbusiness/library/reports/goal-deficit.pdf>

For questions regarding this requirement, contact Alice Hidalgo-Gato, Division Director, Contract Monitoring and Compliance at (305) 375-3153.

Small Business Goals for this contract are as stated in the Advertisement for Bids.

SP 5.0 COMMUNITY WORK FORCE GOALS

Not Applicable

SP 6.0 USER ACCESS PROGRAM

Not Applicable Bond Funded

SP 7.0 REVIEW OF RECORDS

In addition to the five (5) year retention period specified in this Contract, the following retention for Consent Decree projects shall apply: Until five (5) years after the termination of this Consent Decree, the contractors and agents shall preserve, all non-identical copies of all documents, records, or other information (including documents, records, or other information in electronic form) in its or its agents’ possession or control, or that come into its or its agents’ possession or control, and that relate in any manner to the Contractor or its agents performance of its obligations under this Contract. This information-retention requirement shall apply regardless of any contrary corporate or institutional policies or procedures. At any time during this information-retention period, upon request by the County, the Contractor shall provide copies of any documents, records, or other information required to be maintained under this Paragraph.

SECTION 01005A

GENERAL REQUIREMENTS AND DEFINED TERMS

PART 1 - GENERAL

1.01 SCOPE

When used in this publication the following underlined terms shall have meaning as hereinafter defined:

- A. The masculine pronoun shall include the feminine and neuter, and the singular shall include the plural;
- B. "And" shall also mean "or" and "or" shall also mean "and", wherever the context or purpose so requires;
- C. "Person" shall mean and include any individual, combination of individuals, partnership, society, association, joint stock company, corporation, estate, receiver, trustee, assignee, referee or any other person acting in a fiduciary or representative capacity, whether appointed by a court or otherwise;
- D. "County", "Dade County", "Miami-Dade County" or "Metropolitan Dade County (MDC)" shall mean Miami-Dade County, Florida, a political subdivision of the State of Florida, acting by and through the Board of County Commissioners, which is a party hereto and for which this Contract is to be performed;
- E. "Department" shall mean the Miami-Dade Water and Sewer Department of Miami-Dade County, Florida;
- F. "Director" shall mean the Director of the Miami-Dade Water and Sewer Department;
- G. "Engineer" shall mean the Chief, Engineering Division of the Miami-Dade Water and Sewer Department or an authorized representative;
- H. "Inspector" shall mean any person designated by the Engineer to examine and inspect materials and work for the purpose of insuring compliance by the Contractor with all requirements of the Plans and Specifications;
- I. "Developer" shall mean the person, who has entered into an agreement with the Department to construct a Project.
- J. "Contractor" or "Vendor" shall mean the party of the second part to the contract. The person, firm, or corporation, holding a current Certificate of Competency applicable to the type of work to be performed, with whom a contract has been made directly or through accredited representatives, that may have entered into a contract with the County and who is primarily liable for the acceptable performance of the work for which he has contracted and also for the payment of all legal debts pertaining to the work, or Contractor shall mean any person engaged by the Developer to supply labor, materials or equipment for use in the fulfillment of the project.

- K. "Subcontractor" shall mean any person engaged by the Contractor to supply labor, materials or equipment for use in the fulfillment of the Project;
- L. "Engineer of Record" shall mean the Florida-certified professional engineer engaged by the Developer or the Department to design the proposed Project.
- M. "Project" shall mean and include all construction for which the Contractor is responsible under the Contract Documents, or shall mean and include all construction for which the Developer or Engineer of Record is responsible under the agreement with the Department.
- N. "Plans" shall mean construction drawings prepared by the Developer or Engineer of Record for the proposed Project.
- O. "Standards Details" or "Standards" the Department's latest published standard construction details, copies of which are bound herein.
- P. "Equal" or "Approved Equal" shall mean only that material or product which is specifically approved by the Engineer as being an acceptable substitute for a material or product designated in the Specifications or by a trade name or the name of the manufacturer.
- Q. "Domestic" when applied to materials, shall mean materials or products produced within the continental limits of the United States.
- R. "Water level" or "water table" shall mean the top elevation of the natural ground water table as it exists in the trench at any particular site and time during the installation.
- S. "Surveyor" shall mean a professional surveyor registered in the State of Florida to engage in the practice of surveying.
- T. "Construction" as used herein shall mean Maintenance Repair.
- U. "Final Completion" shall mean the date all related work is accepted and no more work is needed to put the Oxygenation tank back in operation.

PART 2 - PRODUCTS

(Not Used)

PART 3 - EXECUTION

(Not Used)

END OF SECTION

Project Name

MIAMI-DADE WATER & SEWER DEPT.

July 25, 2018

CD 1.03(1)

SDWWTP Oxygenation Basin 4 Rehabilitation

2

EDP-WS-256 B

SECTION 01005A GENERAL REQUIREMENTS AND DEFINED TERMS

SECTION 01010A

SUMMARY OF WORK

1. PART 1 GENERAL

a. SCOPE OF WORK

- i. **Work Included:** This Section describes the project in general and provides an overview of the extent of the work to be performed under this Contract. Detailed requirements and extent of work is stated in the applicable Specification sections. The Contractor shall, except as otherwise specifically stated herein or in any applicable parts of the Contract Documents, provide and pay for all labor, materials, equipment, tools, construction equipment, and other facilities and services necessary for proper execution, testing, and completion of the work under this Contract.

b. SPECIFICATIONS

- i. The Specifications included in these Contract Documents establish the minimum performance and quality requirements for materials and equipment together with the minimum standards for quality of workmanship and appearance. Generally, there has been no attempt to separate the Specification sections into groups for the work of separate subcontractors, or for work to be performed by the various trades. Should there be any question as to the interpretation of any particular Specification section or part of Specification section, such question should be directed to the Department prior to the submittal of a proposal for the work under this Contract.
- ii. The work described in the Specifications is intended to be comprehensive and descriptive, not an exact and complete representation of the actual finished work. Installed work shall include all accessories required to provide complete and satisfactory systems as specified, even though some items may not be specifically mentioned in the Specifications.
- iii. It is the intent of the Department to obtain a complete functional, and satisfactory installation under this project, and any items of labor, equipment or materials which may be reasonably assumed as necessary to accomplish this end shall be supplied whether or not they are specifically stated herein. The Contractor shall provide all materials for the project unless they are specifically called out in these specifications as being supplied by the Department. The Contractor shall also supply all sheeting, shoring, bracing and all other labor, material or equipment required to preclude damage to, or loss of functionality of, any existing facility or system.

c. REASONABLY IMPLIED PARTS OF THE WORK SHALL BE DONE THOUGH ABSENT FROM SPECIFICATIONS

- i. Any part of the work which is not mentioned in the Specifications but which is necessary or normally required as a part of such work or is necessary or required to make each installation satisfactorily and legally operable, shall be performed by the Contractor as incidental work without extra cost to the Department, as if fully described in the, and the expense thereof shall be included in the applicable unit prices or lump sum bid for the work.

d. DESCRIPTION OF WORK

- i. The project consists of furnishing all materials, labor and equipment necessary to rehabilitate the oxygenation basin number 4 at the South District Wastewater Treatment Plant. The Work shall include high pressure washing, sandblasting, repairing and recoating columns, baffles, walls, floor and the top of the oxygenation basin (underside of the oxygenation basin roof slab). The scope requires the replacement of stainless steel column corner guards (as needed), repair of tank top deck (exterior of tank top – as needed), replacement of expansion joints (as needed), mixer support column repair (as needed), concrete underlayment and repair and coating of the exposed mixed liquor through. Bidder shall field-verify actual scope of work and amount of materials required to rehabilitate oxygenation before submitting bid. Work will include structural repairs and the application of protective coatings in a variety of settings. The project locations shall be the Miami-Dade Water and Sewer Departments South District Wastewater Treatment Plant.
- ii. There will usually be very limited access into the tanks, whether they are above ground or below and, as a result, the work will take place in areas defined by the Occupational Safety and Health Administration (OSHA) as a confined space. The dimensions of the tanks will vary depending on functions and locations, but typically horizontal dimensions exceed 80' and depths exceed 20'. Safety requirements are included in Section xiv of this specification.
- iii. The work will involve preparation of surfaces by pressure water blasting and sandblasting (if necessary), as required for each particular project and may also involve chemical disinfection. Structural concrete repairs (See Section 03732 Concrete Repair) by troweling, gunite or other specified method of epoxy or cementitious compounds are generally required, as applicable. A protective coating is then applied by either rolling or spraying. The protective coating will normally be a two-part,

- 100% solids, no-solvents, epoxy.
- iv. After completion of the work, the successful contractor shall thoroughly clean the inside of the tank and any surrounding affected areas of all grit, debris, and material residue, and properly dispose of such.
- v. Approved submitters shall be required to provide 24 hours, 7 days a week Emergency Service to WASD under any subsequently awarded spot market competitions. Emergency Service shall be defined as a non-warranty related repair service requirement and its response time shall not exceed twenty-four (24) hours after notification by WASD.
- vi. Surface preparation shall be done in accordance with the requirements of Section 03721.
- vii. Concrete patching and rebar repairs shall be completed per Sections 03200 and 03732.
- viii. Protective coatings shall be applied per Section 09881 or similar.

e. WORKING CONDITIONS

- i. On-site storage space is limited.
- ii. Sandblasting is required on new steel installed to prepare the surface area for the coating application.
- iii. Certification in the application of the coating material is required with the bid to ensure proper application and a timely repair. The Department needs to have the structure repaired, coated and back in service promptly to meet operational needs.
- iv. The time allowed between prime and top coats is a maximum of 30 days and a minimum of 24 hours. The time allowed between pressure cleaning and primer is 24 hours or less.
- v. Stripe coating is required at all corners and edges.
- vi. The allowable working hours are Monday through Friday between 7 am and 5 pm.
- vii. Electric power and water are available free of charge for small tools and lighting. Contractor shall provide portable power for the welding machines and dewatering pumps. The Contractor is required to use a floating water meter to measure the amount of water used. No charges will be made for the water used to perform the work.

viii. All unusable materials and spills shall be removed from the premises immediately and disposed of in an appropriate manner. Upon final completion, the awarded contractor shall thoroughly clean up all areas where work has been involved as mutually agreed with the WASD's project manager.

ix. COMPLETION OF WORK

1. All work shall be performed in accordance with good commercial practice. The work schedule and completion dates shall be adhered to by the successful bidder(s); except in such cases where the completion date will be delayed due to acts of nature, strikes, or other causes beyond the control of the contractor. In these cases, the successful contractor shall notify the County of the delays in advance of the original completion date so that a revised delivery schedule can be appropriately considered by the County.
2. Should an awarded contractor of a spot market solicitation fail to complete the work within the number of days as stated in its offer, or the timeframe cited in the spot market solicitation, the County may terminate the order, secure the services of another contractor to complete the work, and/or terminate the contract with the contractor.

x. LICENSES, PERMITS
AND RECORD KEEPING

1. The following is required in addition to the standard licenses, permits and fees requirements listed in section 1.14 of the general terms and conditions, the awarded contractor of a subsequent spot market solicitation shall provide the following:
2. Provide WASD one copy of all applications, permits, reports, records and correspondence, within 30 calendar days of submission or receipt.
3. Maintain a file of the above items and make this file available for inspection by the County and County authorized representatives.
4. Maintain this file for the duration of the contract, plus five (5) years.

xi. MANUFACTURER'S FIELD SERVICE
TECHNICIAN SERVICES

1. The Contractor shall obtain the services of the Coating Manufacturer's Field Service Technician upon request of the Department. The Coating Manufacturer's Field Service Technician shall provide inspection of surface preparation, coating application and final inspection upon request by the Department.

xii. PRICING

1. Contractor shall supply all labor, materials, equipment and any other incidental item necessary to complete the services specified in the spot market solicitation. The proposed price of the spot market solicitation shall provide full compensation to the contractor and shall include all elements of cost to perform and complete the work. No additional cost will be paid by the County.

xiii. PROTECTION OF PROPERTY

1. All existing structures, utilities, services, road, trees, shrubbery, etc., shall be protected against damage or interrupted services at all times by the contractor during the term of this contract; and the contractor shall be held responsible for repairing or replacing property to the satisfaction of the County which is damaged by reason of the contractor's operation on the property.

xiv. SAFETY

1. The contractor shall provide suitable explosion proof blowers, as necessary to make up for any lack of ventilation and to provide comfortable working conditions for its personnel. No smoking or open flame shall be permitted in any areas within a tank or on the roof of the tank or any adjacent tanks.
2. The contractor's personnel will be in the vicinity of raw sewage. The successful contractor shall check with the Miami Dade County Health Department, and based on their recommendation, have its personnel properly immunized against disease.
3. The contractor will be required to submit a safety manual outlining the work sequence for review and approval by WASD.

4. The contractor shall coordinate with the Construction Manager to arrange mandatory Project Safety Management (PSM) training for all his personnel who will be onsite. This training must be completed prior to mobilization or any other work on site. The successful contractor shall also be responsible that all on-site personnel of his subcontractors, at whatever tier, receive this training. Contact information for the Construction Manager will be provided upon award approval.
5. The contractor must submit and obtain approval for a confined space entry plan prior to starting work. Continuous air monitoring of the permit is required in a confined space work. The contractor shall conduct continuous air monitoring when employees are working in the confined space. The contractor shall also submit the Safety Data Sheets (SDS) for all chemicals, including coatings, that are brought onto the site and submit them as part of their report.
6. The contractor must use warning devices such as traffic cones, barricades and warning lights to warn plant personnel of any hazard, as considered necessary by the County.
7. Please refer to Section 01501A for additional safety requirements

xv. SUPERVISION

1. The contractor shall employ a competent superintendent who shall be in attendance at the project site during the progress of the work. The superintendent shall be the primary representative for the contractor and all communications given to and all decisions made by the superintendent shall be binding to the contractor. Notwithstanding, the superintendent shall be considered to be, at all times, an employee of the contractor under its sole direction and not an employee or agent of Miami-Dade County.

xvi. WARRANTY

1. The warranty period for the coating installation shall be a minimum of one year for defects in installation.

2. The warranty period for the protective coating manufacturer shall be a minimum one year for defects in material.

xvii. COMPLIANCE WITH GOVERNMENT STANDARDS

1. All services to be purchased under this pool shall be in accordance with all governmental standards, to include, but not limited to, those issued by the American National Standards Institute (ANSI), the American Society for Testing Materials (ASTM), the Environmental Protection Agency (EPA), The Instrument Society of America (ISA), the International Standards Organization (ISO), Occupational Safety and Health Administration (OSHA), the National Institute of Occupational Safety Hazards (NIOSH), the National Sanitation Foundation (NSF), and the National Fire Protection Association (NFPA). Special attention is made to OSHA's 29CFR 1910 regulations relating to hazardous atmospheres in confined spaces. Submitters will be responsible for ventilation and Personal Protection Equipment (PPE) per OSHA requirements.
2. It shall be the responsibility of all submitters to be regularly informed and to conform to any changes in standards issued by any regulatory agencies during the term of this pool.

xviii. MIAMI-DADE COUNTY RESPONSIBLE WAGE ORDINANCE

Submitters are advised that the provisions of Miami-Dade County Code Section 2.11.16 will apply to any spot market solicitation awarded pursuant to this pool that exceeds \$100,000. By submitting a response pursuant to these specifications, a submitter is hereby agreeing to comply with the provisions of Section 2.11.16, and to acknowledge awareness of the penalties for noncompliance. The supplemental general conditions and the Responsible Wages and Benefits Schedule can be found by accessing the following link: <http://www.miamidade.gov/internalservices/small-business.asp> (Heavy Construction). However, the spot market solicitation will include the applicable Responsible Wages and Benefits Schedule for the specific project. Submitter is advised that the Wages and Benefits Schedule will be reviewed and increased, if appropriate, once a year, on January 1st. The rates

for wages and benefits to be paid for work performed under this pool and during each subsequent calendar year will be the rate in effect on January 1st of the year in which the work is performed.

xix. INDEMNIFICATION AND INSURANCE

1. The standard insurance requirements listed herein shall apply:
2. Commercial General Liability Insurance on a comprehensive basis in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage. Miami-Dade County must be shown as an additional insured with respect to this coverage
3. Automobile Liability Insurance covering all owned, non-owned and hired vehicles used in connection with the work, in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.

2. PART 2 PRODUCTS AND TESTING

- a. Protective coatings furnished shall be a modified epoxy or higher level of coating. Calcium aluminates will not be allowed. The concrete repair and patching material, underlayment and primer used shall be of the same manufacturer and/or compatible with the applied coating.
- b. Products Furnished by the Contractor
 - i. The type of protective coating shall be determined based on the application required in the in future spot market competition. This shall be determined by specific factors such as application, abrasion, adhesion, structure to be coated, allowable shut down time of facility, NSF approval for contact with drinking water, compatibility with existing coating for spot repairs, level of hydrogen sulfide gas, chemical resistance, bond strength, humidity level in enclosed spaces and other factors.
 - ii. Severe Wastewater: ASTM- G210-13 Severe Wastewater Analysis Testing, ASTM D4227
 - iii. Qualification of Coating Applicators for Application of Coatings to Concrete Surfaces, ASTM D4228 Qualification of Coating Applicators for Application of Coatings to Steel Surfaces, ASTM D-4541 Test Method for Pull Strength of Coatings Using Portable Adhesion Testers.
 - iv. Abrasion Resistance: ASTM D4060 Test Method for Abrasion Resistance, Tensile Strength ASTM D-638,

- v. Compressive Strength ASTM D-695
- vi. Contact with Drinking Water: NSF 61 Approval required for products in contact with drinking water.

c. Patching Materials

- i. Concrete Patching Material: Sika 123, Epoxytec CPP, Underlayment F-120 (for Guniting) or approved equal.
- ii. Existing reinforcing steel that remains and is exposed shall be coated with 40 mils of Epoxytec A-1 Primecoat, Sikatop 108, Armatec, or 20 mils in two coats of Sika Armatec 110.

3. PART 3 EXECUTION

- a. NOT USED

END OF SECTION

SECTION 01011A

SITE CONDITIONS AND PROTECTION OF EXISTING FACILITIES

PART 1 -- GENERAL

1.1 SITE INVESTIGATION AND REPRESENTATION

- A. The CONTRACTOR acknowledges that he has satisfied himself as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation; disposal, handling and storage of materials; availability of labor, water, electric power, roads; disposal of water from construction; uncertainties of weather; the conformation and conditions at the ground; 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 this Contract.
- B. The CONTRACTOR further acknowledges that he has satisfied himself 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 Department or included with these Contract Documents. Any failure by the CONTRACTOR to acquaint himself with all the available information will not relieve him from responsibility for properly estimating the difficulty or cost thereof under this Contract.
- C. The CONTRACTOR acknowledges that by personal field observation or other means satisfactory to himself, performed prior to the bid, he has included in the bid prices all costs for dealing with all construction problems created by observable above or on grade features on or adjacent to the site of the work whether or not these features are shown on the Plans or described in the Specifications. In instances where the observable features indicate subsurface conditions which may affect the Project work, as for example, a pavement patch or catch basin gratings indicating respectively a utility or storm sewer not shown on the Plans, the CONTRACTOR acknowledges that he has made timely, diligent, inquiry to the ENGINEER or by other means fully satisfied himself prior to the bid as to the nature of, and costs created by, the subsurface condition and included all costs therefore in the bid prices.

1.2 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

- A. Where the CONTRACTOR'S operation could cause damage or inconvenience to telephone, fiber optic, electrical power, oil, gas, water, sewer, irrigation system, or any other utility, the CONTRACTOR shall make all arrangements necessary for the protection of these utilities and services.
- B. Notify all utility companies that are affected by the construction operation at least 48 hours in advance. Under no circumstance expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities and utility poles where necessary. Absolutely no extra compensation will be allowed for construction problems created by utility poles of whatever size, overhead electric, telephone or other lines, whether shown on the Plans or not. The CONTRACTOR is solely responsible for discerning such items in the field prior to bidding and including all costs for such work in the bid prices.

- C. The CONTRACTOR and his/her subcontractors shall be solely and directly responsible to the owners and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage, which may result from the construction operations under this Contract.
- D. Replace, with material approved by the ENGINEER, at CONTRACTOR'S expense, any and all other laterals, existing utilities or structures removed or damaged during construction, unless otherwise provided for in these Contract Documents and as approved by the ENGINEER.

1.3 LAWN AREAS

- A. Lawn or landscaped areas damaged during construction shall be repaired to match the pre-construction condition to the satisfaction of the Miami Dade Water and Sewer Department (OWNER).

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01015A
INDEX OF DRAWINGS

PART 1 -- GENERAL

1.1 CONTRACT DRAWINGS

- A. Plans labeled **ISSUED FOR BID OCTOBER 2018**, and any subsequent revision thereto introduced by Addenda prior to Bid, showing the work of the Contract are hereby made a part of the Contract Documents and are listed as follows:

SDWWTP Oxygenation Basin No. 4 Rehabilitation – Consent Decree 1.03(1)

CONTRACT No. ERS049287

STRUCTURAL

S-7 Oxygenation Tank Operating Deck Framing
S-8 Oxygenation Tank Section Details
S-9 Oxygenation Tank Section Details
WASD Repair Concrete Details from 1 to 5

- B. Due to the possibility of typing errors or omissions, the above list shall not be considered as necessarily complete, nor shall the Standard Details which may be included elsewhere herein be considered as forming a complete listing of all Standard Details which may apply to this Project. Perform all work shown on all sheets of the Plans, as specified herein or necessary for a complete functional installation and no extra compensation will be made due to the omission or incorrect listing of a Drawing in this Section. The CONTRACTOR shall field investigate and verify as necessary for this work prior the construction.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01090A

REFERENCE STANDARDS

PART 1 GENERAL

1.1 THE SUMMARY

- A. Comply with the requirements of standard with date as specified herein. Standards without dates shall be understood as the Standard current at the time of bid. In case of conflict between the referenced standards, the one having the more stringent requirements shall govern.
- B. In case of conflict between the referenced standards and the Project Documents, the Project Documents shall govern.
- C. When no reference is made to a code, standard, or specification, the standard specifications of the ASTM, the ANSI, the ASME, the IEEE, or the NEMA shall govern.

1.2 ABBREVIATIONS

AA:	Aluminum Association.
AAMA:	Architectural Aluminum Manufacturer's Association.
AASHTO:	American Association of State Highway & Transportation Officials.
ACI:	American Concrete Institute.
AGA:	American Gas Association.
AGMA:	American Gear Manufacturer's Association.
AIEE:	American Institute of Electrical Engineers (Now IEEE).
AISC:	American Institute of Steel Construction.
AISI:	American Iron and Steel Institute.
ANSI:	American National Standards Institute.
API:	American Petroleum Institute.
ASCE:	American Society of Civil Engineers.
ASME:	American Society of Mechanical Engineers.
ASTM:	American Society for Testing and Materials.
AWPA:	American Wood Preservers Association.
AWS:	American Welding Society.
AWWA:	American Water Works Association.
DOT or FDOT	Florida Department of Transportation.
CIPRA:	Cast Iron Pipe Research Association.
DIPRA:	Ductile Iron Pipe Research Association.
EPA:	Environmental Protection Agency (U.S.).
FED. SPEC.:	Federal Specification.
FBC:	Florida Building Code.
IEEE:	Institute of Electrical and Electronic Engineers.
NBS:	National Bureau of Standards.
NCPI:	National Clay Pipe Institute.

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NEC:	National Electrical Code.
NEMA:	National Electrical Manufacturer's Association.
NESC:	National Electric Safety Code.
NEWWA:	New England Water Works Organization.
NFPA:	National Fire Protection Association.
NLMA:	National Lumber Manufacturers Association.
NSF:	National Sanitation Foundation.
OSHA:	U.S. Department of Labor, Occupational Safety and Health Association.
SAE:	Society of Automotive Engineers.
SHBI:	Steel Heating Boiler Institute.
SSPC:	Steel Structures Painting Council.
ISA:	Instrument Society of America.
TCA:	Tile Council of America.
UL:	Underwriter's Laboratories, Inc.

- A. The above list shall not be considered complete, as there are other "Standards" used; however, in most cases complete titles have been given.
- B. Wherever "Standards" are indicated herein for reference, the referenced portion shall have the same force and effect as if it were included herein in its entirety, latest revision if date of publication not shown.
- C. When used within these specification: "Owner or Department" shall mean the Miami-Dade Water and Sewer Department; "Director" shall mean the Director of the Miami-Dade Water and Sewer Department; and "Engineer" shall mean the Chief, Engineering Division of the Miami-Dade Water and Sewer Department, or an authorized representative.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01120A

SEQUENCE OF CONSTRUCTION

PART 1 GENERAL

1.1 THE SUMMARY

- A. Before commencement of any work, in compliance with the requirements of Section 01150A - Project Schedules, Meetings, and Reports, submit to the ENGINEER for approval a detailed sequence of construction, clearly showing the interrelationship and the interdependency of work activities with one another.
- B. Coordinate sequence of construction with progress schedule to ensure timely performance of the work and project completion within the specified construction time.

1.2 GENERAL NOTES

- A. CONTRACTORS working at the Waste Water Treatment Plants are required to pass a background check and obtain a WASD ID Badge (See Appendix C). Subcontractors who work for more than 5 days within a 90-day period are also required to obtain the security background check and identification. The CONTRACTOR's personnel shall obtain all background checks and ID Badges prior to the issuance of the Notice to Proceed.
- B. Following receipt of Notice to proceed with the work, the CONTRACTOR shall notify the ENGINEER at least five (5) days before he is ready to start actual construction, to allow the Department time to make arrangements for inspection of the work.
- C. The CONTRACTOR's equipment must be in first class operating condition. All equipment must be properly lubricated on a special maintenance type schedule to reduce noise, including tracks, rollers, idlers, sheaves and other noise producing components. Care must be taken to prevent oil spillage of any kind or oil dripping from equipment. The CONTRACTOR shall provide a temporary electric service for his electric equipment as specified herein below, and shall pay all cost thereof, including all charges for electricity used during the entire course of the Project until its acceptance by the Department.
- D. If the equipment used proves less than satisfactory and is unduly or needlessly disturbing the plant operations and staff, in the opinion of the ENGINEER, he will have the right to order the CONTRACTOR to immediately modify the equipment to make it satisfactory, or to change to other equipment that is satisfactory at no additional cost to the Department.
- E. All items shall be performed by the CONTRACTOR with special emphasis on the fact that numerous standard and miscellaneous construction phases are not mentioned specifically but shall be performed by the CONTRACTOR as required for a completed Project.

1.3 SEQUENCE OF CONSTRUCTION

- A. The proposed general sequence of construction (progression) is provided below. Calendar day completion dates for each Milestone are provided and coordinated with the Consent Decree Construction Milestone Dates provided in Section 01010A – Summary of Work. The CONTRACTOR shall be responsible for developing a detailed sequence of construction and schedule for review and approval by the ENGINEER before any work is started. The Department reserves the right to make changes to the sequence as necessary to facilitate the work or minimize any conflict with operations.

Sequence of Construction:

MILESTONE 1

1. Mobilize to site and set up CONTRACTOR's and Department's field offices and temporary utilities.
2. The proposed construction sequence for the Improvements to the Oxygenation Basin 4 facilities shall be as follows:
 - i. Mobilization, Tank Dewatering and Mixer Removal
 - ii. Pressure Washing
 - iii. Inspections
 - iv. Sand Blasting (if applicable)
 - v. Concrete Repair Activities
 - vi. Corner Guard Installation
 - vii. Primer application
 - viii. Epoxy Coating
 - ix. Epoxy Curing
 - x. Punch List
 - xi. Final Inspection
 - xii. Mixer Installation
 - xiii. Submit final As-built drawings
 - xiv. Final cleanup

xv. Final Completion and project closeout.

- B. In performing the work in the above described sequence, all requirements of the specifications shall be strictly followed, particularly those pertaining to tests and cleanup as the work progresses.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01150A

PROJECT SCHEDULES, MEETINGS AND REPORTS

PART 1 GENERAL

1.1 THE SUMMARY

- A. The CONTRACTOR shall schedule the Work in accordance with the requirements set forth in the Contract. The CONTRACTOR shall have discretion in scheduling the Work. The Project Manager, in his/her sole discretion, may require that a detailed schedule be submitted for review and acceptance. **Such schedule shall be submitted to the Project Manager no later than ten (10) calendar days after the issuance of the Purchase Order.** The County reserves the right to require such information from the Contractor as may be necessary to determine the accuracy of the progress schedule. Where the Project Manager requires such schedules, the CONTRACTOR shall create the schedule utilizing **Microsoft Project or compatible software.** The Project Manager shall be furnished with copies of the schedules as often as deemed necessary by the Project Manager in both paper and disk formats. The Project Manager's basis for not accepting any schedule shall be limited to a determination that the Work sequence lacks logic, is unreasonable, is incomplete or is inconsistent with any other contractual requirements, such as a phasing plan or time for completion.
- B. This schedule shall be updated prior to the CONTRACTOR submitting his request for payment, showing actual progress versus scheduled. The Project Manager and the CONTRACTOR will review this update to analyze the project progress and allocate responsibility if the project is behind schedule. Should the CONTRACTOR fail to update and submit the schedule, as required, he/she shall not be entitled to any delay claims for that period and the request for payment may be delayed pending satisfaction of this requirement.
- C. With respect to any submission by the CONTRACTOR under this paragraph, no review, acceptance or approval by the Project Manager shall release or relieve the CONTRACTOR from its obligation to fully and properly complete the Project, or any other duty, responsibility or liability imposed on it under the Contract, including, but not limited to the obligation to complete the Work within the time set forth in the applicable Contract.
- D. Receipt by the Project Manager of an updated or revised schedule shall not be construed to mean that the Project Manager agrees that the progress of the Work is as shown or indicated therein or that the updated or revised schedule is acceptable to the Project Manager.

Any reference in this section to the CONTRACTOR shall be deemed to include suppliers, and permitted SUBCONTRACTORS, whether or not in privates of contract with the CONTRACTOR for the purpose of this section.

- E. The CONTRACOR's schedule shall include sufficient "weather days" within the construction schedule to allow for normal weather delays expected in South Florida during each month of the construction period, and for which the CONTRACTOR will not be entitled to an extension of time. This can be achieved by including additional duration for weather days in the individual activities, or through a single "Weather Day" activity at the end of the construction schedule's critical path.

A "weather day" is defined as a normal work day during which the CONTRACTOR was unable to perform work for a continuous period of four (4) hours during the day. The CONTRACTOR must submit a record of each rain delay within three (3) days of the event.

- F. The request for a schedule time extension shall be made within ten (10) calendar days after the time when the CONTRACTOR knows or should have known of any cause for which it may claim an extension of time and shall provide any actual or potential basis for an extension of time, identifying such causes and describing, as fully as practicable at that time, the nature and expected duration of the delay and its effect on the completion of that part of the Work identified in the request. The Project Manager may require the CONTRACTOR to furnish such additional information or documentation, as the Project Manager shall reasonably deem necessary or helpful in considering the requested extension.
- G. The CONTRACTOR shall not be entitled to an extension of time unless the CONTRACTOR affirmatively demonstrates that it is entitled to such extension.
- H. The Project Manager shall endeavor to review and respond to the CONTRACTOR'S request for a schedule time extension in a reasonable period of time; however, the CONTRACTOR shall be obligated to continue to perform the Work required regardless of whether the Project Manager has issued a decision or whether the CONTRACTOR agrees or disagrees with that decision.
- I. If the CONTRACTOR is delayed at any time during the progress of the Work beyond the Completion Date set forth in the Contract by the neglect or failure of the County or by a Force Majeure, then the Completion Date set forth in the RPQ and/or Notice of Award shall be extended by the County subject to the following conditions:
1. The cause of the delay arises after issuance of the Contract and could not have been anticipated by the CONTRACTOR by reasonable investigation before proceeding with the Work;
 2. The CONTRACTOR demonstrates that the completion of the Work will be actually and necessarily delayed;
 3. The effect of such cause cannot be avoided or mitigated by the exercise of all reasonable precautions, efforts and measures whether before or after the occurrence of the cause of delay.

PRE-CONSTRUCTION MEETING

- A. The Project Manager may require the CONTRACTOR and the CONTRACTOR'S subcontractor(s) to attend a meeting to review the scope of work, the method of performance, and any other issues related to the site.
- B. The Project Manager will record significant issues discussed at the meeting and record agreements and disagreements, along with the final plan of action, and distribute a record of the meeting to all parties in attendance.

PROGRESS MEETINGS

- A. When necessary, progress meetings will be held by the Project Manager. Present at these meetings shall be the CONTRACTOR, the Project Manager, the Department's Representative, if applicable, and invitees associated with the Project, as identified by the Project Manager.
- B. The CONTRACTOR shall arrange for the participation of its subcontractors and/or vendors when the Project Manager requires their presence.
- C. The Project Manager shall maintain minutes of the meeting and distribute copies of the minutes to all parties in attendance.

END OF SECTION

SECTION 01340A

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 -- GENERAL

1.1 DESCRIPTION OF WORK

- A. Submit to the ENGINEER for review and approval, such shop drawings, test reports and data on materials, equipment, and material samples as are required for the proper control of work, and as specified in the Specification sections. Shop drawings shall be submitted for all materials and equipment to be furnished and in accordance with the requirements of Section 9 of the General Covenants and Conditions.
- B. Submit to the ENGINEER a complete list of preliminary data on items for which shop drawings are to be submitted as required by Section 01150A - PROJECT SCHEDULES, MEETINGS, AND REPORTS. Included in this list shall be the names of all proposed manufacturers furnishing specified items. Review of this list by the ENGINEER shall in no way expressed or implied relieve the CONTRACTOR from submitting complete shop drawings and providing materials, equipment, etc., fully in accordance with the Specifications. This procedure is required in order to expedite final review of shop drawings.
- C. Maintain an accurate updated shop drawing submittal log which shall include the following items:
 - 1. Submittal-Description and Number assigned.
 - 2. Specification Section.
 - 3. Drawings Sheet Number.
 - 4. Date to Engineer.
 - 5. Date returned to CONTRACTOR (from ENGINEER).
 - 6. Status of Submittal (Approved, Approved as Noted, Rejected/Resubmit).
 - 7. Date of Resubmittal and Return (as applicable).
 - 8. Date material release (for fabrication).
 - 9. Projected date of fabrication.
 - 10. Projected date of delivery to site.
 - 11. Status of O&M manuals submittal.

1.2 CONTRACTOR'S RESPONSIBILITY

- A. The CONTRACTOR shall submit shop drawings to the ENGINEER for approval in accordance with the requirements of "Shop Drawings" of the Special Conditions with the exception that no less than seven (7) hard copies and one (1) electronic PDF copy shall be submitted. The ENGINEER will retain five (5) sets and two (2) will be returned to the CONTRACTOR.
- B. Shop drawings shall be submitted for all materials and equipment to be furnished, in addition, the submission shall include the motor efficiency, and motor torque speed curves from zero to full load speed for motors over 10 hp.
- C. Shop drawings shall be submitted prior to any project construction activity. In a timely fashion, well before the contemplated ordering for fabrication of special order or long lead time items or construction use of any standard element of the work, the CONTRACTOR shall furnish shop drawings for the review and approval of the Department.
- D. Furnish the ENGINEER with a schedule of shop drawings submittals fixing the respective dates for the submission of shop drawings, the beginning of manufacture, testing and installation of materials, supplies and equipment. This schedule shall indicate those that are critical to the progress schedule.
- E. Submit to the ENGINEER all drawings and schedules sufficiently in advance of construction requirements to provide maximum time for checking and appropriate action from the time the ENGINEER receives them.
- F. Prior to submission, the CONTRACTOR shall thoroughly check such drawings, satisfying himself that they meet the requirements of the Contract Documents and that they are coordinated with the arrangements set forth on other shop drawings, and shall place on them the project's name, ER number, address, the date and his stamp of approval. Where items for which shop drawings are submitted are to meet special conditions listed in the detailed Specifications, the conditions shall be so noted on the drawing. Where there is a deviation from the Specifications, the CONTRACTOR shall note it and state the reason why a deviation is required.
- G. Each and every copy of the Drawings and data shall bear CONTRACTOR's stamp showing that they have been so checked and approved. Shop drawings shall indicate any deviations in the submittal from requirements of the Contract Documents and the CONTRACTOR shall state the reason why a deviation is required, and the deviation noted on the transmittal sheet. If the CONTRACTOR fails to notify the ENGINEER of a deviation and that deviation mistakenly gets approved by the ENGINEER, the CONTRACTOR shall be required to provide the contract specified material and/or equipment to the satisfaction of the ENGINEER.
- H. Furnish a Certificate of Unit Responsibility, as specified in equipment specification section. Form is attached to this Section.
- I. Shop drawings submitted without the required approval as specified above shall be returned without review and no extension of time will be granted for any delays caused by such improper submission.

- J. All submittals shall be accompanied by a transmittal letter prepared in duplicate containing the following information:
1. Date.
 2. Project Title and Number.
 3. CONTRACTOR's name and address.
 4. The number of each shop drawings, data, and sample submitted.
 5. Notification of deviations from Contract Documents.
 6. Submittal Log Number conforming to and referring to Specification Section Numbers.
 7. Certification the submittal conforms to the specifications or contains deviations to the specifications.
- K. Any delays or costs caused, either directly or indirectly, by non-timely submissions; submission of items differing significantly from the intent of the Plans and/or Specifications; repeated submission of or argument over, rejected elements or changes required for acceptance; arguments with the criteria or requirements of the Plans or Specifications; or any other such similar activities shall be at the sole expense of the CONTRACTOR.
- L. For major equipment submittals, as defined by the ENGINEER, the CONTRACTOR shall include in the submittal a copy of the specification with each and every paragraph initialed by the CONTRACTOR indicating compliance, or indicating a deviation is requested followed by a request for deviation listing/form.
- M. Design calculations, drawings, and materials specifications shall be supplied as specified herein and by the individual specification sections.
- N. After receiving approval of the shop drawings by the ENGINEER, the CONTRACTOR shall be responsible for submitting to the City of Miami Building Department and the Miami-Dade Department of Regulatory and Economic Resources shop drawings of all pre-manufactured items and all other shop drawings as required and obtain their approval prior to the manufacturing or installation of the submitted items. The successful bidder shall also be responsible for contesting any interpretations by the City of Miami Building Department and the Miami-Dade Department of Regulatory and Economic Resources that the Miami-Dade Water and Sewer Department considers non-acceptable. The CONTRACTOR shall include in the price bid, all costs for permits, fees and expenses associated with the submittals, including resubmittals (if any) of such shop drawings to the City of Miami Building Department and the Miami-Dade Department of Regulatory and Economic Resources.
- O. Do not begin any of the work covered by a drawing, data, or a sample returned as "AMEND-RESUBMIT" or "REJECTED-RESUBMIT" until a revision or correction thereof has been reviewed and returned to him, by the ENGINEER, with approval as "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED". Be responsible for and

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bear all costs of damages which may result from the ordering of any material or from proceeding with any part of work prior to receiving ENGINEER's approval or approval "As Noted" of the necessary shop drawings.

- P. Shop drawings shall be of such character that they may be used as fabrication drawings. Prior to submission, the CONTRACTOR shall thoroughly check such drawings, satisfying himself that they meet the requirements of the Plans and Specifications and that they are coordinated with the arrangements set forth on other shop drawings, and shall place on them the Contract Number, the date and his stamp of approval. Two (2) copies will be returned to the CONTRACTOR with the ENGINEER's mark of approval thereon, or will be marked to indicate changes necessary to effect compliance with the Specifications and the remaining copies will be retained by the Department. When drawings are approved by the ENGINEER, they shall be as binding as any of the Contract Documents. Any errors or omissions on the shop drawings shall not relieve the CONTRACTOR of his responsibility. He shall correct such errors, or omissions, including any necessary additions or alterations to construction, at his expense upon notification by the ENGINEER.
- Q. Be fully responsible for observing the need for and for making any changes in the arrangement of piping, connections, wiring, manner of installation, etc., which may be required by the materials/equipment he proposes to supply, both as they pertain to his own work, work of others, or of other Divisions herein or Trades and clearly show such changes on the shop drawings. All changes shall be clearly called out.
- R. Determine and verify:
1. Field measurements.
 2. Field construction criteria.
 3. Catalog numbers and similar data.
 4. Conformance with Specifications.
 5. Installation and Maintenance clearances.

1.3 ENGINEER'S REVIEW OF SHOP DRAWINGS

- A. Except as otherwise indicated, the ENGINEER will return prints of each submittal to the CONTRACTOR with comments noted thereon, within 20 Days following receipt by the ENGINEER.
- B. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the first resubmittal on an item.
- C. The Department reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the ENGINEER's review beyond the first resubmittal.

- D. The ENGINEER'S maximum review period for each submittal or resubmittal will be 20 Days; thus, for a submittal that requires 2 resubmittals before it is complete, the maximum review period could be 60 Days.
- E. If a submittal is returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN," formal revision and resubmission will not be required.
- F. If a submittal is returned marked "MAKE CORRECTIONS NOTED," the CONTRACTOR shall make the corrections on the submittal, but formal revision and resubmission will not be required. If the CONTRACTOR does not agree to abide in full with the corrections, the CONTRACTOR must notify the ENGINEER within in 5 days and the status will be revised to "AMEND-RESUBMIT".
- G. Resubmittals
1. If a submittal is returned marked "AMEND-RESUBMIT," the CONTRACTOR shall revise the submittal and resubmit the required number of copies.
 2. Resubmittal of portions of multi-page or multi-drawing submittals will not be accepted: For example, if a Shop Drawing submittal consisting of 10 drawings contains one drawing noted as "AMEND-RESUBMIT," the submittal as a whole is deemed "AMEND-RESUBMIT," and 10 drawings are required to be resubmitted.
 3. Every change from a submittal to a resubmittal or from a resubmittal to a subsequent resubmittal shall be identified and flagged on the resubmittal. Submittal review comments shall be addressed as numbered in the review comments and all review comments addressed.
- H. Rejected Submittals
1. If a submittal is returned marked "REJECTED-RESUBMIT," it shall mean either that the proposed material or product does not satisfy the specification, the submittal is so incomplete that it cannot be reviewed, or is a substitution request not submitted in accordance with the requirements of this section.
 2. In the first 2 cases, the CONTRACTOR shall prepare a new submittal and shall submit the required number of copies.
 3. In the latter case, the CONTRACTOR shall submit the substitution request according to the requirements of this section.
 4. The resubmittal of rejected portions of a previous submittal will not be accepted.
- I. The fabrication of an item may commence only after the ENGINEER has reviewed the pertinent submittals and returned copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED."
- J. Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as changes to the contract requirements.

- K. The CONTRACTOR shall be responsible for confirming and correlating quantities and dimensions, fabrication processes and techniques, coordinating WORK with the trades, and satisfactory and safe performance of the WORK.
- L. Conformance
1. Corrections or comments made on the CONTRACTOR's Shop Drawings during review shall not relieve the CONTRACTOR from compliance with Contract Drawings and Specifications.
 2. Review is for conformance to the design concept and general compliance with the Contract Documents only.
 3. The ENGINEER's review will not constitute an approval of dimensions, quantities, and details of the material, equipment, device, or item shown. The review of drawings and schedules will be general, and shall not be construed:
 - a. As permitting any departure from the Contract requirements;
 - b. As relieving the CONTRACTOR of responsibility for any errors, including details, dimensions, and materials;
 - c. As approving departures from details furnished by the ENGINEER, except as otherwise provided herein.
 4. The CONTRACTOR shall be responsible for confirming and correlating quantities and dimensions, fabrication processes and techniques, coordinating WORK with the trades, and satisfactory and safe performance of the WORK.
- M. Variations:
1. If the drawings or schedules as submitted describe variations and show a departure from the Contract requirements which ENGINEER finds to be in the interest of the Department and to be so minor as not to involve a change in Contract Price or time for performance, the ENGINEER may return the reviewed drawings without noting an exception.
 2. If the drawings or schedules, as submitted, describe variations and show a departure from the Contract requirements which the ENGINEER finds to be minor enough to be corrected by redlining the submittal, he shall do so and return the submittal marked "approved as noted." The redlined corrections shall be as binding on the CONTRACTOR as would be a resubmission embodying the same corrections.
- N. Resubmittals will be handled in the same manner as first submittals. On resubmittals the CONTRACTOR shall direct specific attention, in writing or on resubmitted shop drawings, to revisions other than the corrections requested by the ENGINEER on previous submissions. The CONTRACTOR shall make any corrections required by the ENGINEER.

- O. If the CONTRACTOR considers any correction indicated on the shop drawings to constitute a change to the Contract Drawings or Specifications, the CONTRACTOR shall give written notice thereof to the ENGINEER.
- P. When the shop drawings have been approved by the ENGINEER, the CONTRACTOR shall carry out the construction in accordance therewith and shall make no further changes therein except upon written instructions from the ENGINEER.
- Q. No partial submittals will be reviewed. Submittals not complete will be returned to the CONTRACTOR for resubmittal. Unless otherwise specifically permitted by the ENGINEER, all submittals shall be made in groups containing all associated items for systems, processes or as indicated in specific specifications sections. All drawings, schematics, manufacturer's product data, certifications and other shop drawing submittals required by a system specification shall be submitted at one time as a package to facilitate interface checking.
- R. The approval of shop drawings and data will be general, and shall mean that upon examination of the drawings, no variations from the Contract requirements have been discovered, and approval will not relieve the CONTRACTOR of his responsibilities as defined under the Contract. The Department's review will not constitute an approval of dimensions, quantities and details of the material, equipment, device or item shown.

1.4 SHOP DRAWINGS

- A. When used in the Contract Documents, the term "shop drawings" shall be considered to mean CONTRACTOR's plans for materials and equipment which become an integral part of the Project. These drawings shall be complete and detailed. Shop drawings shall consist of fabrication, erection and setting drawings and schedule drawings, manufacturer's scale drawings, and wiring and control diagrams. Cuts, catalogs, pamphlets, descriptive literature, and performance and test data, shall be considered only as supportive to required shop drawings as defined above.
- B. Manufacturer's catalog sheets, brochures, diagrams, illustrations and other standard descriptive data shall be clearly marked to identify pertinent materials, product or models. Delete information which is not applicable to the Work by striking or cross-hatching.
- C. Each shop drawing shall have a blank area 3-1/2 inches by 3-1/2 inches, located adjacent to the title block. The title block shall display the following:
 - 1. Project Title and Number.
 - 2. Name of project building or structure.
 - 3. Number and title of the shop drawing.
 - 4. Date of shop drawing or revision.
 - 5. Name of CONTRACTOR and subcontractor submitting drawing.
 - 6. Supplier/manufacturer.

7. Separate detailer when pertinent.
 8. Specification title and number.
 9. Specification section.
 10. Application Contract Drawing Number.
- D. If drawings show variations from Contract requirements because of standard shop practice or for other reasons, describe such variations in the letter of transmittal. If the CONTRACTOR fails to describe such variations, he shall not be relieved of the responsibility for executing the work in accordance with the Contract, even though such drawings have been reviewed and approved.
- E. For all mechanical and electrical equipment furnished, provide a list including the equipment name, address of and telephone number of the manufacturer's representative and service company so that service and/or spare parts can be readily obtained.
- F. All manufacturers or equipment suppliers who propose to furnish equipment or products shall submit an installation list to the ENGINEER along with the required shop drawings. The installation list shall include at least five installations where identical equipment has been installed and has been in operation for a period of at least five years, unless otherwise specified. Manufacturers and/or equipment which fails to meet the specified experience period will be considered if the manufacturer or supplier provides a bond or cash deposit which will guarantee replacement of the equipment or process in the event of failure or unsatisfactory service.
- G. Only the ENGINEER will utilize the color "red" in marking shop drawing submittals.

1.5 REQUIRED INFORMATION

A. Transmittal Form

1. Shop Drawing submittals shall be accompanied by the ENGINEER's standard submittal transmittal form, a reproducible copy of which is available from the ENGINEER.
2. A submittal without the form, or where applicable items on the form have not been completed, will be returned for resubmittal.

B. Organization

1. Use a single submittal transmittal form for each technical specification Section or item or class of material or equipment for which a submittal is required.
2. A single submittal covering multiple Sections will not be accepted, unless the primary specification references other Sections for components: For example, if a pump Section references other Sections for the motor, shop-applied protective coating, anchor bolts, local control panel, and variable frequency drive, a single submittal

would be accepted, whereas a single submittal covering vertical turbine pumps and horizontal split-case pumps would not be accepted.

3. On the transmittal form, index the components of the submittal and insert tabs in the submittal to match the components.
4. Relate the submittal components to specification paragraph and subparagraph, Drawing number, detail number, schedule title, room number, or building name, as applicable.
5. Unless otherwise indicated, match terminology and equipment names and numbers used in the submittals with those used in the Contract Documents.

C. Format

1. Minimum sheet size shall be 8-1/2 inches by 11 inches, and maximum sheet size shall be 24 inches by 36 inches.
2. Number every page in a submittal in sequence.
3. Collate and staple or bind, as appropriate, each copy of a submittal; the ENGINEER will not collate sheets or copies.
4. Where product data from a manufacturer is submitted, clearly mark which model is proposed, with complete pertinent data capacities, dimensions, clearances, diagrams, controls, connections, anchorage, and supports.
5. Present a sufficient level of detail for assessment of compliance with the Contract Documents.
6. Numbering
 - a. Assign to each submittal a unique number.
 - b. Number the submittals sequentially, with the submittal numbers clearly noted on the transmittal.
 - c. Assign original submittals a numeric submittal number followed by a decimal point and a numeric digit in order to distinguish between the original submittal and each resubmittal: For example, if submittal "25.1" requires a resubmittal, the first resubmittal will bear the designation "25.2" and the second resubmittal will bear the designation "25.3," and so on.

D. Disorganized submittals that do not meet the requirements of the Contract Documents will be returned without review.

E. Submit, as applicable, the following for all prefabricated or manufactured structural, mechanical, electrical, plumbing, process system, and equipment:

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1. Shop drawings or equipment drawings, including dimensions, size and location of connections to other work, and weight of equipment.
2. Catalog information and cuts.
3. Installation or placing drawings for equipment, drives, and bases.
4. Supporting calculations, signed and sealed by a Florida Registered Engineer when required, for equipment and associated supports, or hangers required or specified to be designed by equipment manufacturers.
5. Signed and sealed calculations and drawings by in-house Florida Registered Professional Engineer for structural systems, indicating compliance to the structural design criteria specified in the Drawings.
6. Complete manufacturer's specifications, including materials description and paint system.
7. Performance data and pump curves.
8. Suggested spare parts with current price information.
9. List of special tools required for testing, checking, parts replacement, and maintenance. (Special tools are those which have been specially designed or adapted for use on parts of the equipment, and are not customarily and routinely carried by maintenance mechanics).
10. List of special tools furnished with the equipment.
11. List of materials and supplies required for the equipment prior to, and during startup.
12. List of materials or supplies furnished with the equipment.
13. Special handling instructions.
14. Requirements for storage and protection prior to installation.
15. Requirements for routine maintenance required prior to equipment startup.
16. List of all requested exceptions to the Contract Documents.

1.6 SAMPLES

- A. Furnish, for the approval of the ENGINEER, samples required by the Specifications or requested by the ENGINEER. Samples shall be delivered to the ENGINEER as specified or directed. The CONTRACTOR shall prepay all shipping charges on samples. Materials or equipment for which samples are required shall not be used in work until approved by the ENGINEER.

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B. Quantity

1. The CONTRACTOR shall submit the number of samples indicated by the Specifications.
2. If the number is not indicated, submit not less than 3 samples.
3. Where the quantity of each sample is not indicated, submit such quantity as necessary for proper examination and testing by the methods indicated.

C. Identification and Distribution

1. Individually and indelibly label or tag each sample, indicating the salient physical characteristics and the manufacturer's name.
2. Each sample shall have a label indicating:
 - a. Name of Project.
 - b. Material or Equipment Represented.
 - c. Name of Producer and Brand (if any).
 - d. Location in Project
3. Upon acceptance by the ENGINEER, one set of the samples will be stamped and dated by the ENGINEER and returned to the CONTRACTOR, one set of samples will be retained by the ENGINEER, and one set shall remain at the Site in the ENGINEER's field office until completion of the WORK.

D. Samples shall be of sufficient size and quantity to clearly illustrate:

1. Functional characteristics of the product, with integrally related parts and attachment devices.
2. Full range of color, texture and pattern.
3. A minimum of two samples of each item shall be submitted.

E. The CONTRACTOR shall schedule sample submittals such that:

1. Sample submittals for color and texture selection are complete so the ENGINEER has 45 Days to assemble color panels and select color- and texture-dependent products and materials without delay to the construction schedule; and,
2. After the ENGINEER selects colors and textures, the CONTRACTOR has sufficient time to provide the products or materials without delay to the construction schedule.

3. The Contract Times will not be extended for the CONTRACTOR's failure to allow enough review and approval or selection time, failure to submit complete samples requiring color or texture selection, or failure to submit complete or approvable samples.

F. Selection

1. Unless otherwise indicated, the ENGINEER will select colors and textures from the manufacturer's standard colors and standard materials, products, or equipment lines.
2. If certain samples represent non-standard colors, materials, products, or equipment lines that will require an increase in Contract Times or Price, the CONTRACTOR shall clearly state so on the transmittal page of the submittal.

- G. Approval of a sample shall be only for the characteristics or use named in such approval and shall not be construed to change or modify any Contract requirements.

- 1.7 Approved samples of the hardware in good condition will be marked for identification and may be used in the work. Materials and equipment incorporated in work shall match the approved samples. Samples which failed testing or were not approved will be returned to the CONTRACTOR at his expense, if so requested at time of submission

1.8 MANUFACTURER'S EXPERIENCE RECORD

- A. When a manufacturer's experience record is required by these specifications, the following may be provided in lieu of the specified record:

1. Manufacturers and/or equipment which does not meet the specified experience period will be considered if the manufacturer or supplier provides a bond or cash deposit valid for five years less his years of experience, which will guarantee replacement of the equipment or process in the event of failure or unsatisfactory performance or service

1.9 SUBMITTAL REQUIRED FOR FOREIGN MANUFACTURED ITEMS

- A. In addition to the submittal requirements stated above, suppliers of foreign manufactured items shall submit the names and addresses of companies within the United States that maintain technical service representatives and a complete inventory of spare parts and accessories for each foreign-made item proposed for incorporation into the Work. Failure to prove the foregoing capabilities shall be cause for rejection of the foreign manufactured items.
- B. Foreign manufactured equipment and materials shall in all cases be clearly and permanently marked with the manufacturer's name and country of origin of the item. The name of the U.S. importing/supplying firm is not acceptable. Shop drawing submittals of said foreign made items shall be accompanied by written information to include name and location (i.e. country, city, and street address) of the manufacturer. This requirement shall also apply to the foreign made elements of items assembled in this country from parts wholly or partially manufactured overseas.

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- C. The words, "permanently marked" as used in this subsection shall be construed to mean; die stamped, cast-in, welded, or otherwise marked such that the removal of the marking by any mechanical or chemical means will result in obvious permanent damage to the surface marked. These markings shall be on surfaces which are not hidden by assembly.
- D. Where specified elsewhere herein or at the sole discretion of the ENGINEER, who's word shall be final, supply verification of quality, suitability or other aspects, as directed by the ENGINEER, from a Professional Engineer licensed to practice in the State of Florida or the state where the U.S. firm is located. The verification shall be signed, sealed, and dated. All costs for this verification shall be at the sole expense of the CONTRACTOR and no extra compensation will be allowed. Verification by foreign based engineers, firms, manufacturers, etc. will not be acceptable. Verification by means of a very stringent foreign testing agency/standard (for example ISO 9000 series) may be acceptable. However, this shall again be at the sole discretion of the ENGINEER and the full burden of proof and satisfaction of the Department shall rest with the CONTRACTOR. No extra time will be permitted due to the requirement for verification and the CONTRACTOR has the sole responsibility to make his submittals with all necessary information in a timely fashion.
- E. Items which are fabricated (i.e. assembled in this country from partially or wholly foreign manufactured parts) may also be required to have verification of their foreign made elements as specified for wholly foreign made items in the preceding paragraph.
- F. Any items in contact with or being added to potable water shall have AWWA/NSF 61 or 60, as appropriate, certification and acceptance.

1.10 PROPOSED SUBSTITUTIONS OR "OR APPROVED EQUAL" ITEMS

- A. The CONTRACTOR's bid price shall include materials or equipment meeting the specifications. Proposed substitutions will only be considered following award of the Contract as described herein
- B. Changes in products, materials, equipment, and methods of construction required by the Contract Documents which are proposed by the CONTRACTOR after award of the Contract are considered to be requests for substitutions. Where the Plans and/or Specifications designate the products of a particular manufacturer, the product specified has been found suitable for the intended use. Articles or products of similar characteristics may be offered for the approval of the ENGINEER if sufficient information is submitted by the CONTRACTOR to allow the ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named, subject to the following requirements:
 - 1. The burden of proof as to the type, function, and quality of any such substitution product, material or equipment shall be upon the CONTRACTOR.
 - 2. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitution and the ENGINEER's decision shall be final.
 - 3. The ENGINEER may require the CONTRACTOR to furnish additional data about the proposed substitution.

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4. The Department may require the CONTRACTOR to furnish a special performance guarantee or other surety with respect to any substitution.
 5. Acceptance by the ENGINEER of a substitution item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitution.
 6. The CONTRACTOR shall pay all costs of implementing accepted substitutions, including redesign and changes to WORK necessary to accommodate the substitution.
- C. The procedure for review by the ENGINEER will include the following:
1. Prior to proposing any substitute item, CONTRACTOR shall satisfy itself that the item proposed is: equal or better to that specified; that such item will fit into the space allocated; that such item affords comparable ease of operation, maintenance and service; that the appearance, longevity and suitability for the climate are comparable; that by reason of costs savings, reduced construction time or similar demonstrable benefit, the substitution of such item will be in Department's interest and will in no way detrimentally impact the project schedule. The burden of proof that such an item offered is equal in all respects to that specified shall be CONTRACTOR's.
 2. If the CONTRACTOR wishes to provide a substitution item, the CONTRACTOR shall make written application to the ENGINEER on the "Substitution Request Form." A copy of this form is attached to the end of this Specification. Following award of contract, an electronic copy of the Substitution Request Form will be provided to the CONTRACTOR.
 3. The CONTRACTOR shall certify by signing the form that the list of paragraphs on the form are correct for the proposed substitution.
 4. The ENGINEER will evaluate each proposed substitution within a reasonable period of time, not to exceed 30 days.
 5. As applicable, no shop drawing submittals shall be made for a substitution item nor shall any substitution item be ordered, installed, or utilized without the ENGINEER's prior written acceptance of the CONTRACTOR's "Substitution Request Form."
 6. The ENGINEER will record the time required by the ENGINEER in evaluating substitutions proposed by the CONTRACTOR and in making changes by the CONTRACTOR in the Contract Documents occasioned thereby.
- D. The CONTRACTOR's application shall address the following factors which will be considered by the ENGINEER in evaluating the proposed substitution:
1. Complete data substantiating compliance of proposed substitution with the requirements of the Contract Documents, including:
 - a. Product identification, including manufacturer's name and address and model number of product

- b. Manufacturer's literature, identifying:
 1. Product description
 2. Reference Standards
 3. Performance, testing, and relevant engineering data
- c. Samples, if applicable
- d. List two similar projects where substitution was utilized. Provide the following information for each project:
 1. Contact person name and phone number. Contact should be able to provide information on the use of the product.
 2. Location of installation
 3. Date of installation
 4. Quantity installed
 5. Scope and description of project
2. Whether the evaluation and acceptance of the proposed substitution will prejudice the CONTRACTOR's achievement of Substantial Completion on time.
3. Whether acceptance of the substitution for use in the WORK will require a change in any of the Contract Documents to adapt the design to the proposed substitution.
4. Whether incorporation or use of the substitution in connection with the WORK is subject to payment of any license fee or royalty.
5. Whether all variations of the proposed substitution from the items originally specified are identified.
6. Whether available maintenance, repair, and replacement service are indicated. The manufacturer shall have a local service agency (within 50 miles of the site) which maintains properly trained personnel and adequate spare parts and is able to respond and complete repairs within 24-hours.
7. Whether an itemized estimate is included of all additional costs and cost savings that will result directly or indirectly from acceptance of such substitution, including cost of redesign; claims of other contractors affected by the resulting change; and any licensing fee or royalties.
8. Whether the proposed substitute item meets or exceeds the experience and/or equivalency requirements listed in the appropriate technical specifications.
- E. In making the formal request for substitution, the CONTRACTOR represents that:
 1. The substitution has been investigated and it has been determined that is equal to or superior in all respects to the specified product.

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2. The CONTRACTOR will provide the same warranties and bonds for the substitution as the product specified.
 3. The substitution will be coordinated into the installation of the WORK and any required changes to complete the WORK in all respects as a result of the substitution will be made by the CONTRACTOR at no additional cost to the Department.
 4. The CONTRACTOR waives claims for additional cost caused by the substitution, which may subsequently become apparent.
 5. All cost data provided is complete and accurate.
- F. Without any increase in cost to the Department, the CONTRACTOR shall be responsible for and pay all costs in connection with proposed substitutions and of inspections and testing of equipment or materials submitted for review prior to the CONTRACTOR's purchase thereof for incorporation in the WORK, whether or not the ENGINEER accepts the proposed substitution or proposed equipment or material. The CONTRACTOR shall reimburse the Department for the charges of the ENGINEER for evaluating each proposed substitution. In some instances, a credit may be due the Department. Unless specifically authorized by the ENGINEER in writing, no additional contract time will be allowed, and a decrease in time may be appropriate.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION



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SUBSTITUTION REQUEST (After the Bidding Phase)

Project: _____ Substitution Request Number: _____
From: _____
To: _____ Date: _____
A/E Project Number: _____
Re: _____ Contract For: _____

Specification Title: _____ Description: _____
Section: _____ Page: _____ Article/Paragraph: _____

Proposed Substitution: _____
Manufacturer Address: _____ Phone: _____
Trade Name: _____ Model No.: _____
Installer: _____ Address: _____ Phone: _____
History: ☐ New product ☐ 2-5 years old ☒ 5-10 years old ☐ More than 10 years old
Differences between proposed substitution and specified product: _____

☒ Point-by-point comparative data attached

Reason for not providing specified item: _____

Similar Installation:
Project: _____ Architect: _____
Address: _____ Owner: _____
Date Installed: _____

Proposed substitution affects other parts of Work: ☒ No ☐ Yes; explain _____

Savings to Owner for accepting substitution: _____ (\$ _____)

Proposed substitution changes Contract Time: ☐ No ☐ Yes [Add] [Deduct] _____ days.

Supporting Data Attached: ☐ Drawings ☐ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

SUBSTITUTION REQUEST (Continued)

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Cost data as stated above is complete. Claims for additional costs related to accepted substitution which may subsequently become apparent are to be waived.
- Proposed substitution does not affect dimensions and functional clearances.
- Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.
- Coordination, installation, and changes in the Work as necessary for accepted substitution will be complete in all respects.

Submitted by: _____

Signed by: _____

Firm: _____

Address: _____

Telephone: _____

Attachments: _____

A/E's REVIEW AND ACTION

- ☐ Substitution approved - Make submittals in accordance with Specification Section 01330.
☐ Substitution approved as noted - Make submittals in accordance with Specification Section 01330.
☐ Substitution rejected - Use specified materials.
☐ Substitution Request received too late - Use specified materials.

Signed by: _____

Date: _____

Additional Comments: ☐ Contractor ☐ Subcontractor ☐ Supplier ☐ Manufacturer ☐ A/E ☐ _____

SECTION 01350A
SITE SECURITY (PLANT)

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. After award and prior to commencement of work, the CONTRACTOR shall meet with Department's Security Management to submit required information. Subcontractors are also required to comply with all security requirements and it shall be the responsibility of the CONTRACTOR to ensure a subcontractor is in compliance with all requirements.
- B. All construction staff, visitors and material delivery vehicles will utilize the designated entrance and exit point throughout the entire duration of the Project, unless so approved and authorized otherwise by the CONTRACTOR. All vehicles entering into or leaving from a Department facility must stop at the designated entrance and exit points when entering to and exiting the site. All persons entering the site must exit from the same point that they entered.
- C. All contractors, subcontractors, visitors, delivery personnel and staff shall comply with all applicable law and Miami-Dade Water and Sewer Department (Department) requirements with respect to safety and security, in particular to the requirements for access to sites and facilities. The CONTRACTOR is responsible for enforcing the prohibition of all items such as weapons, illegal drugs, alcohol, and any other illegal contraband, and the reporting of security breaches to Department Security Staff and Management.
- D. All contractors, subcontractors and their staffs, visitors, County Building Inspectors and all delivery personnel, must be aware that access to a Department site is restricted to only those with assigned identification badges or day passes. All contractors, subcontractors, and staff, visitors, building inspectors, and delivery personnel shall be restricted to the area of the plant where their work or delivery is taking place. Work site restrictions shall be coordinated with the CONTRACTOR and Department Security Management prior to construction and strictly followed throughout the entire duration of the Contract.
- E. Should any access be required to a location other than the primary access to the construction site, the CONTRACTOR shall be required to provide personnel, suitable to Department Security Management, to ensure that only predetermined authorized personnel are allowed access.
- F. Access to chemical areas, control areas, electrical generation areas/switching areas and fuel areas will only be allowed as absolutely necessary and unescorted access to these areas will not be allowed under any circumstances.
- G. Anyone requesting to access the Department site outside of regular work hours or anyone without a Department issued identification badge, including delivery personnel and building inspectors, will be treated as a visitor.

1.2 IDENTIFICATION BADGES

- A. Department Security will be responsible for providing identification badges and color-coded day passes for all individuals entering the facility. Each employee accessing the facility more than five (5) days in any ninety-day period will require an assigned identity badge. This badge will require a background check and be issued at a cost of \$60.00 each to the CONTRACTOR. Procedures for obtaining the badge are provided at <http://www.miamidade.gov/water/facility-security-procedures.asp> for Non-Department Employees. Color coded day passes will be issued at the plant entrance gates for visitors, inspectors and delivery personnel. There will be no cost to the CONTRACTOR for color coded day passes. All contractors, subcontractors and their staff shall be required to obtain a Miami-Dade Water and Sewer Department identification badge or color coded day pass in accordance with Department Security Requirements. Everyone requesting access to the facility for more than five (5) days in any ninety-day period will be required to submit to Department Security a 'Non-Employee ID Card Application', the form can be downloaded from <http://www.miamidade.gov/water/facility-security-procedures.asp>.
1. Identification badges will be issued for those individuals who will require on-going access (more than 5 days in any 90-day period) to the site or facility.
 2. A color-coded Day Pass will be provided for those individuals who only require short term access (one to two days a week to the site and to visitors and delivery personnel).
- B. All individuals requesting a Department identification badge or color coded day pass must present two forms of identification, one of which with a picture. All persons driving a vehicle within the site must present a valid driver's license. Expired identification documentation or driver's license will not be considered as valid.
- C. The Department reserves the right to require the use of assigned access identification badges and/or color-coded day passes for anyone requiring access to the site or facility. Issued identification badges or day passes must be worn and displayed on an outermost garment or hard hat at all times while at a Department site. The CONTRACTOR will be charged on a per person basis for the issuance of Department identification badges and background investigations for access requirements into the facility. The fee for the background investigation is \$60.00 per person. Payment for a security background investigation must be in the form of the CONTRACTOR's company check made payable to Miami-Dade Water and Sewer Department. Credit card payment will not be accepted.

- D. All Department issued color-coded day passes must be turned in to security at the end of each workday when the bearer exits the site or facility. In the case of delivery personnel and visitors, as the visitor exits the plant site and when the delivery person is exiting the plant site after the last delivery of the day. Day passes are only valid for the day they are issued.
- E. Department issued identification badges and color-coded day passes are the property of WASD and must be safeguarded by the CONTRACTOR. All identification badges must be returned to Department Security when they are no longer needed, i.e. the employee that the badge was issued for will not be returning to the plant site, or at the completion of the Contract. In the event of a lost or stolen, unreadable or defaced Department identification badge, the CONTRACTOR or their staff must immediately notify Department Security, indicating the details of the loss and request a replacement badge. The fee for obtaining a replacement badge is \$15.00. Payment must be made in the form of the CONTRACTOR's Company check, made payable to Miami-Dade Water and Sewer Department. Credit card payments will not be accepted. Badges that cannot be read by the security badge electronic reading device at the Plant entry gates must be replaced or entry to the plant will be denied.
- F. All the CONTRACTOR personnel accessing the facility for more than 5 days in any 90-day period must have a background check and all background checks must be completed prior to issuance of Notice to Proceed. The CONTRACTOR shall coordinate with Department Construction Management to accomplish this in a timely manner and not delay the work. The CONTRACTOR's cost for Department Security to complete a background check is \$60.00 for each background investigation (See Paragraph D above). CONTRACTOR will not be given Notice to Proceed until all workers have been processed and approved by the Department.
- G. CONTRACTORS and subcontractors are required to comply with the Department mandatory Safety Training Program. All Contractors, Subcontractors employees and onsite staff and any other persons that are to perform labor or services on the site, are required to receive the training prior to being provided with an identification badge or day pass. Department Security will provide the safety training/information.
- H. CONTRACTOR shall contact Donna Fries, Department's Safety Supervisor, at (786) 268-5620 or FRIESD@miamidade.gov, to arrange for mandatory (PSM) Project Safety Management training. Note that this training must be completed prior to mobilization. The CONTRACTOR shall also be responsible for the training of all subcontractors, sub-subcontractors and personnel working on this project on site.

1.3 VISITORS

- A. The CONTRACTOR shall provide Department Security with a list of scheduled visitors each day. This list must be received by Security prior to 3:00 PM on the previous day before the visitor is to access to the plant. This list must include the date and time that it was provided to security, bear the CONTRACTOR's Company name and be signed by the CONTRACTOR's Project Manager or his designated representative. In the event that someone should appear at the entry gates that is

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not on the CONTRACTOR's pre-submitted list, the gate security guard will call the Contractor's field office advising them who is requesting entry. The CONTRACTOR's Project Manager or his designated representative will have to go to the gate, identify the person requesting entry and verbally request a color coded day pass for the individual or individuals. All visitors must provide an acceptable photo identification documentation and be registered with security prior to entry, or provided a day pass, and be announced to the CONTRACTOR requiring their presence. All visitors requesting entry to the site must surrender their driver's license or photo identification card to Security at the gate in order to obtain a day pass. The license or photo identification card will be returned when the visitor exits the site.

- B. Anyone requesting to access the project site outside of regular work hours or anyone without a Department-issued identification badge will be treated as a visitor.

1.4 PARKING/VEHICULAR SPEED

- A. Department will provide a limited number of designated on-site parking spaces for the CONTRACTOR's and subcontractor's employees and administrative staff. All contractors, subcontractors and visitors must abide by posted parking signs and refrain from parking in non-designated or specifically assigned parking areas. Department Security will monitor and enforce parking regulations within the facility or site. Vehicles parked in a non-designated or restricted parking areas will be removed by Security at the vehicle owner's expense and could be barred from future entry to the site or facility. Parking spaces designated as "Visitor" are reserved for visitors only. Unauthorized vehicles found in visitor designated parking spaces will be treated the same as vehicles found in non-designated parking areas.
- B. In the event the designated on-site parking reaches the full capacity level, Department Security will post "Lot Full" signs at the site entrance, directing all incoming arrivals to a secondary off-site parking lot.
- C. Department Security will be responsible to open and close the secondary off-site parking lot each day. No overnight parking is allowed. All parking lot gates will be closed and locked by Security at the end of each work day. Vehicles left over night in the secondary offsite parking areas, will be towed at the vehicle owner's expense and could be prohibited from future parking.
- D. Parking adjacent to any building structures, fence lines (interior or exterior), or any other non-designated parking areas will not be permitted.
- E. Overnight parking of personal vehicles or delivery vehicles will not be allowed within the facility or site or Department off-site parking lots, except as specifically approved by Security. Facility and parking lot gates will be closed and locked at the end of each work day by Security. All vehicles entering the site or its proximity will travel in a safe and slow manner. The max speed allowed is 10 mph within the site or Department off-site parking lots. Violators could be denied driving privileges within the plant site or Department off-site parking lots and could be excluded from entry to the site.

1.5 DELIVERIES

- A. The CONTRACTOR shall be required to provide personnel, suitable to Department Security, to verify all material deliveries at the entrance to the site property.
- B. All deliveries will be made through the designated Construction Entrance between the designated hours of construction operations. Deliveries will not be accepted prior to or after the designated hours, except as approved by project Security.
- C. All CONTRACTOR and subcontractor materials delivered and/or stored on site shall be restricted to locations designated by the ENGINEER or the representative.

1.6 Department SECURITY

- A. Department Security will maintain an operational security monitoring and control center within the project site. Security will be responsible for access control, badge or day pass issuance, monitoring of security areas, vehicular traffic and parking, emergency response and notification in the event of emergencies and the safeguarding of County assets. Department Security management and guard staff will be on site 24/7 at designated posts in order to provide the required security levels and assist with the operational controls. The CONTRACTOR shall contact the Security Section of the Miami-Dade Water and Sewer Department at (786) 552-8590 for further information related to security.
- B. A primary emergency contact number will be provided and prominently posted at the start of the project. Contractors and subcontractors shall report any emergencies or injuries immediately directly to Department Security who will initiate the notification process with the reporter via conference call to 911. Direct dialing of 911 should not be done by any individual other than Department Security, in order to maintain proper incident management and control at the site.

1.7 GENERAL SECURITY REQUIREMENTS

- A. In the event that an individual worker or subcontracting firm cannot pass the required security check for work in a restricted area of the plant, it shall be the CONTRACTOR's sole responsibility to replace said worker or the subcontracting firm. Such replacement shall be in full conformance with all County requirements, particularly those concerning small business enterprises, and satisfactory to the ENGINEER and all other County agencies having jurisdiction. The CONTRACTOR is advised that all workers or subcontractors carrying out construction operations where the work requires access to: a number of different site areas; chemical areas; control areas. Electrical generation and/or switching areas; and fuel areas have a high probability that a special security clearance will be required.
- B. The CONTRACTOR shall include in the prices bid, all cost to comply with the security and safety requirements and regulations, as Indicated here No additional compensation or Contract time will be allowed the CONTRACTOR because of the requirements of this Section.

- C. The Department reserves the right to add reasonable additional security requirements as needed and the Security Chief's decision to do so shall be final. No additional Contract time or compensation will be allowed in such instance.
- D. The attention of the Contractor is hereby directed to the Florida Statutes, Section 119.071, that all Miami-Dade County plans and records, including drawings, permit records, microfilm and other depictions of any type of Miami-Dade County facilities is exempt from the public records law. It is the responsibility of a prospective contractor / Contractor, to maintain security controls of any Contract Documents including the Plans, even when providing copies to prospective sub-contractors and vendors. The prospective contractor shall maintain a record of all Contract Documents to be used in the fulfillment of the bidding of or the performance of the Contract. The Contractor shall return the same to the County representative upon completion.
- E. All contractors, subcontractors and staff will safeguard against any unauthorized distribution or posting of any and all Department provided infrastructure information to any individual or organization not authorized in advance by Department management and security.
- F. Department Security will notify the CONTRACTOR in writing if his/her personnel violate the security requirements. In the case of repeated violations, the Department may stop the CONTRACTOR's work until such time as the CONTRACTOR can show that he/she has taken steps, satisfactory to the Security Chief, to correct the problem.
- G. The CONTRACTOR is also advised that during times of increased security levels or drills for such situations, Department Security or law enforcement agencies having jurisdiction over the site/facility may impose a "lockdown" condition which, while in effect will restrict entry and/or exit of personnel and equipment to or from the facility. If in the event such incident should occur, the CONTRACTOR, if so desired, can request a non-compensable time extension. This request must be received by the ENGINEER within five working days after normal working conditions have been restored. The ENGINEER's decision as to the amount of time lost due to the incident and the impact of the incident on the work, if any, shall be final.
- H. The use of camera photography, video or any other type of recording device is prohibited at all times at Department sites. Any request to photograph, video record or any other type or mode of recording on site shall be made in advance to Department Management, through Department Security who will inform Department Security of the authorization. Violators recorded media and/or recording devices will be confiscated by Security and they will be immediately escorted from the facility with future access denied and could face criminal prosecution.
- I. The CONTRACTOR is responsible at all times, throughout the entire contract, for security of the storage and lay-down areas, and for securing and protecting all of CONTRACTOR's materials, equipment, and tools, including Department-furnished equipment and materials and those belonging to subcontractors.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01380A

CONSTRUCTION PHOTOGRAPHS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. The CONTRACTOR shall conduct pre-construction, construction progress, and post construction photographs and videos of the construction project as specified herein.
- B. The CONTRACTOR shall engage the services of a professional videographer for pre-construction video recording. The color audio-video DVD shall be prepared by a responsible commercial firm known to be skilled and regularly engaged in the business of pre-construction color audio-video documentation. Videographer shall furnish to ENGINEER the names and addresses of two (2) references that the videographer has performed color audio-video recording for projects of a similar nature within the last twelve (12) months. The videographer shall be approved by the ENGINEER prior to any video recording of the project site.

1.2 SUBMITTALS

- A. Videos and photographs shall be submitted as specified herein and in accordance with Section 01340A - SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

1.3 PRE-CONSTRUCTION PHOTOGRAPHS AND VIDEOS

- A. Prior to commencing the WORK, the CONTRACTOR shall provide a continuous color digital audio-video recording (DVD) of the entire area of the project to serve as a record of the site pre-construction conditions. The CONTRACTOR will provide one copy of the pre-construction video to the Department, one copy to the ENGINEER, and maintain one copy free from damage or defect that shall become the property of Department at Project Close Out. The CONTRACTOR shall review the video recordings for clarity and accuracy and shall make supplemental records of existing conditions if they are not clearly indicated.
- B. No construction shall begin prior to review of the pre-construction video of the construction area by the Department, ENGINEER and the CONTRACTOR. The ENGINEER or Department shall have the authority to reject all or any portion of the video not conforming to specifications and order that it be redone at no additional charge to the Department. The CONTRACTOR shall reschedule unacceptable coverage within five (5) calendar days after being notified. The ENGINEER shall designate those areas, if any, to be omitted from or added to audio-video coverage.
- C. Video recording shall be made not more than 60 days prior to commencement of construction.
- D. The CONTRACTOR shall video the entire project area including the project site, and any other areas which may be affected or impacted by the WORK including staging and storage areas.

- E. The CONTRACTOR shall supplement video recordings with photographs. A minimum of twenty (20) pre-construction photographs shall be provided.

1.4 CONSTRUCTION PROGRESS PHOTOGRAPHS

- A. A minimum of six (6) photographs shall be taken each week until completion of the Work.
- B. The number of photographs required shall be at the sole discretion of the ENGINEER whose decision shall be final. An increase in the number of photographs above the minimum shall not be cause for an increase in cost and no extra compensation will be allowed.
- C. For all photograph the CONTRACTOR shall coordinate with the ENGINEER as to the actual number and location of views to be photographed and the day and time of photographing.
- D. Progress photographs shall be submitted with monthly Applications for Payment in accordance with the Contract Documents.

1.5 POST-CONSTRUCTION PHOTOGRAPHS AND VIDEO

- A. At project closeout, the CONTRACTOR shall provide a continuous color digital audio-video recording (DVD) of the entire area of the project to serve as a record of the post-construction conditions. The completed pump station project and adjacent properties shall be captured.
- B. The post-construction video recording shall be supplemented with a minimum of forty (40) photographs documenting the completion of the project construction and adjacent properties.

PART 2 – PRODUCTS

2.1. VIDEO MEDIA

- A. The video portion of the recording shall produce bright, sharp, and clear pictures with accurate colors and shall be free from distortion, tearing, rolls, and any other form of picture imperfection.
- B. All video recordings shall contain coverage of all surface features located within the construction zone of influence. Of particular concern shall be the existence of any faults, fractures, defects, etc. of existing features, particularly those located at private properties and homes immediately adjacent to and across the street from the project site. Panning, zoom-in and zoom-out rates shall be sufficiently controlled to maintain a clear view of the object.
- C. All video recordings shall, by electronic means, display continuously and simultaneously, the date and time of recording. The video recording shall be generated with the actual taping date and time as transparent digital information. The date information shall contain the month, day and year.

- D. Video media shall be standard Digital Video Disc (DVD) format. Accompanying the video recording shall be a corresponding and simultaneously recorded audio recording. Each tape shall begin with the recorded date, project name and be followed by the general location, i.e., viewing side and direction of progress. The audio track shall consist of an original live recording. The recording shall contain exclusively the narrative commentary of the electrograph, recorded simultaneously with the fixed elevation video record of the zone of influence of construction. The recording shall assist in viewer orientation and in any needed identification, differentiation, clarification, or objective description of the features being shown in the video portion of the recording, including location relative to construction stations. The audio recording shall be free from any conversations between the camera operator and any other production technicians. The audio portion of the recording shall produce the commentary of the camera operator with proper volume, clarity, and be free from distortion and interruptions.

2.2. VIDEO MEDIA INDEXING

- A. Video Identification: All video media shall be permanently labeled and shall be properly identified by number and project name and location.
- B. Video Logs: Each video shall have a log of that video's contents. The log shall describe the various segments of coverage contained on the video in terms of the names of the streets or easements, coverage beginning and end, directions of coverage, video unit counter numbers, and date.
- C. Video Index: The electrograph shall provide an index listing, in order by video number, each video number and a brief description of coverage contained on that video, including engineering station numbers and/or street address at every building abutting roadway and canal.

2.3. PHOTOGRAPHS

- A. Furnish one (1) CD containing all pictures in electronic JPG format.
- B. Photographs shall have a minimum clarity of 5 megapixels.

PART 3 – EXECUTION

3.1. GENERAL

- A. The ENGINEER and the Department may request to be present during the pre-construction video recording and photographing.

3.2. VISIBILITY

- A. All video recordings and photographs shall be performed during times of good visibility: none shall be done during period of significant precipitation, mist, or fog. The video recordings and photographs shall only be done when sufficient sunlight is present to properly illuminate the subject, and to produce bright, sharp replications of those subjects.

- B. No video recordings and photographs shall be performed when more than 10% of the area to be taped contains debris or obstructions unless otherwise authorized by the Department.

3.3. COVERAGE

- A. The CONTRACTOR shall sufficiently capture the existing pre-construction conditions within the project site, but not limited to: staging areas, WORK areas, roadways, light poles, trees, landscaping, storm drainage structures, walls, and any other areas which may be affected or impacted by the WORK to protect the Department, the ENGINEER, and the CONTRACTOR from unsubstantiated claims. The CONTRACTOR shall capture existing deterioration of landscaping and other fixtures and features in or adjacent to the area of WORK, whether impacted or not.

3.4. CAMERA OPERATION

- A. Camera Control: Camera pan, tilt, zoom-in, and zoom-out rates shall be sufficiently controlled such that recorded objects will be clearly viewed during video playback. In addition, all other camera and recording system controls such as lens focus and aperture, video level, pedestal, chroma, white balance, and electrical focus shall be properly controlled or adjusted to maximize picture quality.
- B. Viewer Orientation Techniques: The audio and video portions of the recording shall maintain viewer orientation. Visual displays of all visible building addresses shall be utilized. In easements where the proposed construction location will not be readily apparent to the video viewer, the Department shall indicate the proposed centerline of construction.

END OF SECTION

SECTION 01410A

TESTING AND TESTING LABORATORY SERVICES

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. The Department will employ and pay for services of an independent testing laboratory to perform testing concrete as indicated in the Contract Documents. The cost of all other testing required by the Contract Documents, shall be the sole responsibility of the CONTRACTOR.
- B. The Department may at any time elect to have materials and equipment tested for conformance with the Contract Documents.
- C. Testing laboratory inspection, sampling and testing will be required for, but not limited to, the following:
 - 1. PH Testing of Concrete
 - 2. Roughness Test after Sandblasting

1.2 CONTRACTOR'S RESPONSIBILITIES

- A. Make available, at no cost to the Department, adequate quantities of representative samples of materials proposed to be used and which require testing.
- B. Cooperate with laboratory personnel and provide access to Work to facilitate the execution of its required services. Furnish incidental labor and facilities:
 - 1. To provide access to Work to be tested.
 - 2. To obtain and handle samples at the Project site or at the source of the product to be tested.
 - 3. To facilitate inspections and tests.
- C. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.

1.3 PAYMENT FOR TESTING

- A. The Department will pay for initial testing services required elsewhere in these Specifications.
- B. When initial tests indicate non-compliance with the Project Documents, subsequent retesting occasioned by the non-compliance shall be performed by the same Testing Laboratory, and all costs thereof shall be paid for by the CONTRACTOR.

- C. Inspecting and testing, performed exclusively for the CONTRACTOR's convenience, shall be the sole responsibility of and shall be paid for by the CONTRACTOR.

1.4 QUALITY ASSURANCE

- A. Upon completion of each test and/or inspection, promptly distribute copies of test or inspection reports to the ENGINEER, CONTRACTOR, to governmental agencies requiring submission of such reports, and to other persons as directed by the ENGINEER.

PART 2 -- PRODUCTS

2.1 TEST METHODS

- A. Tests and Inspections will be conducted in accordance with the requirements of these Specifications or, if not herein specified, in accordance with the latest standards of the American Society for Testing and Materials (ASTM), or other approved and recognized authorities as acceptable to the Department.
- B. Requirements for testing are described in various Sections of these Specifications.

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01421.3A

ABBREVIATIONS OF INSTITUTIONS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Wherever in these Specifications references are made to the standards, specifications, or other published data of the various international, national, regional, or local organizations, such organizations may be referred to by their acronym or abbreviation only. As a guide to the user of the Specifications, the following acronyms or abbreviations which may appear shall have the meanings indicated herein.

1.2 ABBREVIATIONS

AA	Aluminum Association
AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
AATCC	American Association of Textile Chemists and Colorists
ABMA	American Bearing Manufacturer's Association – ABMA
ACGIH	American Conference of Governmental Industrial Hygienists
ACI	American Concrete Institute
AF&PA	American Forest and Paper Association
AGA	American Gas Association
AGMA	American Gear Manufacturers Association
AHA	American Hardboard Association
AHAM	Association of Home Appliance Manufacturers
AI	The Asphalt Institute
AIA	American Institute of Architects
AIHA	American Industrial Hygiene Association
AIIM	Association for Information and Image Management
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
AMA	Acoustical Material Association
AMCA	Air Movement and Control Association International, Inc
ANS	American Nuclear Society
ANSI	American National Standards Institute, Inc.
APA	The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
ARI	Air-Conditioning and Refrigeration Institute
ASA	Acoustical Society of America
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating, and Air Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society of Nondestructive Testing

ASQ	American Society for Quality
ASSE	American Society of Sanitary Engineers
ASTM	American Society for Testing and Materials
AWCI	American Wire Cloth Institute
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers Association
AWPI	American Wood Preservers Institute
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators International
BHMA	Builders Hardware Manufacturer's Association
CABO	Council of American Building Officials
CDA	Copper Development Association
CEMA	Conveyors Equipment Manufacturer's Association
CGA	Compressed Gas Association
CLFMI	Chain Link Fence Manufacturer's Institute
CLPCA	California Lathing and Plastering Contractors Association
CMAA	A division/section of the Material Handling Industry of America
CRSI	Concrete Reinforcing Steel Institute
DCDMA	Diamond Core Drilling Manufacturer's Association
DHI	Door and Hardware Institute
DIPRA	Ductile Iron Pipe Research Association
EI	Energy Institute
EIA	Electronic Industries Alliance
EPA	Environmental Protection Agency
ETL	Electrical Test Laboratories
FCC	Federal Communications Commission
FCI	Fluid Controls Institute
FEMA	Federal Emergency Management Association
FHWA	Federal Highway Administration
FM	Factory Mutual System
FPL	Florida Power and Light
HI	Hydronics Institute, Hydraulic Institute
HSWA	Federal Hazardous and Solid Waste Amendments
IAPMO	International Association of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IBC	International Building Code
ICC	International Code Council
ICEA	Insulated Cable Engineers Association
ICCEC	Electrical Code
ICC-ES	International Code Council Evaluation Service
IEEE	Institute of Electrical and Electronics Engineers
IESNA	Illuminating Engineering Society of North America
IFC	International Fire Code
IFGC	International Fuel Gas Code
IMC	International Mechanical Code
IME	Institute of Makers of Explosives
IPC	International Plumbing Code, Association Connecting Electronic Industries
IRC	International Residential Code
ISA	Instrument Society of America

ISDI	Insulated Steel Door Institute
ISEA	Industrial Safety Equipment Association
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
ITU-T	Telecommunications Standardization Sector of the International Telecommunications Union
LPI	Lightning Protection Institute
LRQA	Lloyd's Register Quality Assurance
MBMA	Metal Building Manufacturer's Association
MIL	Military Standards (DoD)
MPTA	Mechanical Power Transmission Association
MSS	Manufacturers Standardization Society
NAAMM	National Association of Architectural Metal Manufacturer's
NACE	National Association of Corrosion Engineers
DASMA	Door and Access Systems Manufacturers Association International
NAPF	National Association of Pipe Fabricators
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors
NCCLS	National Committee for Clinical Laboratory Standards
NCMA	National Concrete Masonry Association
NEC	National Electrical Code
NEMA	National Electrical Manufacturer's Association
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association or National Fluid Power Association
NISO	National Information Standards Organization
NIST	National Institute of Standards and Technology
NLGI	National Lubricating Grease Institute
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PPI	Plastic Pipe Institute
RCRA	Resource Conservation and Recovery Act
RIS	Redwood Inspection Service, a division of the California Redwood Association, CRA
RMA	Rubber Manufacturers Association
RVIA	Recreational Vehicle Industry Association
RWMA	Resistance Welder Manufacturer's Association
SAE	Society of Automotive Engineers
SDI	Steel Door Institute, Steel Deck Institute
SMA	Screen Manufacturers Association
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPFA	Steel Plate Fabricator's Association
SPIB	Southern Pine Inspection Bureau
SSBC	Southern Standard Building Code, Southern Building Code Congress
SSPC	Society for Protective Coating
SSPWC	Standard Specifications for Public Works Construction
STLE	Society of Tribologists and Lubricating Engineers
TAPPI	Technical Association of the Worldwide Pulp, Paper, and Converting Industry

TFI	The Fertilizer Institute
TIA	Telecommunications Industries Association
TPI	Truss Plate Institute
UBC	Uniform Building Code
UL	Underwriters Laboratories, Inc.
WCLIB	West Coast Lumber Inspection Bureau
WDMA	National Window and Door Manufacturers Association
WEF	Water Environment Federation
WI	Woodwork Institute
WRI	Wire Reinforcement Institute, Inc.
WWPA	Western Wood Products Association

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01501A

SAFETY REQUIREMENTS AND PROTECTION OF PROPERTY

PART 1 - GENERAL

1.01 CONTRACTOR'S RESPONSIBILITY FOR SAFETY

Conduct whatever work is necessary for safety and be solely and completely responsible for conditions of the job site, including safety of all persons (including employees) and property during the construction of the project. This requirement shall apply continuously and not be limited to normal working hours.

1.02 FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS

- A. Safety provisions shall conform to the Federal and State Departments of Labor Occupational Safety and Health Act (OSHA), and all other applicable Federal, State, County, and local laws, ordinances, codes, the requirements set forth herein, and any regulations that may be specified in other parts of these specifications. Where any of these are in conflict, the more stringent requirements shall prevail. Contractor's failure to thoroughly familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations and penalties set forth therein.
- B. All open excavations made in the earth shall be performed in compliance with the State of Florida Trench Safety Act, OSHA 29 CFR 1926.650, Subpart P (Chapter 90-96, Laws of Florida). The Contractor shall appoint a "competent person", in accordance with Subpart P, who shall be present at the jobsite. A "competent person" shall mean one who is capable of identifying existing and predictable hazards in the surroundings, or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them.
- C. The Contractor shall familiarize himself with the "Underground Facility Damage Prevention and Safety Act", Florida Statute 556. The Contractor shall contact the Sunshine State One-Call Center, at 1-800-432-4770, forty-eight (48) hours prior to any excavation. Failure to familiarize himself with the aforementioned safety provisions shall not relieve him from compliance with the obligations and penalties set forth therein.
- D. Conduct operations in such a manner utilizing warning devices, such as traffic cones, barricades and warning lights that traffic, pedestrian and Department personnel are given adequate warning of hazards of the worksite as may be deemed necessary by the Department, Engineer of Record, governing agency having jurisdiction over the work or political subdivision.

1.03 SAFE ACCESS BY FEDERAL, STATE, AND LOCAL GOVERNMENT OFFICIALS

The Contractor shall at all times provide proper facilities for safe access to the work by authorized government officials.

1.04 CONSTRUCTION SAFETY PROGRAM

- A. Develop and maintain for the duration of this project, a safety program that will effectively incorporate and implement all required safety provisions. The Contractor shall appoint an employee who is qualified and authorized to supervise and enforce compliance with the safety program.
- B. Certain products specified in these specifications contain warnings by the manufacturers that under certain conditions, if instructions for use are not followed, a hazardous condition may exist. It is the Contractor's responsibility to instruct his workmen in the safe use of the product, or any product substitution.
- C. The duty of the Engineer of Record to conduct construction review of the Contractor's performance is not intended to include a review or approval of the adequacy of the Contractor's safety supervisor, the safety program, or any safety measures taken in, on, or near the construction site.

1.05 SAFETY EQUIPMENT

- A. As part of the safety program, maintain at office or other well-known place at the jobsite, safety equipment applicable to the work as prescribed by the governing safety authorities, all articles necessary for giving first-aid to the injured, and establish the procedure for the immediate relocation to a hospital or a doctor's care of any person who may be injured on the jobsite.
- B. Perform all necessary work to protect the general public from hazards, including, but not limited to, surface irregularities or undamped grade changes in pedestrian walkway or sidewalk, and trenches or excavations in roadway. Furnish barricades, lanterns, and proper signs to safeguard the public and work.
- C. The performance of all work and all completed construction, particularly with respect to ladders, platforms, structure openings, scaffolding, fall protection devices, shoring, logging, machinery guards and the like, shall be in accordance with the applicable governing safety authorities.
- D. During construction, construct and at all times maintain satisfactory and substantial temporary chain link fencing, solid fencing, railings, barricades or steel plates, as applicable, at all openings, obstructions, or other hazards in streets and walkways. All such barriers shall have adequate warning lights as necessary, or required, for safety.

1.06 STORAGE OF HAZARDOUS MATERIALS

- A. The Contractor is hereby cautioned that he cannot store any environmentally hazardous materials such as solvents, greases, lubricants or any other type of chemical substances at the project site. The Contractor shall be allowed to keep such materials at the site which is to be used for immediate use only.

- B. The materials shall be stored and handled in a proper and safe manner and upon its use immediately dispose of the containers, cans, rags and remnants of the materials in a manner approved by the Department of Environmental Resources Management (DERM) at the Contractor's own cost. The Contractor cannot store empty containers at the site. In case of any violation, the Department will report such violation to DERM and the Contractor shall be subject to all the penalties and fines as required by State and County regulations.

1.07 NOT USED

1.08 TRAFFIC SAFETY AND ACCESS TO PROPERTY

- A. Comply with all rules and regulations of the city, state, and county authorities regarding closing or restricting the use of public streets or highways. No public or private road shall be closed, except by express permission of the Department. Conduct the work so as to assure the least possible obstruction to traffic and normal commercial pursuits. Protect all obstructions within traveled roadways by installing approved barricades, signs, and lights where necessary for the safety of the public. The convenience of the general public and residents and the protection of persons and property are of prime importance and shall be provided for in an adequate and satisfactory manner.
- B. When flagmen and guards are required by regulation or when deemed necessary for safety, they shall be furnished with approved orange wearing apparel and other regulation traffic control devices.

1.09 FIRE PREVENTION AND PROTECTION

- A. Perform all work in fire-safe manner. Furnish and maintain on the site adequate fire-fighting equipment capable of extinguishing incipient fires. Comply with applicable federal, local, and state fire-prevention regulations. Where these regulations do not apply, applicable parts of the National Fire Prevention Standard for Safeguarding Building Construction Operations (NFPA No. 241) shall be followed.

1.10 TRAFFIC CONTROL AND USE OF PUBLIC STREETS

- A. The Contractor shall be responsible for traffic control as specified hereinafter. Any reference to Miami-Dade County, its departments, or its published regulations, permits and data, shall be synonymous and interchangeable with other recognized governing bodies over particular areas of streets or their departments, published regulations, permits, or data. Abide by all applicable laws, regulations and codes thereof, pertaining to maintenance of public streets, detour of traffic, traffic control and other provisions as may be required for this project.

- B. The Contractor shall be fully responsible for the maintenance of public streets, detour of traffic (including furnishing and maintaining regulatory and informative signs along the detour route), traffic control and other provisions, throughout the project as required by the Miami-Dade County Department of Public Works, Traffic Engineering Division (Traffic Division). Traffic shall be maintained according to corresponding typical traffic control details as outlined in the Miami-Dade County Public Works Manual. No street shall be completely blocked nor blocked more than one-half at any time, keeping the other half open for traffic without specific approval.
- C. The Contractor shall provide all barricades and/or flashing warning lights necessary to warn motorists of the construction throughout the project.
- D. The contractor shall be responsible for the provision, installation and maintenance of all traffic control and safety devices, in accordance with specifications outlined in the Miami-Dade County Public Works Manual. In addition, provide for the resetting of all traffic control and information signing removed during the construction period.

1.11 CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTIES AND SERVICE

- A. Where the Contractor's operation could cause damage or inconvenience to railway, telephone, fiber optic, television, electrical power, oil, gas, water, sewer, or irrigation systems, the Contractor shall make all arrangements necessary for the protection of these utilities and services or any other known utilities.
- B. Notify all utility companies that are affected by the construction operation at least 48 hours in advance. Under no circumstance expose any utility without first obtaining permission from the appropriate agency. Once permission has been granted, locate, expose, and provide temporary support for all existing underground utilities and utility poles where necessary.
- C. The Contractor and his subcontractors shall be solely and directly responsible to the owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits, actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this project.
- D. Neither the Department nor its officers or agents shall be responsible to the Contractor for damages as a result of the Contractor's failure to protect utilities encountered in the work.
- E. Replace, with material approved by the Department, at Contractor's expense, any and all other laterals, existing utilities or structures removed or damaged during construction, unless otherwise provided for in these specifications and as approved by the Department.

1.12 HURRICANE PREPAREDNESS

A. General

During such periods of time as are designated by the National Weather Service as being a hurricane alert, the Contractor shall perform all precautions as necessary to safeguard the work and property, including the removal of all small equipment and materials from the site, lashing all other equipment and materials to each other and to rigid construction, and any other safety measures as may be directed by the Engineer.

B. Upon Notification of a Hurricane Watch

The Contractor should prepare or have in place a Plan of Action for the specific actions to be taken on their particular projects.

C. Upon Notification of a Hurricane Warning

- 1) The Contractor shall implement their Plan of Action to protect the project and the public.
- 2) For construction projects within the public right-of-ways, the Contractor shall suspend his construction operations, backfill all open trenches, remove all construction equipment and materials from the right-of-way, remove unnecessary traffic barricades and signs and secure remaining barricades by "half burial" or "double sand bags".

1.13 WORKING IN CONFINED SPACES

Where a Contractor needs to work in a confined space, the Contractor must comply with the General Industry, OSHA Confined Space Standard, CFR 1910.146 or the equivalent Confined Space Standard in DFR 1926, Construction Standards.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 01570A

TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 -- GENERAL

1.1 DUST ABATEMENT

- A. The CONTRACTOR shall prevent its operation from producing dust in amounts damaging to property, or causing a nuisance to persons occupying buildings in the vicinity of the Project Site. The CONTRACTOR shall be responsible for any damage resulting from dust originating from its operations. Dust abatement measures shall be continued until the CONTRACTOR is relieved of further responsibility by the ENGINEER.
- B. Storage Piles: Enclose, cover, water (as needed), or apply non-toxic soil binders according to manufacturer's specifications on material piles (i.e. gravel, sand, dirt) with a silt content of 5 percent or greater.
- C. Active Areas of Site: Water active construction areas and unpaved roads as needed and as requested by ENGINEER to prevent the propagation of dust.
- D. Inactive Areas of Site: Apply non-toxic soil stabilizers according to manufacturer's specifications to inactive construction areas, or water as needed to maintain adequate dust control.
- E. Vehicle Loads: Cover or maintain at least 2 feet of freeboard vertical distance between the top of the load and the top of the trailer sides on trucks hauling dirt, sand, soil, or other loose materials off of the Site.
- F. Roads: When there is visible track-out onto a paved public road, install wheel washers where the vehicles exit and enter onto the paved roads and wash the undercarriage of trucks and any equipment leaving the Site on each trip. Sweep the paved street at the end of each shift with a Mobil Athey or similar water spray pick-up broom-type street sweeper as necessary or as directed.
- G. Vehicle Speeds: If watering of unpaved roads is not sufficient to control dust, reduce vehicle speeds to 10 mph or less on such roads.

1.2 SEDIMENTATION ABATEMENT

- A. The CONTRACTOR shall be responsible for collecting, storing, hauling, and disposing of spoil, silt, and waste materials in compliance with applicable federal, state, and local rules and regulations and the Contract Documents.
- B. Install and maintain erosion and sediment control measures, such as swales, grade stabilization structures, berms, dikes, waterways, filter fabric fences, and sediment basins.
- C. Filter fabric barrier systems, if used, shall be installed in such a manner that surface runoff will percolate through the system in sheet flow fashion and allow sediment to be retained and accumulated.

- D. Remove and dispose of sediment deposits at the designated spoil area. If a spoil area is not indicated, dispose of sediment off-Site at a location not in or adjacent to a stream or floodplain. Sediment to be placed at the spoil area should be spread evenly, compacted, and stabilized. Sediment shall not be allowed to flush into a stream or drainage way.
- E. Maintain erosion and sediment control measures until final acceptance or until requested by the ENGINEER to remove it.

1.3 STORMWATER POLLUTION PREVENTION **(NOT USED IN THIS BID)**

1.4 RUBBISH CONTROL

- A. During the progress of the WORK, the CONTRACTOR shall keep the Site and other areas for which it is responsible in a neat and clean condition and free from any accumulation of rubbish. The CONTRACTOR shall dispose of rubbish and waste materials of any nature and shall establish regular intervals of collection and disposal of such materials and waste. The CONTRACTOR shall also keep its haul roads free from dirt, rubbish, and unnecessary obstructions resulting from its operations. Disposal of rubbish and surplus materials shall be off the Site in accordance with local codes and ordinances governing locations and methods of disposal and in conformance with applicable safety laws and the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

1.5 SANITATION

- A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of employees. Toilets shall conform to the requirements of Part 1926 of the OSHA Standards for Construction.
- B. Sanitary and Other Organic Wastes: The CONTRACTOR shall establish a regular daily collection of sanitary and organic wastes. Wastes and refuse from sanitary facilities provided by the CONTRACTOR or organic material wastes from any other source related to the CONTRACTOR's operations shall be disposed of away from the Site in a manner satisfactory to the ENGINEER and in accordance with Laws and Regulations pertaining thereto.

1.6 CHEMICALS

- A. Chemicals used on the WORK or furnished for facility operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, shall show approval of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of such chemicals and disposal of residues shall be in strict accordance with the printed instructions of the manufacturer.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01600A

MATERIAL AND EQUIPMENT SHIPMENT, HANDLING, STORAGE, AND PROTECTION

PART 1 - GENERAL

1.1 THE SUMMARY

- A. This shall include both Department furnished material and equipment (Department furnished equipment (DFE) and CONTRACTOR furnished material and equipment.
- B. The CONTRACTOR is to inform all subcontractors, suppliers, and manufacturers of the requirements herein specified, and shall include expenses for the following services in his costs for compliance with the requirements hereinafter specified.

1.2 PREPARATION FOR SHIPMENT

- A. When practical, equipment shall be factory-assembled. The equipment parts and assemblies that are shipped unassembled shall be furnished with an assembly plan and instructions. The separate parts and assemblies shall be factory match-marked or tagged in a manner to facilitate assembly. All assemblies are to be made by the CONTRACTOR at no additional cost to Department.
- B. Machined and unpainted parts subject to damage by the elements shall be protected with an application of a strippable protective coating, or other protective method approved by the ENGINEER.
- C. Equipment shall be packaged or crated in a manner that will provide protection from damage during shipping, handling, and storage.
- D. The outside of the package or crate shall be adequately marked or tagged to indicate its contents by name and equipment number, if applicable; approximate weight; state any special precautions for handling; and indicate the recommended requirements for storage prior to installation.

1.3 PACKING AND DELIVERY OF SPARE PARTS AND SPECIAL TOOLS

- A. Properly mark to identify the associated equipment by name, equipment, and part number. Parts shall be packaged in a manner for protection against damage from the elements during shipping, handling, and storage. Ship in boxes that are marked to indicate the contents. Delivery of spare parts and special tools shall be made prior to the time associated equipment is scheduled for the initial test run.

1.4 SHIPMENT

- A. All equipment and material shall be shipped with freight and shipping paid FOB jobsite.
- B. The CONTRACTOR shall request a 7-day advance Notice of Shipment from manufacturers, and, upon receipt of such notice, provide the ENGINEER with a copy of the current delivery information concerning all equipment and other items and materials

of critical importance to the project schedule.

- C. Schedule delivery to reduce long term on-site storage prior to installation and/or operation. Under no circumstances shall equipment be delivered to the site more than one month prior to installation without written authorization from the ENGINEER.
- D. Coordinate delivery with installation to ensure minimum holding time for items that are hazardous, flammable, easily damaged or sensitive to deterioration.

1.5 RECEIVING

- A. The CONTRACTOR shall unload and record the receipt of all equipment and materials at the jobsite.
- B. All costs for receiving, inspection, handling, storage, insurance, inventory control, and equipment maintenance for both the CONTRACTOR-supplied and Department-supplied materials and equipment, shall be included in the bid price and no extra compensation will be allowed.

1.6 INSPECTION

- A. Immediately upon receipt of equipment and materials at the jobsite, the CONTRACTOR shall inspect for completeness and any evidence of damage during shipment. Department's supplied equipment and material shall be inspected and inventoried together with a Department's inspector. Should there appear to be any shortage or damage, the ENGINEER shall be immediately notified; and the CONTRACTOR shall be fully responsible for informing the manufacturers and the transportation company of the extent of the shortage and/or damage. If the item or items require replacing or supplying missing parts, the CONTRACTOR shall take the necessary measures to expedite the replacement or supply of the missing parts.

1.7 HANDLING

- A. Equipment and materials received for installation on this Project shall be handled in accordance with the manufacturer's recommendations, and in a manner that will prevent damage.
- B. Pipe and fittings shall at all times be handled with great care to avoid damage. In loading and unloading, they shall be lifted with cranes or hoists or slid or rolled on skidways in such a manner as to avoid shock. Under no circumstances shall this material be dropped or allowed to roll or slide against obstructions. No cables, lifting arms, hooks or other devices shall be inserted into the pipe or fitting. All lifting, pulling or pushing mechanisms shall be applied to the exterior of the pipe or fitting. Pipe and other material shall be distributed along areas near vehicular traffic in advance of installation, only to the extent approved by the ENGINEER. Pipe shall be stored on blocking or timber. It shall not be stored on rocks, boulders, or other supports which in the opinion of the ENGINEER are unsuitable. Such materials shall be so placed as to keep obstruction to all traffic to a minimum.

1.8 STORAGE AND PROTECTION

- A. Equipment and materials shall be stored prior to installation as recommended by the manufacturer. Generally, materials such as pipe shall be stored off the ground in approved storage yards or along the line of the proposed installation, as approved by the ENGINEER. Items subject to the damage by the elements, vandalism, or theft shall be stored in secure buildings. Items requiring environmental control for protection shall be provided with the necessary environmentally controlled storage facilities at no cost to the Department.
- B. Store and protect products in accordance with the manufacturer's instructions, with seals and labels intact and legible. Storage instructions shall be studied by the CONTRACTOR and he shall review them with the ENGINEER. Instructions shall be carefully followed and a written record of this kept by the CONTRACTOR. Arrange storage to permit access for inspection.
- C. Store loose granular materials on solid flat surfaces in a well-drained area. Prevent mixing with foreign matter.
- D. Cement and lime shall be stored under a roof and off the ground and shall be kept completely dry at all times. All structural, miscellaneous and reinforcing steel shall be stored off the ground or otherwise to prevent accumulations of dirt or grease, and in a position to prevent accumulations of standing water and to minimize rusting. Beams shall be stored, with the webs in a vertical position. Precast concrete shall be handled and stored in a manner to prevent accumulations of dirt, standing water, staining, chipping or cracking. Brick, block and similar masonry products shall be handled and stored in a manner to reduce breakage, cracking and spalling to a minimum.
- E. All mechanical, electrical and other equipment, instruments and other items subject to damage if stored outdoors (even though covered by canvas) shall be stored in a weather tight building to prevent damage. The building, even if temporary, must be satisfactory to the ENGINEER. Building shall be provided with adequate ventilation to prevent condensation. Maintain temperature and humidity within range required by manufacturer.
 - 1. All equipment shall be stored fully lubricated with oil, grease and other lubricants unless otherwise instructed by the manufacturer.
 - 2. Moving parts shall be rotated a minimum of once weekly to insure proper lubrication and to avoid metal-to-metal "welding". Upon installation of the equipment, the CONTRACTOR shall start the equipment at least half load, once weekly for an adequate period of time to ensure that the equipment does not deteriorate from lack of use.
 - 3. Lubricants shall be changed upon completion of installation and as frequently as required thereafter during the period between installation and acceptance. New lubricants shall be put into the equipment at the time of final acceptance.
 - 4. Prior to final acceptance of the equipment, the CONTRACTOR shall have the manufacturer inspect the equipment and certify that its condition has not been detrimentally affected by the long storage period. Such certifications by the

manufacturer shall be deemed to mean that the equipment is judged by the manufacturer to be in a condition equal to that of equipment that has been shipped, installed, tested and accepted in a minimum time period. As such, the manufacturer will guarantee the equipment equally in both instances. If such a certification is not given, the equipment shall be judged to be defective. It shall be removed and replaced at the CONTRACTOR's expense.

- F. All bolts, nuts, gaskets and other joint materials for use in pipes shall be stored under cover.
- G. Gaskets shall be stored in their original packing bags or containers, and care shall be exercised to keep them away from heat, light, oil gasoline or other petroleum products. Gaskets shall be kept clean at all times and not handled with greasy or dirty hands.
- H. Plastic pipe and other elastomeric products shall be stored under cover to preclude damage by ultraviolet radiation even if the product has UV inhibitors in its compound.
- I. Valves and other equipment having heating elements to eliminate moisture accumulation shall be supplied with electrical power of the required characteristics.

1.9 INSURANCE

- A. The CONTRACTOR's insurance shall adequately cover the value of materials delivered but not yet incorporated into the work. The CONTRACTOR and Department shall be named as co-insured insofar as their respective interests may appear. Proof of this coverage must be submitted to the ENGINEER at the time request for progress or partial payments.

1.10 INVENTORY CONTROL

- A. Equipment and materials shall be stored in a manner to provide easy access for inspection and inventory control. The CONTRACTOR shall keep a running account of all materials in storage to facilitate inspection and to estimate progress payments for materials delivered but not installed in the work.

1.11 EQUIPMENT MAINTENANCE PRIOR TO DEPARTMENT'S ACCEPTANCE

- A. Provide the required or manufacturer's recommended maintenance during storage, during the installation, and until such time as Department accepts the equipment for full-time operation.

1.12 SALVABLE EQUIPMENT

- A. Any salvable pipe, fitting, or other miscellaneous material or equipment removed during construction, and not reused in the WORK, shall be cleaned, hauled, and stored by the CONTRACTOR at his own expense, where directed by the ENGINEER, and shall remain the property of Department. All other material shall be disposed of by the CONTRACTOR at his own expense.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

END OF SECTION

SECTION 01660A

SITE ACCESS AND STORAGE

PART 1 -- GENERAL

1.1 EXISTING JOB SITE

- A. The work of this project is to be performed at a facility owned by Department and identified elsewhere in these documents.

1.2 EXISTING UTILITIES

- A. Protection of, and relocation of existing utilities, structures and other facilities shall be in accordance with Section 01011A SITE CONDITIONS AND PROTECTION OF EXISTING FACILITIES.
- B. The relocation of existing utilities, as noted on the Plans, or for the convenience of the CONTRACTOR, shall be the responsibility of the CONTRACTOR. This work shall be completed by either the forces of the existing utility or the CONTRACTOR's forces at the discretion of the responsible utility. If the work is to be performed by the CONTRACTOR, all work shall be done in accordance with the utility company's requirements. The CONTRACTOR shall also be responsible for the coordination of all existing utility relocations with the appropriate utilities. Where temporary supports or protective encasements are required during the construction, the CONTRACTOR shall be responsible for this work at no additional cost. Under no circumstances shall the CONTRACTOR be authorized extra payment for this work, and all cost for the relocation shall be the responsibility of the CONTRACTOR.
- C. Any conflicts between the field investigation and the information shown on the Plans shall be brought to the immediate attention of the ENGINEER.

1.3 SITE ACCESS AND STORAGE

- A. The DEPARTMENT reserves the right to enter upon, and to use, any and all portions of the WORK performed hereunder (or under its other Contracts), whether completed or not, as may be required.
- B. **Highway Limitations:** The CONTRACTOR shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to the site of the WORK. It shall be the CONTRACTOR's responsibility to construct and maintain any haul roads required for its construction operations.

- C. **Temporary Crossings:** Continuous, unobstructed, safe, and adequate pedestrian and vehicular access shall be provided to fire hydrants, parking lots, Vehicular access to all production facilities shall be maintained except when necessary construction precludes such access for reasonable periods of time.
- D. **Street Use:** Nothing herein shall be construed to entitle the CONTRACTOR to the exclusive use of any public street, alleyway, or parking area during the performance of the WORK hereunder and it shall conduct its operations to not interfere unnecessarily with the DEPARTMENT or any other authorized work of utility companies or other agencies in such streets, alleyways, or parking areas. No street shall be closed plant operations without first obtaining permission of the ENGINEER and the DEPARTMENT. Where excavation is being performed in any streets, one lane shall be kept open to traffic at all times, unless otherwise indicated. Toe boards shall be provided to retain excavated material if required by the ENGINEER or the DEPARTMENT. Fire hydrants on or adjacent to the WORK shall be kept accessible to fire-fighting equipment. Temporary provisions shall be made by the CONTRACTOR to assure the use of sidewalks and the proper functioning of gutters, storm drain inlets, and other drainage facilities.

1.4 CONTRACTOR'S WORK AND STORAGE AREA

- A. The CONTRACTOR shall limit his operations, temporary facilities and storage of equipment and materials to the project site. Should the CONTRACTOR require additional area, outside the project site, for its operations or storage, the CONTRACTOR shall make its own arrangements for any necessary additional lands or facilities necessary for the proper execution of the WORK and for locating the field offices as required.
 - 1. The CONTRACTOR may utilize private warehouse and/or office space for his storage area and/or construction field offices.
- B. The CONTRACTOR shall submit to the ENGINEER for approval, a proposed plan and layout for all field offices, temporary facilities, and parking both for on the project site and on any additional lands obtained by the CONTRACTOR for its use during construction of the project. Prior to commencing any preparation remove, relocate and protect where necessary all existing underground and above ground facilities, pipelines, sprinkler systems, sod and all other existing installations. All these installations shall be restored to their initial conditions.
- C. The CONTRACTOR shall construct and use a separate storage area for hazardous materials used in constructing the WORK.
 - 1. For the purpose of this paragraph, hazardous materials to be stored in the separate area are products labeled with any of the following terms: Warning, Caution, Poisonous, Toxic, Flammable, Corrosive, Reactive, or Explosive. In addition, whether or not so labeled, the following materials shall be stored in the separate area: diesel fuel, gasoline, new and used motor oil, hydraulic fluid, cement, paints and paint thinners, 2-part epoxy coatings, sealants, asphaltic products, glues, solvents, wood preservatives, sand blast materials, and spill absorbent.

2. Hazardous materials shall be stored in groupings according to the Material Safety Data Sheets.
3. The CONTRACTOR shall develop and submit to the ENGINEER a plan for storing and disposing of the materials above.
4. The CONTRACTOR shall obtain and submit to the ENGINEER a single EPA number for wastes generated at the Site.
5. The separate storage area shall meet the requirements of authorities having jurisdiction over the storage of hazardous materials.
6. Hazardous materials that are delivered in containers shall be stored in the original containers until use. Hazardous materials delivered in bulk shall be stored in containers which meet the requirements of authorities having jurisdiction.

1.5 PARKING

- A. Parking inside at any County Facility will be allocated by DEPARTMENT near the vicinity of the project site and in accordance with safety regulations. The CONTRACTOR shall be responsible for making its own arrangements for parking of its direct employees, subcontractors, vendors, etc. as may be necessary either on site or offsite.
- B. The CONTRACTOR shall be responsible for providing the following minimum temporary parking spaces:
 1. At the project site:
 - a. One (1) space for the DEPARTMENT
 - b. One (1) space for the ENGINEER
 2. At the field office location:
 - a. One (1) space for the DEPARTMENT
 - b. Two (2) spaces for the ENGINEER
 - c. As required by regulatory agencies and permits
 3. Traffic and parking areas shall be maintained in a sound condition, free of excavated material, construction equipment, mud, and construction materials. The CONTRACTOR shall repair breaks, potholes, low areas which collect standing water, and other deficiencies.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

Project Name
CD 1.03(1)
EDP-WS-256 B

**MIAMI-DADE WATER & SEWER DEPT.
SDWWTP Oxygenation Basin 4 Rehabilitation
SECTION 01660A - SITE ACCESS AND STORAGE**

July 25, 2018
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SECTION 01700A
CONTRACT CLOSEOUT

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. Work Included: This section outlines the procedure to be followed in closing all contracts.

1.2 RELATED WORK

- A. Section 01720A - PROJECT RECORD DOCUMENTS.

1.3 FINAL CLEANUP

The CONTRACTOR shall promptly remove from the vicinity of the completed WORK, all rubbish, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction. Final acceptance of the WORK by the DEPARTMENT will be withheld until the CONTRACTOR has satisfactorily performed the final cleanup of the Site.

1.4 SUBSTANTIAL COMPLETION AND FINAL INSPECTIONS

- A. The DEPARTMENT will not issue preliminary punch lists. After final cleaning and upon written notice from the CONTRACTOR that he has inspected the work and it is substantially completed, the ENGINEER will make a substantial completion inspection with the DEPARTMENT and the CONTRACTOR present. Upon completion of this substantial completion inspection, the ENGINEER will submit to the CONTRACTOR a written final punch list of any particulars which this inspection reveals as defective or incomplete work.
- B. Upon receiving written notice from the ENGINEER, the CONTRACTOR shall immediately undertake the work required to remedy the defects and complete the work to the satisfaction of the DEPARTMENT.
- C. Each item in the punch list shall have a time duration agreed upon by both parties which shall not exceed 10 calendar days. Punchlist items may be eliminated individually from the list when approved by the ENGINEER.
- D. When the CONTRACTOR has corrected or completed the items as listed in the ENGINEER's written notice, inform the ENGINEER, in writing, that the required work has been completed. Upon receipt of this notice, the ENGINEER, in the presence of the CONTRACTOR, shall make the final inspection of the Project.
- E. Should the ENGINEER find all work satisfactory at the time of the inspection, the CONTRACTOR will be allowed to make application for final payment in accordance with the provisions of the General Covenants and Conditions.

1. If the CONTRACTOR fails to complete any item of work within a time period equal to 100% of the agreed upon duration of time for all individual items, the ENGINEER will notify the CONTRACTOR in writing specifying the conditions pertaining thereto and directing the CONTRACTOR to comply with his directive. If the CONTRACTOR has not corrected such condition within 5 days of such notice, it shall be sufficient grounds for the ENGINEER to order the subject items discontinued and have them completely remedied in a timely manner at the expense of the CONTRACTOR.
2. No final estimate shall be issued by the ENGINEER until the ENGINEER has assured himself that the punchlist has been 100% completely finished and all other related documents are submitted.

1.5 FINAL SUBMITTALS

- A. No Contract will be finalized until all of the following have been submitted and approved in conformance with Section 01720A - PROJECT RECORD DOCUMENTS.
 1. Record Drawings.
 2. Manufacturers' Certificates of Proper Installation.
 3. Material Tests and Certifications.
 4. All Test Reports.

1.6 GUARANTEES, BONDS, AND AFFIDAVITS

- A. No Contract will be finalized until all guarantees, bonds, certificates, licenses, roofing warranty, C.O. and affidavits required for work or equipment as specified are satisfactorily filed with the ENGINEER.

1.7 RELEASE OF LIENS OR CLAIMS

- A. No Contract will be finalized until satisfactory evidence of affidavit and release, have been submitted to the DEPARTMENT.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

SECTION 01720A
PROJECT RECORD DOCUMENTS

PART 1 -- GENERAL

1.1 THE SUMMARY

- A. The CONTRACTOR shall maintain at the site one record copy of the following:
1. Record Drawings. Record Drawings as used herein shall mean a drawing that reflects construction or design changes.
 2. Record Specifications.
 3. Addenda.
 4. Change Orders and other modifications of the Contract.
 5. ENGINEER's written orders or instructions.
 7. Field test records.
 8. Construction photographs.
- B. The records listed above are to be made available for the ENGINEER's review at all times for all projects.

1.2 MAINTENANCE OF DOCUMENTS AND SAMPLES

- A. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

1.3 RECORDS

- A. Label each document "PROJECT RECORD" in neat large printed letters.
1. Do not conceal any work until as-built information is recorded by the CONTRACTOR's and, if so required, by the Department.

1.4 DRAWINGS

- A. During the life of the Contract, maintain records of all deviations from the Plans and Specifications and prepare therefrom As-Built Record Drawings showing correctly and accurately all changes and deviations made during construction to reflect the work as it was actually constructed. It is the responsibility of the CONTRACTOR to check the As-Built Record Drawings for errors and omissions prior to submittal to the Department and certify in writing that the As-Built Record Drawings are correct and accurate,

- B. Certification: The CONTRACTOR shall certify on as-built record drawings all other actual constructed details and information as may be required by the Department.
- C. Drawings on Magnetic Media: The Department requires the submittal of as-built drawings in AutoCAD 2015 for Windows format or later. Graphical information contained on magnetic media shall be the same as provided on plan sheets. Magnetic media shall be delivered to the office of the Chief, Engineering Division, at 3575 S. LeJeune Road, Miami, Florida 33146 or by mail at P. O. Box 330316, Miami, Florida 33233-0316. A letter of transmittal shall be provided, containing a list of all files and data being provided. Since the drawings for this tank are not electronically available, we will substitute this requirement for a set of redline drawings and a final written report indicating the areas repaired, methods and location.

PART 2 -- PRODUCTS (NOT USED)

PART 3 -- EXECUTION (NOT USED)

END OF SECTION

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SECTION 03200

CONCRETE REINFORCEMENT

PART 1 - GENERAL

1.1 QUALITY ASSURANCE

A. Codes and Standards: Comply with the latest edition of the following codes, specifications, and standards, except where more stringent requirements are shown or specified:

1. ACI 117 Tolerances for Concrete Construction and Materials.
2. ACI 301 Specifications for Structural Concrete for Buildings.
3. ACI 315 Details and Detailing of Concrete Reinforcement.
4. ACI 318 Building Code requirements for Reinforced Concrete.
5. ACI 439.3R Mechanical Connection of Reinforcing Bars.
6. AWS D1.4 Structural Welding Code Reinforcing Steel.
7. CRSI, Manual of Standard Practice.
8. CRSI, Placing Reinforcing Bars.
9. Wire Reinforcement Institute, Manual Standard Practice.

1.2 REFERENCES

A. American Society for Testing and Materials (ASTM), latest edition:

1. A82 Specification for Steel Wire, Plain, for Concrete Reinforcement.
2. A184 Specification for Fabricated Deformed Steel Bar Mats for Concrete Reinforcement.
3. A185 Specification for Steel Welded Wire Fabric, Plain, for Concrete Reinforcement.
4. A496 Specification for Steel Wire, Deformed, for Concrete Reinforcement.
5. A497 Specification for Steel Welded Wire Fabric, Deformed, for Concrete Reinforcement.
6. A615 Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
7. A775 Specification for Epoxy-Coated Reinforcing Steel Bars.
8. C1116 Specification for Fiber-reinforced Concrete and Shotcrete.

1.3 SUBMITTALS

A. General:

1. Submit shop drawings for fabrication, bending, and placement of concrete reinforcement.
 - a. Comply with ACI 315 showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement and accessories.

- b. Include special reinforcement required at openings through concrete structures.
- 2. Shop drawings made from sepias (or other reproductive methods) of the structural drawings will not be accepted and shall be cause for resubmittal.
- B. Selection of splices: Splices shall be full tension, unless noted otherwise.
 - 1. Splices noted on the drawings to be compression splices shall be furnished by one of the following:
 - a. Compression lap splices according to ACI 315.
 - b. Mechanical compression only connectors according to ACI 439-3R, staggered 1/2 Class "C" lap length and maintaining not less than 1/4 the total tensile capacity of any column face.
 - c. Full penetration welds staggered not less than 18 diameters.
 - 2. Splices shown on the drawings as either Class "A" or Class "B" may be one of the following:
 - a. Class "B" lap splices.
 - b. Class "A" (but not less than compression lap) lap splices staggered not less than one Class "B" lap length.
 - 1) Exception: This shall not be allowed when shown as class "B" in a location, which by design, has already accounted for other continuing bars or staggered splices.
 - c. Appropriate mechanical connectors according to ACI 439-3R staggered not less than 24 diameters.
 - d. Full penetration welds staggered not less than 24 diameters.
 - 3. Unless otherwise noted in the drawings, reinforcing shall be spliced to develop the full strength of the bar in either tension or compression. Those splices shall be furnished by one of the following:
 - a. Class "B" lap splices where only 1/2 of the total rebars are spliced at any one floor.
 - b. Full penetration welds staggered not less than 36 diameters.
 - c. Appropriate mechanical connectors according to ACI 439-3R staggered not less than 36 diameters.
 - 4. Total steel at lap splices shall not exceed 8 percent for columns or shear wall cores containing the spliced bars.
 - a. All bars may be lapped at one section for up to 4 percent steel.
 - b. 1/2 of the bars may be lapped for up to 5.3 percent steel.
 - c. 1/3 of the bars may be lapped for up to 6 percent steel.

- d. Above 6 percent steel, other splice choices shall be used.
- 5. Where staggered lap splices are used, provide a mixture of bar sizes as appropriate where vertical bar size changes on the drawings.
- 6. Where different size bars are lap spliced, the length of splice may be based on the smaller bar size. If there is a larger quantity of the smaller bar size, the splice length shall be based on the larger bar.
- 7. It shall be the responsibility of the reinforcing detailer to determine the concrete strength at the point of a lap splice, the bar position (top or other), bar spacing, confinement condition based on ties or stirrups or edge condition to select the proper lap length.
- 8. Increase laps for bundled bars according to ACI 318, with number based on total bars in group including lapped bars.
- C. Detailing of Splices: Placing shop drawings shall specifically show splice lap lengths where they occur. Bar diameter lap tables and references to other charts are not acceptable.
- D. Staggered Laps Required: Provide staggered laps in any member as necessary to keep space between bars within splice zone at least 1 inch or 1 bar diameter clear.
- E. Detailing of Bar Placement: For any bar other than those placed at an edge condition, between edge condition or openings, or any other location where the bar cannot be shifted longitudinally, a dimension shall be shown from an identifiable building grid, wall, or edge to at least one end of the bar.
- F. Congested Areas of Placement: For any conditions resulting in bar spacing less than 2 diameters clear or where the placement of bars in one member requires critical templating to allow bar placement in an intersecting member, furnish details of sufficient scale to show clearances, spacing, and arrangements for properly placing those bars.
- G. Accessories: Show accessories, supports, chairs, bolsters, and spacers necessary to complete the installation. Where supports are beyond the scope of CRSI detailing standards and custom designed supports are required, provide engineering calculations demonstrating the capacity of the system.
- H. Flat Plates: Provide not less than 3 separate drawings of each plate separately showing bottom bars, top bars, and accessories.
- I. Welding Submittals:
 - 1. If welding of reinforcing bars is to be included as part of the work, submit the following:
 - a. A complete welding procedure specification according to AWS D1.4.
 - b. A certified chemical analysis of the steel to be welded.
 - c. Carbon equivalence calculations according to AWS D1.4.
 - d. Qualification papers for welders who will be employed on the project. Welders shall have passed a qualification test within a 12 month period before the work or furnish a statement from a testing agency acceptable to A/E that they have

observed or tested that welder's work under similar requirements within the past 6 months.

1.4 SUBSTITUTIONS

A. Reinforcing Splicing:

1. Splices shown in the drawings shall be considered mandatory for base bid purposes.
2. Alternative methods of providing for splices are available within the constraints of this specification and ACI 318.
3. If alternative splices are desired, the shop drawing submitted shall clearly indicate the change and include authorization by any other subcontractors involved in the change.

PART 2 - PRODUCTS

2.1 REINFORCING MATERIALS

A. Comply with Chapter 5 of ACI 301.

B. Reinforcing Steel:

1. Bars #3 through #11 shall be deformed bars according to ASTM A615 Grade 60 and according to the additional requirements of Paragraph 5.2.2.1 of ACI 301.
2. Bars #2 in size shall be plain round meeting A615/A-96a Grade 40.
3. Welded wire fabric shall be of plain wire. Welded wire fabric shall be galvanized at exterior exposed concrete.
4. Unless indicated otherwise the minimum concrete protective cover specified in Paragraph 5.7.1 of ACI 301 is the specified cover for this project unless indicated otherwise.

C. Epoxy-Coated Reinforcing Bars: ASTM A775.

D. Form-Saving Splice Connectors: Flanged devices to allow insertion of threaded reinforcing bars into a previously formed face. Available products include, but are not limited to:

1. Form Saver by Lenton.
2. DB-SAE Splices System by Dayton Superior.
3. Rebar Flange Coupler by Williams Form Engineering Corp.

E. Mechanical Connectors and Splice Devices: Proprietary products suitable for the use intended and listed in ACI 439-3R-83.

F. Steel Wire: ASTM A82, plain, cold-drawn, steel.

G. Fabricated Deformed Steel Bar Mats: ASTM A184.

H. Welded Steel Wire Fabric: ASTM A185.

- I. Deformed Steel Wire: ASTM A496.
- J. Welded Deformed Steel Wire Fabric: ASTM A497.
- K. Supports for Reinforcement: Provide supports for reinforcement including bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI Class C or Class A as required acceptable.
 - 1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
 - 2. For exposed-to-view concrete surfaces and with legs of supports in contact with forms, provide supports with legs, either plastic protected according to CRSI, Class 1 or stainless steel protected according to CRSI, Class 2.
 - 3. Provide custom supports as required to support top layer of mats and other special conditions not provided for within CRSI standards.
- L. Fiber Reinforcement:
 - 1. Manufacturers:
 - a. Fibermesh by Protex
 - b. Forta-Ferro by Forta Corporation, Grove City, PA.
 - 2. Comply for use in plain concrete as defined in ACI 318.1. and the following:
 - a. Fibers shall not be used as a replacement for any reinforcement required for structural purposes.
 - b. Blend fibers into the concrete mix according to manufacturer's written instructions.
 - c. Provide control joints according to Section 5.2 of ACI 318.1.
 - d. Fibers shall comply with ASTM C1116-95.

PART 3 - EXECUTION

3.1 PLACING REINFORCEMENT

- A. Comply with Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as specified.
- B. Clean reinforcement of loose rust and mill scale, dirt, and other materials that reduce or destroy bond with concrete.
- C. Accurately position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as required.

- D. When any reinforcing bar is placed projecting either horizontally or vertically from a given element to subsequently lap with other reinforcing bar, verify the detailed lap length will be achieved.
 - 1. Report any deviation to the A/E for correction before placing concrete in the first element.
 - 2. Bar projections resulting in laps shorter than the detailed laps shall be considered rejected, and corrective measures shall be taken at the direction of the A/E with no additional cost to the Owner.
- E. Place reinforcement to obtain at least minimum coverages for concrete protection.
 - 1. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement operations.
 - 2. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
- F. Install welded wire fabric in as long lengths as practicable.
 - 1. Lap adjoining pieces at least one full mesh plus 2 inches and wire splices.
 - 2. Offset end laps in adjacent widths to prevent continuous laps in either direction.
- G. Provide the A/E with not less than 48 hours' notice before starting any welding of reinforcing bars.
 - 1. Welding of reinforcing bars shall only be allowed under the direct supervision of the A/E.
 - 2. Welding of crossing reinforcing bars is not allowed.
 - 3. Any bars with unauthorized or unacceptable welds shall be replaced at no additional cost to the Owner.

END OF SECTION

SECTION 03540

CEMENTITIOUS UNDERLAYMENT

PART 1 GENERAL

1.1 SUMMARY

- A. This section specifies a fast setting, high early strength, cement based, non-shrink, abrasion and corrosion resistant underlayment applied to wastewater environments concrete surfaces.

1.2 RELATED SECTIONS

- A. Section 03200 – Concrete Reinforcement
- B. Section 03721 – Preparation for Resurfacing Concrete
- C. Section 03732 – Concrete Repair

1.3 REFERENCES

- A. American Society for Testing and Materials:
 - 1. ASTM C-109 – Test Method for Compressive Strength of Hydraulic Cement Mortars
 - 2. ASTM C-230 – Standard Specification for Flow Table for Use in Tests of Hydraulic Cement.
 - 3. ASTM C-266 – Test Method for Time of Setting of Hydraulic-Cement Paste by Gillmore Needles.
 - 4. ASTM C-882 – Test Method for Bond Strength of Epoxy-Resin Systems Used with Concrete by Slant Shear.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01340A – Shop Drawings, Product Data, and Samples
 - 1. Product Data: Manufacturer's literature to include physical and chemical characteristics, surface preparation, application instructions, recommendations and storage and handling requirements.
 - 2. Test Data: Confirm compliance and performance that meet or exceed specified requirements.
 - 3.
- 3. Installation Methods:

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Manufacturer must have at least ten years of experience manufacturing similar products.
- B. Applicator Qualifications: Applicator must have at least three years of experience applying specified product or similar products or have manufacturer's representative on site ensuring that preparation and application are performed correctly.
- C. All work shall be performed in a safe and workmanlike manner and in conformance with all applicable codes, standards, local rules, regulations and ordinances of government agencies having jurisdiction.

1.6 DELIVERY, STORAGE & HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 1600 and 1600A.
- B. Materials must be delivered in original, unopened containers with the manufacturer's labels including product name and batch numbers.
- C. Store material in a dry location at approximate 70°F and, above ground. Protect material from moisture, humidity and extreme temperatures. Avoid freezing.

1.7 ENVIRONMENTAL REQUIREMENTS

- A. Environmental Conditions: Condition material to 65°F – 75°F before using. The substrate shall be between 50°F – 80°F prior any works. Do not apply material when temperature is below 50°F or when temperature is expected to fall below 50°F within 48 hours. Do not apply material when temperature is above 90°F.
- B. Protection: Precautions should be taken to avoid damage to any surface or structural element near the work zone. Contractor shall be responsible to acquaint himself with the existing site conditions, any area damaged, destroyed or disturbed during rehabilitation works shall be repaired or replace as per the structural engineer specification.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Sika, Sauereisen or approved equal.

2.2 MATERIALS

- A. Cementitious Underlayment:

1. Description: Fast setting, high early strength, cement based, non-shrink, and corrosion resistant underlayment applied to wastewater environments concrete surfaces. The product shall be capable to be applied at horizontal, vertical and overhead surfaces in uniform thicknesses from 1/8 inch up to 1 1/2 inch.

1.3 MATERIAL PROPERTIES

- A. ASTM C-109 – Compressive Strength:

1. 1 Day – 4,500 psi minimum
2. 7 Days – 5000 psi minimum
3. 14 Days – 5500 psi minimum
4. 28 Days – 7,000 psi minimum

- B. ASTM C-266 – Rate of Set:

1. Initial Set – 5 hours minimum
2. Final Set – 24hours maximum

- C. ASTM C-882 – Bond Strength:

1. 7 Days – 2,000 psi minimum

PART 3 EXECUTION

3.1 EXAMINATION

- A. Structural engineer on record shall perform an inspection prior all resurfacing works. Do not begin surface preparation nor application until any unacceptable conditions are corrected.

3.2 SURFACE PREPARATION

- A. General: Surfaces shall be free of oil, grease, water or any other contaminants that may inhibit bond. Prepare and clean substrate according to manufacturer's recommendations for substrate indicated. Provide clean, dry substrate for underlayment application.

1. Treat nonmoving substrate cracks to prevent cracks from reflecting through underlayment according to manufacturer's recommendations.

- B. Concrete Substrates: In accordance with Section 03721 – Preparation for Resurfacing Concrete. Ensure that all laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and all materials that may inhibit bond of underlayment to substrate have been removed.

3.3 MIXING

- A. Mixing shall be done mechanically with a slow mortar mix or drill motor with jiffy type mixing blade to obtain a uniform consistency. Equipment shall be clean and free of cement or any other contaminant. Mix an appropriate batch governed by the area to be covered, number of workers, temperature and speed with which it can be placed. Mix ratio in accordance with manufacturer recommendations. First, pour water into the mixing container. Then, add powder material slowly while continuing to mix. Mix to a uniform consistency for a minimum of five minutes.
- B. Mix only the amount of material that can be placed within working time. Do not re-temper material.

3.4 APPLICATION

- A. Underlayment must be placed immediately upon completion of mixing. Method of application could be trowelable, castable or by rotary spray pump, however the application shall be in accordance with manufacturer. Contractor shall submit the proposed method of application and the properties of the material once applied by the selected method.

3.5 FINISHING

- A. Finish material in accordance with protective coating surface requirements as per Section 09881 Protective Coating on Concrete.

3.6 PROTECTION

- A. Protect horizontal surfaces from traffic until repair mortar compound has cured.

END OF SECTION

SECTION 03721

PREPARATION FOR RESURFACING CONCRETE

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Preparation of concrete surfaces to be rehabilitated.
- B. Work in this Section includes hydro blasting (Water Pressure) cleaning, sandblasting, concrete removal and testing for pH, moisture content, and soundness of concrete.

1.02 RELATED SECTIONS

- A. Section 01010A - Summary of the Work.
- B. Section 01410A – Testing and Testing Laboratory services
- C. Section 03732 - Concrete Repair: Rehabilitation or Restoration of concrete after preparation for resurfacing.

1.03 SCHEDULING

- A. Perform sandblasting and water pressure cleaning of work between the hours of 7 am to 5 pm.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Blasting Sand: Clean sand blasting sand free of impurities passing through 200 sieves.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work.

3.02 PREPARATION

- A. Prepare and protect adjacent work from damage.

3.03 REHABILITATION CLEANING

- A. Prior to any rehabilitation work, the concrete surface shall be thoroughly cleaned to produce a clean interior surface free of all coatings, sand, rock, roots, sludge or other deleterious materials.
- B. During all cleaning and preparation operations all necessary precautions shall be taken to protect the concrete surface from damage). During these operations, precautions shall also be taken to ensure that no damage is caused to public or private property adjacent to or served by these structures.
- C. All sludge, dirt, sand, rock, grease, roots and other solid or semi-solid materials resulting from cleaning or surface preparation operations shall be removed from the immediate work site where it was removed.
- D. All waste materials and debris removed during these operations shall be, if sufficiently dewatered (at least 20 percent solids and no visible moisture), conveyed directly to the County's Class I sanitary landfill, the South Dade Solid Waste Disposal Facility, 24000 S.W. 97th Avenue, Dade County, Florida. Solids which are too wet for direct deposit at the landfill shall be conveyed to and deposited at the Miami Dade County's South District Waste Water Treatment Plant located at 8950 S.W. 232nd Street, Miami Dade County, Florida, which is the Plant's "cleanout" pad established to receive and drain/dry this material. All cost for such removal and disposal, including tipping fees to either site, shall be paid by the Contractor, and shall be included in the prices quoted under the various Quotation Items and no other compensation will be provided. Under no circumstances shall sludge or other debris removed during these operations be dumped or spilled into the streets, ditches, storm drains or other sanitary sewers.
- E. The Contractor is advised that he shall not dispose of this material by legal or illegal dumping on private or public property, by sale to others, or any means other than those given above.
- F. Any load of material, or any portion thereof, disposed of in a non-permitted fashion will result in a charge to the Contractor in the amount of \$200.00 per load, or any portion thereof, which sum will be deducted by the Department from any monies due the Contractor. This charge is in addition to any other damages specified elsewhere.
- G. The Contractor shall keep his haul route and work area(s) neat and clean and reasonably free of odor and shall bear all responsibility for the clean-up of any spill which occurs during the transport of cleaning/surface preparation by-products and the clean-up of any such material which is authorized by or pursuant to this Contract and in accord with applicable laws and regulations. The Contractor shall immediately cleanup any such spill, or waste. If the Contractor fails to cleanup such spill or waste immediately, the County shall have

the right to cleanup or arrange for its cleanup and may charge to the Contractor all costs, including administrative cost and overhead, incurred by the County in connection with such cleanup. The County may also charge the Contractor any cost incurred or penalties imposed on the County as a result of any spill, dump or discard. Under no circumstances is this material is to be discharged into the waterways or any place other than where authorized to do so by the appropriate authority. The term "Contractor" as used in this section shall include the Contractor's subcontractors and other Contractors.

- H. The general requirements for vehicles hauling such waste materials are as follows: Transport vehicles must be of type(s) approved for this application by Dade County, HRS, and the State of Florida FDOT. General requirements are that the vehicles have watertight bodies, that they be properly equipped and fitted with seals and covers to prohibit material spillage or drainage, and that they be cleaned as often as is necessary to prevent deposit of material on roadways. Vehicles must be loaded within all legal weight limits and operated safely within all traffic and speed regulations.
- I. The routes used by the Contractor for the conveyance of this material on a regular basis shall be subject to approval by the governing authority having jurisdiction over such routes.

3.04 PREPARATION AND INSPECTION OF CONCRETE SURFACES

J. Preparation of Concrete Surfaces

- 1. Hydro blasting: The Contractor shall remove loose and deteriorated concrete and all existing coatings and contaminants in the areas that are to be lined by hydro blasting. The hydro blasting operation shall conform to:
 - a. Hydro blasting shall be used to provide a clean, contamination-free, roughened and sound surface. It is intended that the hydro blasting will alter the profile of the concrete and clean any exposed rebar. Flush out cracks and voids with water to remove laitance and dirt. Clean concrete surfaces of dirt or other contamination; wire brush using water; rinse surface and allow to dry.
 - b. Acceptably cleaned and prepared surfaces shall be free of laitance, efflorescence, oil, grease, rust and other penetrating contaminants. The surface shall be free of fins, projections and loosely adhering concrete and dirt particles. Remove fins and projections by mechanical means.
 - c. Equipment shall sustain water pressures between 3,500 and 10,000 psi at the nozzle.
 - d. Use the equipment in accordance with the manufacturer's instructions. Organize the work to thoroughly cover the area

- specified for repair.
 - e. Particulate waste created by hydro blasting shall be removed and disposed of in accordance with this Section. All of the waste or debris created shall be reclaimed and not allowed to move on to the basin exit.
 - f. The hydro blasting operation shall conform to all local, state and federal air quality standards and regulations.
- 2. Sand blasting: The Contractor shall remove loose and deteriorated concrete and all existing coatings and contaminants in the areas that are to be lined by sand blasting. The operation shall conform to:
 - a. Sand blasting shall be used to provide additional clean, contamination-free, roughened and sound surface. It is intended that the sand blasting will alter the profile of the concrete and clean any exposed rebar. Flush out cracks and voids to remove laitance and dirt. Clean concrete surfaces of dirt or other contamination.
 - b. Acceptably cleaned and prepared surfaces shall be free of laitance, efflorescence, oil, grease, rust and other penetrating contaminants. The surface shall be free of fins, projections and loosely adhering concrete and dirt particles. Remove fins and projections by mechanical means.
 - c. Equipment shall sustain a capacity of 300 cfm pressure at the nozzle and a minimum air pressure of between 90 and 100 psi. The nozzle should be venture type with a minimum inside diameter of three-eighth of an inch. The hose line should have adequate strength for the pressure being used and the inside diameter of the hose should be no less than one and a half inches to keep the sand continuous suspension while traveling through the hose. When blasting the surface, the operator should hold the nozzle perpendicular to the surface and about two feet away.
 - d. Use the equipment in accordance with the manufacturer's instructions. Organize the work to thoroughly cover the area specified for repair.
 - e. Particulate waste created by sand blasting shall be removed and disposed of in accordance with this Section. All of the waste or debris created shall be reclaimed and not allowed to move on to the basin exit.
- 3. The sand blasting operation shall conform to all local, state and federal air quality standards and regulations.

3.05 REMOVAL OF DETERIORATED CONCRETE

- A. Removing Deteriorated Concrete: After hydro blasting, damaged concrete substrates shall have all contaminated concrete removed by scabbing, chipping,

grinding, brushing, blasting or other methods to a depth where all the white calcium sulfate is removed and only hard grey concrete with a surface pH between 7.0 and 11.0 remains.

- B. Any reinforcing steel exposed by removing deteriorated concrete shall be thoroughly cleaned by sandblasting to remove all contaminated concrete and rust particles.
- C. Immediately after the cleaned reinforcing steel is inspected and accepted by the Engineer, the Contractor shall place a protective coating on the exposed reinforcing steel per Specification Section 03200.
- D. When the deteriorated concrete is removed, the Contractor shall thoroughly clean the surface to remove all fines and deleterious materials that will adversely affect the bond of the proposed repair material.

3.06 INSPECTION OF SURFACES

- A. Inspection of Concrete Surfaces: All surfaces where deteriorated concrete has been removed will require inspection by the Engineer to determine sound concrete prior to commencement of the repair operation. The surfaces will be tested for acidity and moisture. If the pH of the surface is less than 7.0 additional concrete shall be removed to a depth where the surface reading is equal to or greater than a pH of 7.0. Moisture readings for the surface of the concrete will be performed to verify the specification requirements of the manufacturer of the repair and coating materials.

3.07 REPAIR AND ACCEPTANCE OF CONCRETE SURFACE

- A. Repair Concrete after water blasting and sandblasting through methods specified in Section 03732.
- B. Acceptance: The Contractor shall measure the surface pH, moisture content and temperature of the prepared concrete surface prior to beginning the coating operation. The acceptable ranges, as recommended by the coating manufacturer, shall be used to determine whether coating application may proceed and shall determine the choice of primer to be applied. The Contractor shall also check the concrete surfaces for residual laitance by visual inspection with magnification if necessary and by primer application on suspect areas. If the primer does not penetrate the concrete surface by turning the surface dark and the laitance area can be visually detected; the Contractor shall not accept the surface and shall have the area sandblasted and/or water blasted again for laitance removal.

3.08 FIELD QUALITY CONTROL

A. Field inspection and testing will be performed under provisions of Section 01410A and per coating manufacturer's published written instructions so as not to void any warranties provided.

B. Final Surface Inspection: Check surface pH and moisture content of the concrete to comply with the requirements of the coating manufacturer for pH and moisture content.

C. Test concrete for calcium chloride and moisture content during the execution of the Work.

END OF SECTION

SECTION 03732
CONCRETE REPAIR

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Preparation of concrete and application of repair materials.
- B. Rehabilitation and Restoration of concrete surfaces.
- C. Repair of concrete internal reinforcement.

1.02 RELATED SECTIONS

- A. Section 03200 – Concrete Reinforcement.
- B. Section 03721 - Preparation for Resurfacing Concrete.

1.03 REFERENCES

- A. ANSI/ASTM A82 - Cold Drawn Steel Wire for Concrete Reinforcement.
- B. ANSI/AWS D1.4 - Structural Welding Code for Reinforcing Steel.
- C. ASTM A615 - Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
- D. ASTM C33 - Specifications for Concrete Aggregates.
- E. ASTM C150 - Portland Cement.
- F. ASTM C404 - Aggregates for Masonry Grouts.
- G. ASTM C882 - Bond Strength of Epoxy Resin Systems Used with Concrete.
- H. ASTM D638 - Test Method for Tensile Properties of Plastics.
- I. ASTM D695 - Compressive Properties of Rigid Plastics.
- J. ASTM D790 - Flexural Properties of Plastics and Electrical Insulating Materials.

1.04 SUBMITTALS

- A. Product Data: Indicate product standards, physical and chemical characteristics, technical specifications, limitations, maintenance instructions, and general recommendations regarding each material.

- B. Manufacturer's Certificate: Certify that specified products meet or exceed specified requirements.

1.05 PROJECT RECORD DOCUMENTS

- A. Accurately record actual locations of structural reinforcement repairs, type of repair, and extent.

1.06 QUALITY ASSURANCE

- A. Perform welding work in accordance with ANSI/AWS D1.4.

1.07 QUALIFICATIONS

- A. Materials Manufacturer: Company specializing in manufacturing the products specified in this Section with minimum three years documented experience.
- B. Applicator: Company specializing in concrete repair approved by manufacturer.
- C. Design reinforcement splices under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in the State of Florida.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, protect and handle products to site under provisions of Section 01600 and 1660A.
- B. Comply with instructions for storage, shelf life limitations, and handling.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Sika 123, Epoxytec CPP, Underlayment F-120 (for Gunite) or approved equal

2.02 PATCHING MATERIALS

- A. Concrete Patching Material: Sika 123, Epoxytec CPP, Underlayment F-120 (for Gunite) or approved equal.
- B. Repair of Removed Concrete Areas: Epoxytec CPP or approved equal.
- C. Bonding Agent: As required by manufacturer of repair and patching material.
- D. Portland Cement: ASTM C150, Type I, grey color.

- E. Sand: ASTM C33 and C404; uniformly graded, clean.
- F. Water: Clean and potable.
- G. Cleaning Agent: Commercial muriatic acid of percent strength.

2.03 REINFORCEMENT MATERIALS

- A. Reinforcing Steel: ASTM A615, 60 ksi yield grade billet-steel deformed bars, epoxy finish.
- B. Stirrup Steel: ANSI/ASTM A82.
- C. Splicing Sleeves: Bar Grip or equal for the size of bar been spliced.

2.04 MIXING MORTARS

- A. Mix mortars in accordance with manufacturer's instructions for purpose intended.
- B. Mix components in clean equipment or containers. Conform to pot life and workability limits.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are ready to receive work.
- B. Beginning of installation means acceptance of substrate.

3.02 PREPARATION

- A. Clean concrete surfaces of dirt, laitance, corrosion, or other contamination; wire brush using water; rinse surface and allow to dry.
- B. Flush out cracks and voids with water to remove laitance and dirt.
- C. Provide temporary entry ports spaced to accomplish movement of fluids between ports; no deeper than the depth of the crack to be filled or port size diameter no greater than the thickness of the crack. Provide temporary seal at concrete surface to prevent leakage of adhesive.
- D. For areas patched with epoxy mortar, remove any broken, unsound or deteriorated substrate until solid concrete is found. The sound substrate must be clean with a the appropriate surface profile for the specified material installation. Remove corrosion from steel. Clean surfaces mechanically; wash with; rinse with water.

- E. Sandblast clean the exposed reinforcement steel surfaces. Mechanically cut away damaged portions of bar.

3.03 REPAIR WORK

- A. Repair exposed structural, shrinkage, and settlement cracks of concrete as indicated on Drawings by patching Sika 123, Epoxytex CPP, Underlayment F-120 (for Gunitex) or approved equal.
- B. Repair spalling. Fill voids flush with surface. Apply surface finish.
- C. Repair of Damaged Reinforcing Bars:
 - 1. Where damaged rebar's are found, cut and replace with the same diameter rebar's spliced not less than 18", for #5 or smaller, and 24" for #6 and larger. If most of the reinforcement in the wall is damaged, all rebar's shall be cut, and a new reinforcing mat shall be placed on the whole wall area attached to the existing concrete with ½ inch diameter studs @ 24" o.c. each way; or
 - 2. Where damaged rebar's are found, cut and replace with the same diameter rebar's attached to the existing reinforcement with bar-grip sleeve splices. Fit the press around the coupler and bar, and hydraulically push the inner die toward the outer die in order to deform a segment of the coupler onto the rebar along the length of the coupler."
 - 3. Reinforcing steel shall at all times be protected from conditions conducive to corrosion until concrete is placed around it.
 - 4. The surfaces of all reinforcing steel and other metalwork to be in contact with concrete shall be thoroughly cleaned of all dirt, grease, loose scale and rust, grout, mortar and other foreign substances immediately before the concrete is placed. Where there is delay in depositing concrete, reinforcing shall be re-inspected and, if necessary re-cleaned.
 - 5. After cleaning, coat existing and new rebar work with 2.5 to 3.5 mils DFT of Tenemec Series 1 Omnithane. Protect surrounding concrete to prevent coating of concrete during coating of rebar, (Comply with ASTM A115)

3.04 REPAIR AND ACCEPTANCE OF CONCRETE SURFACE

- A. Concrete Repair
 - 1. Repair of Concrete Surfaces:
 - a. Concrete surfaces which are to receive a protective coating system and which have deteriorated to the point where they are not suitable for coating shall be repaired with a cement patching compound and reinforcing steel. The Contractor shall rebuild the concrete surfaces to their original lines and shapes where

damaged concrete has been removed as stated above.

- b. All concrete surfaces that are repaired and which are to receive a protective lining system shall have a controlled pater sweep of sandblast or waterblast to remove all laitance from the repaired areas. The blast pattern shall be by systematic removal from a defined rectangular area. The blasting operation shall be followed by a thorough cleanup operation including air drying and vacuuming to provide a clean dry surface for the protective lining system.
 - c. For patching honeycomb, isolate the affected area by removing layers of honeycombing until suitable solid concrete is exposed. Thoroughly clean the area to be repaired and remove all dirt and loose aggregate. Remove all rust from steel. Provide the proper surface profile for the specified material installation. Trowel mortar onto surface filling all pores and voids. The thickness of each lift shall not be less nor more of what specified by mortar manufacturer. Where multiple lifts are required score top surface of each lift to produce the roughened surface for next lift. Bring surface flush with surrounding area. Finish trowel surface to match surrounding area.
2. Cement Patching Compound: Use Sika 123 plus or equal, shall be used to repair the deteriorated concrete surfaces. The patching compound must be accepted by the protective lining manufacturer and the Engineer as to compatibility with the protective lining. The Contractor shall follow the instructions and recommendations of the patching compound manufacturer as to application, giving special attention to their time requirements, depth of repair, surface preparation procedures and curing time.
3. Structural Concrete Repair:
- a. Structural concrete repair shall be used to repair deteriorated concrete surfaces with fill depths greater that 2 inches that have the existing reinforcing corroded away and at areas as may be required by the Engineer. The areas shall be repaired using Sika 123 plus placed as specified above along with reinforcing steel as needed.
 - b. All surfaces where structural concrete repair materials will bond with existing concrete shall be coated with the bonding agent Sika Armatec 110, by Sika Corporation. The bonding agent shall be applied in strict accordance with the manufacturers instruction and shall have a minimum thickness of 20 mils.

4. Guniting repair (If Used):

- a. For optimum conditions, maintain a temperature of 60o-90oF on air, substrate, water and RestoKrete™ No. F-120 Powder during mixing, application and cure. The Underlayment components should be maintained at 65oF to 85oF for 48 hours prior to beginning work to ensure ease of application. At temperatures below 60oF, the application becomes more difficult and curing is retarded. Above 90oF, the material working time decreases. It is recommended that the material components be stored in a cooler area prior to mixing. Shading the substrate and using ice water to cool mixing equipment is not uncommon. Special consideration should be taken when elevated temperatures or low humidity conditions are present during application. Consult Sauereisen for recommendations.
- b. When RestoKrete™ No. F-120 is applied on vertical or overhead surfaces at a thickness greater than 1 inch it must be reinforced or anchored. "T" type anchors or 2 inch x 2-inch mesh are suitable to secure the No. F-120 Castable or Guniting grade materials. Consult Sauereisen for recommendations on proper reinforcing or anchoring systems.
- c. All surfaces to receive RestoKrete™ No. F-120 Underlayment must be properly designed and capable of withstanding imposed loads. Surfaces must be free of dust, loose particles, laitance, oil, grease, chemical contaminants, and previously applied coatings. Concrete surfaces which are contaminated with form oils or grease must be chemically cleaned or scarified to remove contaminants prior to beginning recommended surface preparation. Hydro blasting should be utilized to remove laitance, contaminants, or loose particles and to produce a clean hard surface. All standing surface water should be removed prior to applying Underlayment No. F-120. To ensure maximum adhesion and to prevent dehydration of No. F- 120 at substrate interface, the concrete should be thoroughly dampened with water prior to application. If concrete cannot be dampened or an unusual stress condition exists, a concrete bonding agent is recommended. Consult Sauereisen for recommendations. New Concrete - Concrete receiving Sauereisen RestoKrete™ Underlayment No. F-120 must have sufficient strength to support cured material. Old Concrete - All chemically attacked concrete must be removed and substrate chemically cleaned if necessary. Following hydro blast, all active hydrostatic leaks must be stopped by use of Sauereisen InstaPlug™ No. F-180 and all structural defects, voids, or cracks in substrate must be repaired prior to No. F-120 application. Brick - Remove oil, grease, and other contaminants that may inhibit bond. Hydro blast mortar joints to a depth of 1/2" to remove all loose material and to provide a clean, firm surface. Loose brickwork must be re-grouted with appropriate Sauereisen

- mortar to ensure structural integrity and all active hydrostatic leaks must be stopped prior to application of RestoKrete No. F-120.
- d. Control joints should only be used when No. F-120 is placed over concrete surfaces where existing expansion/control joints are present. Consult Sauereisen for recommendation.
 - e. Mixing should be done mechanically with a slow-speed mortar mixer or drill motor with a "Jiffy" type mixer blade to obtain a uniform consistency. The mixing equipment must be clean and free of Portland cement or other contaminants. The size of the batch will be governed by the area to be covered, the number of workers applying the material, temperature of the area and the speed with which it can be placed. Selection of No. F-120 Trowelable or Castable grade will be dependent upon extent of concrete deterioration; whether the application is on vertical, horizontal, or overhead surfaces; and degree of slope required if resurfacing to pre-existing levels. Sauereisen recommends that powder and water ratios are accurately weighed prior to mixing. If water must be measured in the field by volume, the approximate amount per 50 lb. bag of Powder is 83.2 fluid ounces (2.46 liters) for the Trowelable Grade and 67.8 fluid ounces (2.06 liters) for the Castable Grade. Pour the entire amount of potable water into the mixing container and add the Powder slowly, mixing continuously to avoid entrapped air. Mix slowly and thoroughly for at least 5 minutes until uniform consistency. Inadequate mixing or addition of more water will decrease physical properties. Do not add sand, gravel, Portland cement or other additives to RestoKrete No. F-120 material. Remove entire batch from the mixer when mixing is completed to prevent build-up in the equipment. While pouring one batch, another should be mixed in order to eliminate delays and permit continuous operation.
 - f. Trowelable - Underlayment is installed by trowel. A maximum 1/2-inch thickness may be used on vertical or overhead. Where thickness exceeds 1/2 inch, consult Sauereisen. Castable - After mixing, place No. F-120 Castable onto properly prepared substrate to specified thickness. If forms are required, they should be constructed of firmly braced wood or metal which has been given a light coating of form release agent. The form release agent must prevent No. F-120 from adhering to the screeds or forms, but should not leave a residue on the freshly cast material. Forms are to be completely sealed and rendered watertight with heavy consistency pliable caulking. Seal forms placed over horizontal rough surfaces. The form and screed systems should be strong enough to retain No. F-120 Castable in place without deformation. Forms and screeds may be removed after set has occurred and No. F-120 has sufficient strength to support itself. Do not impose loads until final set has been achieved. Lower temperatures will require longer cure periods before removing forms. Cold joints require a liberal priming of the previously

placed material with epoxy bonding agent. The bonding agent should not be allowed to dry prior to placing the freshly mixed RestoKrete™ No. F-120 Castable material.

- g. Pre-dampening - RestoKrete™ No. F-120 Guniting grade should be pre-dampened by adding 1 1/4 pints of potable water to each 50 lbs. of Powder. This can be achieved by mixing in a rotating blade mixer equipped with a water meter. Mix thoroughly to distribute moisture throughout the Powder. The pre-dampened No. F-120 Guniting material must be gunited within a 10-minute period after mixing. Avoid over dampening as this will cause premature set and weaken strength of the cured material. Installation - The pre-dampened No. F-120 should be applied with a standard double chamber or rotary-type guniting machine. Potable water should be pumped to the nozzle through a piston-primed airless pump to assure a constant 80 psi pressure at the nozzle. Normal adjustments may be made to get the correct proportions for good adhesion without slipping or slumping. After application of F-120G, no material should be placed over rebound. All rebound and other loose material on surfaces already gunited should be removed if a chemical-resistant topcoat will be added. DO NOT REUSE REBOUND.
- h. FINISHING - Castable - Pour in place and screed to desired height. A trowel can be used to distribute material. Broom or brush finish to provide a more desirable bonding surface. Trowelable - After placement of material by trowel, apply a broom or brush finish to provide a more desirable bonding surface. Guniting - RestoKrete™ No. F-120 Guniting hardens rapidly by a hydraulic-setting action. Troweling can be used to produce desired finish. Troweling should be done immediately after guniting otherwise it will damage the surface of partially set cement.
- i. Proper curing of No. F-120 is critical to the serviceability of the completed structure. No. F-120 may be top coated after its initial set in 5 hours at 700F. Final set is achieved at 24 hours at 700F. RestoKrete™ No. F-120 Underlayment must be properly cured in a high humidity environment (fog spray or equivalent). A Sauereisen curing compound may be utilized. If special condition exists, please consult Sauereisen's technical service department for additional information.

5. Finish of Repaired Surfaces:

- a. General: The repaired concrete surface shall in general have a finish that will match the uncorroded surface.
 - b. Surface Finish: "Ordinary Surface Finish" shall approximate the required finish for the protective lining system.
 - c. Procedure for Finishing: The final finish shall be flat and smooth by wood float or steel troweling. The concrete repair material manufacturer's requirements as to finishing shall be strictly adhered to, as particularly as to time and moisture requirements
- 6. Curing: Curing of repaired concrete with Cement Patching compound shall be in accordance with manufacturer's instructions. Concrete curing compounds are not allowed. The Contractor shall protect the newly repaired concrete from scarring or other damage.
- 7. Cleanup:
 - a. The Contractor shall provide a continuous cleanup operation for the concrete repair work. Sand, concrete debris, and other materials shall be removed daily from areas of the Pump Station.
 - b. At completion of the concrete repair work, remove all construction equipment, surplus material, debris and sand; wash down and sweep the area clean, prior to beginning the protective lining application. The Contractor is also required to provide a collection system to prevent materials, debris and other materials from entering the flow of any part of the sewer system.
- B. Acceptance: The Contractor shall measure the surface pH, moisture content and temperature of the prepared concrete surface prior to beginning the lining operation. The acceptable ranges, as recommended by the lining manufacturer, shall be used to determine whether lining application may proceed and shall determine the choice of primer to be applied. The Contractor shall also check the concrete surfaces for residual laitance by visual inspection with magnification if necessary and by primer application on suspect areas. If the primer does not penetrate the concrete surface by turning the surface dark and the laitance area can be visually detected; the Contractor shall not accept the surface and shall have the area sandblasted or water blasted again for laitance removal.

3.05 INJECTION - EPOXY RESIN ADHESIVE

- a. Inject adhesive into prepared ports under pressure using equipment appropriate for particular application.
- b. Begin injection at lower entry port and continue until adhesive appears in adjacent entry port. Continue from port to port until entire crack is filled.
- c. Remove temporary seal and excess adhesive.

- d. Clean surfaces adjacent to repair and blend finish.
- e. Crack repair – apply injection using Epoxy Resin, maintain record of crack width description, repair location, before and after photograph, application procedure for horizontal and vertical surfaces as required by manufacturer, as well as the acceptable repair product such as MasterInject 1500 by BASF, Sikadur 35 Hi-Mod LV by Sika or another approved equivalent.

3.06 APPLICATION OF JOINT SEALANT

CONSIDERATIONS & LIMITATIONS

Do not thin with solvents unless advised to do so by ITW Engineered Polymers. Confirm product performance in specific chemical environment prior to use. Prepare substrate according to “Surface Preparation” portion of this document. Always use protective clothing, gloves and goggles consistent with OSHA regulations during use. Avoid eye and skin contact. Do not ingest or inhale. Refer to Material Safety Data Sheet for detailed safety precautions. For industrial/commercial use. Installation by trained personnel only.

SURFACE PREPARATION

CONCRETE: Apply only to clean, dry and sound concrete substrates that are free of all coatings, sealers, curing compounds, oils, greases or any other contaminants. New concrete should be cured a minimum of 28 days.

- . Concrete that has been contaminated with chemicals or other foreign matter must be neutralized or removed.
- . Remove any laitance or weak surface layers.
- . Concrete should have a minimum surface tensile strength of at least 300 PSI per ASTM D-4541.
- . Surface profile shall be CSP-3 to CSP-5 meeting ICRI (International Concrete Repair Institute) standard guideline #03732 for coating concrete, producing a profile equal to 60-grit sandpaper or coarser. Prepare surface by mechanical means to achieve this desired profile.

STEEL: For immersion service, “White Metal” abrasive blast with an anchor profile of 2–4 mils in accordance with Steel Structures Painting Council Specification SP-5-63 or NACE No. 1 is required. For splash and spillage exposure, “Near White” SP-10-63 or NACE No. 2 is required. Refer to PolySpec Surface Preparation Guidelines for more details.

INSTALLATION STEPS

BASE SYSTEM: Thiokol 2235M HP High Performance Joint Sealant System or approved equal.

1. Prime surface with Thiokol 5050 Primer. See data sheet for application details.
2. Install a backer rod into the joint; the backer rod should be compressed 25%. When a backer rod is not feasible, bond breaker tape is acceptable. NOTE: Ideally, the joint depth should be one half the joint width.
3. Add Component B to Component A and mix at slow speed (250–300 RPM) with a 1/2" drill 2 part sealant mixing paddle until material is completely blended. Scrape down sides of container and mixing paddle periodically during mixing; thorough blending of the components is essential for maximum performance of the sealant. NOTE: Typical mixing time is 3–5 minutes.
4. Thiokol 2235M is supplied in a non-sag consistency that will gun easily with conventional caulking equipment. Fill joint completely. The best installation is done with a bulk caulk gun such as an Albion model # DL-45-T13 or suitable equal. NOTE: Proper width to depth ratios must be maintained.
5. Immediately after application, dry tool the sealant using a spatula. Use light pressure to ensure positive and complete contact of the sealant to the joint surfaces. Non-sag sealants should be tooled with a suitable sealant spatula with a rounded tip similar to the 258 series by Albion to provide a concave finish thereby creating the desired hour-glass configuration. Spatulas should be slightly wider than the width of the expansion joint.

NOTE: Care must be taken to avoid contamination of open joints. Blocking may be required.

3.07 APPLICATION - EPOXY MORTAR

- A. Trowel apply mortar mix to thickness recommended by manufacturer. Tamp into place filling voids at spalled areas.
- B. For patching honeycomb, trowel mortar onto surface, work mortar into honeycomb to bring surface flush with surrounding area. Finish trowel surface to match surrounding area.
- C. Cover exposed steel reinforcement with epoxy mortar, feather edges to flush surface.

3.08 FIELD QUALITY CONTROL

- A. Field inspection and testing will be performed by the Department.
- B. Test concrete for calcium chloride content during the execution of the Work.

END OF SECTION

SECTION 09881

WOL-COAT PROTECTIVE COATINGS FOR CONCRETE

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Scope: The work to be performed shall include furnishing of all labor, materials, tools and equipment required for coating indicated concrete surfaces within the Oxygenation Tank Number 6 of the South District Wastewater Treatment Plant (SDWWTP) by a monolithic application of high-build, solvent-free epoxy coating. Procedures for surface preparation, cleaning, application and testing are described herein.
- B. Summary: This specification covers the minimum requirements for installing an epoxy coating system that is formulated to provide corrosion protection, chemical and erosion resistance, abrasion resistance, impact resistance, and normal cleaning.
- C. Related Documents: General provisions of the contract, including General and Supplementary Conditions, apply to this section.

1.02 REFERENCES

- A. American Standards for Testing Materials (ASTM)
 - 1. ASTM D-4263, Test Method of Indicating Moisture in Concrete by the "Plastic Sheet Method".
 - 2. ASTM D-4541, Test Method for Pull-off Strength of Coatings Using Portable Adhesion Testers.
 - 3. ASTM D-4258, Standard Practice for Surface Cleaning Concrete for Coating.
- B. Steel Structures Painting Council (SSPC)
 - 1. SSPC-SP7 Brush Off Blast Cleaning.
 - 2. SSPC-SP10 Near White Blast Cleaning.
 - 3. SSPC-SP13 Surface Preparation of Concrete.
- C. International Concrete Repair Institute, (ICRI)
 - 1. CSP-3 Standard Guidelines.

1.03 SUBMITTALS

- A. Submit manufacturer's technical data and product literature indicating that the products comply with specified requirements.
- B. Submit test reports as indicated in specification 1410A.

1.04 QUALITY ASSURANCE

- A. Qualifications: A qualified contractor is defined as one with:
 - 1. A minimum of five years of experience in installing similar systems.
 - 2. Demonstrated financial stability in warranting work.
 - 3. Approved by the manufacturer.
- B. There will be a pre-job meeting attended by all personnel including Department, Contractor/Sub-contractor, Safety Engineer, Inspector and Coating Manufacturer Representative.
- C. All inspections of the installation shall be recorded and shall include the following information: Time of day.
 - 1. Weather conditions, (air and surface, humidity).
 - 2. Description of surface preparation.
 - 3. Thickness per coat.
 - 4. Visual inspection of workmanship.
- D. Report in writing to Engineer, with copy to manufacturer, of deficiencies that could impair work. Surfaces must be approved by the installing contractor prior to application of coating.

1.05 DELIVERY, STORAGE AND HANDLING

- A. All materials shall be delivered to the jobsite in their original, unopened containers with the proper, fully legible labels with product identification, printed instructions, lot numbers and shelf life expiration date for each component.
- B. Materials should be stored in their tightly sealed original containers in a dry place at temperatures between 55 and 75 degrees F (as per manufacturer data sheet) out of direct sunlight, heat or other hazards.

1.06 WARRANTY

- A. Manufacturer shall warrant that its' products are free from defects. Manufacturer shall provide a materials warranty to the owner for a period of one year from the date of manufacture. Liability, if any, is limited to product replacement.
- B. The manufacturer and the contractor may also provide a joint warranty for the product installation for a period of one year from date of installation. The contract shall specifically stipulate what constitutes a failure of the coating system and the operating conditions for the coating system. Liability, if any, for the manufacturer is limited to product replacement and, for the contractor, re-installation costs. This warranty specifically excludes liabilities for consequential or incidental damages.
- C. Contractor shall, within a reasonable time after receipt of written notice thereof, repair defects in materials or workmanship which may develop during the warranty

period, and any damage to other work caused by such defects or the repairing of same, at his own expense and without any additional cost to the Department.

PART 2 - PRODUCTS

2.01 EXISTING PRODUCTS AND SPECIAL CIRCUMSTANCES:

- A. Specified concrete surfaces shall be thoroughly inspected.
- B. Previous coating shall be removed by the method described in Section 03721 of these Specifications.

2.02 REPAIR MATERIALS:

- A. Repair concrete surfaces in accordance with Section 03732 of these Specifications. Repair materials must be compatible with the specified hybrid epoxy coating and shall be approved by the hybrid epoxy coating manufacturer.

2.03 COATINGS:

A. Primer Coat:

- 1. The purpose of a primer coat is to ensure the coating hangs properly and achieves acceptable edge retention.
- 2. The primer shall be a solvent-based epoxy primer.
- 3. The primer must possess a recoat window not to exceed 2 weeks.
- 4. The primer shall be compatible with the top coat system and pre-approved by the manufacturer, if submitted as approved equal.
- 5. Specified materials are specified below:
WOL-COAT 410 or approved equal.

B. Epoxy Coat:

- 1. The coating system shall be used on all concrete surfaces.
- 2. The epoxy coating system must be an epoxy exhibiting the following properties:
 - a. Epoxy coating system must be 100% solid, no VOCs.
 - b. Epoxy coating system shall adhere to concrete surfaces with adhesion testing results in PSI to a minimum of 400.
 - c. Epoxy coating system shall withstand freeze-thaw and wet-dry cycles without causing adverse changes to the cure and performance properties.
 - d. Epoxy coating system shall be able to be applied by brush, roller and spray.
 - e. Epoxy coating system shall have high impact resistance in order to meet the requirement set forth in the warranty.
 - f. Epoxy coating system shall be high gloss and self-leveling with vertical and overhead thickness capability of 30 mils in one pass without sag.
 - g. Epoxy coating system shall be able to tie back into itself, overcoat or repair itself indefinitely with proper preparation, but not involving abrasion.
 - h. Epoxy coating system shall have a recoat window up to 72 hours without preparation.
 - i. Epoxy coating system shall be capable of curing properly within the specified

- environment within 18 hours.
- j. Epoxy coating system shall be resistant to all forms of chemical or bacteriological attack found in municipal sanitary water systems, including severe hydrogen sulfide, chlorine, and other treatment chemicals.
 - k. The coating system shall be an epoxy coating system. It shall exhibit a tensile strength (ASTM D-638) of 7,000 psi, a bond strength (ASTM D-4541) of 400 psi at 100% concrete failure, and a compressive strength (ASTM D-695) of 10,000 to 12,000 psi.
 - l. Specified materials are listed below:
Wol-Coat 310 or approved equal.

PART 3 - EXECUTION

3.01 SURFACE PREPARATION

- A. All the preparation and application steps in this specification shall be in accordance with the manufacturer's instructions as well as the job site conditions and applicable Federal, State, and Local rules and regulations.
- B. Prepare surfaces in accordance with manufacturer's instructions and Section 03721 of these Specifications.
- C. Concrete surface must be clean, dry and sound prior to application.
- D. Remove concrete laitance, curing agents, form oils, or any other adhesion barriers to attain a sandpaper-like finish.
- E. Surface profile shall be ICRI (International Concrete Repair Institute) CSP-3 meeting standard guideline #03732, producing a profile equal to 60-grit sandpaper or coarser.
- F. Any areas exposed to acid spillage shall be neutralized prior to coating.
- G. Remove all sand and dust by means of vacuuming, from the area to be lined or coated.
- H. All surfaces should be designed to slope towards drains, trenches and sumps to prevent pooling of corrosive liquids on the floor surface
- I. Protect drains from being filled with self-leveling epoxies.

3.02 SAFETY WARNING

- A. Precautions should be taken when working with these materials:
 - 1. Use materials only in adequately ventilated areas.
 - 2. Keep away from open flames.
 - 3. Store in dry covered areas.
 - 4. Epoxy products may cause skin irritation in certain individuals.
 - 5. Workers should always wear protective clothing, gloves and eyewear when working with these products.

3.03 SUBSTRATE INSPECTION

- A. Inspect surfaces for acceptability of levelness, moisture content, pitch to drains and other critical factors at time of installation.
- B. Report in writing to the engineer, with copy to manufacturer, of deficiencies that could impair work. Surfaces must be approved by the installing contractor prior to application of coating.

3.04 CURING TIME

- A. Coating shall be allowed to cure for at least 72 hours at 77 degrees F. prior to placing into service.

3.05 PROJECT CONDITIONS

- A. Maintain a minimum concrete surface temperature of 40 degrees F (do not apply in temperature less than 40 F or greater than 85 F) for a minimum of 24 hours before, during and after installation, until cured.
- B. Concrete must be free of hydrostatic, capillary or moisture vapor pressure. Substrates in contact with ground must have a properly installed, effective vapor barrier to help prevent potential problems resulting from hydrostatic, capillary or moisture vapor pressure.
- C. Concrete to receive Coating should have been designed and installed as approved by the engineer to minimize cracking, curling, slab deflections and shall contain well designed control and isolation joints as approved by the engineer.
- D. Concrete containing lightweight aggregates is not a recommended substrate.
- E. Provide ventilation, lighting, commercial exhaust fans or air movers, other safety equipment as required by current OSHA standards, and clean, drinkable water supply.
- F. Protect adjacent surfaces from damage resulting from work of this trade. If necessary, mask and/or cover adjacent surfaces, fixtures, equipment, etc. by suitable means.

3.06 TEST FOR CONCRETE PROPERTIES

- A. Concrete shall be cured for a minimum of 28 days prior to coating application.
- B. The tensile strength of the concrete shall be tested using a portable adhesion gauge as outlined in ASTM D-4541. The concrete shall have a minimum tensile strength of 300 psi as verified by an elcometer test.
- C. Check for excessive moisture content in concrete by using the Plastic Sheet Method described in ASTM D-4263 or the calcium chloride test method. Tests shall be performed in random areas on both horizontal and vertical surfaces. Moisture vapor transmission should be 3 lbs. or less.

3.07 PROTECTION OF SURFACES

- A. Puddles of corrosive liquids must not be allowed to remain on the concrete substrate for prolonged periods. These areas should be flushed with clean water.
- B. Drips from piping and valves must be eliminated whenever possible, because impinging droplets accelerate failure by erosion as well as chemical attack.
- C. Areas where physical damage has occurred should be repaired before corrosive solutions can attack.
- D. Periodic cleaning, (housekeeping) is required to ensure the appearance of the coating is maintained. Dust, dirt and debris can cause scratching and discoloration.

3.08 APPLICATION

- A. Mixing: Comply with manufacturer's instructions for mixing procedures.
- B. Follow manufacturers written installation procedures on the application of all products.
- C. Priming: Apply one coat of Wol-Coat 410.
- D. Topping: Apply two coats as per manufacturer data sheet

END OF SECTION

APPENDIX "A"

**ENVIRONMENTAL RESOURCE MANAGEMENT
DADE COUNTY - NOTICE TO ALL CONTRACTORS**

(1 Page)

**Miami Dade County, Florida
Regulatory and Economic Resources
701 NW 1st Court, Suite 600
Miami, Florida 33136
(305) 372-6681**

**NOTICE TO ALL CONTRACTORS INVOLVED IN ANY CONSTRUCTION ACTIVITY WHICH
REQUIRED DEWATERING WITH ULTIMATE DISCHARGE INTO A CANAL, LAKE, DITCH,
OR STORM SEWER WHICH DISCHARGES INTO AN OPEN BODY OF WATER OR
BISCAYNE BAY.**

Please be aware that if you are involved in any construction activity as above described, you are required to provide all necessary measures in order to maintain turbidity in the receiving body of water within acceptable limits as established by the Florida Building Code. You must present a separate plan to be included with your building plans indicating your proposed measures or apply for a permit from the Regulatory and Economic Resources Department before your construction plans will receive final approval, as required by Miami Dade County Code of Ordinance Chapter 24 Section 48.1 (1)(e). For additional information, please contact Ms. Maria Molina, P.E., Chief Water Control Section of the RER Division of Environmental Resources Management.

APPENDIX "B"
STANDARD DETAILS
(NOT USED)

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APPENDIX "C"

**WASD ID CARD SECURITY PROCEDURES
NON-WASD EMPLOYEES**

(29 Pages)

MIAMI-DADE WATER AND SEWER DEPARTMENT

3071 SW 38 Ave, Miami, FL 33146

WASD ID CARD SECURITY PROCEDURES NON-WASD EMPLOYEES

07/01/09

ENCLOSED:

- 1. WASD Security Phone Numbers**
- 2. Security Home Page**
- 3. Memorandum Director for Non WASD Employees**
- 4. Required Documents to Obtain WASD ID Card**
- 5. Request for Release/Company History Form**
- 6. Company Signature Authorization Letter**
- 7. Employee Request for WASD ID Card**
- 8. Non-WASD ID Card Application**
- 9. FEES for WASD ID Card**
- 10. Cover Sheet – Miami-Dade Ordinance 02-68 Chap 32**
- 11. Article IX Security at Miami-Dade Water and Sewer Department**

MIAMI-DADE WATER AND SEWER DEPARTMENT

3071 SW 38 Av, Miami, FL 33146

WASD Security Phone Numbers

Security Chief:	Amber Johnson	786-552-8458
Security Section Secretary:	Mercy Merejildo	786-552-8711
Security Admin Officer	Lillian Caban	786-552-8585
ID Room Coordinator	Jack Speers	786-552-8271



Water and Sewer Division


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Security
Home Page
Overview
Access Control
Incident Response

Welcome To The Security Home Page!

The ID Office is located at 3071 SW 36th Ave., Suite 152, Miami, FL 33145 (Daguerre Road Administration building). The phone number is 786-552-6271, Fax is 786-552-6275

Hours of Operations are by appointment:

- 9:00 AM - 12:00 PM and 1:00 PM - 4:00 PM on Monday, Tuesday, Thursday, Friday
- Wednesday 9 AM - 12:00 PM and 1:00 PM - 4:00 PM Whole day.

Pursuant to Ordinance No. 02-65 (Article X, Chapter 32 of the Miami-Dade County Code) all persons entering a Miami-Dade Water and Sewer facility are subject to established security restrictions.

Water and Sewer Department Employees

1. All persons permanently employed with the Miami-Dade Water and Sewer Department (WASD) are required to obtain a WASD issued picture ID badge.
2. As per County Ordinance No. 02-65 (Article IX, Chapter 32 of the Miami-Dade County Code), any applicant for a WASD ID badge who, within the last five (5) years, has had a felony conviction or against whom a finding of guilty has been entered on a felony charge will not be issued an ID badge to a restricted area except in those cases governed by Article IX, Chapter 32, Section 32-174.4 (g) of the Miami-Dade County Code.
3. An annual fingerprint-based criminal history check will be conducted upon renewal of the ID badge for those employees with access to designated restricted areas.
4. ID badges must be displayed at all times when accessing or working within WASD designated facilities. ID Badges must be worn conspicuously on the outer garment of the bearer, in plain view above the waist at all times.
5. All lost or stolen ID cards must be reported immediately WASD Security. Police report must be submitted within 10 business days.
6. Badges must be returned to WASD Security upon termination of employment.

Non WASD Employees

1. Access to all Miami-Dade Water and Sewer Department facilities is controlled access. All Non WASD employees required to enter a WASD facility more than 5 days in a 90-day period will be required to obtain a WASD issued ID badge.
2. All Non WASD personnel are subjected to a Criminal History Background Check.
3. After award and prior to commencement of work, the Contractor, Vendor, Consultant etc. shall meet with the Plant Superintendent and MIDWASD Security Management to submit required information and review security guidelines related to the project.
4. All Contractors, Vendors, Consultants etc. awarded MIDWASD contracts must comply with Miami-Dade County Ordinance 02-65 dated 4-23-02 Article X, of Chapter 32 of the Miami-Dade County Code or their licenses. The applicability of Article IX of Chapter 32 provisions follows:

Any permission granted to a person, corporation, partnership, or other legal entity by the Board, County Manager or Director, directly or indirectly, expressly or by implication, to enter upon a WASD facility or restricted area, is conditioned upon compliance with this Article and operational directives and the payment of any and all fees and charges established and payable to the County; such fees and charges shall include any and all fees or charges established or approved by the Board or the County Manager and entry on WASD property by any person shall be deemed to constitute an agreement by such person to comply with such rules and regulations and to pay any such fees and charges.

It shall be unlawful for any person to do or commit any act forbidden by or to fail to perform any act required by these rules and regulations or to fail to pay any fees established and payable pursuant to this Article.

The Department, through its Director, may from time to time cause to be issued operational directives applicable to WASD property. If any such operational directive contains a requirement

Net fees and charges shall be paid for any operation or use of a WASD facility or property as provided in the operational directive, such fees and charges shall be established in accordance with the provisions of this Article.

Visitors

1. All visitors to Miami-Dade Water and Sewer facilities must be invited guests of the Miami-Dade Water and Sewer Department.
2. All persons to whom a Miami-Dade Water and Sewer ID badge has not been issued will be issued a Visitor's badge.
3. All visitor badges are valid for the day of issuance only. Visitor badges are intended to be recovered and must be returned by the visitor upon exiting.
4. Visitors shall only be authorized access to those areas specific to their business. Unauthorized passing through other areas of a plant or facility is prohibited.
5. All visitors to a WASD designated restricted access area must be issued an appropriate badge and escorted by an individual with access to that specific restricted access area. They must remain accompanied by the escort at all times. There will be no exceptions to this requirement.
6. ID Badges must be worn conspicuously on the outer garment of the bearer, in plain view above the waist at all times. The contracted security guard force staff will enforce this requirement.
7. All visitors required to enter a restricted access area more than five days in any given 90 day period will be required to obtain WASD-issued ID badge.
8. Visitor vehicles must park in designated areas.
9. Special rules apply to Day Laborers.

Contractors/Day Laborers

1. Temporary labor badges are issued at the facility checkpoint.
2. Temporary badges are issued for single day and for specific areas of access only.
3. ID Badges must be worn conspicuously on the outer garment of the bearer, in plain view above the waist at all times. The contracted security guard force staff will enforce this requirement.
4. Day Laborers must park in designated parking areas.

Vehicles

1. Vehicles will enter only through the facility security checkpoints.
2. Vehicles will be confined to designated areas within the facility.
Engineering * Finance * Logistics/Transport * Maintenance/Support
Quality/Performance * Regulatory * Resource Allocation * Wastewater * Water
Data Updated: 10/26/2018 2:07:13 PM

E-mail your comments, questions and suggestions to Wd@engr.com

Memorandum



Date: June 1, 2009

To: Vendors, Contractors, Consultants and non Water and Sewer Department employees

From: John W. Renfrow, P.E., Director, Water and Sewer Department

Subject: Water and Sewer Department Identification Card Application and Renewal Process

Effective Monday, June 01, 2009, all vendors, contractors, consultants and non Water and Sewer Department (WASD) employees will be required to renew their identification cards annually. This requirement is mandated by the Code of Miami-Dade County, Chapter 32. In keeping with the Code, the identification cards will expire annually specifically, on the last day of the birth month of the identification cardholder or the end of the WASD contract date, whichever comes first. Current cardholders with birthdays in August and which have 2009 or 2010 expirations date on the card are now required to renew their identification cards in June 2009. If your card is set to expire in August 2009-2010, you must begin the renewal process in June 2009. All WASD identification cards must be renewed 90 days before the expiration date.

In order to get a new or renew your WASD identification card, please go to Miami-Dade County's website, www.miamidade.gov/wasd, and link to the Security page. You will find all the necessary forms and policy as it relates to WASD identification cards. Below is the list of forms and/or documents that are required for the issuance of a WASD identification card.

- Authorization Letter (on your company letterhead). A sample letter with the suggested language is on the website. Please submit your authorization letter to: Miami-Dade County Water and Sewer Department, ID Room Coordinator, 3071 SW 38th Avenue, Suite 152, Miami, FL 33146. The original letter must be on file in the identification office in order to issue cards to employees.
- Request for Release of Plans/Company Background History Check. Complete and submit for each employee requesting a WASD identification card.
- WASD Safety Briefing. Some WASD facilities require a WASD Safety Briefing prior to the issuance of a WASD identification card. To determine if your employee requires a WASD Safety Briefing, please contact one of the WASD Safety Specialist at 786-652-6582, regarding compliance with this section.
- Non-WASD Employee Identification Card Application. Complete an identification card application for each employee.

Please note that applications with missing, incomplete or incorrect information will be returned and not processed until all errors are corrected.

Water and Sewer Department Identification Card Application and Renewal Process

When an identification card applicant arrives at the WASD Identification room, they will be required to sign and date the application in the presence of WASD staff. Applicants must provide a valid U.S. driver's license, social security card or other approved government issued identification at the time the application is signed and witnessed by WASD staff. Miami-Dade County Ordinance 02-88 specifically states that WASD staff must make copies of all original documents. Copies are not acceptable. Applicants are required to pay all applicable fees associated with the issuance of the WASD Identification card.

Thank you for your cooperation in this matter. Should you have any additional questions, please contact the Water and Sewer Security Unit at 786-552-8271.



**Miami-Dade Water and Sewer Department
3871 SW 38 Av, Miami, FL 33146**

**REQUIRED DOCUMENTS TO OBTAIN A MIAMI-DADE WATER AND SEWER
DEPARTMENT (WASD) IDENTIFICATION BADGE**

In order to facilitate the identification badge issuance process, please ensure that you have the necessary documents required to obtain an identification badge.

New / Renewal Applicants:

All new applicants requesting a Water and Sewer Department identification badge must present the following documents listed below:

1. NON-Miami-Dade Water and Sewer Department employees.

- Request for Release of Plans / Company Background History Check
- Company Officer authorized signature letter for ID badge request.
- Request for Miami-Dade Water and Sewer Department identification badge. (one for each applicant ID request)
- Non-WASD Employee Application completed (with every ID badge issued) (with original signatures).
- Applicable Non WASD application payments included.
- Social Security Card or letter from Social Security Administration (no copies)
- Proof of Legal Status and Employment Eligibility in the United States
- State Drivers License (valid) or other acceptable documents listed below in #3. (must be original documents)
- **All WASD FEES must be paid for all time of application.**

2. Miami-Dade Water and Sewer Department employees.

- WASD Employee Application completed (with every ID badge issued) (with original signatures).
- WASD ID badge Request FORM: Request for Restricted/Limited Restricted Access/Lost/Stolen etc. (if applicable) (with applicable sections filled in) signed by employees WASD Division Chief properly filled out.
- WASD ID badge Request Form for Student Inter (if applicable) (with applicable sections filled in) signed by employees WASD Division Chief or designated party.
- **NO** application cost to WASD employees. (if applicable)
- Social Security Card or letter from Social Security Administration (no copies)
- Proof of Legal Status and Employment Eligibility in the United States
- State Drivers License (valid) or other acceptable documents listed below in #3. (must be original documents)

- **All WASH FEES must be paid at time of application (if applicable)**

Note: ALL AREAS OF THE WASH AFF CARD AND SUPPORTING DOCUMENTS BE COMPLETED, TYPED OR PRINTED IN INK (3.2.2010). THE MIAMI-DADE WATER AND SEWER DEPARTMENT WILL NOT ACCEPT ANY FORM IF IT IS ALTERED (No correction fluid, torn, folded, bent or otherwise defaced). THE APPLICATION AND SUPPORTING DOCUMENTS FILLED OUT FOR THE IDENTIFICATION BADGE MUST BE OR SIGNAL AND PROCESSED WITHIN 30 DAYS OF THE DATE THEY SIGNED BY THE APPLICANT AND AUTHORIZED COMPANY REPRESENTATIVE (S)

3. A list of acceptable documents follows: (No copies)

- U.S. Passport (unexpired or expired)
- Certificate of U.S. Citizenship (USCIS Form N-580 or N-561)
- Certificate of Naturalization (USCIS Form N-550 or N-570)
- Permanent Resident Card or Alien Registration Receipt Card with photograph (USCIS Form I-151 or I-551)
- Unexpired Temporary Resident Card (USCIS Form I-688)
- Unexpired Employment Authorization Card (USCIS Form I-688A)
- Unexpired Reentry Permit (USCIS Form I-327)
- Unexpired Refugee Travel Document (USIS Form I-571)
- Unexpired Employment Authorization Document issued by USCIS that contains a photograph (USCIS Form I-688B)
- Original or certified copy of Birth Abroad issued by the Department of State (Form FS-546 or Form DS-1350)
- Unexpired foreign passport with I-551 stamp or attached Form I-84 indicating unexpired employment authorization
- Original or certified copy of a birth certificate issued by a state, county, municipal authority or outlying possession of the United States bearing an official seal
- Native American Tribal document
- U.S. Citizen ID Card (USCIS Form I-197)
- ID Card for use of Resident Citizen in the United States.

Identification Badge Renewal:

4. Non-Miami-Dade Water and Sewer Department employees.

- Same procedures outlined in # 1 above after submitting required documentation.
- \$55.00 cash, cashier's check, money order or company check, credit card (exact amount only) for renewal.

5. Miami-Dade Water and Sewer Department employees.

- Same procedures outlined in # 2 above after submitting required documentation at **NO COST**.

Lost / WASH Identification Badge:

6. Non-Miami-Dade Water and Sewer Department employees.

- Same procedures outline in # 1 above after submitting required information.
- **\$15.00** cash, cashier's check, money order or company check, credit card (exact amount only) for replacement cost of identification badge.

7. Miami-Dade Water and Sewer Department employees.

- Same procedures outline in # 2 above after submitting required information.
- **\$15.00** cash, cashier's check, money order or company check, credit card (exact amount only) for replacement cost of identification badge.

Stolen / WASD Identification

NON Miami-Dade Water and Sewer employees.

Miami-Dade Water and Sewer employees.

- **Replacement FEE waived with Police Report for stolen WASD ID badge.**
(The Identification Section will re-issue the identification badge with a case number pending a copy of the police report.) (Not required for Lost ID badge)
Within two weeks (10 business days). To avoid a replacement charge, the employee must provide a copy of the police report to the Identification section. Failure to do so may result in the deactivation of the identification badge until the Police Report is furnished by the employee or the replacement FEE is paid. Once the replacement FEE is paid there are NO refunds.

Note: A lost or stolen identification badge MUST BE immediately reported to the Identification Section. This will prevent someone else from gaining access to WASD facilities using your identification badge.



Request for Release of Plans / Company Background History

To ensure the timely release of information with public records exemption, including plans for county facilities, please complete the following form and submit along with the written request of the interested party, to Miami-Dade County Police Detective Gisel C Ariza by fax at 305-470-3885 or e-mail at FOC@MDCPD.COM

Project:**Contract Number:****Dates of Contract:****Project Manager:****From:** *(required)***To:** *(required)***Phone:****Fax:****Property & Location:****Requestor:**

(Company name as filed,
address, inc use telephone
number & fax
Email address:

**Name(s) & Date(s) of
Birth of all Corporate
Agent(s), Officer(s) &
Director(s)**

Justification

(Type of plans & use by request)

Department:**WASD****Dept. Contact Person:**

WASD Security Department
(include telephone number & fax)

Aubrey Johnson 786.552.8458 Fax 786-552.8778**Jack Speers 786.552.8271 Fax 786.552.8778****Email wsd@d@miamidade.gov**

The requesting department concurs with this request and hereby seeks authorization to issue the requested documents.

Department Director (name & signature)**Date****Reviewed/No Concerns:**

**Michael Ronczkowski, Major
Miami-Dade Police Department****cc:ccg****Date**

USING YOUR OWN COMPANY'S LETTERHEAD PLEASE FOLLOW THE FORMAT BELOW

AUTHORIZATION LETTER - SUGGESTED LANGUAGE

Date _____
ID Room Coordinator _____
Miami-Dade Water and Sewer Department
3071 SW 38th Ave. Suite 152
Miami, Florida 33146

Dear Sir/Madam:

The names signed below are authorized signatures for Miami-Dade Water and Sewer Department (WASD) identification card requests. No other signatures are to be honored. The authorized company representatives listed below will notify you immediately of any changes. The authorized company representatives acknowledge that in signing a WASD identification card request, the authorized party is certifying that the applicant is employed by _____ and that the applicant is being submitted for a WASD identification card in accordance with Ordinance 02-88, and Article IX, Chapter 32 of the Code of Miami-Dade County. Additionally, we certify that we are knowledgeable of the requirements as set forth in the above Ordinance related to Criminal History Records Checks rules and agree to comply with all provisions of these rules prior to requesting an identification card for our employees. We also agree that this applicant will use the WASD identification card only to conduct official business for this company. Finally, _____ authorized representatives agree to return all WASD identification cards immediately upon expiration or termination of the employee or contract. The authorized company representatives understand that failure to comply with the above may result in the suspension of WASD identification card privileges to our company.

Sincerely,

Signature of Company Representative _____

Print Name & Title _____

Note: A maximum of two Authorized Signatures are allowed and must be properly listed below. Any additional signatures will cause this document to be invalid

1. Name: _____ 2. Name _____

Signature _____
Title _____

Signature _____
Title _____

COMPANY LETTERHEAD

Date _____
 ID Room Coordinator
 Miami-Dade Water and Sewer Department
 3071 SW 38th Ave. Suite 152
 Miami, Florida 33148

Re: Request for a Miami-Dade Water and Sewer Department (WASD) Identification Card

Dear Sir/Madam:

Company name here

_____ acknowledges that in signing this letter for the request for a WASD ID Card, the authorized party is employed by this company. Additionally, it is agreed that this applicant will use his/her WASD ID Card only to conduct business for this company. Finally, it is agreed that _____ will return the WASD ID Card immediately, upon expiration of the card or termination of employment or the contract. It is understood that failure to comply with the above may result in the suspension of WASD ID Card privileges to our company.

1. Employee Information:

_____ Last Name	_____ First Name	_____ Full Middle Name
_____ Date of Birth	_____ Driver's License # Exp. Date	_____ State of Issuance
_____ WASD Contract #	_____ Start Date (mm/dd/yyyy)	_____ End Date (mm/dd/yyyy)

2. Reason to request a WASD ID Card:

☐ New ☐ Renewal ☐ Change Company
☐ Damage/Injured ☐ Name Change ☐ WASD Safety Class Required
☐ Lost/Stolen: Police Report # _____ Date Completed: _____
 WASD Safety Officer: _____

3. Type of WASD ID Card Requested:

☐ Non-restricted access ☐ Restricted Access ☐ RFID Access Card
☐ Specify Reason For Restricted Access

Sincerely,

 Authorized Signature of Company Representative

 Printed Authorized Company Representative Name

 Title Phone Number

Miami-Dade Water & Sewer Department NON-Employee ID Card Application



SECTION I- APPLICANT INFORMATION

APPLICATION DATE: _____			FOR OFFICIAL USE ONLY 050102	
LAST NAME: _____ FIRST NAME: _____			ACCEPTED ORIGINAL DOCUMENTS:	
MIDDLE NAME: _____ ALIAS OR NICKNAME: _____ <input type="checkbox"/> NONE			<input type="checkbox"/> U.S. PASSPORT/ U.S. BIRTH CERTIFICATE <input type="checkbox"/> NATURALIZATION CERTIFICATE <input type="checkbox"/> VALID U.S. STATE DRIVER'S LICENSE <input type="checkbox"/> VALID U.S. STATE ID CARD <input type="checkbox"/> WORK AUTHORIZATION EXP. DATE _____ <input type="checkbox"/> OTHER _____ <input type="checkbox"/> SOCIAL SECURITY CARD <input type="checkbox"/> ALIEN REG. # _____	
HOME PHONE #: _____	WORK PHONE #: _____	CELL PHONE #: _____		
DATE OF BIRTH: _____	PLACE OF BIRTH: City/State (IF NOT U.S. BORN, PROVIDE PROOF OF WORK ELIGIBILITY)			
HAIR COLOR: _____	WEIGHT: _____	RACE: WHITE-BLACK-OTHER (WHITE #) _____		
HAIR COLOR: _____	EYE COLOR: _____	GENDER: <input type="checkbox"/> FEMALE <input type="checkbox"/> MALE		
SOCIAL SECURITY: _____		CITIZEN OF WHAT COUNTRY: _____		
DRIVER'S LICENSE # _____	STATE _____	ISSUED DATE _____	EXPIRE DATE _____	
E-MAIL ADDRESS: _____			<input type="checkbox"/> NONE	
NOTE: ALL AREAS MUST BE COMPLETELY TYPED OR PRINTED IN INK (BLUE/BLACK). THE MIAMI-DADE WATER & SEWER DEPARTMENT WILL NOT ACCEPT THIS FORM IF IT IS ALTERED (NO CORRECTION FLUID), TORN, FOLDED, BENT OR OTHER WISE DAMAGED. THE APPLICATION MUST BE PROCESSED WITHIN 30 DAYS OF THE DATE IT IS SIGNED BY THE AUTHORIZED COMPANY REPRESENTATIVE (S).				
EMAIL: wsd@miamicity.com Phone: 785-552-8771 Fax: 785-552-8775				
HAVE YOU LIVED AT YOUR CURRENT ADDRESS FOR MORE THAN 5 YEARS? <input type="checkbox"/> YES <input type="checkbox"/> NO			<input type="checkbox"/> \$86.00 NEW ID / EXPIRED ID <input type="checkbox"/> \$25.00 RENEWAL <input type="checkbox"/> \$25.00 CHANGE OF COMPANY <input type="checkbox"/> \$15.00 LOST/STOLEN <input type="checkbox"/> REQUIRES POLICE REPORT WITHIN 10 DAYS <input type="checkbox"/> DAMAGE/REPLACEMENT (NO CHARGE) <input type="checkbox"/> RECEIPT# _____	
PLEASE PROVIDE RESIDENTIAL HISTORY FOR THE LAST FIVE (5) YEARS, STARTING WITH CURRENT ADDRESS BELOW			<input type="checkbox"/> CASH <input type="checkbox"/> PRE-PAID <input type="checkbox"/> COMPANY CHECK <input type="checkbox"/> MONEY ORDER <input type="checkbox"/> FINGERPRINT TAKEN <input type="checkbox"/> PICTURE TAKEN <input type="checkbox"/> <input type="checkbox"/> ACCEPTED IN CARD APPLICATION <input type="checkbox"/> REJECTED ID CARD APPLICATION PROCESSED BY: _____ Date: _____	
APPLICANT RESIDENTIAL HISTORY (MM/DD/YYYY)				
FROM DATE: _____		END DATE: _____		
HOME ADDRESS: _____				
CITY: _____	STATE: _____	ZIP CODE: _____		
FROM DATE: _____		END DATE: _____		
HOME ADDRESS: _____				
CITY: _____	STATE: _____	ZIP CODE: _____		
FROM DATE: _____		END DATE: _____		
HOME ADDRESS: _____				
CITY: _____	STATE: _____	ZIP CODE: _____		

Miami-Dade Water & Sewer Department NON-Employee ID Card Application

**MIAMI-DADE
COUNTY**

SECTION II- APPLICANT CURRENT EMPLOYMENT INFORMATION				
EMPLOYER NAME:			FOR OFFICIAL USE ONLY	
EMPLOYER ADDRESS:			CARD TYPE: <input type="checkbox"/> UNRESTRICTED <input type="checkbox"/> RESTRICTED - RESTRICTED <input type="checkbox"/> RESTRICTED ACCESS AREA: (ALL FACILITIES) <input type="checkbox"/> RESTRICTED	
CITY:	STATE:	ZIP CODE:		
EMPLOYER'S PHONE #:	EMPLOYER FAX#:			
APPLICANT'S POSITION:	APPLICANT'S SUPERVISOR:			
WARD CONTRACT #:	COMPANY EMAIL ADDRESS:			
CONTRACT START DATE: (MM/DD/YYYY)			CONTRACT END DATE: (MM/DD/YYYY)	
			<input type="checkbox"/> I <input type="checkbox"/> II <input type="checkbox"/> III	

WARD PROJECT MANAGER APPROVING CARD TYPE:		
NAME:	SIGNATURE:	DATE:

LIST YOUR EMPLOYMENT HISTORY FOR THE PAST 5 YEARS STARTING WITH THE FIRST PRIOR EMPLOYMENT

START DATE (MM/DD/YYYY):	END DATE (MM/DD/YYYY):	TITLE OF POSITION:	
COMPANY NAME: COMPANY ADDRESS:		CITY:	STATE: ZIP CODE:
COMPANY PHONE NUMBER:	SUPERVISOR NAME:	SUPERVISOR TITLE:	
START DATE (MM/DD/YYYY):		END DATE (MM/DD/YYYY):	
TITLE OF POSITION:			
COMPANY NAME: COMPANY ADDRESS:		CITY:	STATE: ZIP CODE:
COMPANY PHONE NUMBER:	SUPERVISOR NAME:	SUPERVISOR TITLE:	
START DATE (MM/DD/YYYY):		END DATE (MM/DD/YYYY):	
TITLE OF POSITION:			
COMPANY NAME: COMPANY ADDRESS:		CITY:	STATE: ZIP CODE:
COMPANY PHONE NUMBER:	SUPERVISOR NAME:	SUPERVISOR TITLE:	
START DATE (MM/DD/YYYY):		END DATE (MM/DD/YYYY):	
TITLE OF POSITION:			
COMPANY NAME: COMPANY ADDRESS:		CITY:	STATE: ZIP CODE:
COMPANY PHONE NUMBER:	SUPERVISOR NAME:	SUPERVISOR TITLE:	
START DATE (MM/DD/YYYY):		END DATE (MM/DD/YYYY):	
TITLE OF POSITION:			
COMPANY NAME: COMPANY ADDRESS:		CITY:	STATE: ZIP CODE:
COMPANY PHONE NUMBER:	SUPERVISOR NAME:	SUPERVISOR TITLE:	
START DATE (MM/DD/YYYY):		END DATE (MM/DD/YYYY):	
TITLE OF POSITION:			
COMPANY NAME: COMPANY ADDRESS:		CITY:	STATE: ZIP CODE:
COMPANY PHONE NUMBER:	SUPERVISOR NAME:	SUPERVISOR TITLE:	
START DATE (MM/DD/YYYY):		END DATE (MM/DD/YYYY):	
TITLE OF POSITION:			

**Miami-Dade Water & Sewer Department
NON-Employee ID Card Application**

**MIAMI-DADE
COUNTY**

SECTION III - APPLICANT CRIMINAL BACKGROUND HISTORY DISCLOSURE

Persons seeking unescorted access to Miami-Dade County Water and Sewer Department Restricted Areas are subject to the requirements of Article IX of Chapter 32 of the Code of Miami-Dade County (Ord. No. 03-68, § 1, 4-21-02). I further understand that compliance with Article IX of Chapter 32 of the Code of Miami-Dade County is part of the Miami-Dade County Water and Sewer Department's Security Program and that Article IX of Chapter 32 of the Code of Miami-Dade County includes access control provisions requiring criminal background checks for individuals seeking access to Miami-Dade County Water and Sewer Department Restricted Areas. I further understand that the Department Director may deny my application for access.

INITIALS _____

I hereby authorize any representative from the Miami-Dade County Water and Sewer Department Identification Office to obtain any records or information pertaining to my arrest record or criminal history, and I direct any representative of any law enforcement or criminal justice agency to release such information upon request of the bearer.

I AGREE ☐ I DECLINE ☐ INITIALS _____

The undersigned applicant acknowledges and consents to Miami-Dade County Water and Sewer Department Identification Office providing the information contained in this application including the applicant's social security number to the U.S. Department of Homeland Security (DHS), Federal Bureau of Investigation, U.S. Customs and Border Protection, Florida Department of Law Enforcement, and U.S. Immigration and Customs Enforcement pursuant to applicable federal laws, rules or regulations as they may be amended. The information will be disclosed to DHS personnel and contractors or other agents who need information to assist in activities related to security threat assessments. Applicants who elect to decline authorization for the Miami-Dade County Water and Sewer Department Identification Office to transmit their social security number to DHS shall check the "I decline" box below with the understanding that such action may result in delays or make it impossible to complete the assessment.

I AGREE ☐ I DECLINE ☐ INITIALS _____

☐ I HAVE OR ☐ HAVE NOT used illegal drugs within three (3) years immediately preceding the date of this statement. Florida Statute 31(12)(f)(e). INITIALS _____

**Miami-Dade Water & Sewer Department
NON-Employee ID Card Application**



Have you been at any time incarcerated, convicted, or had adjudication withheld of any crime listed below:

NO ☐ YES ☐ If yes, provide date: / / Probation/Supervision/Parole and date: / /

Indicate below if you have been convicted regardless of whether or not adjudication was withheld, for any of the following offenses within the past five (5) years. Conviction will not necessarily disqualify an applicant for employment.

Thief	YES <input type="checkbox"/>	NO <input type="checkbox"/>
Smuggling	<input type="checkbox"/>	<input type="checkbox"/>
The possession with intent to sell or distribute, sale, or trafficking of narcotics or any other controlled substances.	<input type="checkbox"/>	<input type="checkbox"/>
Fraud, misrepresentation, or other crime involving dishonesty.	<input type="checkbox"/>	<input type="checkbox"/>
Felony theft under Chapter 812, Florida Statutes, or its federal counterpart.	<input type="checkbox"/>	<input type="checkbox"/>
Any violent crime committed with a weapon.	<input type="checkbox"/>	<input type="checkbox"/>
Any crime directly related to the Grandfathered Applicant's position of employment, shall not be issued an identification card for access to any restricted area. If a conviction or a finding of guilty on one of the above.	<input type="checkbox"/>	<input type="checkbox"/>

Please indicate that you have read and understand each statement by providing your INITIALS in the left box.

	Whoever, without being fully authorized, licensed or invited, willfully enters or remains on a WASD facility or property, or a portion thereof, or having been authorized, licensed or invited to a WASD facility or property, or portion thereof, is warned or ordered by authorized Department personnel or a law enforcement officer to depart, and refuses to do so, commits the offense of trespass.
	No person shall have entry to any restricted area unless such person possesses a current WASD issued identification card authorizing such access or whose access is otherwise expressly authorized under this Article. Identification cards shall be worn conspicuously on the outer garment of the bearer, in plain view above the waist.
	The WASD Director reserves the right to revoke authorization to possess an ID card.

**Miami-Dade Water & Sewer Department
NON-Employee ID Card Application**



The making of a false statement in the application for an identification card under this section shall be grounds for refusal to issue the card and also shall be a violation of Article IX of Chapter 32 of the Code of Miami-Dade County.

Identification cards issued by the Department shall at all times remain the property of the County. As such, the Department shall at all times have the right to confiscate or demand return of the identification card of any person who violates the provision of Article IX of Chapter 32 of the Code of Miami-Dade County and demand the return of the identification card of all persons employed by a company violating this Article or whose lease, contract, permit or license agreement with the County allowing use of a WASD facility has expired or has been canceled or is terminated.

The identification card shall be valid for one (1) year from the date of issuance, unless sooner canceled or surrendered.

The Director or his designee may suspend or revoke the use of the card based on any felony arrest, conviction, finding of guilt or other just cause, and may reinstate the use of the card when, in his/her discretion, circumstances warrant, provided, however, that such power to suspend, revoke or reinstate may not be exercised in conflict with a decision of the appeals committee.

Any holder of a personal identification card shall report in writing to the Director (i) immediately any felony arrests, convictions, or findings of guilt, and (ii) within ten (10) days of the change any other change of data in an application for a personal identification card. Failure to report such changes within the time provided or the making of a false statement in any change in information submitted shall constitute grounds for suspending the use of the card; false statements or material omissions in the change information shall be a violation of Article IX of Chapter 32 of the Code of Miami-Dade County.

An application for an identification card to enter into any restricted area shall be denied by the Director if the applicant refuses to answer or falsely answers any questions listed in Article IX, Section 32-172 of Chapter 32 of the Code of Miami-Dade County or refuses to produce documents to verify statements made on the application.

An identification card for a person shall not be transferable at any time for any purpose.

No person shall retain or have in his or her possession and shall promptly return to the Director or his or her designee, any card, permit, pass, badge or other means of identification issued by the Director after it has expired or when such person is no longer employed at the WASD facility or upon request by the Director or his or her designee that it be returned or when otherwise required by ordinance. Such retention shall constitute a violation of Article IX, of Chapter 32 of the Code of Miami-Dade County.

**Miami-Dade Water & Sewer Department
NON-Employee ID Card Application**



No person shall forge, counterfeit, alter, erase, obliterate or transfer any identification card, permit, pass, lease, record, form, badge or other instrument or document issued or maintained by the County Manager or WASD Director, pursuant to Article IX of Chapter 32 of the Code of Miami-Dade County. No person shall have in his/her possession any forged, counterfeited, altered, erased, or obliterated or transferred identification card, permit, pass, lease, record, form, badge or other instrument or document issued or maintained by the County Manager or WASD Director pursuant to this Article. No person shall have in their possession the identification card of another individual. No person shall have more than one (1) WASD active card issued at a time.

Failure to produce identification cards by all persons required to possess identification cards pursuant to Article IX of Chapter 32, Code of Miami-Dade County within a WASD facility shall be cause for immediate removal from the WASD facility and shall be grounds for such further actions as may be authorized by law.

CERTIFICATION OF THE APPLICANT WITH RESPECT TO THIS APPLICATION

PROCESS REQUIRING FULL DISCLOSURE OF INFORMATION

I have read and agree to abide by the responsibilities set forth in this Identification card request. I understand that a knowing and willful false statement on this application can be punished by fine or imprisonment of both. I understand that knowingly providing false information on this application or any portion of the ID application process may subject me to criminal prosecution and will minimally result in the permanent denial or revocation of my WASD ID card. I understand that upon termination of my official employment at WASD, in any capacity where I am required to have the issued WASD ID card, I will immediately return my ID card to my former employer or directly to WASD ID Credentials Section and that failure to do so will constitute a violation of Miami-Dade County Ordinance 02-68.

Applicant Full Name: _____

Applicant Title: _____

Applicant Signature: MUST BE WITNESSED BY ID ROOM CLERK

Date: _____ MUST BE WITNESSED BY ID ROOM CLERK

FOR OFFICIAL USE ONLY

Applicant Verified By: _____

Date: _____

Signature: _____

Comments: _____

Miami-Dade Water and Sewer Department

3071 SW 38 Ave, Miami, FL 33146

NON- WASH EMPLOYEE ID CARD FEES

(PER APPLICANT)

\$ 60.00	NEW WASH ID CARD / EXPIRED ID CARD
\$ 55.00	RENEWAL OF WASH ID CARD
\$ 25.00	CHANGE OF COMPANY
\$ 15.00	LOST OR STOLEN

Note: All NON-WASH Employee ID Cards EXPIRE Annually on applicants BIRTH month or CONTINGENCY DATE whichever occurs first.



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☐ Preliminaries

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☐ Chapter 8 BUILDING

☐ Chapter 8A BUSINES

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☐ Chapter 8B EMERGE

☐ Chapter 8C BUILDING

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☐ Chapter 11B DUMPS

☐ Chapter 11C DEVEL

☐ Chapter 11D DISEAS

☐ Chapter 12 ELECTION

☐ Chapter 13 EXPLOS

☐ Chapter 14 FIRE PRE

☐ Chapter 14A FISH AN

☐ Chapter 14B FOOD A

☐ Chapter 15 SOLID W

CODE of MIAMI-DADE COUNTY, FLORIDA

Codified through
Ordinance No. 09-27, enacted April 7, 2009.
(Supplement No. 51)

Preliminaries

CODE OF METROPOLITAN DADE COUNTY

This publication is up to date as indicated by the banner above. No additional ordinances have been submitted for interim display via our NOW service (New Ordinances On the Web). For more information about this service, please visit:
<http://www.municipalcode.com/services/nor.asp>

- Chapter 18A MIAMI-DADE COUNTY LANDSCAPING ORDINANCE*
- Chapter 19 RESPONSIBLE PROPERTY OWNER AND MERCHANT ACT*
- Chapter 19A MOBILE HOMES*
- Chapter 20 MUNICIPALITIES*
- Chapter 21 OFFENSES AND MISCELLANEOUS PROVISIONS
- Chapter 22 RESERVED
- Chapter 23 PENSIONS
- Chapter 23A PLANNING GENERALLY*
- Chapter 24 ENVIRONMENTAL PROTECTION, BISCAYNE BAY AND ENVIRONS DESIGNATED AQUATIC PARK
- Chapter 24A RESERVED*
- Chapter 25 AVIATION DEPARTMENT RULES AND REGULATIONS*
- Chapter 25A PUBLIC HEALTH TRUST*
- Chapter 25B PARKS AND RECREATION GENERALLY*
- Chapter 25C PAYMENT OF COSTS OF HOSPITAL CARE, TREATMENT AND MAINTENANCE*
- Chapter 26 PARK AND RECREATION DEPARTMENT RULES AND REGULATIONS*
- Chapter 26A SANITARY WASTE*
- Chapter 26B RESERVED*
- Chapter 26C RESERVED*
- Chapter 26D RESERVED*
- Chapter 27 SWIMMING POOLS, PUBLIC*
- Chapter 28 SUBMISSIONS*
- Chapter 28A SEAPORT SECURITY AND OPERATIONS*
- Chapter 29 TAXATION*
- Chapter 30 TRAFFIC AND MOTOR VEHICLES*
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ARTICLE IX. SECURITY AT MIAMI-DADE WATER AND SEWER DEPARTMENT

Sec. 32-170. Legislative intent.

The intent of the County Commission in enacting this Article is to accomplish the following goals and purposes at the Miami-Dade Water and Sewer Department.

- (1) Improve security.
- (2) Retain certain of the present identification procedures, and adopt certain new procedures providing greater security protection.
- (3) Establish rules and regulations governing security at Miami-Dade Water and Sewer Department facilities.
- (4) Protect the public health, safety and welfare by preventing crime, detecting, arresting and prosecuting violators of Article IX of Chapter 32 of the Code of Miami-Dade County.

(Ord. No. 02-88, § 4, 4-23-02)

Sec. 32-171. Definitions; applicability of Article provisions; disclaimer of liability; right of access of public officers and employees; offenses and penalties.

The following definitions shall apply in this Article:

- (1) *Authorized* shall mean acting under or pursuant to a written contract, license, permit, instruction or other evidence of right issued by the Board or the Manager or his designee.
- (2) *Board* shall mean the Board of County Commissioners of Miami-Dade County, Florida.
- (3) *County* shall mean the County of Miami-Dade in the State of Florida.
- (4) *Department* shall mean the Miami-Dade Water and Sewer Department.
- (5) *Director* shall mean the administrative head of the Miami-Dade Water and Sewer Department, the assistant or acting Director, appointed by the County Manager.
- (6) *Law Enforcement Officer* shall mean any person employed and vested with the police power of arrest under federal, State or County authority.
- (7) *Operational directives* shall refer to instructions, directives, rules and regulations pertaining to the operation of the Miami-Dade Water and Sewer Department prepared and promulgated from time to time by the Director. When approved by the Board of County Commissioners, these operational directives shall have the same force and effect as County ordinances.
- (8) *Person* shall be as defined in Section 1.01(3), Florida Statutes, and shall include municipal, governmental and public bodies and their agents, when such bodies or agents are using the water and sewer facilities.
- (9) *Restricted area* shall mean any sensitive area operated, maintained or occupied by WASD that is deemed to have critical security or public safety status by the Director.
- (10) *WASD* shall mean the Miami-Dade Water and Sewer Department.

(11) WASC Facility shall include, but not be limited to, water treatment and supply plants, wastewater treatment plants, office buildings, wellfields, pump stations, and any other facility operated, maintained or occupied by WASC.

32-171.1: *Applicability of Article IX of Chapter 32 provisions.*

(a) Any permission granted to a person, corporation, partnership, or other legal entity by the Board, County Manager or Director, directly or indirectly, expressly or by implication, to enter upon a WASC facility or restricted area, is conditioned upon compliance with this Article and operational directives and the payment of any and all fees or charges established and payable to the County; such fees and charges shall include any and all fees or charges established or approved by the Board or the County Manager and entry on WASC property by any person shall be deemed to constitute an agreement by such person to comply with such rules and regulations and to pay any such fees and charges.

(b) It shall be unlawful for any person to do or commit any act forbidden by or to fail to perform any act required by these rules and regulations or to fail to pay any fees established and payable pursuant to this Article.

(c) The Department, through its Director, may from time to time cause to be issued operational directives applicable to WASC property. If any such operational directive contains a requirement that fees and charges be paid for any operation or use of a WASC facility or property as defined in the operational directive, such fees and charges shall be established in accordance with the provisions of this Article.

32-171.2 *WASC liability.* The County assumes no responsibility or liability for any loss, injury or damage to persons or property at a WASC facility.

32-171.3 *Access of public employees and law enforcement officers.* Authorized County employees, law enforcement officers, and employees of local, state and federal regulatory agencies shall have free and full access to and from any and all WASC facilities to make inspections and/or enforce the provisions of this Article. No person shall obstruct or interfere with any Law Enforcement Officer, employees of local state or federal regulatory agencies, or any designated County or Department employee conducting such inspection and/or enforcement or in the performance of any other power or duty required of such officer or employee.

32-171.4 *Offenses and penalties.* Every person who violates any provision of this Article shall be punished by a fine not to exceed five hundred dollars (\$500.00), or imprisonment in the Miami-Dade County Jail for a period of not more than sixty (60) days, or both.

32-171.5 *Emergencies.* The Director is empowered to take such action as the Director deems necessary when an emergency exists at a WASC facility or property which, in the Director's judgment, presents an immediate threat to public health, security, safety or welfare, or to the operation of a WASC facility or property; provided, however, that in the exercise of such power the Director shall promptly notify the governmental agency(ies) or County department(s) having been assigned by the Board or County Manager primary responsibility for the handling and resolution of such emergency, and provided further that the Director's power herein granted shall cease upon the assumption of jurisdiction over such emergency by the governmental agency(ies) or County department(s) and such assumption of responsibility shall not be inconsistent with the requirements of any emergency procedure or program for a WASC facility or property adopted and approved by the Board. No action shall knowingly be taken by the Director hereunder or by any County department(s) contrary to any regulation or order of the Federal, State or County agency having appropriate jurisdiction.

32-171.6 *Trespassing.* Whoever, without being fully authorized, licensed or invited, willfully enters or remains on a WASC facility or property, or a portion thereof, or having been authorized, licensed or invited to a WASC facility or property, or portion thereof, is warned or ordered by authorized Department personnel or a law enforcement officer to depart, and refuses to do so, commits the offense of trespass.

32-171.7 Other laws. All applicable provisions of the laws of the State of Florida, now in existence or hereafter enacted, are hereby adopted by reference as part of these rules and regulations.

32-171.8 Jurisdiction. The violation of any provision hereof shall be triable in the Miami-Dade County Court.

32-171.9 Severability. If any provision of these rules and regulations or the application thereof to any person or circumstances is held invalid, the remainder of these rules and regulations and the application of such provision to other persons or circumstances shall not be affected thereby.

{Ord. No. 02-68, § 1, 4-23-02}

Sec. 32-172. Identification cards for persons.

32-172.1 Persons who may enter restricted area. No person shall have entry to any restricted area unless such person possesses a current WASD issued identification card authorizing such access or whose access is otherwise expressly authorized under this Article. Identification cards shall be worn conspicuously on the outer garment of the bearer, in plain view above the waist.

32-172.2 Plan for issuance. The Director shall devise, maintain and, as required, revise a plan for the issuance of identification cards to all WASD employees and non-WASD employees working in a restricted area.

Such plan shall provide for ready identification of various clearance levels based on the most appropriate color scheme as determined by the Director. Such color scheme shall specifically identify limited and unlimited security access for WASD employees, non-restricted public access, and distinguish various levels of access for consultants, contractors, contract employees, public officials, and other public employees.

With the exception of temporary identification cards, each identification card shall:

- (a) Be issued for a period not to exceed one (1) year;
- (b) Contain a photo of the cardholder;
- (c) Contain a physical description of the cardholder, to include but not be limited to height, weight, and date of birth of cardholder;
- (d) Contain the name, title, and employer, or in the case of a WASD employee the employing division or section, of cardholder; and
- (e) Contain a unique serial number not to be repeated on any other identification card.

32-172.3 Employees who are required to maintain an operational license to operate, or have direct oversight or control over the operation of any Water or Wastewater Treatment Facility, or who are critical to security or public safety at any Miami-Dade Water and Sewer Facility, shall be classified as exempt employees if agreed to in the applicable Collective Bargaining Agreement and to the extent allowed by law shall be required to submit to both a Federal and State Criminal Background Check and an annual Drug & Alcohol Screening test consistent with Miami-Dade County Personnel Policies and Procedures and applicable Collective Bargaining Agreements. Such positions shall include Water/Wastewater Division Chiefs, Assistant Superintendents, Chief Water Treatment Plant Operators, Chief Wastewater Treatment Plant Operators, Treatment Plant Operator 1, Treatment Plant Supervisors and Treatment Plant Operator 2. Said employees who fail the criminal or drug screening provisions shall be subject to existing Miami-Dade County Personnel Policies and Procedures.

32-172.4. Application.

- (a) The application for a permanent identification card is to be a public record filed in writing, maintained in WASD's employment records and shall contain the applicant's:

- (1) Full current name and any previous names and aliases used;
- (2) Current residential address and all residential addresses within the past (5) years;
- (3) Date and place of birth;
- (4) Current employer and any previous employer within the past five (5) years;
- (5) Social Security number and driver's license number as well as copies of each to be made by WASD Security Division personnel from original documents;
- (6) Specific reason for entry into the restricted areas;
- (7) A photo of applicant taken by the Department at the time of application submission;
- (8) Fingerprints authenticated by the Miami-Dade Police Department on an identification record form furnished by the Director of the Miami-Dade Police Department;
- (9) Prior felony convictions or entries of findings of guilt (whether pursuant to a plea of guilty or nolo contendere or a judgment of conviction entered by a court of competent jurisdiction);
- (10) Signes authorization to conduct a criminal, financial or other background check on the applicant; and
- (11) Signatures of applicant and employer for non-WASD employees or immediate supervisor for WASD employees.

(b) Pending final action on an application for an identification card or for individuals at a WASD facility for no more than five (5) total days per calendar year, the Director or his or her designee may issue a temporary identification card to non-WASD employees.

(c) In addition to the information required in subsection (a) above, the Director may require the applicant to produce such further facts and evidence as may be necessary to determine whether or not the applicant possesses the qualifications necessary for an identification card.

(d) The making of a false statement in the application for an identification card under this section shall be grounds for refusal to issue the card and also shall be a violation of this Article.

(e) The Director may conduct or request Miami-Dade Police Department ("MDPD") to conduct a criminal and/or financial background check on any applicant and may conduct or require such other background checks as the Director deems necessary.

(f) Any applicant for a WASD identification card who, within the last five (5) years, (i) has had a felony conviction or (ii) against whom a finding of guilty has been entered on a felony charge shall not be issued an identification card for any restricted area except in the case of a Grandfathered Applicant, whose access shall be governed by subsection (g).

(g) Any Grandfathered Applicant for a WASD identification card who within the last two (2) years, (i) has had a felony conviction or (ii) against whom a finding of guilty has been entered on a felony charge for the following crimes: (a) theft, (b) smuggling, (c) the possession with intent to sell or distribute, sale, or trafficking of narcotics or any other controlled substance, (d) dishonesty, fraud, or misrepresentation, (e) felony theft under Chapter 812, Florida Statutes, or its federal counterpart, or (f) any violent crime committed with a weapon; or (g) any crime directly related to the Grandfathered Applicant's position of employment, shall not be issued an identification card for access

to any restricted area. If a conviction or a finding of guilty on one of the above-listed crimes has occurred more than two (2) years but less than five (5) years from the effective date of this article, the Director has the discretion to issue an identification card to a Grandfathered Applicant under such terms and conditions as the Director deems appropriate to meet the Department's security needs.

A "Grandfathered Applicant" for purposes of this subsection means a person employed at WASD as of the effective date of this article or who, prior to the effective date of this article, was employed at WASD.

(h) Any applicant denied an identification card based on subsection (f) or (g) above may appeal the decision to an appeals committee. The appeals committee shall consist of five members, a member of the Miami-Dade Police Chiefs' Association, excluding the Director of the Miami-Dade Police Department, on a rotating basis, each member to serve for a period of one (1) year, a member of Miami-Dade County Inspector General's Office, a representative of the employee's employer or, at the employer's option, the association representing the employer, the WASD Director or his or her designee, and a union, labor or employee representative. The appeals committee shall determine whether the employee shall be issued an identification card based on procedures issued by the County Manager in an administrative order.

32-172.5 Identification card for persons. Identification cards issued by the Department shall at all times remain the property of the County. As such, the Department shall at all times have the right to confiscate or demand return of the identification card of any person who violates the provisions of this Article and to demand the return of the identification card of all persons employed by a company violating this Article or whose lease, contract, permit or license agreement with the County allowing use of a WASD facility has expired or has been canceled or is terminated. The identification card shall be valid for one (1) year from the date of issuance, unless sooner canceled or surrendered. Application for or acceptance of a card or pass under Section 32-172 or entry into any restricted area by any person shall subject such person to the reporting requirements of Section 32-172.5.

32-172.6 Report of changes in data on application for identification card for a person. Any holder of a personal identification card shall report in writing to the Director (i) immediately any felony arrests, convictions, or findings of guilt, and (ii) within ten (10) days of the change any other change of data in an application for a personal identification card. Failure to report such changes within the time provided or the making of a false statement in any change in information submitted shall constitute grounds for suspending the use of the card; false statements or material omissions in the change information shall be a violation of this Article. The Director or his designee may suspend or revoke the use of the card based on any felony arrest, conviction, finding of guilt or other just cause, and may reinstate the use of the card when, in his discretion, circumstances warrant, provided, however, that such power to suspend, revoke or reinstate may not be exercised in conflict with a decision of the appeals committee as set forth in Section 32-172.3 (h). Any person whose identification card has been suspended or revoked may appeal the decision to the appeals committee set forth in Section 32-172.3 (h).

32-172.7 Denial of identification card. An application for an identification card to enter into any restricted area shall be denied by the Director if the applicant refuses to answer or falsely answers any questions listed in Section 32-172 or refuses to produce documents to verify statements made on the application.

32-172.8 Identification card or pass for a person; Loss, transfer, alteration or possession of altered identification cards, passes or department documents.

(a) A person who has lost his or her valid identification card, after identifying himself or herself to the satisfaction of the WASD Security Division, shall be issued a new identification card after such person submits a completed application for a replacement card and, upon payment of a replacement charge as set by Administrative Order.

(b) An identification card for a person shall not be transferable at any time for any purpose.

(c) No person shall retain or have in his or her possession and shall promptly return to the Director or his or her designee, any card, permit, pass, badge or other means of identification issued by the Director after it has expired or when such person is no longer employed at the WASD facility or upon request by the Director or his or her designee that it be returned or when otherwise required by ordinance or otherwise. Such retention shall constitute a violation of this Article.

(d) No person shall forge, counterfeit, alter, erase, obliterate or transfer any identification card, permit, pass, lease, record, form, badge or other instrument or document issued or maintained by the County Manager or Director, pursuant to this Article. No person shall have in his possession any forged, counterfeited, altered, erased, obliterated or transferred identification card, permit, pass, lease, record, form, badge or other instrument or document issued or maintained by the County Manager or Director pursuant to this Article. No person shall have in his possession the identification card of another individual.

(e) In the event that any person who has an application on file for an identification card enters a restricted area without valid identification card or being otherwise authorized, such person may have the identification card or other authorization under this Article suspended or revoked.

(Ord. No. 02-88, § 1, 4-23-02)

Sec. 32-173. Administrative Review procedure.

32-173.1 Administrative review. Any person, including the County, aggrieved with any action or inaction by the Director and/or the Department, may file a written request with the County Manager within ten (10) days of the action or inaction. Such person shall be entitled to an appeal before a hearing examiner assigned by the County Manager or his designee from a list supplied by the American Arbitration Association. Such hearing examiners may be paid a fee for their services but shall not be deemed County officers or employees within the purview of Sections 2-10.2, 2-11.1 or otherwise. The hearing examiner shall conduct a hearing after notice and shall transmit his findings of facts, conclusions, and any recommendations together with a transcript of all evidence taken before him and all exhibits received by him, to the Manager who may sustain, reverse or modify the action at issue. Such hearings shall be conducted insofar as is practicable in accordance with the rules of civil procedure governing the procedure in the Circuit Court, except as may be provided in this Code or by rules adopted by the Board of County Commissioners. Any interested party may procure the attendance of witnesses and the production of records at such hearings in the manner provided by Section 2-50. Any person appearing before a hearing examiner under the provisions of this section has the right, at his own expense, to be accompanied, represented and advised by counsel or other qualified representative. (Counsel shall mean a member of the Florida Bar).

(Ord. No. 02-88, § 1, 4-23-02)

Sec. 32-174. Identification.

32-174.1 Identification cards. Failure to produce identification cards by all persons required to possess identification cards pursuant to this Article within a WASD facility shall be cause for immediate removal from the WASD facility and shall be grounds for such further actions as may be authorized by law.

32-174.2. Duty to report violations. All law enforcement officers and persons required to possess identification cards pursuant to this Article shall be under a continuing duty to promptly report the presence of (1) any unauthorized persons in a restricted area and (2) any unauthorized person on a WAST facility without a conspicuously-placed identification card.

(Ord. No. 02-68, § 1, 4-23-02)

Sec. 32-176. Fees.

The fee schedule for all identification cards required by this Article shall be set and established by an administrative order of the County Manager and approved by the Board of County Commissioners.

(Ord. No. 02-68, § 1, 4-23-02)

Sec. 32-176. False Reports or Threats.

No person shall make any threat involving the operations, including but not limited to, water and wastewater treatment at a WAST facility, or any false report regarding the conduct of operations at any WAST facility.

(Ord. No. 02-68, § 1, 4-23-02)

Sec. 32-177. Forgery and counterfeit.

No person shall make, possess, use, offer for sale, sell, barter, exchange, pass or deliver any forged, counterfeit, or falsely altered pass, permit, identification badge, certificate, placard, sign or other authorization purporting to be issued by or on behalf of the Department, nor shall any information electronically or magnetically encoded thereon be knowingly altered or erased.

(Ord. No. 02-68, § 1, 4-23-02)

Sec. 32-178. Audits by Inspector General's Office.

The Office of the Miami-Dade County Inspector General (IG) shall, on a random basis, perform audits and monitor compliance with the provisions of this Article. The Inspector General shall submit a report and appropriate recommendations to the Board of County Commissioners following such audits. However, the Inspector General shall have the discretion to exclude from such reports any information that may compromise security at a WAST facility or affect the public's safety.

(Ord. No. 02-68, § 1, 4-23-02)

Secs. 32-179–32-200. Reserved.

APPENDIX "D"

**MIAMI-DADE
WATER AND SEWER DEPARTMENT
SAFETY UNIT**

CONSTRUCTION SAFETY AND HEALTH POLICY

(4 Pages)

Miami-Dade Water and Sewer Department Safety Unit

CONSTRUCTION SAFETY and HEALTH POLICY

The Construction Safety and Health standards contained in this Contract are to aid Contractors in their efforts toward achieving compliance with the Occupational Safety and Health Administration (OSHA) Code of Federal Regulations (CFR) and other regulatory programs in the workplace. The Contract does not contain all OSHA and other regulatory safety and health programs, those indicated are (1) standards or procedures most frequently overlooked and/or (2) procedures as they pertain to hazardous situations.

It is the policy of Miami-Dade County to improve the effectiveness of public service by providing a safe and healthful work place for County and contractual employees, providing for the safety and health of the public, and preserving County resources, through the establishment and implementation of the Miami-Dade Safety and Loss Prevention Program (**Administrative Order No. 7-14**). A copy of Administrative Order No. 7-14 will be available and provided at the preconstruction meeting.

Miami-Dade County has adopted the Occupational Safety and Health Act. Contractors must comply with standards in 29 CFR 1910 and 1926. 29 CFR 1926, Subpart C, "General Safety and Health Provisions" and other specific sections of these standards include the responsibilities for each Contractor to initiate and maintain safety and health programs, provide for a competent person to conduct frequent and regular inspections, instruct each employee to recognize and avoid unsafe conditions and know what regulations are applicable to the work environment (site). OSHA also uses Special Emphasis Programs (SEPs), Local Emphasis Programs (LEPs), and National Emphasis Programs (NEPs) to find ways to help control accidents, injuries, and illnesses in construction sites where employee and public exposure to unusual physical and health risks exist.

A Contractor's project safety manual must be submitted for review and accepted by the Miami-Dade Water and Sewer Department Safety Unit prior to receiving "Notice to Proceed." The project safety manual must include but not be limited to, all OSHA and all other Federal, State and Local regulatory programs as they pertain to the construction project. The project safety manual must be available and accessible at the construction site.

The Miami-Dade County Water and Sewer Department Safety Unit adheres to and enforces Administrative Order No. 7-14, inclusive of all regulatory programs. It is the responsibility of the Contractor to comply with and enforce all applicable safety regulations. The Contractor shall comply with, but not be limited to, the OSHA Code of Federal Regulations and all other regulatory programs as they pertain to the construction project.

- **Excavation\Trenching (CFR 1926 Subpart P)** any man made cut, cavity, trench, or depression in an earth surface, formed by earth removal. Ensure each employee protection from potential hazards around or within an excavation or trench. Contractor must adhere to the State of Florida **Trench Safety Act (Title XXXIII, Regulation of Trade, Commerce, Investments and Solicitation, Chapter 553, Building Construction Standards, Part III, (ss 553.60 through 553.64))**. The Trench Safety Act (TSA) has been incorporated in to a State standard, derived from the OSHA excavation safety standard CFR 1926.650 Subpart P. The TSA states on all contracts for trench excavation in which such excavation will exceed a depth of 5 feet (**ss. 553.63-Trench excavations in excess of 5 feet deep; required information.**):

- 1 The contract bid submitted by the Contractor who will perform such excavation shall include:
 - (a) A reference to the trench safety standards that will be in effect during the period of construction of the project.
 - (b) Written assurance by the Contractor performing the trench excavation that such Contractor will comply with the applicable trench safety standards.
 - (c) A separate item identifying the cost of compliance with the applicable trench safety standards.
 - 2 A Contractor performing trench excavation shall:
 - (a) As a minimum, comply with the excavation safety standards which are applicable to a project.
 - (b) Adhere to any special shoring requirements, if any, of the state or other political subdivisions which may be applicable to such a project.
 - (c) If any geotechnical information from the owner, the contractor, or otherwise, the contractor performing trench excavation shall consider this information in the contractor's design of the trench safety system which it will employ on the project. This paragraph shall not require the owner to obtain geotechnical information.
- Specific excavation requirements **(CFR 1926.651(b)(1))** states that the estimated location of utility installations such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably maybe expected to be encountered during excavation work shall be determined prior to opening an excavation. Contractor shall contact utility companies to establish the location of utility underground installations within 24 hours (unless a longer period is required), or cannot establish the exact location of these installations, the work may proceed, and does so with caution, or detection equipment, or other acceptable means to locate utility installations are used **(CFR 1926.651(b)(2))**. When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means. While the excavation is open, underground installations shall be protected, supported, or removed, as necessary, to safeguard workers **(CFR 1926.651(b)(3),(4))**. Each employee shall be protected from cave-ins by an adequate protective system designed in accordance with **paragraph (b) or (c)** of this section. Excavations shall be protected from cave-ins by an adequate protective system except when:
 - Excavations are made entirely in stable rock; or trench less than 5 feet (1.5 meters) in depth and examination of the ground by a competent person provides no indication of a potential cave-in **(CFR 1926.652(a)(1)(i) and (ii))**.
 - Protective system shall have the capacity to resist, without failure, all loads that are intended or could reasonably be expected to be applied or transmitted to the system. Employees within the trench shall be protected from materials and equipment which could pose a hazard by falling or rolling into the trench. Materials and equipment shall be placed at least 2 feet from the edge of the trench or by the use of retaining devices that are sufficient to prevent materials or equipment from falling or rolling in excavations or a combination of both if necessary **(CFR 1926.651(j)(2))**.

A ladder is a safe means of egress which shall be located in trench excavations that are 4 feet or greater in depth so as to require no more than 25 feet of lateral travel for employees **(CFR 1926.651(c)(2))**.

Means of exit within the trench must be free of all obstructions, this would allow the employee immediate use in case of fire or emergency **(CFR 1926.34(c))**.

- **Movement of Motor Traffic (M.O.T.)**...reference the Department of Transportation's Manual on Uniform Traffic Control Devices, Part 6...to provide for reasonably safe and efficient movement of road users through or around temporary traffic control zones (work area) while reasonably protecting workers, responders to traffic incidents, and equipment. This only applies if the Contractor is working in an area where there is movement of traffic. Workers exposed to public vehicular traffic greater than 25 m.p.h. shall be provided with, and shall wear orange warning vest with yellow reflective stripes on front and back **(Class II or III)** or other suitable garments marked with or made of reflectorized or high visibility material **(CFR 1926.651(d))**. Flaggers, signaling by flaggers and the garments worn shall follow the OSHA rules incorporated by reference in the Department of Transportation's Manual.
- **Crane Safety (CFR 1926 Subpart N; 1926.550)**. If a crane is to be used at anytime during this project a crane program must be submitted prior to the beginning of construction. The Crane Safety program is a Miami-Dade Code Enforcement Ordinance. The Crane Ordinance **(Chapter 8E-Cranes and Hoisting Equipment of the Code of Miami-Dade County)** is enforceable by the Miami-Dade Code Enforcement Unit. Accessible areas within the swing radius of the rear of the rotating superstructure of the crane, either permanently or temporarily mounted, must be barricaded in such a manner as to prevent an employee from being struck or crushed by the crane. A copy of the Cranes and Hoisting Equipment Ordinance will be available and provided at the preconstruction meeting.
- **Fall Protection (CFR 1926 Subpart M)** employers are required to assess the workplace to determine if the walking/working surface on which employees are to work have the strength and structural integrity to safely support workers.
- **Electrical Protection (CFR 1926 Subpart K)** addresses electrical safety requirements that are necessary for the practical safeguarding of employees involved in construction work and control of hazardous energy and all electrical hazards.
- **Hazard Communication (CFR 1926 Subpart D; 1926.59)** employers shall develop, implement, and maintain at the workplace a written hazard communication program for their workplaces. Employers must inform their employees of the availability of the program, including the required list(s) of hazardous chemicals, and material safety data sheets required.
- **General Safety and Health Provisions (CFR 1926 Subpart E; 1926.28(a) and 1926.95(a) through (c))** the employer is responsible for requiring the wearing of appropriate personal protection equipment in all operations where there is an exposure to hazardous conditions or where the need is indicated for using such equipment to reduce the hazard to the employee. Employees working over or near a body of water, shall be provided with U. S. Coast Guard approved life jackets or buoyant work vests. **Head Protection (CFR 1926.100)** Head protective equipment (hard hat) shall be worn in areas where there is a possible danger of head injuries from impact, flying or falling objects or electrical shock and burns.
- **Portable Ladders (CFR 1926 Subpart G; 1926.200(h); Subpart X; 1926.1053)** portable ladders with structural defects, such as broken or missing rungs, cleats or steps, broken or split rails, or otherwise corroded, faulty, or defective components must be either immediately marked as defective or tagged with "Do Not Use" or similar language and removed from service until repaired.
- **Occupational Noise Exposure Standard (CFR 1910 Subpart G; 1910.95(l)(1))** the employer shall make available to affected employees or their representatives a copy of

this standard and shall also post a copy in the workplace\site. Hearing Protection (**CFR 1926.52**) feasible hearing controls shall be utilized to protect employees against sound levels that exceed the values in the table.

- **Signs, Signals, and Barricades (CFR 1926 Subpart G; 1926.202; Subpart P 1926.651)** a warning system, such as barricades, hand or mechanical signals, or stop logs, must be used when mobile equipment is operated adjacent to an excavation, or when the equipment is required to approach the edge and the operator does not have a clear and direct view of the excavation. The barricades must conform to the ANSI Manual on Uniform Traffic Control Devices for Streets and Highways.
- **Utility Line Markings ((CFR 1926 Subpart P; 1926. 651(b))** the estimated location of utility installations, such as sewer, telephone, fuel, electric, and water lines, or any other underground installations that reasonably maybe expected to be encountered during excavation work, must be determined prior to opening an excavation.
- **Worksite Analysis...** is a practical analysis of the work environment involves a variety of worksite examinations to identify existing hazards and conditions and operations in which changes might occur to create new hazards. Lack of awareness of a hazard stemming from failure to examine the worksite is a sign that safety and health policies and\or practices are ineffective. An effective active analysis, analyzes the work and worksite to anticipate and prevent harmful occurrences. A job analysis helps an individual to determine if there are hazards in the workplace. This is necessary to help identify and determine what precautions will be necessary to perform the job safely. Verifying whether employees and visitors are wearing their personal protection equipment as it relates to various tasks being performed and as required by OSHA standard (**CFR1926.28 (Subpart C) and 1910.132(a) (Subpart I)**). Reviewing the daily job analysis for the worksite.

The Contractor is advised and encouraged to maintain their Company's policies, procedures, and practices to protect their employees from, and allow them to recognize, job-related safety and health hazards. The purpose of the safety policy and procedures is to promote safety, safeguard the lives and physical welfare of employees and the general public.

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APPENDIX "E"
VISUAL INSPECTION REPORTS SDWWTP
OXYGENATION BASIN NO. 6 REHABILITATION
(FOR REFERENCE)
(4 Reports - 63 Pages)



Surface Preparation Evaluation

2nd Site Visit Date: March 13, 2018
3rd Site Visit Date: March 20, 2018
Addendum No.1 Issue Date: March 27, 2018

Inspection Site: South District WWTP – Oxygenation Basin No. 6
Miami Dade Water and Sewer Authority Department
8950 SW 232nd St, Miami, FL 33190
(25°32'58.79"N, 80°20'13.59"W)

Prepared by: Eliud J. Vega, MSE, PE



Project: **CD1.03 - South District WWTP Oxygenation Basin
No. 6 Structural Rehabilitation**



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***This addendum forms part of VISUAL INSPECTION REPORT by Eliud J. Vega, MSE, PE
with final report issue date on March 9, 2018.***



1. OVERVIEW:

On Tuesday March 13, 2018 and a week later on March 20, 2018 a series of visual inspections of the South District Wastewater Treatment Plant (SDWWTP) Oxygenation Basin No. 6 were carried at the address and coordinates shown on the cover of this report. The main purpose of these inspections was to assess the concrete surface visually accessible and also evaluate the abrasive blasting procedures. Daniel Lizarazo, PE from the Consent Decree PMCM Team was present at both site visits and was in charge of all the coordination between the contractor and the inspection team.

March 13, 2018: Sauereisen representatives Tony Oswald Jr. and Doug Asbell were present and on March 15, 2018 they submitted a letter with surface preparation recommendations which we will discuss on Section 2 of this report.

March 20, 2018: Contractor Jeff Westrick and Eliud J. Vega performed field measurements and agreed on the type of repair details that applies at each element. Also, abrasive blasting works were observed and evaluated. Refer to Section 3 and 4 of this report.

2. SAUEREISEN RECCOMENDATIONS:

The main purpose of March 13, 2018 site visit was to do a walk around with Sauereisen representatives as they were going to evaluate the concrete surface prior the repair works. The following are the recommendations from Sauereisen (*Italic*) and our thoughts about each point:

1. *Due to the surface profile developed during surface preparation, which averages a CSP 8-10 or greater on the vast majority of the structure, and the extremely widespread existence and exposure of bug holes, air pockets and voids, Sauereisen recommends that in accordance with WASD Project Design Detail 2, that all surfaces throughout the entire subject structure, including any areas over deep patching (Item 2 below), be repaired by resurfacing with an average of 1/2" – 3/4" of the Sauereisen F-121 Substrate Resurface to provide a uniform, void free substrate for the application of the approved Sauereisen protective coating system.*

We understand that areas with unsound concrete and honeycombs, specifically at walls, the concrete surface profile can resembles a CSP 8-10, however we would not consider that to be the case for the vast majority of the structure. The abrasive blasting works are creating a CSP 4-5 at sound concrete. The walls bug holes and air pockets can be resurfaced with the minor damage WASD Project Design Detail 1. We would recommend the resurfacing with an average of 1/2" – 3/4" only at locations strictly necessary. The typical damages that we recommend the WASD Project Design Detail 2 are the following:

Underside of Roof Slab: Around the mixer opening location up to outside of columns.

Walls: At the identified middle strip of walls and specific locations with exposed aggregate and honeycombs, (removing all unsound until solid concrete is found previous to repair/resurfacing). Also, around baffle wall openings.



Floor slab: Underneath mixer locations and the identified specific locations with spalled concrete.



Photo 1: Wall minor damage – Repair Detail 1



Photo 2: Combination of Repair Detail 1 and 2

2. *Deep surface repairs, which include any repairs more than 3/4" in thickness/depth should be repaired in accordance with WASD Project Design Detail 3, with Sauereisen F-121 Substrate Resurfacer, or other appropriate Sauereisen cementitious repair mortar, with anchors unlimited CA5 anchors on 8" – 10" centers wherever the patches exceed 1" in thickness, to insure product compatibility with the general resurfacing work that will be accomplished with the Sauereisen F-121 Resurfacer, as the use of*

polymer modified repair products could result in inter-coat adhesion issues and require additional surface preparation work.

We would add that the CA5 anchors are required only at vertical or overhead applications when patches exceed the 1" in thickness. The typical repair procedures for Oxygenation Basin No. 6 will not require the CA5 anchors.

3. *Proper repair/resurfacing, including deep patch work, will be necessary that the finished rehab work can be warranted for 3 years as specified.*

We understand that the proper repair/resurfacing means that the surface is appropriate and compatible with the protective lining. All small voids, irregularities and air pockets will be resurface with the appropriate WASD Project Design Detail 1. All severe scaling and spalling will be repaired and resurfaced with the appropriate WASD Project Design Detail 2 or 3.

4. *Any staining or shadowing that remains from the old coal tar epoxy coating after the surface preparation has been completed should be tested by misting the area with clean potable water and if the water soaks into the substrate without beading up on the surface, the staining will not affect the adhesion of resurfacing materials.*

Several areas have been tested after abrasive blasting by misting potable water and water soaked into the substrate. Additionally pH has been tested and ranged between 9 and 10.



Photo 3: pH measurement

5. *On all column in the structure, all loose or poorly bonded existing coating or lining material must be removed from the column areas not covered by stainless steel shrouding and all these surfaces, including remaining coating or lining material must*

be profiled to CSP 3 – 4, and where the stainless steel column cover/shrouding terminates a key way must be cut into the column at this point and the columns should then be resurfaced and protected with a minimum 125 mil layer of trowel applied Sauereisen Sewerguard No. 210T, which must terminate into the key way.

We agree with the aforementioned statement.

6. *After the completion of the application of the No. 210T to the exposed portions of the columns, the openings at the bottoms of the stainless steel column covers should be filled and sealed with expanding foam sealant to within 1/2" of the bottom of the steel at the corners and the remaining gap, and all other openings around the circumference of the stainless steel covers should be filled with a suitable joint sealant, such as Sikaflex 1A, to insure that corrosion does not take place underneath the stainless steel.*

We agree with the aforementioned statement.



Photo 4: Corner gap

7. *On floor areas only spot repairs/resurfacing is required to repair gouges and voids, with the exception of floor areas directly below the mixers, which will require repair work in accordance with Project Design Detail 2 or 3 depending on the amount of damage determined after completion of cleaning and surface preparation in these areas.*

We would add that after the floor surface has been thoroughly cleaned, a proper inspection by the engineer shall be required to evaluate the extent of the damage. Repair configurations shall be preferably square or rectangular with square corners. Reentrant corner shall be minimized as they are susceptible to cracking

8. *All floor repair/resurfacing work should be accomplished with the Sauereisen F-121 Resurfacer with a key way cut into the floor around the perimeter of each patch area to insure proper termination without featheredging.*

We agree with the aforementioned statement. Also, refer to our recommendation of previous point No. 7.

9. *At the wall to floor seams a 1" – 2" cant should be installed to insure a void free smooth transition of the coating system from wall to floor areas.*

We agree with the aforementioned statement.

10. *All non-leaking wall and ceiling cracks should be routed out to a minimum 1/4" wide by 1/2" deep and filled with Sauereisen F-121 Resurfacer prior to general repair/resurfacing work.*

We agree with the aforementioned statement.

11. *Leaking wall and ceiling cracks on the interior of the surface should be routed out to a minimum 1/4" wide by 1/2" deep and filled with Sauereisen F-180 Instaplug (hydraulic cement) prior to general repair/resurfacing work.*

We agree with the aforementioned statement.

12. *Leaking cracks must also be repaired from the exterior wherever they are accessible by routing out each crack to a minimum 1/4" wide by 1/2" deep and filling them with a flexible joint sealant as Sikaflex 1A.*

We agree with the aforementioned statement.

13. *Expansion joints should be filled with Sikaflex 1A sealant, as this product has been used successfully for many years in conjunction with Sauereisen Sewerguard 210 coating and lining systems.*

The approved joint sealant for the control and expansion joints application is Thiokol 2235M. It can be applied at joints with width and depth of 2". Among the limitations of Sikaflex 1A for this application is that maximum depth of sealant must not exceed 1/2" and the maximum width is 1 – 1/2". Existing joints shall be evaluated to determine the width and depth required.



3. ABRASIVE BLASTING PROCEDURE:

The main purpose of May 20, 2018 site visit was to evaluate the abrasive blasting procedures and to field verify the square footage of each type of repair with contractor. The abrasive blasting procedure was observed and the concrete surface was evaluated before and after blasting procedure. Nozzle pressure was evaluated and was in accordance with the procedure. A specific area was selected and inspected previously and after the abrasive blasting procedure. The achieved concrete surface profile was in accordance with what was specified.



Photo 5: Nozzle pressure 82psi



Photo 6: Surface prior abrasive blasting



Photo 7: Abrasive blasting procedure

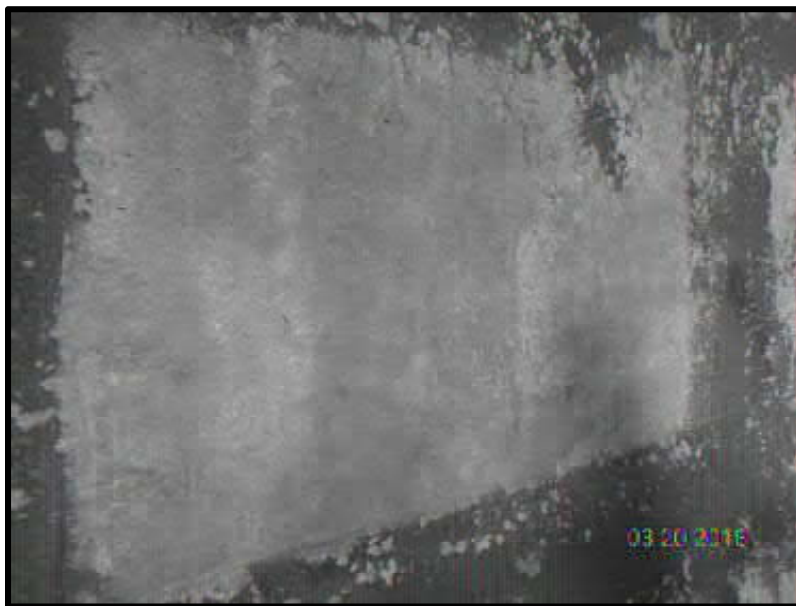


Photo 8: Surface after abrasive blasting

4. FIELD MEASUREMENTS:

The following are field measurements and the cost analysis performed. The walls elevation numbers and basin areas are defined on the field annotation drawings of the ***VISUAL INSPECTION REPORT by Eliud J. Vega, MSE, PE with final report issue date on March 9, 2018.***



SDWWTP Oxygenation Basin No. 6

Tank Interior Area	62500 SF
--------------------	----------

Summary of Purchase Order No. 0000246247					
Item No.	Description	Unit	Qty	Unit Price	Total
1	Mobilization	EA	1	\$ 38,250.00	\$ 38,250.00
2	Surface Preparation	SF	62500	\$ 4.10	\$ 256,250.00
3	Repair Detail 1: Minor Damages	SF	1875	\$ 3.00	\$ 5,625.00
4	Repair Detail 2: Spalling less than 3/4" in depth	SF	1875	\$ 13.90	\$ 26,062.50
5	Repair Detail 3: Spalling between 3/4" and 1-1/2" in depth	SF	1875	\$ 55.70	\$ 104,437.50
6	Coating Work	SF	62500	\$ 5.50	\$ 343,750.00
Total				\$	774,375.00

Percentage of Repair Area Assumed vs Actual Negotiated with Contractor (Floor Slab Repairs Type 2)									
Item No.	Description	Unit	Qty	Percentage	Actual Qty	Actual Percentage	Unit Price	Total	Comments
1	Mobilization	LS	1	100.0%	1	100.0%	\$ 38,250.00	\$ 38,250.00	As per PO
2	Surface Preparation	SF	62500	100.0%	62500	100.0%	\$ 4.10	\$ 256,250.00	As per PO
3	Repair Detail 1: Minor Damages	SF	1875	3.0%	14204	22.7264%	\$ 3.00	\$ 42,612.00	Refer to tables below for Actual Quantity detailed areas
4	Repair Detail 2: Spalling less than 3/4" in depth	SF	1875	3.0%	8896	14.2336%	\$ 13.90	\$ 123,654.40	Refer to tables below for Actual Quantity detailed areas
5	Repair Detail 3: Spalling between 3/4" and 1-1/2" in depth	SF	1875	3.0%	38	0.0608%	\$ 55.70	\$ 2,116.60	Refer to tables below for Actual Quantity detailed areas
6	Coating Work	SF	62500	100.0%	62500	100.0%	\$ 5.50	\$ 343,750.00	As per PO
Total								\$ 806,633.00	

Additional Items to be Repaired						Quantities as per field survey
Item No.	Description	Unit	Qty	Unit Price	Total	
1	Expansion Joints Replacement	LF	351	\$ 14.25	\$ 5,001.75	
2	Roof Deck Crack Repairs Injection - AREA 1	LF	150	\$ 17.50	\$ 2,625.00	
3	Roof Deck Crack Repairs Injection - AREA 2	LF	177	\$ 17.50	\$ 3,097.50	
4	Roof Deck Crack Repairs Injection - AREA 3	LF	110	\$ 17.50	\$ 1,925.00	
5	Roof Deck Crack Repairs Injection - AREA 4	LF	133	\$ 17.50	\$ 2,327.50	
6	Roof Deck Crack Repairs Injection - AREA 5	LF	169	\$ 17.50	\$ 2,957.50	
7	Roof Deck Crack Repairs Injection - AREA 6	LF	121	\$ 17.50	\$ 2,117.50	
8	Column to Shroud Detail	EA	48	\$ 58.00	\$ 2,784.00	
Total				\$	22,835.75	

Total Repair Plus Additional Works	\$ 829,468.75
PO Total	\$ 774,375.00
Difference	\$ 515,093.75
Credit for Corner Guards	
Change Order	

Concrete Deterioration for Area 1						Refer to "Walls Repair Areas" tab for each wall specific area.
Item No.	Description	Unit	Qty	Unit Price	Total	
1	Walls					
	Repair Detail 1	SF	2662	\$ 3.00	\$ 7,986.00	
	Repair Detail 2	SF	316	\$ 13.90	\$ 4,392.40	
	Repair Detail 3	SF		\$ 55.70	\$ -	
2	Underside of Roof Slab					
	Repair Detail 1	SF	400	\$ 3.00	\$ 1,200.00	
	Repair Detail 2	SF	338	\$ 13.90	\$ 4,698.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	
3	Columns					
	Repair Detail 1					
	Repair Detail 2			N/A		
	Repair Detail 3					
4	Floor Slab					
	Repair Detail 1	SF		\$ 3.00	\$ -	
	Repair Detail 2	SF	128	\$ 13.90	\$ 1,779.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	

Concrete Deterioration for Area 2						Refer to "Walls Repair Areas" tab for each wall specific area.
Item No.	Description	Unit	Qty	Unit Price	Total	
1	Walls					
	Repair Detail 1	SF	2327	\$ 3.00	\$ 6,981.00	
	Repair Detail 2	SF	574	\$ 13.90	\$ 7,978.60	
	Repair Detail 3	SF	13	\$ 55.70	\$ 724.10	
2	Underside of Roof Slab					
	Repair Detail 1	SF	400	\$ 3.00	\$ 1,200.00	
	Repair Detail 2	SF	338	\$ 13.90	\$ 4,698.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	
3	Columns					
	Repair Detail 1					
	Repair Detail 2			N/A		
	Repair Detail 3					
4	Floor Slab					
	Repair Detail 1	SF		\$ 3.00	\$ -	
	Repair Detail 2	SF	128	\$ 13.90	\$ 1,779.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	

Concrete Deterioration for Area 3						Refer to "Walls Repair Areas" tab for each wall specific area.
Item No.	Description	Unit	Qty	Unit Price	Total	
1	Walls					
	Repair Detail 1	SF	1791	\$ 3.00	\$ 5,373.00	
	Repair Detail 2	SF	1123	\$ 13.90	\$ 15,609.70	
	Repair Detail 3	SF		\$ 55.70	\$ -	
2	Underside of Roof Slab					
	Repair Detail 1	SF	400	\$ 3.00	\$ 1,200.00	
	Repair Detail 2	SF	338	\$ 13.90	\$ 4,698.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	
3	Columns					
	Repair Detail 1					
	Repair Detail 2			N/A		
	Repair Detail 3					
4	Floor Slab					
	Repair Detail 1	SF		\$ 3.00	\$ -	
	Repair Detail 2	SF	128	\$ 13.90	\$ 1,779.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	

Concrete Deterioration for Area 4						Refer to "Walls Repair Areas" tab for each wall specific area.
Item No.	Description	Unit	Qty	Unit Price	Total	
1	Walls					
	Repair Detail 1	SF	1603	\$ 3.00	\$ 4,809.00	
	Repair Detail 2	SF	1311	\$ 13.90	\$ 18,222.90	
	Repair Detail 3	SF		\$ 55.70	\$ -	
2	Underside of Roof Slab					
	Repair Detail 1	SF	400	\$ 3.00	\$ 1,200.00	
	Repair Detail 2	SF	338	\$ 13.90	\$ 4,698.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	
3	Columns					
	Repair Detail 1					
	Repair Detail 2			N/A		
	Repair Detail 3					
4	Floor Slab					
	Repair Detail 1	SF		\$ 3.00	\$ -	
	Repair Detail 2	SF	284	\$ 13.90	\$ 3,947.60	
	Repair Detail 3	SF		\$ 55.70	\$ -	

Concrete Deterioration for Area 5						Refer to "Walls Repair Areas" tab for each wall specific area.
Item No.	Description	Unit	Qty	Unit Price	Total	
1	Walls					
	Repair Detail 1	SF	1763	\$ 3.00	\$ 5,289.00	
	Repair Detail 2	SF	1145	\$ 13.90	\$ 15,915.50	
	Repair Detail 3	SF	6	\$ 55.70	\$ 334.20	
2	Underside of Roof Slab					
	Repair Detail 1	SF	400	\$ 3.00	\$ 1,200.00	
	Repair Detail 2	SF	338	\$ 13.90	\$ 4,698.20	
	Repair Detail 3	SF		\$ 55.70	\$ -	
3	Columns					
	Repair Detail 1					
	Repair Detail 2			N/A		
	Repair Detail 3					
4	Floor Slab					
	Repair Detail 1	SF		\$ 3.00	\$ -	
	Repair Detail 2	SF	284	\$ 13.90	\$ 3,947.60	
	Repair Detail 3	SF		\$ 55.70	\$ -	

Concrete Deterioration for Area 6						Refer to "Walls Repair Areas" tab for each wall specific area.
Item No.	Description	Unit	Qty	Unit Price	Total	
1	Walls					
	Repair Detail 1	SF	1658	\$ 3.00	\$ 4,974.00	
	Repair Detail 2	SF	1163	\$ 13.90	\$ 16,165.70	
	Repair Detail 3	SF	3	\$ 55.70	\$ 167.10	
2	Underside of Roof Slab					
	Repair Detail 1	SF	400	\$ 3.00	\$ 1,200.00	
	Repair Detail 2	SF	338	\$ 13.90	\$ 4,698.20	
	Repair Detail 3	SF	16	\$ 55.70	\$ 891.20	
3	Columns					
	Repair Detail 1					
	Repair Detail 2			N/A		
	Repair Detail 3					
4	Floor Slab					
	Repair Detail 1	SF		\$ 3.00	\$ -	
	Repair Detail 2	SF	284	\$ 13.90	\$ 3,947.60	
	Repair Detail 3	SF		\$ 55.70	\$ -	

Note: Wall number and areas as defined in the field annotations drawings.

Area 1			
Wall No.	Repair Dtl. Type 1 (SF)	Repair Dtl. Type 2 (SF)	Repair Dtl. Type 3 (SF)
21	910	104	0
A-1	507	0	0
18-A	803	147	0
G-1	442	65	0
TOTAL	2662	316	0

Area 2			
Wall No.	Repair Dtl. Type 1 (SF)	Repair Dtl. Type 2 (SF)	Repair Dtl. Type 3 (SF)
18-B	765	185	0
A-2	490	8	9
15-A	725	225	0
G-2	347	156	4
TOTAL	2327	574	13

Area 3			
Wall No.	Repair Dtl. Type 1 (SF)	Repair Dtl. Type 2 (SF)	Repair Dtl. Type 3 (SF)
15-B	413	537	0
A-3	390	117	0
12-A	647	303	0
G-3	341	166	0
TOTAL	1791	1123	0

Area 4			
Wall No.	Repair Dtl. Type 1 (SF)	Repair Dtl. Type 2 (SF)	Repair Dtl. Type 3 (SF)
12-B	470	480	0
A-4	390	117	0
9-A	470	480	0
G-4	273	234	0
TOTAL	1603	1311	0

Area 5			
Wall No.	Repair Dtl. Type 1 (SF)	Repair Dtl. Type 2 (SF)	Repair Dtl. Type 3 (SF)
9-B	538	412	0
A-5	267	234	6
6-A	607	343	0
G-5	351	156	0
TOTAL	1763	1145	6

Area 6			
Wall No.	Repair Dtl. Type 1 (SF)	Repair Dtl. Type 2 (SF)	Repair Dtl. Type 3 (SF)
6-B	538	411	3
A-6	234	273	0
3	468	390	0
G-6	418	89	0
TOTAL	1658	1163	3



Resurface and Repairs Evaluation

4th Site Visit Date: April 24, 2018
Addendum No.2 Issue Date: May 8, 2018

Inspection Site: South District WWTP – Oxygenation Basin No. 6
Miami Dade Water and Sewer Authority Department
8950 SW 232nd St, Miami, FL 33190
(25°32'58.79"N, 80°20'13.59"W)

Prepared by: Eliud J. Vega, MSE, PE



Project: **CD1.03 - South District WWTP Oxygenation Basin No. 6 Structural Rehabilitation**



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This addendum shall be included as part of VISUAL INSPECTION REPORT by Eliud J. Vega, MSE, PE with final report issue date on March 9, 2018.



1. OVERVIEW:

On Tuesday April 24, 2018 a visual inspection of the South District Wastewater Treatment Plant (SDWWTP) Oxygenation Basin No. 6 was carried at the address and coordinates shown on the cover of this report. The main purpose of the inspection was to assess the concrete resurface and repairs procedures visually accessible. Daniel Lizarazo, PE from the Consent Decree PMCM Team was present at the site visit and was in charge of all the coordination between the contractor and the inspection team.

2. OBSERVATIONS AND RECCOMENDATIONS:

A thorough evaluation of the current visible condition of the concrete structure was performed. The following observations and recommendations are typical throughout the entire basin and are directed for the resurface/repair procedure to be performed previous to the coating application. It is important that prior to any coating application work the entire concrete surface shall be thoroughly cleaned and left free of all laitance, dirt, oil, sludge, film, paint, coating, unsound concrete and any other materials that could interfere with the adhesion or penetrations of the specified coating.

2.1 Concrete Walls

At the moment of the inspection, all concrete walls resurfacing works were completed. The majority of the walls surfaces are adequate for the coating application. However, there were few areas with visible leaks for which the contractor indicated will submit a repair product for its approval. On previous reports we recommended a rapid setting, hydraulic water plug like the **Sauereisen Instaplug F-180** or approved equal. All existing construction joints and expansion joints backer rods shall be removed and new non-sag chemical resistance elastomeric joint sealant shall be installed as per manufacturer's recommendations.



Photo 1: Resurfaced wall



Photo 2: Resurfaced baffle wall



Photo 3: Resurfaced weir wall

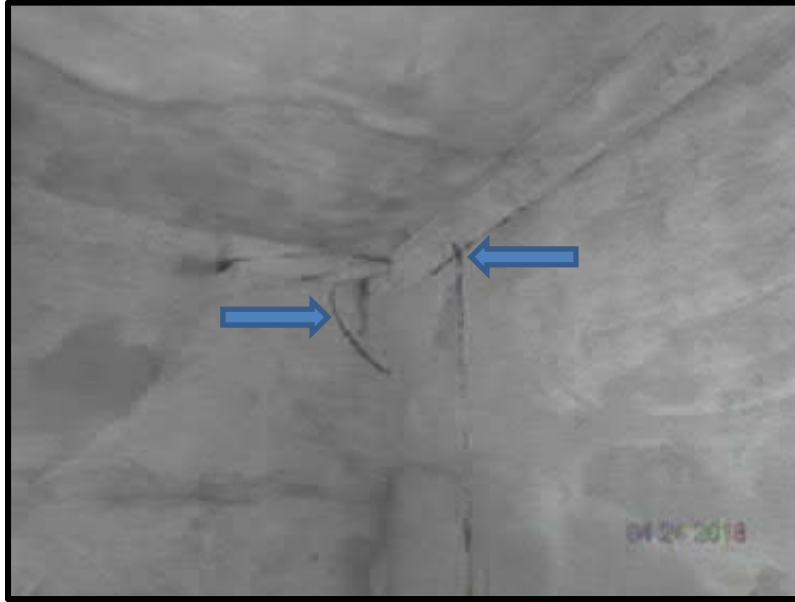


Photo 4: Water leaks

2.2 Concrete Columns

At the moment of inspection neither the *Sewerguard - Trowelable No. 210* nor the column to shroud detail had been installed. Contractor shall install and let it cure as per manufacturer's recommendations.



Photo 5: Resurfacing work pending



Photo 6: Resurfacing work pending



Photo 7: Resurfacing work pending

2.3 Underside of Roof Slab

At the moment of the inspection, the underside of the roof slab resurfacing works were completed. The majority of the surfaces are adequate for the coating application. However, there were several roof cracks with visible leaks. On previous reports we recommended repairing leaking cracks from the exterior by routing out each crack to a minimum 1/4" wide by 1/2" deep and filling them with a flexible joint sealant as *Sikaflex* or approved equal. We strongly recommend the crack repairs to be performed prior to the coating installation at the underside of the roof slab.



Photo 8: Resurfaced roof



Photo 9: Resurfaced roof

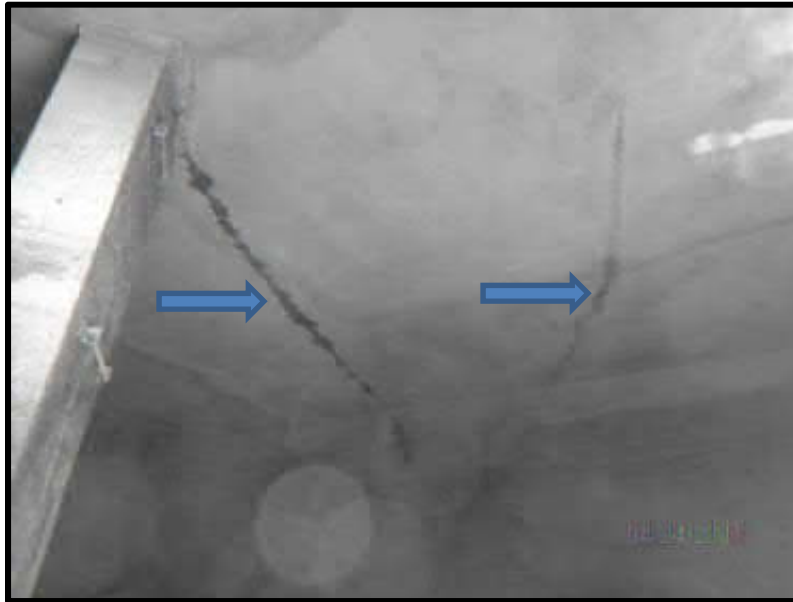
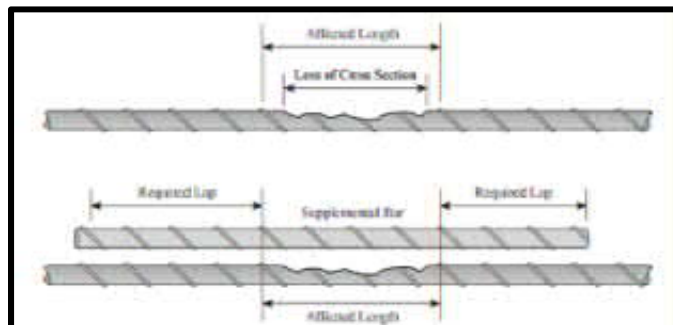


Photo 10: Leaks at roof cracks

2.4 Concrete Floor Slab

Resurfacing works at the floor slab had not commenced at the moment of inspection. There were an approximate of 3 inches of water on the entire surface. There was a visible exposed reinforcement under the mixer location on Area No. 1. The recommended procedure is the following:

1. Remove concrete from around the exposed reinforcement on a square configuration with square corners of 5 feet by 5 feet minimum. Saw cut the square configuration.
2. Undercut exposed reinforcement by abrasive blasting or any other suitable method to provide clearance under the reinforcing steel of 1 inch minimum between the exposed reinforcement and surrounding concrete. Sound concrete may have to be removed to provide proper clearance.
3. Loose reinforcement should be secure in its original position, a supplemental bar shall be mechanical spliced or lap spliced beyond the damaged area at all reinforcement bars with loss of cross sectional area.



4. Apply an anti-corrosion coating for reinforcement and bonding agent like **Sika Armatec 110 Epocem** or approved equal prior to the repair mortar application following all manufacturer's recommendations.



Photo 11: Exposed reinforcement

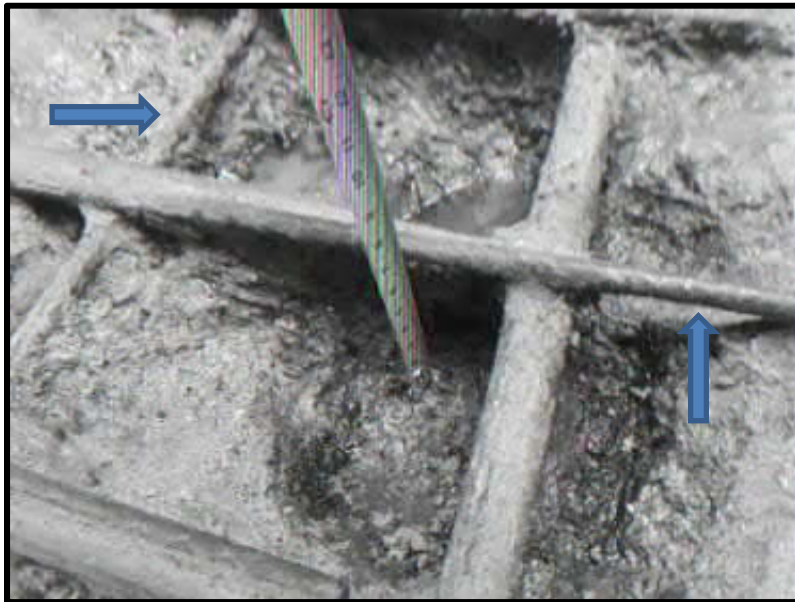


Photo 12: Loss of cross sectional area

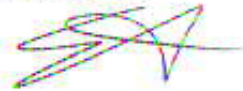


Substantial Completion – Punch List

5th Site Visit Date: May 22, 2018
Addendum No.3 Issue Date: May 24, 2018

Inspection Site: South District WWTP – Oxygenation Basin No. 6
Miami Dade Water and Sewer Authority Department
8950 SW 232nd St, Miami, FL 33190
(25°32'58.79"N, 80°20'13.59"W)

Prepared by: Eliud J. Vega, MSE, PE



Project: **CD1.03 - South District WWTP Oxygenation Basin No. 6 Structural Rehabilitation**



This addendum shall be included as part of VISUAL INSPECTION REPORT by Eliud J. Vega, MSE, PE with final report issue date on March 9, 2018.



SDWWTP Oxygenation Basin No. 6

Table No. 1

Punch List					
Item No.	Description	Comments	Photo	Status	Completion Date
1	Column to shroud detail	Several columns requires finish the Souda Foam cutting procedures and provide the joint sealant application.	See photo 1	Pending	
2	Columns bottom edge	Several columns requires additional coating application at the bottom edge.	See photo 2	Pending	
3	Column corner guard top edge	Several columns requires additional coating and sealant application at column corner guard top edge.	See photo 3	Pending	
4	Floor slab under mixer location	Floor slab under mixer location at Area No. 1 requires additional resurfacing and coating application.	See photo 4	Pending	
5	Floor slab expansion joint	Floor slab expansion joint at Area No. 2 requires the backer rod and joint sealant application.	See photo 5	Pending	
6	Roof slab opening railing locations	Several roof opening edges requires coating application. Also, at railing anchors locations on the interior of roof slab at opening locations.	See photo 6 and 7	Pending	
7	Roof deck pipe inserts	Several pipe inserts at roof slab requires application of Souda Foam and sealant around edges.	See photo 8 and 9	Pending	
8	Valve roof deck insert	Valve roof deck insert requires coating application at Area No. 6.	See photo 10	Pending	
9	Roof deck exterior cracks	Several cracks at the roof deck, Areas No. 1, 2 and 3 requires crack repair procedure and sealant application.	See photo 11	Pending	
10	Weir wall 1ft x 1ft opening	Weir wall 1ft x 1ft opening connecting Area No. 6 chamber to effluent channel requires coating application.	See photo 12	Pending	
11	Floor slab sump pump locations	All floor slab sump pump locations requires dewatering and coating application.	See photo 13	Pending	
12	Oxygenation Basin No. 6 final cleanup	Contractor shall perform a final cleanup of the Oxygenation Basin No.6. The entire basin shall be left free of any major contaminants, concrete particles, dirt from deck runoff or any other material.	N/A	Pending	

1. OVERVIEW:

On Tuesday May 22, 2018 a substantial completion inspection of the South District Wastewater Treatment Plant (SDWWTP) Oxygenation Basin No. 6 was carried at the address and coordinates shown on the cover of this report. The main purpose of the inspection was to assess the finished coating application and repairs procedures and produce a punch list. Daniel Lizarazo, PE from the Consent Decree PMCM Team was present at the site visit and was in charge of all the coordination between the contractor and the inspection team. Personnel from the Miami Dade Water and Sewer Authority Department (WASD) and Sauereisen were also present during the entire walk around.

2. OBSERVATIONS - PUNCH LIST:

A thorough evaluation of the current visible condition of the concrete structure was performed. The following observations are the punch list as discussed on site with Jason Cox from Cypress Construction and Coatings, Inc. Refer to Table No. 1



Photo 1: Column to shroud detail



Photo 2: Concrete column bottom edge



Photo 3: Concrete column corner guard top edge



Photo 4: Floor slab under mixer location – Area No. 1



Photo 5: Floor slab expansion joint – Area No. 2

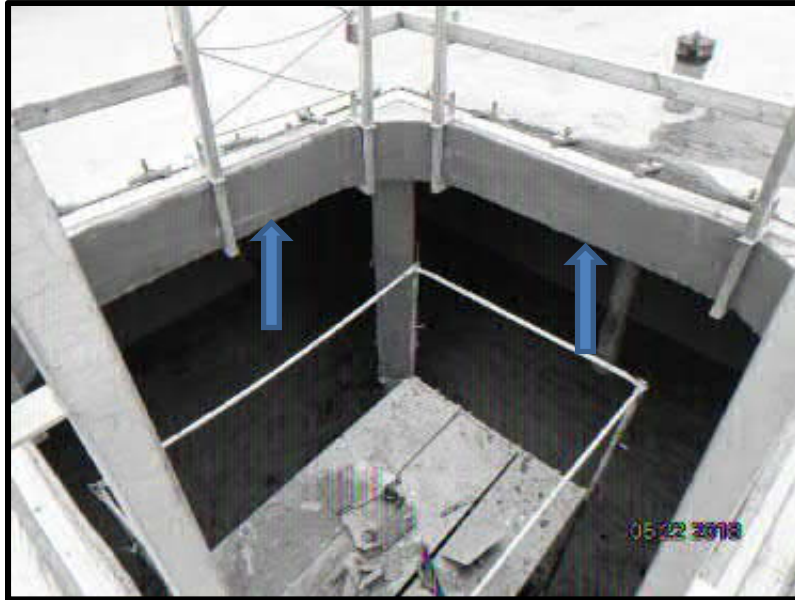


Photo 6: Roof slab opening and railings location



Photo 7: Roof slab opening and railings location



Photo 8: Roof deck pipe inserts



Photo 9: Roof deck pipe inserts



Photo 10: Valve roof deck insert

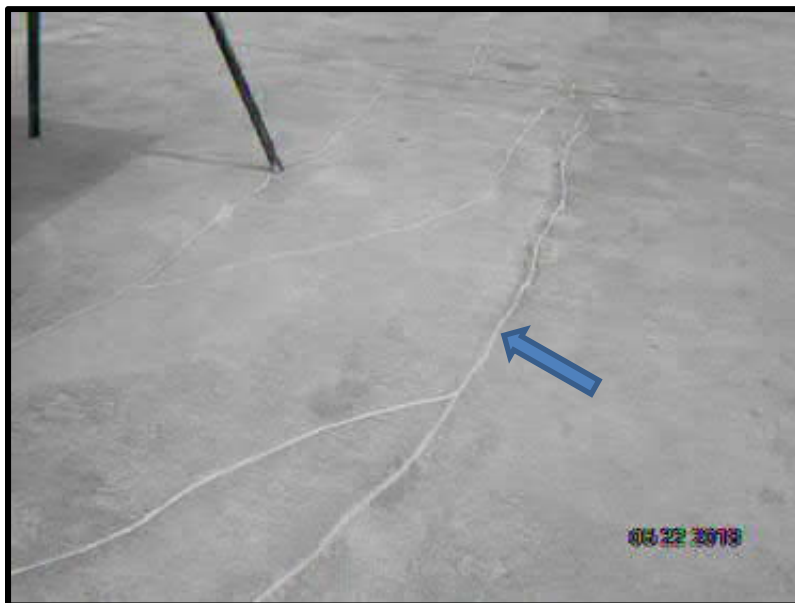


Photo 11: Roof deck exterior cracks

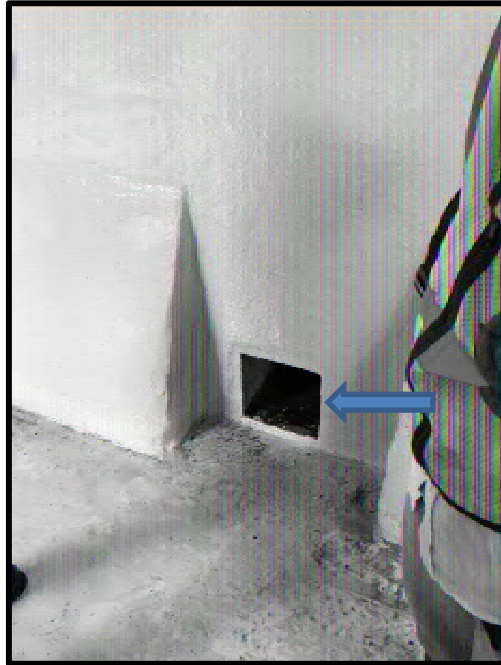


Photo 12: Weir wall 1ft x 1ft opening – Area No. 6



Photo 13: Floor slab sump pump location



Project Closure Report

6th Site Visit Date: May 29, 2018
Addendum No.4 Issue Date: June 1, 2018

Inspection Site: South District WWTP – Oxygenation Basin No. 6
Miami Dade Water and Sewer Authority Department
8950 SW 232nd St, Miami, FL 33190
(25°32'58.79"N, 80°20'13.59"W)

Prepared by: Eliud J. Vega, MSE, PE



Project: **CD1.03 - South District WWTP Oxygenation Basin No. 6 Structural Rehabilitation**



This addendum shall be included as part of VISUAL INSPECTION REPORT by Eliud J. Vega, MSE, PE with final report issue date on March 9, 2018.



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1. OVERVIEW:

On Tuesday May 29, 2018 a project closure inspection of the South District Wastewater Treatment Plant (SDWWTP) Oxygenation Basin No. 6 was carried out at the address and coordinates shown on the cover of this report. The main purpose of the inspection was to assess all the punch list items produced from the substantial completion inspection. Daniel Lizarazo, PE from the Consent Decree PMCM Team was present at the site visit and was in charge of all the coordination between the contractor and the inspection team. Personnel from the Miami Dade Water and Sewer Authority Department (WASD) were also present during the entire walk around.

2. PROJECT CLOSURE REPORT OBJECTIVE:

This Project Closure Report is the final document to accomplish the following goals:

- Validate the success of the project.
- Resolve the open issues from previous inspection.
- Identify best practices for future project and provide recommendations.
- Gather lessons learned.
- Formally close the project.

3. PUNCH LIST ITEMS AND COMPLETION DATES:

Refer to Table No. 1.



SDWWTP Oxygenation Basin No. 6

Table No. 1

Punch List Items and Completion Dates					
Item No.	Description	Comments	Photos	Status	Completion Date
1	Column to shroud detail	Several columns requires finish the Souda Foam cutting procedures and provide the joint sealant application.	See photo 1 and 1A	Completed	5/24/2018
2	Columns bottom edge	Several columns requires additional coating application at the bottom edge.	See photo 2 and 2A	Completed	5/24/2018
3	Column corner guard top edge	Several columns requires additional coating and sealant application at column corner guard top edge.	See photo 3 and 3A	Completed	5/24/2018
4	Floor slab under mixer location	Floor slab under mixer location at Area No. 1 requires additional resurfacing and coating application.	See photo 4 and 4A	Completed	5/24/2018
5	Floor slab expansion joint	Floor slab expansion joint at Area No. 2 requires the backer rod and joint sealant application.	See photo 5 and 5A	Completed	5/24/2018
6	Roof slab opening railing locations	Several roof opening edges requires coating application. Also, at railing anchors locations on the interior of roof slab at opening locations.	See photo 6, 6A, 7 and 7A	Completed	5/24/2018
7	Roof deck pipe inserts	Several pipe inserts at roof slab requires application of Souda Foam and sealant around edges.	See photo 8, 8A, 9 and 9A	Completed	5/24/2018
8	Valve roof deck insert	Valve roof deck insert requires coating application at Area No. 6.	See photo 10 and 10A	Completed	5/24/2018
9	Roof deck exterior cracks	Several cracks at the roof deck, Areas No. 1, 2 and 3 requires crack repair procedure and sealant application.	See photo 11 and 11A	Completed	5/25/2018
10	Weir wall 1ft x 1ft opening	Weir wall 1ft x 1ft opening connecting Area No. 6 chamber to effluent channel requires coating application.	See photo 12 and 12A	Completed	5/24/2018
11	Floor slab sump pump locations	All floor slab sump pump locations requires dewatering and coating application.	See photo 13 and 13A	Completed	5/24/2018
12	Oxygenation Basin No. 6 final cleanup	Contractor shall perform a final cleanup of the Oxygenation Basin No.6. The entire basin shall be left free of any major contaminants, concrete particles, dirt from deck runoff or any other material.	N/A	Completed	5/25/2018

4. OBSERVATIONS - PUNCH LIST ITEMS BEFORE AND AFTER:

A thorough evaluation of the punch list items was performed. The following photos are the before and after punch list items as corrected by Cypress Construction and Coatings, Inc. based on our recommendations. Refer to Table No. 1 for the punch list items descriptions. All the open issues has been officially resolved.



Photo 1: Column to shroud detail - Before

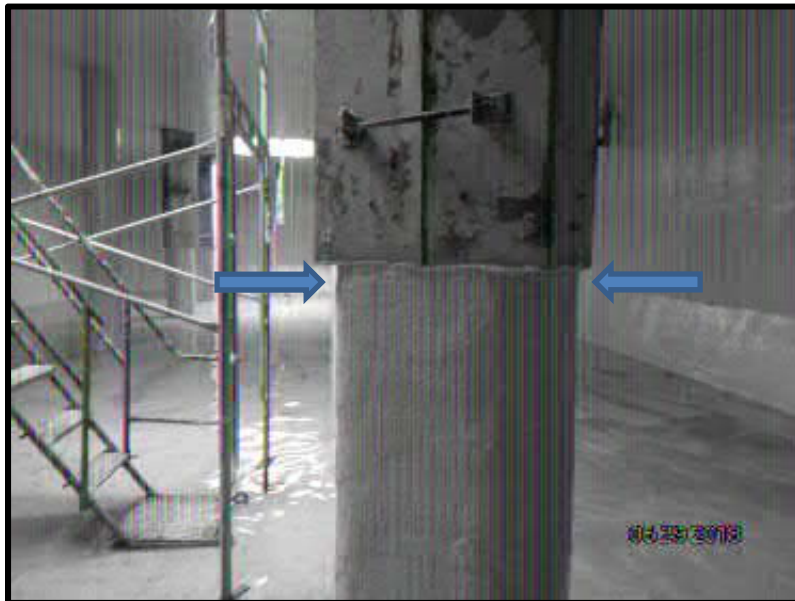


Photo 1A: Column to shroud detail - After



Photo 2: Concrete column bottom edge - **Before**

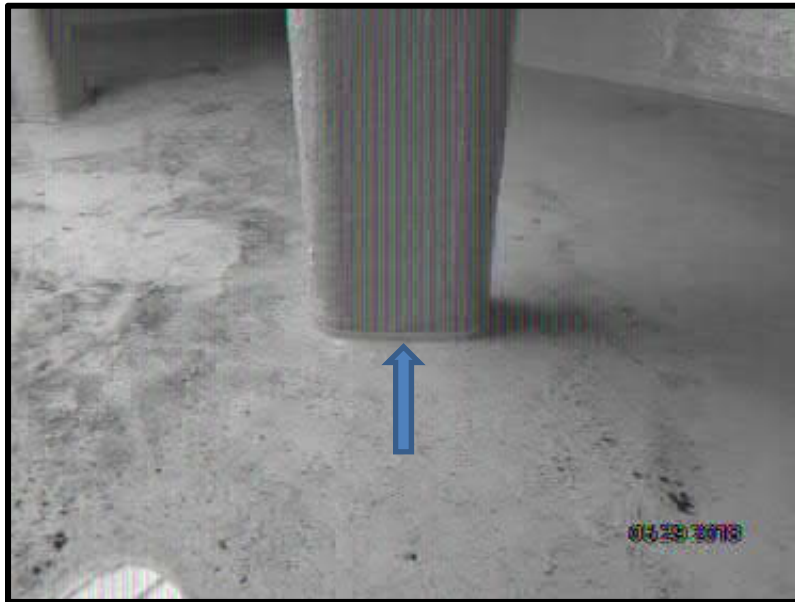


Photo 2A: Concrete column bottom edge - **After**



Photo 3: Concrete column corner guard top edge - **Before**

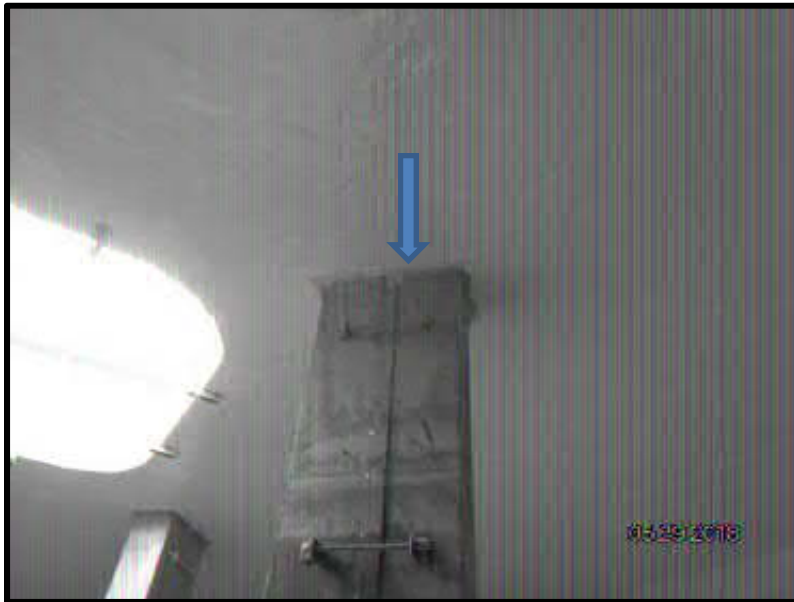


Photo 3A: Concrete column corner guard top edge - **After**



Photo 4: Floor slab under mixer location – Area No. 1 - **Before**

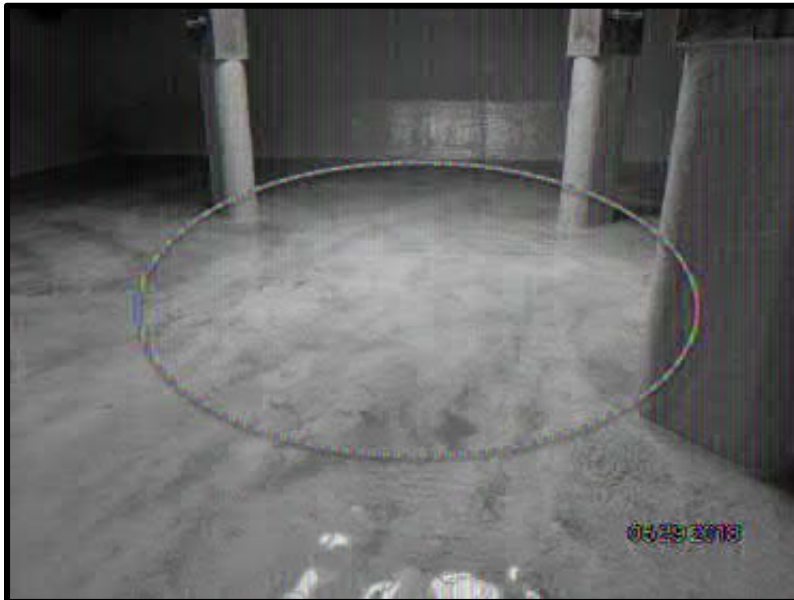


Photo 4A: Floor slab under mixer location – Area No. 1 - **After**



Photo 5: Floor slab expansion joint – Area No. 2 - **Before**

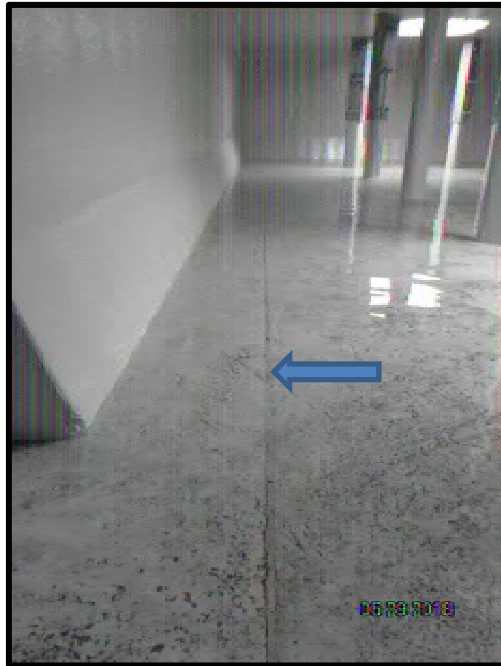


Photo 5A: Floor slab expansion joint – Area No. 2 - **After**

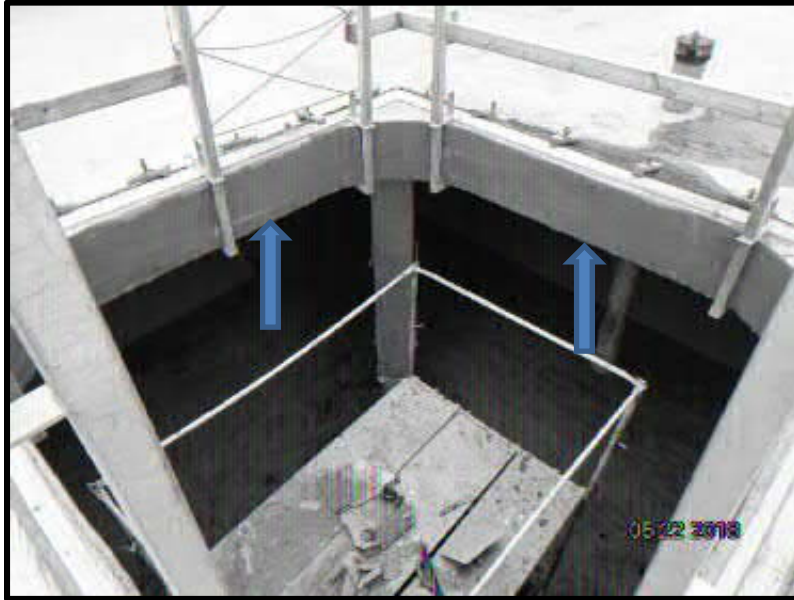


Photo 6: Roof slab opening and railings location - **Before**



Photo 6A: Roof slab opening and railings location - **After**



Photo 7: Roof slab opening and railings location - **Before**



Photo 7A: Roof slab opening and railings location - **After**



Photo 8: Roof deck pipe inserts - Before



Photo 8A: Roof deck pipe inserts - After



Photo 9: Roof deck pipe inserts - Before



Photo 9A: Roof deck pipe inserts - After



Photo 10: Valve roof deck insert - Before



Photo 10A: Valve roof deck insert - After



Photo 11: Roof deck exterior cracks - Before



Photo 11A: Roof deck exterior cracks - After

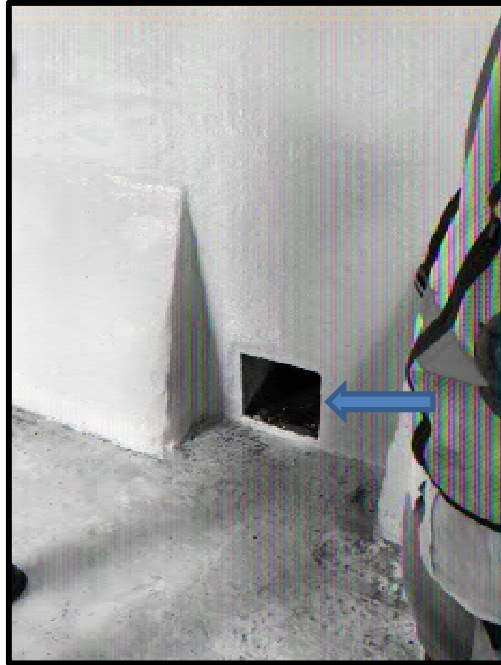


Photo 12: Weir wall 1ft x 1ft opening – Area No. 6 - **Before**



Photo 12A: Weir wall 1ft x 1ft opening – Area No. 6 – **After**



Photo 13: Floor slab sump pump location - **Before**

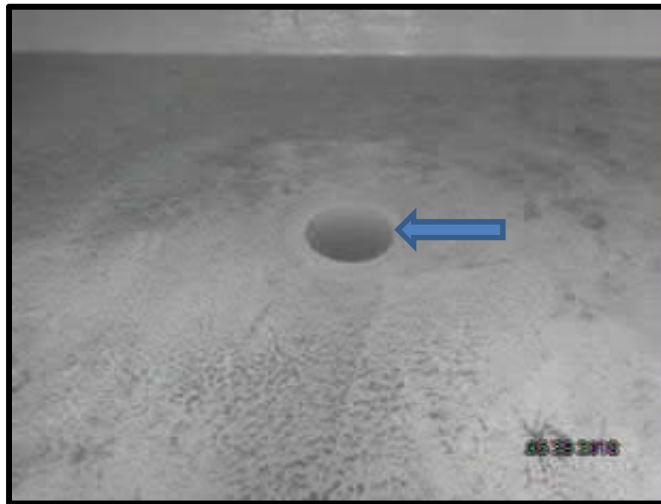


Photo 13A: Floor slab sump pump location - **After**

5. LESSONS LEARNED AND RECOMMENDATIONS FOR FUTURE PROJECTS:

The following are lessons learned and suggestions or recommendations to be considered at future oxygenation basins structural rehabilitations projects:

1. Effluent channel rehabilitation was out of scope for this project. We would recommend to include that area as part of the future projects based on that the effluent channel is an integral part of the oxygenation basin. Proper inspection and rehabilitation shall be performed.
2. Each basin could exhibit different deterioration scenarios due to the inherent issues of workmanship and quality of the original installation, year of construction and previous coating performance. We would recommend instead of assuming a square footage of resurfacing repairs based on historical records, to perform a first inspection early in the process to determine the actual measurements for each repair procedures and adjust after the surface preparation procedures. Bidding for the project can be based on unit prices for water blasting, abrasive blasting, each repair detail procedure, corner guards replacement, crack repairs epoxy and elastomeric, expansion and construction joints, coating application, material disposal among others. The repair details can be expressed as unit prices for different ranges of square footage.
3. We would strongly recommend that the contractor shall be responsible to submit as part of their bid proposal a detailed cost breakdown with unit prices for every single item required for the structural rehabilitation process. That would give us the opportunity to evaluate the data and determine if is accurate and up to date.
4. We would also recommend that the purchase order (PO) for the selected contractor be as detailed as possible and avoid to conglomerate various items in one PO item. This would help the management negotiate with the contractor any change order request either additive or deductive.
5. Based on how necessary this basins are during the rainy season and how early the season started this year, we would recommend to begin the project earlier than March, if possible by December or January to avoid additional charges from the contractor to accelerate the project to be able to finish before June 1.

6. INSPECTION PROJECT CLOSURE:

Based on our final inspection we can establish the following:

- The surface preparation procedure was completed and performed in accordance with our recommendations.
- The resurfacing procedure was completed and performed in accordance with our recommendations and the manufacturer's recommendations.
- The coating application procedure was completed and performed in accordance with our recommendations and the manufacturer's recommendations.
- The project is complete and the scope of work has been achieved.



7.ADDITIONAL BEFORE AND AFTER PHOTOS:

The purpose of the following photos are to show the outstanding difference from the original condition the SDWWTP Oxygenation Basin No. and the actual condition after the rehabilitation and coating application works. From the structural inspection team standpoint this has been a successful project that complied with our recommendations for surface preparation, repair procedures and coating application. These photos are just samples from each basin area as defined on the ***VISUAL INSPECTION REPORT by Eliud J. Vega, MSE, PE with final report issue date on March 9, 2018.***

7.1 Area No. 1



Photo 14: Area No. 1 - Before



Photo 14A: Area No. 1 - After

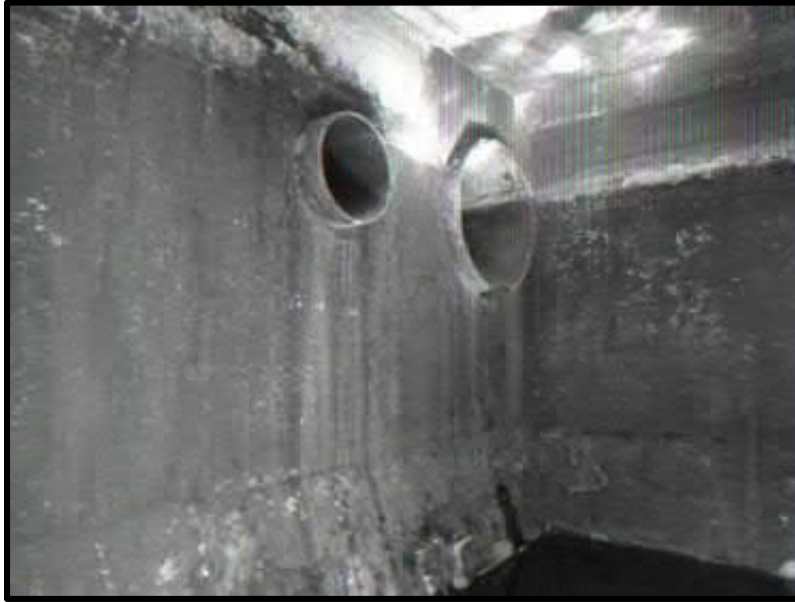


Photo 15: Area No. 1 - Before



Photo 15A: Area No. 1 - After



Photo 16: Area No. 1 - Before



Photo 16A: Area No. 1 - After

7.2 Area No. 2



Photo 17: Area No. 2 - Before



Photo 17A: Area No. 2 - After



Photo 18: Area No. 2 - Before



Photo 18A: Area No. 2 - After

7.3 Area No. 3



Photo 19: Area No. 3 - Before



Photo 19A: Area No. 3 - After



Photo 20: Area No. 3 - Before



Photo 20A: Area No. 3 - After

7.4 Area No. 4



Photo 21: Area No. 4 – Before



Photo 21A: Area No. 4 - After



Photo 22: Area No. 4 – Before



Photo 22A: Area No. 4 - After

7.5 Area No. 5



Photo 23: Area No. 5 – Before



Photo 23A: Area No. 5 - After



Photo 24: Area No. 5 – Before



Photo 24A: Area No. 5 – After

7.6 Area No. 6



Photo 25: Area No. 6 – Before



Photo 25A: Area No. 6 – After



Photo 26: Area No. 6 – Before



Photo 26A: Area No. 6 – After

APPENDIX "F"
DESIGN PLANS
(3 Pages)



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1. **COMPOSITE BRIDGES** IS A TYPE OF BRIDGE IN WHICH TWO OR MORE INDIVIDUAL BRIDGES ARE JOINED TOGETHER TO FORM A SINGLE BRIDGE.
2. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
3. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
4. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
5. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
6. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
7. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
8. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
9. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.
10. **THEY** ARE USED TO CROSS A SINGLE OR MULTIPLE OBSTACLES.

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CONTRACT NO. S-400
OXYGENATION TANKS

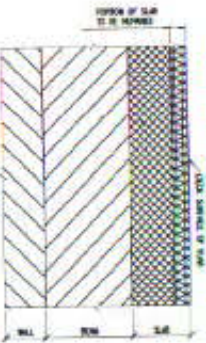
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Wm. A. Darnall	1910	Per. 1880	

APPENDIX "G"
WASD REPAIR DETAILS
(1 Page)

REPAIR DETAIL ①

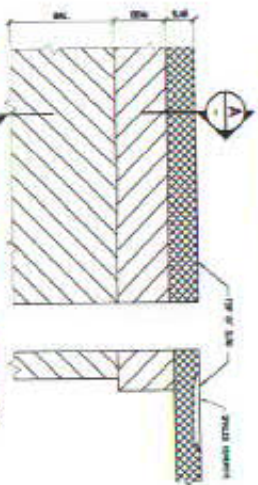
REPAIR DETAIL FOR 3/4" TO 1-1/2" SPALLS CONCRETE SURFACE, EXPOSED REINFORCEMENT, WITHOUT SPALLING



- NOTES FOR REPAIR DETAIL ①**
1. THE SPALL SHALL BE REMOVED TO EXPOSE THE REINFORCEMENT AND THE SURFACE OF THE CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 2. THE REPAIR CONCRETE SHALL BE PLACED IN LAYERS NOT EXCEEDING 4" IN THICKNESS AND SHALL BE CONSOLIDATED BY TAMPING OR VIBRATING.
 3. THE FINISHED SURFACE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 4. THE REPAIR CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.

REPAIR DETAIL ②

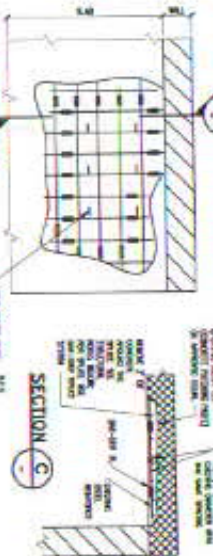
REPAIR DETAIL FOR 3/4" TO 1-1/2" SPALLS CONCRETE



- NOTES FOR REPAIR DETAIL ②**
1. THE SPALL SHALL BE REMOVED TO EXPOSE THE REINFORCEMENT AND THE SURFACE OF THE CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 2. THE REPAIR CONCRETE SHALL BE PLACED IN LAYERS NOT EXCEEDING 4" IN THICKNESS AND SHALL BE CONSOLIDATED BY TAMPING OR VIBRATING.
 3. THE FINISHED SURFACE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 4. THE REPAIR CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.

REPAIR DETAIL ③

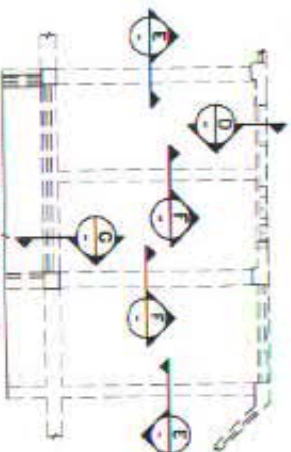
REPAIR DETAIL FOR CONCRETE WITH CORRODED STEEL REINBAR AND SPALLS CONCRETE



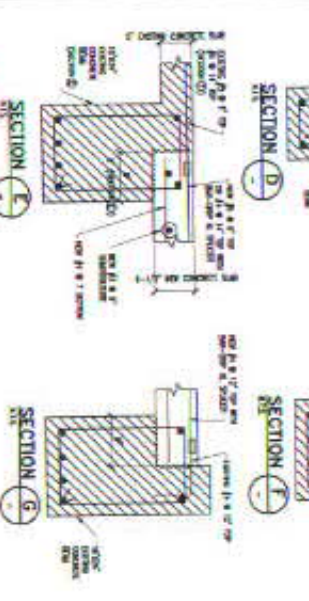
- NOTES FOR REPAIR DETAIL ③**
1. THE SPALL SHALL BE REMOVED TO EXPOSE THE REINFORCEMENT AND THE SURFACE OF THE CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 2. THE REPAIR CONCRETE SHALL BE PLACED IN LAYERS NOT EXCEEDING 4" IN THICKNESS AND SHALL BE CONSOLIDATED BY TAMPING OR VIBRATING.
 3. THE FINISHED SURFACE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 4. THE REPAIR CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.

REPAIR DETAIL ④

REPAIR DETAIL FOR PORTION OF CONCRETE SLAB TO BE COMPLETELY REMOVED



- NOTES FOR REPAIR DETAIL ④**
1. THE SPALL SHALL BE REMOVED TO EXPOSE THE REINFORCEMENT AND THE SURFACE OF THE CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 2. THE REPAIR CONCRETE SHALL BE PLACED IN LAYERS NOT EXCEEDING 4" IN THICKNESS AND SHALL BE CONSOLIDATED BY TAMPING OR VIBRATING.
 3. THE FINISHED SURFACE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 4. THE REPAIR CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.



- NOTES FOR REPAIR DETAIL ⑤**
1. THE SPALL SHALL BE REMOVED TO EXPOSE THE REINFORCEMENT AND THE SURFACE OF THE CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 2. THE REPAIR CONCRETE SHALL BE PLACED IN LAYERS NOT EXCEEDING 4" IN THICKNESS AND SHALL BE CONSOLIDATED BY TAMPING OR VIBRATING.
 3. THE FINISHED SURFACE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.
 4. THE REPAIR CONCRETE SHALL BE FINISHED WITH A 1/2" THICK LAYER OF CONCRETE.