

CONTRACT SPECIFICATIONS

MIAMI-DADE COUNTY
DEPARTMENT OF SOLID WASTE MANAGEMENT

BID DOCUMENTS

NORTHEAST TRANSFER STATION FACILITY
IMPROVEMENTS PHASE II - COMPACTORS
BUILDING TIPPING FLOOR ROOF

CONTRACT No. CICC 7360 PLAN
RPQ No. 18652-26

CONTRACTING OFFICER: CARLOS PRIMO
EMAIL: PRIMO@MIAMIDADE.GOV
PHONE NO.:305-514-6626

June 11, 2026



RPQ No. 18652-26

INSTRUCTIONS TO BIDDERS

1. Only Bidders that attend the mandatory scheduled pre-bid/site visit meeting are eligible to submit a bid for this solicitation.
2. Please ensure all pertinent personnel, including subcontractors, are in attendance on the scheduled date and time of the mandatory pre-bid/site visit meeting. A second scheduled date is not guaranteed.
3. **VENDOR REGISTRATION:** Vendors seeking to do business with Miami-Dade County must register in INFORMS. Please click on this direct link <https://supplier.miamidade.gov> – Instructions on the following page.
4. Must be pre-qualified in the Miscellaneous Construction Contracts (MCC) program at the time of the award. Please contact the Small Business Development Certification Unit (**SBD**) at sbdcert@miamidade.gov or call 305-375-3111.
5. The unit price column in the bid form must be completed with a dollar amount per line item unless the requested total bid amount is for a lump sum. Failure to follow this instruction may cause your bid to be non-responsive.
6. Bids shall be submitted sealed with all necessary signed affidavits and supporting documentation included. Bids shall be mailed or delivered. No email bids shall be accepted.
7. In the case of a numerical or mathematical discrepancy in the bidder's submittal, the Grand Total Bid Amount, as listed in RPQ Bid Form - Attachment 5A, shall govern as the actual bid price. That number shall constitute the bidder's binding offer, notwithstanding contrary information elsewhere in the submittal.
8. Bidders are required to list the 3 subcontractor firms on the Subcontracting Form. If your firm will perform the work, this information should be notated on the form. DO NOT leave any space blank next to a trade.
9. Method of Award: The method of award will be to the lowest responsive and responsible bidder. The prospective lowest bidder will be determined by calculating: Total Base Bid (sum of Lines **1** through **4** on the Bid Form), plus (+) Contingency Allowance (10% of Total Base Bid), plus (+) Dedicated Allowance (for Shed Roof Beam Deterioation Repair) plus (+) Reimbursable Expenses = Grand Total Bid Amount.

MIAMI-DADE COUNTY VENDOR REGISTRATION

THANK YOU FOR YOUR INTEREST IN DOING BUSINESS WITH THE COUNTY

Please complete our easy to access online vendor registration at: <https://supplier.miamidade.gov>

1. Click **User Registration**
2. Click **Register Now**

PART 1:

Complete the following General Business Information:

1. Welcome
2. Identifying Information
3. Addresses (include a Bill to Address)
4. Contacts
5. Categorization
6. Submit

Once completed, an email will be sent to you with login information. Log in and complete Part 2 of the registration.

PART 2:

Requirements for PART 2 of the registration, complete **Affidavits Tab and Additional Information Tab.**

1. Click **My Bidder Profile**
2. Click **Affidavits Tab**
 - a. In the Affidavit 1 section, click the “owners” tab and enter all owners above 5% (if no owners above 5%, type “N/A”).
 - b. If another company owns this company, enter that information in the “Other Corps” field in the Affidavit 1 section.
 - c. Read and complete Affidavit 2-13
3. Click **Additional Information tab** (upload the below documents)
 - a. Local business tax receipt if company physical address is in Miami-Dade County
 - b. Certificate of Corporation
 - c. W-9 Form (<https://www.irs.gov/pub/irs-pdf/fw9.pdf>)
 - d. 147c IRS Form with your current business name and EIN number) OR any other preprinted IRS form issued by the IRS identifying your business name and EIN
 - e. Generate the Summary package, get it notarized, then re-upload to the system
4. Click **Submit**

If you have any questions or concerns, please contact the Vendor Outreach & Support Section at **(305) 375-5773**, or email ISD-VSS@miamidade.gov.

To obtain this information in an accessible format, please contact Heidi Johnson-Wright at 305-375-2013.



Daniella Levine Cava, Mayor

June 25, 2024

ATTENTION CONSTRUCTION FIRMS ON COUNTY CONTRACTS AND LEASES FOR CONSTRUCTION ON COUNTY OWNED LAND...

On May 28, 2024, the Governor signed into law House Bill ("HB") 705. Prior to the adoption of HB 705, section 255.0992 of the Florida Statutes generally prohibited Miami-Dade County (the "County"), from requiring a contractor, subcontractor, or supplier to pay or provide a predetermined amount of wages or benefits to its employees or recruit or hire employees from a designated or restricted source in construction projects paid for with any state-appropriated funds. Additionally, under the same statute, the County could not apply small business measures or limit bidding among Small Business Enterprise-Construction ("SBE-Con") firms for construction projects paid for with any state funds. However, for contracts funded solely with County funds, prior to the adoption of HB 705, section 255.0992 did not limit the application of the County's SBE-Con program, responsible wages, or workforce requirements.

HB 705 revised the definition of the term "public works project" in Section 255.0992, Florida Statutes to **include activities paid for with local County funds, making the various prohibitions found in section 255.0992 applicable to County funded construction contracts.** Thus, in light of the passing of HB 705, effective July 1, 2024, the following prohibitions exist:

- The County's Responsible Wages & Benefits, Community Workforce, Residents First Training and Employment and Employ Miami-Dade Program requirements will not be applied to the County's capital construction projects, including design-build projects, **awarded after July 1, 2024.**
- The County's SBE-Con requirements cannot be applied on any capital construction projects, including design-build projects, **if initial bids or proposals are received on or after July 1, 2024.**

Small Business Enterprise, Responsible Wages and Benefits, Community Workforce Program, Residents First Training and Employment and Employ Miami-Dade Program requirements applied to construction contracts awarded prior to July 1, 2024 remain in effect and shall continue to be applied throughout the life of the project. As such, contractors and subcontractors must comply with all program requirements which include but are not limited to the following:

- Primes must enter into contracts with SBEs for scope and value listed on Utilization Plans and promptly pay requisitions within two days of receipt of payment from the County, or as provided in the Code, and meet established SBE contract goals or set-aside measures.
- Primes must report payments to SBEs in the Business Management Workforce System and SBEs must confirm payments reported by primes.
- Primes and subcontractors must continue to pay employees the Responsible Wages in effect at the time work is performed and submit certified payrolls by the 10th of each month in LCPtracker.
- Primes and subcontractors must continue to meet established workforce requirements.

Please contact the Office of Small Business Development at 305-375-3111 with any questions regarding compliance with your existing contracts.

c: Miami-Dade County Project Managers



BID DOCUMENTS - TABLE OF CONTENTS

**PROJECT NAME: NORTHEAST TRANSFER STATION FACILITY
IMPROVEMENTS PHASE II - COMPACTORS BUILDING TIPPING FLOOR ROOF
RPQ NO: 18652-26**

REQUEST FOR PRICE QUOTATION (RPQ)

MINIMUM QUALIFICATIONS AND REQUIREMENTS

FORMS FOR BIDDING (MUST ACCOMPANY BID)

- RPQ Bid Form - Attachment 5A
- Bid Form
- Surety Bid Bond (*required for all bids over \$200k*) (*5% of Total Bid Price*)
- Confirmation of Addendums (*if applicable*) (*to be completed by Bidder*)
- All Addendum(s) (*if applicable*) (*must be signed by Bidder*)
- Bid Submittal Check List Questionnaire Appendix "D" (*select proper classification of your firm. Corporations must include a certified copy of their resolution of the Board of Directors*)
- Business References (*References provided must show experience/qualifications for similar services requested in this solicitation*)
- Firm's Responsibility Combined Affidavit (*sign and notarize*)
- Contracting with Entities of Foreign Countries of Concern Prohibited Affidavit
- Subcontracting Form

CONTRACT FORMS (CONDITION OF AWARD)

- Surety Performance and Payment Bond (*required for all bids over \$200k*)
- Non Collusion Affidavit
- Kidnapping, Custody Offenses, Human Trafficking and Related Offenses Affidavit
- Certificate(s) of Insurance (*to be submitted by Bidder*)

ADDITIONAL CONTRACT DOCUMENTS

- Standard Construction General Contract Conditions
- Special Provisions
- Indemnification and Insurance
- Attachments A through F

SPECIFICATIONS

- Scope of Work
- Technical Requirements
- Drawings

Department of Solid Waste Management

Dr. Martin Luther King Jr. Office Plaza
2525 NW 62 Street, Suite 5100
Miami, FL 33147



**MIAMI-DADE COUNTY, FLORIDA
REQUEST FOR PRICE QUOTATION (RPQ)**

Contract No: MCC 7360 Plan
RPQ No: 18652-26

This RPQ is issued under the terms and conditions of the MCC 7360 Plan .

Date Issued: 5/18/2026 Bid Date Due: 7/20/2026 Time Due: 02:00 PM

Bid shall be Submitted Via: Sealed Envelope to:

Name: CARLOS PRIMO Email: primo@miamidade.gov

Address: 2525 NW 62 ST, MIAMI, FL 33147 Fax: 305-514-6626

RPQ Added: 5/18/2026 User Bidder Request: 6/8/2026 Bond Adm./OMB Approval: 6/11/2026 Bidders Added: 6/11/2026

Project Number: 18652-26 Estimated Value: \$614,297.00
(excluding contingencies and dedicated allowances)

Project Name: NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS PHASE II - COMPACTORS BLDG TIPPING FLOOR ROOF Emergency: N

Project Location: 18701 NE 6 AVENUE, MIAMI, FL 33179 ESP: N

Department Contact: Carlos Primo Phone No: 305-514-6626 Fax No: 305-514-6626

Project Manager: Marcela Villegas Jimenez Phone No: 305-514-6667 Fax No: 305-514-6626

Document Pickup: Contact: CARLOS PRIMO Phone: 3055146626 Date:

Document Pickup: Location: WILL BE SENT VIA EMAIL

	Mandatory:	Date:	Time:	Location:
PreBid Meeting: <u>Y</u>	<u>Y</u>	<u>6/24/2026</u>	<u>10:00 AM</u>	<u>18701 NE 6 AVENUE, MIAMI, FL 33179</u>
Site Meeting: <u>Y</u>	<u>Y</u>	<u>6/24/2026</u>	<u>10:30 AM</u>	<u>18701 NE 6 AVENUE, MIAMI, FL 33179</u>

Type of Contract: Multiple Trade Method of Award: Lowest Responsible Bidder

Performance/Payment Bond Required: Y Bid Bond Required: Y Insurance Required: Y

Addition Insurance Required: N Addition Insurance Amount: \$0.00

Federally Funded: N GOB Funded: N Does the funding source allow UAP? Yes No

CIIP Funded: N Funded or reimbursed by LAP Agreements with FDOT: N

Comm Dist: District 1 Davis Bacon: N Maintenance Wages: N AIPP: N \$0.00

Date Advertised: 6/11/2026

SBE-S Requirements: N 0.00% SBE-Services Commodity Set-Aside: N

SBE-G Requirements: N 0.00% SBE-Goods Commodity Set-Aside: N

DBE Requirements: N 0.00% DBE Subcontract Forms Required: N

Trade(s): General Building Contractor (Primary) Building Contractor (Primary) Structural Steel Erection (Sub)
Roofing Contractor (Sub) Concrete Work (Sub)

Anticipated Start Date: 9/1/2026 Calendar Days for Project Completion: 120

Liquidated Damages / \$\$ Per day: Y \$349.20 Method of Payment: Scheduled Monthly Payments

CAPITAL BUDGET PROJECT # - DESCRIPTION	MCC ESTIMATE
2000001374- DISPOSAL FACILITY INFRASTRUCTURE IMPROVEMENTS - NORTHEAST TRANSFER STATION GROUNDS	\$614,297.00

FUNDING SOURCE:

SOURCE

Waste Disposal Operating Fund

PROJECT NUM2000001374**SITE #**#3007242**MCC ESTIMATE**\$614,297.00**Awarded To:****SBE-Con. Exp Date:****Paid Amt: \$0.00****Collusion Affidavit Received: N****Date Collusion Affidavit Received:****Base Amt: \$0.00****Cont Amt: \$0.00****Ded Amt: \$0.00****Award Amt: \$0.00****Insurance:****SPD Reviewed: N****Date Approved:****GL Ins Exp Dt:****P & P Bond:****Risk Approved: N****Date Approved:****WC Ins Exp Dt:****AL Ins Exp Dt:****Scope of Work:** (Contractor must obtain and submit all permits prior to performing any work.)

Site Address: 18701 NE 6th Avenue, Miami, FL 33160

Site Hours of Operation: Monday – Saturday, 7:00 a.m. - 5:00p.m.

Work Hours: Monday – Friday, 7:00 a.m. to 5:00 p.m.

- Requests for approval by the Owner to work other than regular working hours must be submitted to the Owner at least 48 hours prior to any proposed weekend work or extended work hours during the week.
- Off-hours work shall be incorporated into Bid. Additional payment will not be provided for off-hours work.

Project Description

The purpose of the project is to construct a new steel roof deck above the compactors building tipping floor, modify existing steel joists to support additional wind loads, and repair the concrete corbel and masonry wall cracks. Work to be performed includes, but is not limited to, the following:

1. Corbel Repair

- Remove the steel travel beam for reuse
- Remove the existing corbel
- Add reinforcing steel
- Form and place new concrete

2. South Façade Crack Sealing

- Remove stucco in a limited area
- Rake joints in the existing Concrete Masonry Unit (CMU) façade using gouging tools
- Insert reinforcing steel and grout the joints
- Repair stucco and paint the affected area from corner to corner

3. Retrofit Existing Roof Structure

- Remove existing roofing materials
- Clean all framing
- Install new framing where noted
- Prime and paint steel
- Install the new roofing system

Additional Information

- The Contractor shall coordinate with the Facility Supervisor and the Engineer of Record (EOR) to phase the work in a manner that minimizes impacts to facility operations, equipment, and vehicle circulation.
- Hours of operation will remain unaffected during construction.
- Work Restriction: Maintain uninterrupted truck access to the existing surge pit throughout construction. Provide phased construction sequencing to ensure continuous access.

Additional Requirements:

- All construction and materials shall conform to the County's Sustainable Buildings Program - Cool Roofs per Resolution 54-18.

Design Drawings Included: Y**Project Qualifier:** Marcela Villegas Jimenez**Shop Drawings Included: N****Phone No:** 305-514-6667**Specifications Included: Y****Email:**
Marcela.Villegas@miamidade.gov**Comments:**

In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.

Pursuant to Section 2-8.10 of the Code of Miami-Dade County, this Contract is subject to a user access fee under the County's User Access Program (UAP) in the amount of two percent (2%). All construction services provided under this contract are subject to the 2% UAP. This fee applies to all Contract usage whether by County Departments or by any other governmental, quasi-governmental or not-for-profit entity. From every payment made to the Contractor under this contract (including the payment of retainage), the County will deduct the two percent (2%) UAP fee provided in the ordinance and the Contractor will accept such reduced amount as full compensation for any and all deliverables under the contract. The County shall retain the 2% UAP for use by the County to help defray the cost of its procurement program. Contractor participation in this pay request reduction portion of the UAP is mandatory.

Provided, however, UAP shall not be applicable for total contract values, inclusive of contingency and allowance accounts, of less than five hundred thousand dollars (\$500,000.00).

All Projects, where the prices received are in excess of \$200,000 will require the submission of the Payment and Performance Bond as required by State of Florida Statute.

1. DEADLINE FOR RECEIPT OF RFI QUESTIONS: By 3:00 P.M, EST., on 07/1/2026.

Submit Request for Information (RFI's) to primo@miamidade.gov with copy to gibsy.nunezdavila@miamidade.gov and clerkbcc@miamidade.gov

2. This Request for Price Quotation (RPQ) is for a Miscellaneous Construction Contract. All terms and conditions of the MCC Program are part of this contract and will be enforced.

3. Unless specified in the bid form, all applicable permit fees must be paid by selected contractor.

4. In the event the lowest responsible and responsive bid amount exceeds the project's cost estimate, Miami Dade County may hold a meeting to request further cost reductions to align the bid amount with the project's cost estimate. However, Miami Dade County will not engage in any type of negotiations or modifications of the original scope, terms or conditions other than the price reduction.

5. Refer to Article 2.14 below of the MCC Program to further clarify the license requirements:

2.14 LICENSE QUALIFICATIONS OF CONTRACTORS:

A) All Contractors must hold a current valid State of Florida Certified General Contractor License, as required by the Florida Building Code, for the types of Work covered by the Contract at the time of RPQ submission and maintain the same throughout the duration of the project. The certificate(s) is to be issued by: The State of Florida Construction Industry Licensing Board, pursuant to the provisions of Section 489.115 of the Florida Statute and registered with the Miami-Dade County Building Department or, The Dade County Construction Trades Qualifying Board, pursuant to the provisions of Section 10-3(a) of the County Code. Holders of Miami-Dade County Certificates of Competency must also hold Certificates of Registration issued by the State of Florida Construction Licensing Board, pursuant to the provisions of Section 489.115 or Section 489.117 of the Florida Statutes.

B) Proof of such Certificate(s) must be submitted at the time of initial response and maintained current throughout the contract period. The County may request proof of continued certification at any time during the contract period. Failure to provide such proof within five (5) working days from notification by the County shall result in the removal from the contract and the rejection of any current or future RPQ bid submissions.

C) Subsequent to the commencement of the Contract, the County may require specific qualifications based on a Project's scope of work. Such requirements will be included within the RPQ.

6. PRIME CONTRACTOR MUST BE ABLE TO PULL MASTER PERMIT.

7. Per Florida Statute 255.078, 5% retainage will be held for construction projects greater than \$200,000.00.

8. Inspector General fees are applicable to this project.

MINIMUM QUALIFICATIONS AND REQUIREMENTS

Prime Contractor and / or Subcontractor is highly preferred to have the following:

- Successfully completed five (5) projects of similar nature, size, and scope within the last five (5) years.
- Prior experience installing Thermoplastic Polyolefin (TPO) roofing, or an Owner-approved equivalent, within the past three (3) years.

Prime Contractor must provide with their bid the following information:

- Provide complete description of capability and history of the Contractor.
- Proof of experience documentation must accompany bid submittal. Any prior experience of the Prime Contractor's key personnel will also be considered in meeting such minimum experience specifications.



RPQ BID FORM - ATTACHMENT 5A

Project Name: Northeast Transfer Station Facility Improvements Phase II – Compactors Bldg. Tipping Floor Roof

RPQ No.: 18652-26

GRAND TOTAL BID AMOUNT: \$ _____

THE GRAND TOTAL BID AMOUNT LISTED ABOVE SHALL BE INCLUSIVE OF TOTAL BASE BID PLUS 10% CONTINGENCY ALLOWANCE FOR UNFORSEEN CHANGES, DEDICATED ALLOWANCE, AND REIMBURSABLE EXPENSES.

(Cost to Perform the work must be stated here. State 'No Bid' if not submitting a bid price)

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF THE BIDDER TO BE BOUND BY THE TERMS OF ITS OFFER. FAILURE TO COMPLETE AND SIGN THIS SOLICITATION WHERE INDICATED ABOVE BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE BID NON-RESPONSIVE. THE COUNTY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY RESPONSE THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE BIDDER TO THE TERMS OF ITS OFFER.

Print/Type

Bidder's Name: _____

Bidder's Authorized Representative's Name: _____

Company Address: _____

Signature: _____ **Date:** _____

Note: Quotes must be submitted on this form. All submittal envelopes must state RPQ Number, date and time due and the Bidder's Name. Use of any other form for submission of the price quotation shall result in the rejection of the price quotation. Late bids will not be opened. The low bidder will be notified, in the Recommendation of Award, of the requirements to submit current copies of insurance certificates in accordance with the Contract Documents. By signature, the Contractor agrees to be bound by the terms set forth in the *MCC 7360 Plan*.

In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.

Attachment 5A

BID FORM

TO BE COMPLETED BY BIDDER AT BID SUBMISSION (A UNIT PRICE MUST BE ENTERED PER LINE)

Line Item	DESCRIPTION	UOM	EST. QTY	UNIT PRICE	TOTAL PRICE
1	Mobilization and Demobilization - Mobilization to the site with all necessary equipment and personnel. Restore the site to its original condition and remove all equipment and personnel from the site.	LS	1	\$	\$
2	Corbel Repair - Remove the steel travel beam for reuse. Remove the existing corbel, add reinforcing steel, form and place concrete.	LS	1	\$	\$
3	South Façade Crack Sealing - Remove stucco in limited area, rake joints into exiting Concrete Masonry Unit (CMU) façade using gouging tools. Insert reinforcing steel into the raked joints. Grout the raked joints closed. Repair stucco and paint corner to corner of this limited area.	LS	1	\$	\$
4	Retrofit Existing Roof Structure - Remove roofing materials, clean all framing, install new framing where noted, prime and paint steel and install new roofing system.	LS	1	\$	\$
TOTAL BASE BID					\$

DESCRIPTION	TOTAL
ALLOWANCE ACCOUNT FOR UNFORESEEN CHANGES, 10 % OF BASE BID	\$

(A *Contingency Allowance* has been established for the purpose of funding portions of the work which are unforeseeable at the time of contract award. It is understood that any unspent amount of the allowance account is to remain with the County.)

DESCRIPTION	TOTAL
DEDICATED ALLOWANCE	\$ 23,920.00

(A *Dedicated Allowance Account* has been established for the exclusive use of the Department of Solid Waste Management for the purpose of *Shed Roof Beam Deterioration Repairs*. It is understood that any unspent portion of the allowance account is to remain with the COUNTY.)

DESCRIPTION	TOTAL
REIMBURSABLE EXPENSES (PERMITS AND TESTING)	\$ 31,303.00

(It is understood that any unspent portion of reimbursable expenses is to remain with the COUNTY.)

GRAND TOTAL BID AMOUNT:

\$

THE GRAND TOTAL BID AMOUNT LISTED ABOVE SHALL BE INCLUSIVE OF TOTAL BASE BID PLUS 10% CONTINGENCY ALLOWANCE FOR UNFORESEEN CHANGES, AND ANY DEDICATED ALLOWANCE.

GRAND TOTAL BID AMOUNT for THE SUM OF:

_____ Dollars and/ _____ Cents.
(PRINT DOLLAR AMOUNT)

**** YOU ARE REQUIRED TO TRANSFER THE GRAND TOTAL BID AMOUNT TO FORM ATTACHMENT 5A. ****

THE BIDDER UNDERSTANDS AND AGREES THAT THE ABOVE GRAND TOTAL BID AMOUNT IS INCLUSIVE OF ALL LABOR AND MATERIALS NECESSARY TO COMPLETE THE WORK AS DESCRIBED IN THE CONTRACT DOCUMENTS.

Pursuant to Miami-Dade County Ordinance 94-34, any individual, corporation, partnership, joint venture or other legal entity having an officer, director, or executive who has been convicted of a felony during the past ten (10) years shall disclose this information prior to entering into a contract with or receiving funding from the County.

Place a check mark here only if bidder has such conviction to disclose to comply with this requirement.

Please List: _____

WAIVER OF CONFIDENTIALITY AND TRADE SECRET TREATMENT OF BID:

The Bidder acknowledges and agrees that the submittal of the Bid is governed by Florida’s Government in the Sunshine Laws and Public Records Laws as set forth in Florida Statutes Section 286.011 and Florida Statutes Chapter 119. As such, all material submitted as part of, or in support of, the bid will be available for public inspection after opening of bids and may be considered by the County in public. **By submitting a Bid pursuant to this Solicitation, Bidder agrees that all such materials may be considered to be public records. The Bidder shall not submit any information in response to this Solicitation which the Bidder considers to be a trade secret, proprietary or confidential.** In the event that the Bid contains a claim that all or a portion of the Bid submitted contains confidential, proprietary or trade secret information, the Bidder, by signing below, knowingly and expressly waives all claims made that the Bid, or any part thereof no matter how indicated, is confidential, proprietary or a trade secret and authorizes the County to release such information to the public for any reason.

Acknowledgment of Waiver:

Bidder’s Authorized Representative’s Signature: _____ **Date:** _____

Print/Type Name: _____ **Print/Type Title:** _____

It is hereby certified and affirmed that the bidder shall accept any awards made as a result of this solicitation. If awarded a purchases order or contract as a result of this solicitation, the Bidder further agrees that all work shall be performed as specified in the Contract Documents, and that prices quoted shall remain fixed and firm for the term of the contract.

Print/Type

Bidder’s Name: _____ **F.E.I.N. No.:** _____

Address: _____ **City:** _____ **State:** _____

Bidder’s Authorized Representative’s Signature: _____ **Date:** _____

Name: _____ **Print/Type Title:** _____

Email: _____ **Phone:** _____

THE EXECUTION OF THIS FORM CONSTITUTES THE UNEQUIVOCAL OFFER OF THE BIDDER TO BE BOUND BY THE TERMS OF ITS OFFER. FAILURE TO COMPLETE AND SIGN THIS SOLICITATION WHERE INDICATED ABOVE BY AN AUTHORIZED REPRESENTATIVE SHALL RENDER THE BID NON-RESPONSIVE. THE COUNTY MAY, HOWEVER, IN ITS SOLE DISCRETION, ACCEPT ANY RESPONSE THAT INCLUDES AN EXECUTED DOCUMENT WHICH UNEQUIVOCALLY BINDS THE BIDDER TO THE TERMS OF ITS OFFER.

SURETY BID BOND

By this Bond, we _____, as Principal, whose principal business address is _____, as respondent to the contract offering due _____, 20 __, For Miami-Dade County construction of Department of Solid Waste Management's *Northeast Transfer Station Improvements Phase II – Compactors Building Tipping Floor Roof*, Contract No. MCC 7360, RPQ No. 18652-26, (herein after referred to as "Contract") the terms of which Contract are incorporated by reference in its entirety into this Bond and _____, a corporation, whose principal business address is _____ as Surety, are bound to Miami-Dade County (hereinafter referred to as "County") in the sum of _____ (5% of the Total Bid Price in U.S. dollars) \$ _____, for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that Principal:

1. Whose submittal is found to be responsive to the solicitation, offered by a responsible contractor, is the lowest such responsive and responsible bid and is found to be in the best interest of the County shall be recommended for award by the County Manager; and
2. This Notice of Contract Award will be given to the successful respondent by a registered or certified letter to the address stated in the submittal package by the prospective Contractor; and
3. Upon receipt of Notice of Contract Award, the respondent to whom a Contract is awarded will be required to execute, in four (4) counterparts, each of which shall be deemed an original, including but not limited to, the prescribed Contract Document and if applicable, Performance and Payment Bonds within ten (10) calendar days from the date of notice to him that the Contract document is ready for execution. The required Insurance Certificates and Policies, as stated in the General Covenants and Conditions, shall also be delivered within this ten (10) day period.

The Respondent further agrees that, in the event he withdraws his bid, after proper notification of intent to Contract from the County, within ninety (90) days after the date of the submittal package opening, or fails to comply with all requirements to contract with Miami-Dade County or in the event he fails to comply with the Contract Documents or in the event he fails to enter into a written Contract with Miami-Dade-County, Florida, in accordance with the submittal package as accepted and provide required Bond(s) with good and sufficient surety and provide the necessary Insurance Certificates, as may be required, all within ten (10) days after the prescribed forms are presented to him for signature, the check or Bid Bond accompanying his submittal package, and the monies payable thereon, shall become the property of and be retained and used by Miami-Dade-County as liquidated damages, and not as a penalty; otherwise, the certified check or Bid Bond shall be returned by Miami-Dade-County to the undersigned.

By executing this instrument Surety agrees that its obligation is not impaired by any extension(s) of the time for acceptance of the bid that the Principal may grant to the County. Notice to the Surety of extensions is waived. However, waiver of the notice applies only to extensions aggregating not more than sixty (60) calendar days in addition to the period originally allowed for acceptance of the bid.

SURETY BID BOND (Cont'd)

Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes does not affect Surety's obligation under this Bond.

IN WITNESS WHEREOF, the above bounded parties have caused this Bond to be executed by their appropriate officials as of the _____ day of _____, 20 __.

CONTRACTOR

(Contractor Name)

BY:

(President) (Managing Partner or Joint Venturer)

(SEAL OR INITIALS)

COUNTERSIGNED BY RESIDENT
FLORIDA AGENT OF SURETY:

SURETY:

(Copy of Agent's current
Identification Card as issued by
State of Florida Insurance Commissioner must be attached) By: _____

Attorney-in-Fact

(CORPORATE SEAL)

(Power of Attorney must be attached)



MIAMI-DADE COUNTY

DEPARTMENT OF SOLID WASTE MANAGEMENT

Project Name: Northeast Transfer Station Facility Improvements

Phase II - Compactors Bldg. Tipping Floor Roof

RPQ No.: 18652-26

Confirmation of Addendums

To: Miami-Dade County
Board of County Commissioners
Miami, Florida

Bid Opening Date: _____

Bid Opening Time: _____
(Local Time)

Gentlemen:

We _____ (Bidder's Name) have received, have examined and are familiar with the Contract Documents bearing the referenced title project name, the forms for the Submittal of Bids and

- Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____
Addendum No. _____ Dated _____

(Failure to acknowledge receipt of all addenda may cause the bid to be considered not responsive to the invitation, which would require rejection of the bid), and have included the cost of their provisions, in our Bid. We have examined, are familiar with, and do accept the conditions of the Work site and other conditions affecting the Work.

QUESTIONNAIRE

Appendix D



IN ORDER TO PROVIDE INFORMATION NECESSARY IN DETERMINING THE QUALIFICATIONS OF THE PROPOSER, EACH PROSPECTIVE CONTRACTOR IS REQUIRED TO ANSWER THE FOLLOWING:

#	QUESTION	ANSWER
1	Have you carefully read the Instruction To Prospective Contractors?	<input type="checkbox"/> YES <input type="checkbox"/> NO
2	Have you carefully reviewed the entire Contract Documents as identified within the Instruction To Prospective Contractors?	<input type="checkbox"/> YES <input type="checkbox"/> NO
3	If identified in the Contract Documents, have you carefully inspected the site of the work?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
4	Have you requested, in writing, of the contact person identified in the Advertisement, any clarifications necessary to submit a responsive proposal? Have you received a written response of clarification?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
5	Are you licensed and certified to perform the work for which you are submitting this proposal? License No.: Competency No.: FEIN No.: Qualifier's Name:	<input type="checkbox"/> YES <input type="checkbox"/> NO _____ _____ _____ _____
6	Are you a registered Contractor with the Miami-Dade County, Department of Procurement Management?	<input type="checkbox"/> YES <input type="checkbox"/> NO
7	Have you initialed each page and executed the last page of the Combined Affidavit?	<input type="checkbox"/> YES <input type="checkbox"/> NO
8	Have you completed the Ownership Disclosure Form?	<input type="checkbox"/> YES <input type="checkbox"/> NO
9	Have you made any changes or written any codicils to the Contract Proposal?	<input type="checkbox"/> YES <input type="checkbox"/> NO
10	How many previous Contracts with Miami-Dade County in the past five (5) years?	_____
11	Total dollar value of Contracts with Miami-Dade County in the past five (5) years?	_____
12	How many years has your Company been in business with the same Principals?	_____
13	Is your Bid Bond included with your submitted proposal?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A

QUESTIONNAIRE

Appendix D



WHEN THE CONTRACTOR IS A CORPORATION:

(CORPORATION SEAL)

(Name of Corporation)

ATTEST

By: _____
(Secretary) _____
(Signature of Officer)

_____ _____
(Print or type name) (Print or type name)

_____ _____
(Official Title)

_____ _____
(Address)

(PARTY OF THE SECOND PART)

Attach to each counterpart a certified copy of a resolution of the Board of Directors of the corporation authorizing the officer who signs the Contract, the Performance Bond and Payment Bond to do so in its behalf.

-- WHEN THE CONTRACTOR IS A JOINT VENTURE:

(Name of Joint Venture)

By: _____ _____
(Signature of Joint Venture) (Signature of Joint Venture)

_____ _____
(Print or type name) (Print or type name)

_____ _____
(Title) (Title)

_____ _____
(Address)

NOTE: Complete Joint Venture in accordance with Section 5 of the Instructions to Prospective Contractors.

QUESTIONNAIRE

Appendix D



WHEN THE CONTRACTOR IS A SOLE PROPRIETORSHIP
OR OPERATES UNDER A TRADE NAME:

(Name of firm if applicable) (Address)

By: _____
(Witness signature) (Signature of individual)

By: _____
(Print or type name) (Print or type name)

By: _____
(Witness signature)

By: _____
(Print or type name)

ACKNOWLEDGEMENT:

STATE OF)
)SS.:
COUNTY OF)

Before me personally appeared _____ to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that _____ executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this _____ day of _____, AD 20__.

Notary Public _____

State of _____ at large

My Commission expires _____.

QUESTIONNAIRE

Appendix D



WHEN THE CONTRACTOR IS AN INDIVIDUAL:

By: _____
(Witness signature) (Signature of individual)

By: _____
(Print or type name) (Print or type name)

By: _____
(Witness signature) (Address)

By: _____
(Print or type name)

(PARTY OF THE SECOND PART)

ACKNOWLEDGEMENT:

STATE OF)
)SS.:
COUNTY OF)

Before me personally appeared _____ to me well known and known to me to be the person described in and who executed the foregoing instrument, and acknowledged to and before me that _____ executed said instrument for the purposes therein expressed.

WITNESS my hand and official seal, this _____ day of _____, AD 20__.

Notary Public _____

State of _____ at large

My Commission expires _____.

MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT LIST OF BUSINESS REFERENCES

This list of references is an integral part of the Contractor's Bid and must be completed. All references, information and certifications shall be current and traceable.

NAME OF BIDDER _____

List a minimum of five (5) projects which your firm has completed during the last five (5) years, and which demonstrate your firms and / or key personnels qualifications to perform the work of this Contract ([Refer to Resolution 1122-21](#)).

				CONTRACT INFORMATION OF OWNER / CLIENT AND ENGINEER OR ARCHITECT	
COMPLETION DATE	CONTRACT PRICE	TYPE OF CONSTRUCTION	LOCATION OF WORK	EMAIL ADDRESS / PHONE NUMBER	PHYSICAL ADDRESS / PHONE NUMBER

FIRM'S RESPONSIBILITY AFFIDAVIT
"COMBINED AFFIDAVIT"

STATE OF FLORIDA)
) SS:
COUNTY OF MIAMI-DADE)

The undersigned, being first duly sworn, states as follows:

GENERAL

1. I am a duly authorized representative of the Firm submitting a bid, proposal or other document to Miami-Dade County with the intention of being awarded a contract (referred to in this affidavit as the "Respondent").
2. This Affidavit is made of my personal knowledge. I understand that Miami-Dade County will rely on the representations made in this affidavit in determining my eligibility and responsibility to enter into a contract with Miami-Dade County. By executing this affidavit, the Respondent agrees to provide to Miami-Dade County such documentation or other proof as Miami-Dade County may require verifying the accuracy and completeness of any of the representatives.
3. The Respondent is duly authorized to submit this bid or proposal, and if awarded the contract, to enter into the contract and perform the services or supply the goods contemplated in the contract.

OWNERSHIP DISCLOSURE

4. That in compliance with Section 2-8.1(d)(1) of the Miami Dade County Code, if the contract or business transaction is with a corporation, the full legal name and business address shall be provided for each officer and director and each stockholder who holds directly or indirectly five percent (5%) or more of the corporation's stock. If the contract or business transaction is with a trust, the full legal name and address shall be provided for each trustee and each beneficiary. All such names and addresses are (Post Office addresses are not acceptable). The full legal names and business address of any other individual (other than subcontractors, materialmen, suppliers, laborers, or lenders) that have, or will have, any interest (legal, equitable beneficial or otherwise) in the contract or business transaction with Miami-Dade County. (Post Office addresses are not acceptable). This information shall be supplied on the Ownership Disclosure and affirmed during registration.

Combined Affidavit Initial

EMPLOYMENT DISCLOSURE

5. The following information and attachments are provided and are in compliance with all items in County Ordinance No. 90-133, amending Section 2.8-1; Subsection (d) (2):

a. Does your firm have a collective bargaining agreement with its employees?
 Yes No

b. Does your firm provide paid health care benefits for its employees?
 Yes No

c. Provide a current breakdown (number of persons) of your firm’s work force and ownership as to race, national origin and gender:

White:	_____	Males:	_____	Females:	_____
Asian:	_____	Males:	_____	Females:	_____
Black:	_____	Males:	_____	Females:	_____
American					
Indian:	_____	Males:	_____	Females:	_____
Hispanics:	_____	Males:	_____	Females:	_____
Aleut					
(Eskimo):	_____	Males:	_____	Females:	_____
_____:	_____	Males:	_____	Females:	_____

EMPLOYMENT DRUG FREE WORKPLACE

6. The Respondent provides a drug-free workplace in full compliance with Section 2-8.1.2 of the Code of Miami-Dade County.

EMPLOYMENT FAMILY LEAVE

7. That in compliance with Ordinance No. 91-142 of the Code of Miami-Dade County, Florida, the following information is provided and is in compliance with all items in the aforementioned Ordinance:

An employee who has worked for the above firm for at least one (1) year shall be entitled to ninety (90) days of family leave during any twenty-four (24) month period, for medical reasons, for the birth or adoption of a child, or for the care of a child, spouse or other close relative who has a serious health condition without risk of termination of employment or employer retaliation.

Combined Affidavit Initial

ARREARS WITH THE COUNTY

8. That in compliance with Ordinance No. 95-178 and Section 2-8.1(c) of the Code of Miami-Dade County, the Proposer has paid all delinquent and currently due fees or taxes, including but not limited to real estate and personal property taxes, registered in the name of Proposer and which are collected in the normal course by the Miami-Dade County Tax Collector, and that County issued parking tickets for vehicles registered in the name of the above proposer, and which are collected in the normal course by the Miami-Dade Clerk of the Circuit and County Courts, have been paid.

That in compliance with Ordinance No. 99-162 and Section 2-8.1 of the Code of Miami-Dade County, the Proposer is not in arrears in any payment under contract, promissory note or other loan document with Miami-Dade County, or any of its agencies or instrumentalities, including the Public Health Trust, either directly or indirectly through a firm, corporation, partnership or joint venture in which the individual or entity has a controlling financial interest as that term is defined in Section 2-11.1(b)(8) of the Code of Miami-Dade County.

CODE OF BUSINESS ETHICS

9. I, being duly sworn, hereby state and certify that this firm has adopted a Code of Business Ethics that is fully compliant with the requirements of Section 2-8.1(i) of the Code of Miami-Dade County as amended. I further acknowledge that failure to comply with the adopted Code of Business Ethics shall render any contract with Miami-Dade County voidable, and subject this firm to debarment from County work pursuant to Section 10-38 (h)(2) of the Code of Miami-Dade County as amended. I further acknowledge that failure to submit this affidavit shall render this firm ineligible for contract award.

NO CRIMINAL RECORD

- 10 . The Respondent has not been convicted of a felony during the past ten (10) years, nor does it, as of the date of the bid or proposal submission, have an officer, director or executive who has been convicted of a felony during the past ten (10) years as defined in Section 2-8.6 of the Code of Miami-Dade County.

PUBLIC ENTITY CRIME

11. The respondent has not been convicted of a Public Entity crime as defined in Paragraph 287.133(1)(g) of the Florida Statutes. Violation of any State or Federal law with respect to the transaction of business with any public entity or with an agency or political subdivision of any State.

Combined Affidavit Initial

DEBARMENT AND SUSPENSION DISCLOSURE

12 . The Respondent, and its officers, principals, stockholders, subcontractors or its affiliates are not debarred or suspended from contracting with Miami-Dade County as regulated by Section 10-38 of the Miami Dade County Code.

NON -DISCRIMINATION BASED ON DISABILITY

13 . The Respondent is in compliance with and agrees to continue to comply with and assure any subcontractor, or third party contractor under this project complies with all applicable laws forbidding discrimination based on disability including, but not limited to those provisions pertaining to employment, provision of programs and services, transportation, communications. Access to facility, renovations and new construction as set forth in the Americans with Disabilities Act of 1990 (ADA), the Rehabilitation Act of 1973, the Federal Transit Act and the Fair Housing Act.

FAIR SUBCONTRACTING

14 . Consistent with Section 2-8.8 of the Code of Miami-Dade County, the Respondent has adopted subcontracting policies and procedures which (a) notifies the broadest number of local subcontractors of the opportunity to be awarded a subcontract; (b) invites local subcontractors to submit bids in a practical, expedient way; (c) provides local subcontractors access to information necessary to prepare and formulate a subcontracting bid; (d) allows local subcontractors to meet with appropriate personnel of the Respondent to discuss the Respondent's requirements and (e) awards subcontracts based on full and complete consideration of all submitted proposals and in accordance with the Respondent's stated objectives.

I STATE NOTHING FURTHER IN THIS AFFIDAVIT.

Signature: _____

Position/Title: _____

Name of Firm: _____

The foregoing was sworn and subscribed before me this ____ day of _____, _____ by _____ who is personally known to me or who has produced _____ as identification who being duly sworn, deposes and says that the above is true to the best of his knowledge, information and belief.

My Commission expires:

NOTARY PUBLIC
STATE OF FLORIDA

Combined Affidavit Initial



**CONTRACTING WITH ENTITIES OF FOREIGN COUNTRIES OF CONCERN PROHIBITED
AFFIDAVIT**

The Contracting with Entities of Foreign Countries of Concern Prohibited Affidavit Form ("Form") is required by [Section 287.138, Florida Statutes \("F.S."\)](#), which is deemed as being expressly incorporated into this Form. The Affidavit must be completed by a person authorized to make this attestation on behalf of the Bidder/Proposer for the purpose of submitting a bid, proposal, quote, or other response, or otherwise entering into a contract with the County. The associated bid, proposal, quote, or other response will not be accepted unless and until this completed and executed Affidavit is submitted to the County.

<p>_____ does not meet any of the criteria set forth in Paragraphs 2 (a) – (c)</p> <p><small>Bidder's/Proposer's Legal Company Name</small></p> <p>of Section 287.138, F.S.</p> <p>Pursuant to Section 92.525, F.S., under penalties of perjury, I declare that I have read the foregoing statement and that the facts stated in it are true.</p> <p>Print Name of Bidder's/Proposer's Authorized Representative: _____</p> <p>Title of Bidder's/Proposer's Authorized Representative: _____</p> <p>Signature of Bidder's/Proposer's Authorized Representative: _____</p> <p>Date: _____</p>

SUBCONTRACTING FORM

Solicitation/RPQ Number: 18652-26

Vendor Name _____

Federal Employer Identification Number (FEIN) _____

Complete "A" or "B":

- A. No subcontractors or direct suppliers will be utilized pursuant to this solicitation.
- B. The below listed subcontractors and/or suppliers will be utilized pursuant to this solicitation:

Business Name and Address of First Tier Subcontractor/ Subconsultant	FEIN	Name of Principal Owner	Scope of Work to be Performed by Subcontractor /Subconsultant	Subcontractor / Subconsultant License (if applicable)
			Structural Steel Erection	
			Roofing	
			Concrete Work	
Business Name and Address of First Tier Direct Supplier	FEIN	Name of Principal Owner	Supplies, Materials, and/or Services to be Provided by Supplier	

And

	Below and/or attached is a detailed statement of the firm's policies and procedures for awarding subcontractors/subconsultants:

(Duplicate this form if additional space is needed to provide the required information)

When Subcontracting is allowed and subcontractors will be utilized, the Contractor shall comply with Section 2-8.8 of the Code – Fair Subcontracting Practices: (1) Prior to contract award, the Bidder shall provide a detailed statement of its policies and procedures for awarding subcontracts and (2) As a condition of final payment under a contract, the Contractor shall identify subcontractors/subconsultants used in the work, the amount of each subcontract, and the amount paid and to be paid to each subcontractor/subconsultant via the Business Management Workforce System (BMWS) at <http://mdcsbd.gob2g.com>.

Pursuant to Section 2-8.1(f) of the Code – Listing of subcontractors required on certain contracts, for all contracts which involve the expenditure of one hundred thousand dollars (\$100,000) or more, the entity contracting with the County must report to the County the race, gender, and ethnic origin of the owners and employees of its first tier subcontractors/subconsultants and suppliers via the BMWS at <http://mdcsbd.gob2g.com>. The race, gender, and ethnic information must be submitted via BMWS as soon as reasonably available and, in any event, prior to final payment under the Contract. The Contractor shall not change or substitute first tier subcontractors/subconsultants or direct suppliers or the portions of the Contract work to be performed or materials to be supplied from those identified except upon written approval of the County.

I certify that the information contained in this form is to the best of my knowledge true and accurate.

Signature of Vendor's Representative **Print Name** **Print Title** **Date**

CONTRACT FORMS (CONDTION OF AWARD)

- Surety Performance & Payment Bond (*required for all bids over \$200k*)
- Non-Collusion Affidavit
- Kidnapping, Custody Offenses, Human Trafficking & Related Offenses Affidavit
- Certificate(s) of Insurance (to be submitted by Bidder)

SURETY PERFORMANCE AND PAYMENT BOND

By this Bond, We _____, as Principal, whose principal business address is _____, as Contractor under the contract dated _____, 20 ____, between Principal and Miami-Dade County for the construction of the Department of Solid Waste Management's *Northeast Transfer Station Improvements Phase II – Compactors Building Tipping Floor Roof* Contract No. MCC 7360, RPQ No. 18652-26 (herein after referred to as "Contract") the terms of which Contract are incorporated by reference in its entirety into this Bond and _____, a corporation, whose principal business address is _____ As Surety, are bound to Miami-Dade County (hereinafter referred to as "County") in the sum of _____ (U.S. dollars) \$_____, for payment of which we bind ourselves, our heirs, personal representatives, successors, and assigns, jointly and severally.

THE CONDITION OF THIS BOND is that if Principal:

1. Performs all the work under the Contract, including but not limited to guarantees, warranties and the curing of latent defects, said Contract being made a part of this bond by reference, and in the times and in the manner prescribed in the Contract, including any and all damages for delay; and
2. Promptly makes payments to all claimants, as defined in Section 255.05(1), Florida Statutes, supplying Principal with labor, materials, or supplies, used directly or indirectly by Principal in the prosecution of the work provided for in the contract; and
3. Pays County all losses, damages, including damages for delay, expenses, costs and attorney's fees, including appellate proceedings, that County sustains because of a default by Principal under the Contract, including but not limited to a failure to honor all guarantees and warranties or to cure latent defects in its work or materials within 5 years after completion of the work under the Contract; and
4. Performs the guarantee of all work and materials furnished under the contract for the time specified in the Contract, including all warranties and curing all latent defects within 5 years after completion of the work under the Contract;

then this bond is void; otherwise it remains in full force.

If no specific periods of warranty are stated in the Contract for any particular item or work, material or equipment, the warranty shall be deemed to be a period of one (1) year from the date of final acceptance by the County. This Bond does not limit the County's ability to pursue suits directly with the Principal seeking damages for latent defects in materials or workmanship, such actions being subject to the limitations found in Section 95.11(3)(c), Florida Statutes.

Any changes in or under the Contract Documents and compliance or noncompliance with any formalities connected with the Contract or the changes does not affect Surety's obligation under this Bond.

SURETY PERFORMANCE BOND (Cont'd)

IN WITNESS WHEREOF, the above-bounded parties have caused this Bond to be executed by their appropriate officials as of the _____ day of _____, 20 __.

CONTRACTOR

(Contractor Name)

BY:

(President) (Managing Partner or Joint Venturer)

(SEAL OR INITIALS)

COUNTERSIGNED BY RESIDENT
FLORIDA AGENT OF SURETY:

SURETY:

(Copy of Agent's current
Identification Card as issued by
State of Florida Insurance Commissioner must be attached) By: _____

Attorney-in-Fact

(CORPORATE SEAL)

(Power of Attorney must be attached)



NON-COLLUSION AFFIDAVIT

(In accordance with Sections 2-8.1.1 and 10-33.02.1 of the Code of Miami-Dade County)

I, the undersigned, am over 18 years of age, have personal knowledge of the facts stated in the Non-Collusion Affidavit (*this Affidavit*) and I am an owner, officer, director, principal shareholder and/or otherwise authorized to bind the Bidder/Proposer of this solicitation.

A. I have reviewed the list of respondents attached to this Affidavit. I state that the Bidder/Proposer of this competitive solicitation (check one):

is **not related** to any of the other respondents submitting a Bid/Proposal in the competitive solicitation.

is **related** to the following respondents who submitted a Bid/Proposal in the competitive solicitation, which are identified and listed below:

B. I state that the Bidder/Proposer of this competitive solicitation:

1. has prepared this Bid/Proposal independently without consultation, communication, agreement or arrangement with any other Bidder/Proposer or competitor for the purpose of restricting competition;
2. has submitted the Bid/Proposal in its own behalf, and not in the interest or on behalf of any person not therein named;
3. has not, directly or indirectly, induced or solicited any other Bidder/Proposer to put in a sham proposal, or any other person, firm, or corporation to refrain from proposing;
4. has not in any manner sought by collusion to secure an advantage over any other Bidder/Proposer.

Note: Any person or entity that fails to submit this executed Affidavit shall be ineligible for contract award. In accordance with Section 2-8.1.1 of the Code of Miami-Dade County, where two or more related parties, as defined herein, each submit a Bid for any contract, such Bids shall be presumed to be collusive. The foregoing presumption may be rebutted by the presentation of evidence as to the extent of ownership, control and management of such related parties in preparation and submittal of such Bids. **Related parties** shall mean the Bidder/Proposer; the principals, corporate officers, and managers of a Bidder/Proposer; or the spouse, domestic partner, parents, stepparents, siblings, children or stepchildren of a Bidder/Proposer or the principals, corporate officers and managers thereof which have a direct or indirect ownership interest in another Bidder/Proposer for the same contract or in which a parent company or the principals thereof of one Bidder/Proposer have a direct or indirect ownership interest in another Bidder/Proposer for the same contract. Bid/Proposal found to be collusive shall be rejected. Bidder/Proposer who has been found to have engaged in collusion may be considered non-responsible, and may be suspended or debarred, and any contract resulting from collusive bidding may be terminated for default.

Written Declaration: Pursuant to §92.525, Florida Statutes, under penalties of perjury, I declare that I have read the foregoing Affidavit and that the facts stated in it are true, accurate, and complete.

Solicitation No.: _____ Solicitation Title: _____

By: _____
Signature of Affiant

Date: _____ 20 ____

Printed Name of Affiant and Title

____/____/____-____/____/____/____/____
Federal Employer Identification Number

Printed Name of Bidder/Proposer

Address of Bidder/Proposer



NON-COLLUSION AFFIDAVIT

(In accordance with [Sections 2-8.1.1](#) and [10-33.02.1](#) of the Code of Miami-Dade County)

Exhibit A

Below listed are all other parties (legal entity) bidding/proposing in referenced competitive solicitation

Solicitation No. 18652-26

Solicitation Title: Northeast Transfer Station Facility Improvements Phase II - Compactors Building Tipping Floor Roof

Per section A of the Non-Collusion Affidavit, respondents shall be listed below after bid opening and provided during the clarification period to the apparent lowest bidder for final initials.

1.	
2.	
3.	TO BE INITIALED AND DATED BY APPARENT LOWEST BIDDER
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Bidder Initials _____

Date _____



KIDNAPPING, CUSTODY OFFENSES, HUMAN TRAFFICKING AND RELATED OFFENSES AFFIDAVIT

The Kidnapping, Custody Offenses, Human Trafficking and Related Offenses Affidavit is required by Section [787.06](#), Florida Statutes ("F.S."), as amended by [HB 7063](#), which is deemed as being expressly incorporated into this Form. The Form must be completed by a person authorized to make this attestation on behalf of the Contractor (Nongovernmental Entity) for the purpose of executing, amending, or renewing a Contract with the County (Governmental Entity). The term Governmental Entity has the same meaning as in [Section 287.138\(1\), F.S.](#)

_____ does not use coercion for labor or services as defined in Section [787.06, F.S.](#)
Contractor's Legal Company Name

Pursuant to Section [92.525, F.S.](#), under the penalties of perjury, I declare that I have read the foregoing statement and that the facts stated in it are true.

Print Name of Contractor's Authorized Representative:

Title of Contractor's Authorized Representative:

Signature of Contractor's Authorized Representative:

Date:

ADDITIONAL CONTRACT DOCUMENTS

- Standard Construction General Contract Conditions
- Special Provisions
- Indemnification and Insurance
- Attachments A through F

STANDARD CONSTRUCTION
GENERAL CONTRACT CONDITIONS
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[NOTE: THIS STANDARD CONSTRUCTION GENERAL CONTRACT CONDITIONS HAVE BEEN PREPARED FOR USE IN ALL CONSTRUCTION (DESIGN-BID-BUILD) CONTRACTS AND OTHERWISE IN ACCORDANCE WITH IMPLEMENTING ORDER 3-57.

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1. DEFINITIONS

Addendum/Addenda: A modification or clarification of the Contract Documents distributed to prospective Bidders prior to the opening of Bids.

Administrative Orders/Implementing Orders (AO/IO): a list of Miami-Dade County Administrative Orders and Implementing Orders is available online at:

<http://www.miamidade.gov/ao/home.asp?Process=completelista> Advertisement for Bids: The public notice inviting the submission of Bids for the Work.

Allowance Account (Contingency Account): Account in which a stated maximum dollar amount is included in the Contract for the purpose of funding, at the sole discretion of the Owner, unforeseen and/or changed conditions or extra work arising during the prosecution of the Work or any other changes issued by the Owner. The scope and limitations regarding use of the Allowance Account are contained in the Contract Documents. The performance of any work under this Allowance Account, shall be authorized by a written Work Order issued by the Owner.

Allowance Account(s) (Dedicated): Account(s) in which stated maximum dollar amount(s) are included in the Contract for the purpose of funding specific pre-identified items of work at the sole discretion of the Owner. The scope and limitations regarding use of the Dedicated Allowance Account(s) are contained in the Contract Documents.

Architect/Engineer: Owner or its authorized representatives identified in the Notice-to-Proceed letter, which may include but is not limited to the Owner's Resident Architect/Engineer, the Construction Manager, the Owner's representatives, and the Architect/Engineer of Record. In the event an Architect/Engineer is not employed on the project, or an Architect/Engineer is not otherwise specified in the Notice-to-Proceed, the term shall be read as coterminous with the term "Owner."

Art in Public Places: Miami-Dade County program established in Miami-Dade County Code Section 2-11.15 providing a one and a half percent (1.5%) of each County project's construction and engineering design cost to fund a public art component within the Project. Coordination and installation of the Artist's work is included as part of the scope of the Contractor's services to the extent that it is defined in the Bid Documents. The cost of this program is budgetary, funded by the Department, and shall not be included in the Contractor's bid.

Artist: Person(s) chosen through the Art in Public Places program to design and fabricate or specify an integrated work of art for the Project. The term Artist as may be referred to in the Contract Documents means the Artist and/or their authorized representative.

As-Built Documents: Documents signed and sealed by an appropriately licensed professional and submitted by the Contractor during and/or upon completion of the Contract reflecting actual installed/built conditions and all changes made in the Contract Documents during the construction process and showing the exact dimensions, geometry, location, identification and such other information as required by the Contract Documents and/or Architect/Engineer for all elements of the work completed under the contract (also referred to as "As-Built Drawings" or "As-Builts"). Final payment is conditional upon the receipt of As-Built Documents.

Award: Action taken by the Owner to accept the Bid submitted by the Contractor to perform the Work described in the Contract Documents.

Baseline Construction 7360

: A schedule submitted by the Contractor in accordance with the Contract Documents, reviewed and approved by the Owner that is used by the Contractor to plan the performance of the Work. The Contract Documents may require interim Baseline Construction Schedules be submitted for only a portion of the initial Work to be followed by a Baseline Construction Schedule covering all the Work. The Baseline Construction Schedule shall also be used to quantify delays in accordance with the Contract Documents. While the Baseline Construction Schedule remains unchanged, updates to the Baseline Construction Schedule are prepared and submitted by the Contractor per the Contract Documents. The Baseline Construction Schedule shall only be revised and submitted again for review and approval by the Owner as required by the Contract Documents.

BCC: Board of County Commissioners, the governing board of Miami-Dade County.

Beneficial Occupancy: The point at which the Owner or Architect/Engineer determines that the Work or any portion thereof can be occupied from a regulatory and work function standpoint prior to Substantial Completion of the Work. Beneficial Occupancy will not relieve the Contractor of any of its obligations relative to Substantial Completion, or of its responsibility to fully complete the Work in accordance with the Contract Documents.

Bid: The written offer of a Bidder to perform the Work.

Bid Documents: The Advertisement for Bids, Instructions to Bidders, Bid Form, Bid Security, Construction Contract, all contractual forms, General Conditions, Special Provisions, Technical Specifications and Contract Drawings, together with all Addenda and any other applicable standards, regulations, laws and permits as described within these other documents which may be incorporated by reference.

Bid Item: A specific item of work represented by a line item in the Bid Form.

Bid Form: The form on which Bids are submitted.

Bid Security: (Also known as Bid Bond) The cashier's check, certified check or bid bond, accompanying the Bid and submitted by the prospective bidder, as a guarantee that the prospective bidder will enter into a contract with the Owner for the performance of the Work and furnish acceptable bonds and insurance if the Contract is awarded to him.

Bidder: An individual, firm, partnership, corporation, or combination thereof, submitting a Bid for the Work.

Certificate of Substantial Completion: Certificate issued to the Contractor by the Owner certifying that Substantial Completion has been achieved.

Certificate of Completion: Certificate issued by the local building official providing proof that a structure or system is complete and, for certain types of permits, is released for use and may be connected to a utility system. This certificate does not grant authority to occupy a building, such as a shell building, prior to the issuance of a Certificate of Occupancy by the local building official.

Certificate of Final Acceptance: Certificate issued to the Contractor by the Owner certifying that Final Acceptance has been achieved in accordance with the definition reflected herein (see Final Acceptance definition).

Certificate of Occupancy: Certificate issued by the local building official after the building official inspects the building or structure and finds no violations of the provisions of applicable codes or other laws that are enforced by the local building department.

Change Notice: A document issued by the Architect/Engineer or Owner to the Contractor specifying a proposed change to the Contract Documents and requesting a price proposal from the Contractor, if applicable, within a specified time period.

Change Order: A written agreement executed by the Owner, the Contractor and the Contractor's Surety, covering modifications to the Contract Documents.

Claim: A Claim should include any request for additional compensation, time, or other relief arising out of or relating to the Contract Documents, including without limitation, requests for equitable adjustments and breach of contract.

Commissioning: A quality-focused process for enhancing the delivery of a project. The process focuses upon verifying and documenting that all of the commissioned systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the Owner's Project Requirements.

Construction Staging Area: Property which may be available for use by the Contractor during the construction period for the purpose of storing products and construction equipment and for the purpose of staging the Work. The construction staging area(s), if applicable, are defined in the Contract Documents.

Construction Contract: The agreement executed by the Contractor and the Owner covering the performance of the Work including the furnishing of labor, superintendence, materials, tools, and equipment as indicated in the Contract Documents. The term "Contract" shall have the same meaning.

Construction Inspection Services: Services performed by the Owner or a consultant to the Owner to verify that the Work is being performed in accordance with the Contract Documents. The use of these services shall not relieve the Design/Builder of their responsibilities under the Contract Documents.

Consultant: See Architect/Engineer.

Contract Documents: Bid Documents, Contract Summary, General Conditions, Special Conditions, Technical Specifications, Change Orders, Payment and Performance Bonds, Work Orders, Approved Schedules, Approved Shop Drawings and Approved Working Drawings.

Contract Drawings: The plans, profiles, cross-sections, elevations, schedules, and details which show locations, character, dimensions, and details of the Work. Contract Drawings are confidential under the Florida Public Records Act and the Contractor is responsible for maintaining confidentiality during and after the progress of the Work.

Contractor: The individual, firm, partnership, or corporation, or combination thereof, private, municipal, or public, including joint ventures, duly licensed under Florida Statutes, which, as an independent Contractor, has entered a Contract with Miami-Dade County, who is referred to throughout the Contract Documents by singular in number and masculine in gender.

Contract Summary: The written agreement between the County and the Contractor for performance of the Work in accordance with the requirements of the Contract Documents and for the payment of the agreed consideration.

Contract Time: The number of days allowed for completion of the Work commencing with the effective date of Notice to Proceed and ending with the date of Substantial Completion or Final Completion, including completion of punch list items, as determined by the Owner or the Owner's designee. The Contract Time will be stipulated in the Contract Documents unless extended by a Change Order or by a Work Order.

County: See Owner.

County Mayor: The Mayor of Miami-Dade County, Florida, or the County Mayor's designee.

Critical Path: Longest sequence of activities in a project's schedule which defines the project completion date and which must be completed on time in order for the project to be completed on schedule.

Delays: May be Excusable or Non-Excusable. Excusable Delays may be Compensable or Non-Compensable, as further defined within the text of these General Conditions.

Days: Unless otherwise designated, days mean calendar days.

Department Director: The Director of the Miami-Dade County Department implementing the work or the Director's designee.

Department Director's Representative: The person or persons designated by the Department Director to act on his behalf in the administration of the contract within the limits of their respective authorization.

Direct Costs: Direct Costs recoverable by the Contractor as a result of changes in the Work shall be limited to the actual additional costs of labor and materials installed as part of the Work and for the reasonable additional cost of rental of any Special Equipment or Machinery. Labor shall be limited to site labor costs, including Employer's Payroll Burden. Specifically excluded from labor are the costs of general foremen and site office personnel. Materials are limited to permanent materials required by the Contract Documents and materials approved by the Architect/Engineer as necessary to install the permanent materials in an efficient and workmanlike manner. For special equipment or machinery not listed in said document, the Contractor shall be paid a rental rate corresponding to the average prevailing rental rate for such equipment or machinery in Miami-Dade County, Florida, subject to approval by the Architect/Engineer. No additional payment shall be made to the Contractor for fuel, lubricants, for wear and tear, transportation, insurance, or depreciation. Any equipment or machinery not designated by the Architect/Engineer as special equipment and machinery shall be considered Overhead.

Extra Work: Work not provided for in the Contract Documents as awarded or as previously modified by Change Order or Work Order but found to be essential to the satisfactory completion of the Contract within its intended scope.

Facility: The structure or items being constructed under the Contract, inclusive of all subsurface work, landscaping work, and other ancillary work. Field Representative/Construction Manager: An authorized representative of the Owner that may provide administrative and construction inspection services during the pre-construction, construction, and closeout phases of the Contract and through which the orders of the Owner shall be given. The Field Representative has no authority to modify or waive any provision of the Contract Documents.

Fast Track: A design/build method where separate and often, intermediate phases of the Project are designed, permitted and constructed earlier in the schedule while the remainder and often, more complex portions of the Project are designed, permitted and constructed later in the schedule. For example, foundation design, permitting and construction earlier while the remainder of the structure takes longer to design, permit and construct. Fast-track construction is subject to the approval of the Owner and the permitting agencies.

Final Acceptance: The formal written acceptance by the Owner of the completed work.

Final Completion: Point in time when the Owner determines that all physical Work has been completed in accordance with the Contract Documents and all deficiencies listed within the Certificate of Substantial Completion and/or Punch List elements have been corrected to the satisfaction of the Owner and Architect/Engineer. Where the contract requires that Contractor provide the Owner with spares or surplus

material, provision of same in accordance with the Contract Documents shall be an additional requirement for Final Completion (See Article 8 Contract Time Paragraph D. Substantial Completion, Final Completion and Final Acceptance).

Force Account: A method of payment measured by actual cost of the labor, materials, and equipment plus the contractual approved mark-up for Indirect Costs, as distinct from other payment methods such as lump sum or unit price, for Extra Work ordered by Change Order and/or Work Order (See Article 10 Changes Paragraph G. Force Account).

Force Majeure: Force Majeure as used herein shall mean Acts of God, strikes, lockouts, any late delivery of the Owner's supplied material and equipment due to transportation delays beyond Department's control, or other industrial disturbances; acts of public enemy, blockades, wars, insurrections, or riots; epidemics, landslides, earthquakes, fire, storms, floods, or washouts; arrests, title disputes, or other litigation; governmental restraints, either Federal or County, civil or military; civil disturbances; explosions; nationwide inability to obtain necessary materials or equipment, supplies, labor, or permits whether due to existing or future rules, regulations, orders, laws, or proclamations, either Federal, State or County, civil or military, or otherwise; and other causes beyond the control of the Department or County, whether or not specifically enumerated herein. Changes in the market price of goods, materials, equipment, labor, or supplies shall not be considered an instance of Force Majeure, and Contractor's bid shall include all risks of market changes the price of such things. COVID-19 or any other catastrophic event shall not be considered a Force Majeure event.

Furnishing: Manufacturing, fabricating, or purchasing and delivering to the site of the Work materials, plant, power, tools, patterns, supplies, appliances, vehicles, and conveyances necessary or required for the completion of Work.

General Conditions: This section of the Contract Documents which specifies, in general, the contractual conditions.

Green Building Practices: Environmentally and socially-conscious practices that emphasize processes and methods of design and construction that reduce exposure to noxious materials, conserve non-renewable energy and scarce materials, minimize life-cycle ecological impact of energy and materials, employ renewable energy or materials that are sustainably harvested, protect and restore local air, water, soils, flora and fauna, and support pedestrians, bicycles, mass transit and other alternatives to fossil-fueled vehicles.

Indirect Costs: Overhead.

Installation, Install or Installing: Completely assembling, erecting, and connecting material, parts, components, supplies and related equipment specified or required for the completion of the Work including the successful passing of all tests so that they are fully functional.

LEED (Leadership in Energy and Environmental Design): An ecology-oriented building certification program run under the auspices of the U.S. Green Building Council (USGBC) which concentrates its efforts on improving performance across five key areas of environmental and human health: energy efficiency, indoor environmental quality, materials selection, sustainable site development, and water savings.

Limit of Work: Boundary within which the Work is to be performed.

Liquidated Damages: The amount that the Contractor accepts, as stipulated in the Contract Documents, which will be deducted from the Contract Sum for each day of delay due to a Non-Excusable Delay. The Liquidated Damages set forth herein are compensation for the County's inability to timely put the project into service, the continued disruption of County functions, for impacts to the County's reputation, and other

indirect damages which the parties agree are difficult to measure. (See Article 8 Contract Time Paragraph F. Liquidated Damages and Liquidated Indirect Costs).

Liquidated Indirect Costs Rate: The amount, stipulated in the Contract Documents, which will be added to the Contract Sum for each day of delay due to a Compensable Delay. The Contractor accepts this sum as full compensation for the Contractor's and all its subcontractors', of any tier, for indirect costs, for each day of Compensable Delays. This amount is agreed to include any costs other than Direct Costs incurred by the Contractor and all its subcontractors of any tier in the performance of this Contract. (See Article 8 Contract Time, Paragraph F. Liquidated Damages and Liquidated Indirect Costs)

Lump Sum Bid Item: A bid item in which quantity is not separately measured for payment in units but rather is based on the amount bid by the Contractor as indicated in the Bid Form and made a part of the Contract. Partial payments of Lump Sum Bid Items will be conditionally made, based upon an approved schedule of values, and will be subject to reconciliation in the event that the work of a Lump Sum Bid Item is not fully completed in accordance with the requirements of the Contract Documents.

Miami-Dade County (MDC): A political subdivision of the State of Florida, the Owner.

Miami-Dade County Code of Ordinances: Central repository for Governing Legislation where Ordinances are codified and kept current with subsequent amendments. The Miami-Dade County Code of Ordinances can be viewed at the following hyperlink:

https://library.municode.com/fl/miami_-_dade_county/codes/code_of_ordinances

Milestone: A completion date as defined in the Contract Documents.

Notice to Proceed: Written notice from the Owner to the Contractor specifying the date on which the Contractor is to proceed with the Work and on which the Contract Time commences to run.

Notice of Termination: Written notice from the Architect/Engineer or the Owner to the Contractor to permanently stop work under the Contract on the date and to the extent specified in the notice. The Notice of Termination includes Notices of Termination for Convenience, Default and National Emergencies as set forth in the Contract Documents. Upon receipt of such notice, the Contractor shall comply with the termination provisions of this Contract.

Overhead (Indirect Costs): Overhead, also defined as "Indirect Costs," includes any and all costs other than Direct Costs. The term "Overhead" as indicated in this definition shall apply to both Contractors and subcontractors of any tier. Overhead includes, but is not limited to, all profit and costs associated with: project bond premiums, project insurance premiums, costs of supervision, coordination, superintendents, general foremen, consultants, schedulers, cost controllers, accountants, office administrative personnel, time keepers, clerks, secretaries, watch persons, small tools, equipment or machinery, utilities, rent, telephones, facsimile machines, computers, word processors, printers, plotters, computer software, all expendable items, job site and general office expenses, extended jobsite general conditions, interest on monies retained by the Owner, escalated costs of materials and labor, impact cost on unchanged work, inefficiency, decreased productivity, home office expenses or any cost incurred that may be allocated from the headquarters of the Contractor or any of its subcontractors, loss of any anticipated profits, loss of bonding capacity or capability losses, loss of business opportunities, loss of productivity on this or any other Project, loss of interest income on funds not paid, costs to prepare a bid, cost to prepare a quote for a Change in the Work, costs to prepare, negotiate or prosecute claims, costs of legal and accounting work, costs spent to achieve compliance with applicable laws and ordinances, loss of Projects not bid upon, loss of productivity or inefficiencies in the Work from any cause.

Owner: Miami-Dade County, whose governing body is the BCC acting in its proprietary capacity through its duly authorized agents. When these Contract Documents require the action of individual persons, the documents contain specific references to these persons. In particular, the documents shall refer to the BCC when approval of the BCC is specifically required and to the Architect/Engineer when the Architect/Engineer's approval is specifically required.

Payment and Performance Bond: Bond executed by the Contractor and its Surety assuring that the Contractor will, in good faith, perform and guarantee the work in full conformity with the terms of the Contract Documents and will promptly pay all persons supplying the Contractor with labor, materials, or supplies, used directly or indirectly by the Contractor in the prosecution of the Work. This bond shall be a single instrument bond for twice the penal sum (to cover 100 percent of the total maximum contract amount for payment-related issues and 100 percent of the total maximum contract amount for performance-related issues).

Project: See definition for Work.

Punch List: A list issued by the Owner to the Contractor of work elements requiring remedial action or completion by the Contractor before Final Completion is issued to the Contractor.

Resolution: An action taken by a vote of the Miami Dade County Board of County Commissioners setting policy and providing guidance to County Departments. Resolutions issued after 1995 can be viewed at the following hyperlink: <http://www.miamidade.gov/govaction/searchleg.asp>. Earlier Resolution can be obtained through request to the Clerk of the Board Division, Stephen P. Clark Center, 111 NW 1st Street, Suite 17-202 Miami, Florida 33128.

Right-of-Way: A term denoting land and property, and interests therein, owned or acquired by the Owner.

Schedules: All schedules delivered under the Contract including time schedules and schedule of values.

Schedule of Values: A detailed cost breakdown of each lump sum bid item in the bid form, submitted by the Contractor at the beginning of the Work and to be used as a basis to determine monthly progress payments and quantity adjustments within the constraints specified in the Contract Documents.

Shop Drawings: Documents furnished by the Contractor for approval by the Architect/Engineer to illustrate specific portions of the Work. Shop Drawings include drawings, diagrams, illustrations, calculations, schedules, tables, charts, brochures and other data describing design, fabrication and installation of specific portions of the Work. Shop Drawings are understood to be submitted for information purposes only, and the County's receipt of or acceptance of shop drawings shall not be deemed as the County agreeing that the selected materials will meet contract requirements or that the selected means and methods are appropriate; the Contractor shall at all times remain responsible for completion of the work in accordance with the contract documents, notwithstanding any approved shop drawings. .

Site, Project Site, Work Site, Construction Site, Job Site: The location(s) at which the work under this Contract is to be accomplished, as shown in the Contract Documents.

Special Provisions: Section of the Contract which includes specific contractual requirements not covered in the General Conditions that are specific to the Project.

Small Business Enterprise – Architect/Engineer (SBE -A&E) Program: Architect/Engineering firms that are certified with Miami-Dade County Small Business Enterprise program

Small Business Enterprise – Construction (SBE -CON) Program: Construction firms that are certified with Miami-Dade County Small Business Enterprise program

Small Business Enterprise – GOODS (SBE -GOODS) Program: Goods, Manufactures, and Wholesalers firms that are certified with Miami-Dade County Small Business Enterprise program

Small Business Enterprise – SERVICES (SBE -SERVICES) Program: Services firms that are certified with Miami-Dade County Small Business Enterprise program

Special Provisions: Section of the Contract Documents which includes specific contractual requirements not covered in the General Conditions that are specific to the Project.

Subcontractor: Any person or entity, other than the employees of the Contractor, supplying the Contractor with labor, materials, supplies and/or equipment used directly or indirectly by the Contractor in the prosecution of the Work.

Substantial Completion: Substantial Completion of a Project is the date on which the Owner certifies that the construction is sufficiently completed, in accordance with the Contract Documents, as modified by any Change Orders, so that the Owner can occupy the Project for the use for which it was intended. A certificate shall be issued to the Contractor by the Owner upon achievement of Substantial Completion. (See Article 8 Contract Time Paragraph D. Substantial Completion, Final Completion and Final Acceptance)

Surety: The bonding company or companies furnishing the bonds required of a Bidder and of the Contractor.

Technical Specifications: The general term comprising all the written directions, provisions and requirements contained herein, entitled "Technical Specifications," those portions of standard specifications to which reference is specifically made in the Technical Specifications, and any Addenda, Work Orders and Change Orders that may be issued for the Contract, all describing the work required to be performed, including detailed technical requirements as to labor, materials, supplies and equipment and standards to which such work is to be performed as well as any reports specifically issued with the Bid Documents and specifically identified in the Instructions to Bidders which may include geotechnical or other technical reports.

Temporary Construction Easement Line: A boundary which describes additional areas which may be made temporarily available for construction operations.

Time Contingency: The maximum time specifically identified in the Contract Documents by which the Owner may extend the contract time to accomplish the work without a change order. Limitations on the use of the time contingency are set forth in the Contract Documents.

Unit Prices: Unit prices shall include all labor, materials, tools, and equipment; all other direct and indirect costs necessary to complete the item of Work and to coordinate the unit price Work with adjacent work; and shall include all overhead and profit. Contractor shall accept compensation computed in accordance with the unit prices as full compensation for furnishing such Work.

Work: The construction and services required by the Contract Documents, which includes all labor, materials, equipment, and services to be provided by the Contractor to fulfill the Contractor's duties and obligations imposed by the Contract Documents or, if not specifically imposed by the Contract Documents, which can be reasonably assumed as necessary to fulfill the intent of the Contract Documents to provide a complete, fully functional, and satisfactory project.

Work Order: A written order, authorized by the Architect/Engineer or Owner, directing the Contractor to perform work under a specific Allowance Account or directing the Contractor to perform a change in the Work that does not have a monetary impact, including but not limited to, extending the Contract Time or

subject to the payment of Liquidated Indirect Costs if entitlement is established as required by these Contract Documents. No Work Order may increase the Contract Sum.

END OF ARTICLE

2. INTERPRETATION

- A. The intent of the Contract is to include all necessary items for the proper completion of the Work by the Contractor so the Owner may have a fully functioning facility and fully receive the benefits intended under the Contract. The Contractor shall perform, without additional compensation, such incidental, implied, or appurtenant work as necessary to complete the Work and fulfill the design intent, in accordance with the requirements set forth in the Contract Documents, so that it will meet the requirements for which the Project was intended, in a satisfactory and workmanlike manner.
- B. The Contract Documents and all referenced standards cited are essential parts of the Contract requirements. A requirement occurring in one is as binding as though occurring in all. The documents comprising the Contract Documents are complementary and indicate the construction and completion of the Work. Anything mentioned in the Contract Documents and not shown on the Contract Drawings or shown on the Contract Drawings and not mentioned in the Contract Documents, shall be of like effect as if shown or mentioned in both. The more stringent shall apply in the case of a conflict. The Owner's determination of the more stringent standard shall control and be binding on the contractor, without limitation, and the Contractor's compliance with this determination shall not be considered as Extra Work.
- C. Site Inspections and Verification of Governing Dimensions: In executing the contract, the Contractor represents that he has, prior to bid, visited the site, become familiar with the conditions under which the work is to be performed and correlated his personal observations with the requirements of the Contract Documents or that he has chosen not to do so, in the event that a mandatory site visit is not specified in the Contract Documents. The Contractor accepts the responsibility for all errors in construction which could have been avoided by such examination and the opportunity to seek timely clarifications during the bidding process. The Contractor, before commencing work, shall verify all governing dimensions at the site, all conditions under which the work is to occur, including but not limited to site access, lay down and staging areas, the presence of known utilities and utility connections, and shall examine all adjoining work on which his work is in any way dependent for its conformance with the intent of the Contract Documents and no disclaimer of responsibility for defective or non-conforming adjoining work will be considered unless notice of same has been filed by the Contractor, and agreed to in writing by the Owner through the Architect/Engineer before the Contractor begins any part of the Work. No disclaimer for defective or non-conforming adjoining work that was clearly foreseeable to the Contractor during a site visit (mandatory or non-mandatory) will be considered by the Owner. The County does not warrant or guarantee the presence or absence of any particular site conditions, or the accuracy of any as-built information related to existing work in-place on the site. To the extent provided by or in the possession of the County, subsurface reports, soil borings, and as-builts are solely for the Contractors consideration and use, and the County does not represent that such materials accurately reflect the conditions of the Site.
- D. Errors, Inconsistencies and Omissions: The Contractor shall carefully study and compare all drawings, Contract Documents, and other instructions; shall verify all figures on the Contract Drawings before laying out the Work; shall notify the Owner or Architect/Engineer of all errors, inconsistencies, or omissions which he may discover; and obtain specific instructions in writing during the bidding process and prior to submitting his Bid. The Contractor shall not take advantage of any apparent error or omission which may be found in the Contract Drawings or Contract Documents, and the Architect/Engineer shall be entitled to make such corrections therein and interpretations thereof as he may deem necessary for the fulfillment of their intent. The Contractor shall be responsible for all

errors in construction which could have been avoided by such examination and notification, and shall correct, at his own expense, all work improperly priced, scheduled or constructed through failure to notify the Owner or Architect/Engineer and to request specific instructions.

- E. Where "as indicated," "as detailed," or words of similar import are used, it shall be understood that the reference is made to the Contract Documents unless stated otherwise.
- F. References to Articles or Sections include sub-articles or subsections under the Article referenced.
- G. Referenced Standards: Material and workmanship specified by the number, symbol, or title of a referenced standard shall comply with the latest edition or revision thereof and amendments and supplements thereto in effect on the date of the Invitation to Bid except where otherwise expressly indicated. In case of a conflict between the Contract Documents and the referenced standard, the Contract Documents shall govern.
- H. Order of Precedence of Contract Documents: Unless otherwise provided for in the Special Provisions or required by law, the order of precedence of the Contract Documents will be as follows:
 - 1) Change Orders to the Contract
 - 2) Notice to Proceed
 - 3) Contract
 - 4) Addenda
 - 5) Special Provisions
 - 6) General Conditions
 - 7) Referenced Codes and Standards
 - 8) Technical Specifications
 - 9) Contract Drawings
 - 10) Guarantees
 - 11) Instructions to Bidders
 - 12) Invitation to Bid
 - 13) Other documents
- I. In case of differences between small- and large-scale drawings, the drawings showing greater detail shall govern. The Owner's determination of the more detailed shall control and be binding on the contractor, without limitation, and the Contractor's compliance with this determination shall not be considered as Extra Work. Schedules on drawings shall take precedence over conflicting notations on drawings. In the event of discrepancy between any scaled dimensions on drawings and the figures written thereon, the figures shall govern over the scaled dimensions unless otherwise indicated.
- J. Explanations: Should it appear that the Work to be done or any of the matters relative thereto are not sufficiently detailed or explained in the Contract Documents, the Contractor shall apply to the Owner or Architect/Engineer in a timely manner to allow sufficient time for such further written explanations as may be necessary and shall conform to the explanation provided as part of the Contract. The Owner or Architect/Engineer's decision shall be final.

- K. Effect of Headings: The headings and titles to provisions in the Contract Documents are descriptive only and shall be deemed not to modify or affect the rights and duties of parties to this Contract.
- L. No acceptance, order, measurement, payment, or certificate of or by the Architect/Engineer and/or the Owner or its employees or agents shall either stop the Owner from asserting any rights or operate as a waiver of any provision hereof or of any power or right herein reserved to the Owner or of any rights to damages herein provided.
- M. Wherever the terms, "as directed," "ordered," "permitted," "designated," "as approved," "approved equal," "or equal," "acceptable," and other words of similar meaning which authorize an exercise of judgment are used in the Contract Documents, such judgment shall be vested only in the Owner and shall be final.
- N. The Contractor shall make available at the job site one copy of each referenced standard and/or Contract Documents for the Contractor's and the Field Representative's use during the time that work covered by the standards and/or Contract Documents is underway.
- O. The Contract Documents provide for a complete work and may have been prepared in divisions of various crafts, trades, and other categories of work. The Contractor is responsible for the performance of all work under the Contract regardless of any such divisions and shall ensure that all work is performed and completed. The organization of the Contract Documents into divisions, sections and articles and the arrangement of the drawings do not restrict or limit the Contractor into dividing the Work among subcontractors or in establishing the extent of the Work to be performed by any trade.
- P. No deviation from the approved Contract Documents shall be permitted without the prior written approval of the Owner, which approved deviation shall be documented either by Change order, except that deviations with respect to line items may be paid for via Work Order, to the extent funds are available in the Allowance Account or applicable dedicated Allowance Account.
- Q. All Requests for Information by the Contractor shall be submitted to the Architect or Engineer, with a copy to the Owner, shall be in writing, shall specify, to the maximum extent possible, the particular sheet, page, or section for which the Contractor is requesting information, and shall identify with the maximum specificity possible the ambiguity or uncertainty which the Contractor claims exists.

END OF ARTICLE

3. ARCHITECT/ENGINEER/FIELD REPRESENTATIVE

- A. The Architect/Engineer shall respond to questions which may arise as to the quality and acceptability of materials furnished, work performed, and as to the manner of performance and rate of progress of the work in accordance with the time frames prescribed in the Contract Documents. The Architect/Engineer shall decide all questions which may arise as to the interpretation of the Contract Documents relating to the Work, and the fulfillment of the Contract on the part of the Contractor, and those decisions shall be binding on the Contractor.
- B. The Architect/Engineer is not authorized to revoke, alter, or waive any requirement of the Contract.
- C. The Architect/Engineer, Owner and Field Representative shall have free access to the Work and materials at all times to facilitate the performance of his duties.
- D. Subject to concurrence by the Owner, the Architect/Engineer shall have the right to observe and reject any material or work performed which does not meet the requirements of the Contract Documents. When the Architect/Engineer discovers any work in progress or completed that does not meet the requirements of the Contract Documents, the Architect/Engineer shall reject that portion of the Work affected and shall confirm such rejection in writing, as soon as practical, detailing the reasons for the rejection. Work rejected by the Architect/Engineer will not be paid for, nor shall any work associated to remove, remediate, or correct such non-conforming work be considered Extra Work. Any such observation and/or rejection shall not be construed as undertaking supervisory control of the Work or of means and methods employed by the Contractor or his subcontractors and shall not relieve the Contractor of any of his responsibilities or obligations under the Contract. The Contractor shall not request or attempt to require the Architect/Engineer to undertake such supervisory control or to administer, supervise, inspect, assist, or act in any manner so as to relieve the Contractor from such responsibilities or obligations.
- E. The fact that the Architect/Engineer has not made early discovery of materials furnished or work performed which does not meet the requirements of the Contract Documents, shall not bar the Architect/Engineer from subsequently rejecting said materials or work.
- F. If either the Architect/Engineer or the Field Representative requests it, the Contractor, at any time before acceptance of the work, shall remove or uncover such portions of the finished work as may be directed. After examination, the Contractor shall restore said portions of the work to the standard required by the Contract Documents. Should the work thus exposed or examined prove acceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be paid for as Extra Work. Should the work so exposed or examined prove unacceptable, the uncovering, or removing, and the replacing of the covering or making good of the parts removed will be at no additional cost to the Owner.
- G. Any work done or materials used which are not in compliance with the Contract Documents may be ordered removed and replaced at the Contractor's expense.
- H. The Owner and other agencies having jurisdiction over the work hereunder shall be afforded free access to the site to perform such inspections and tests as may be required to determine conformance of the Work with the Contract Documents.
- I. Neither the Architect/Engineer nor the Field Representative shall be responsible for any safety obligations imposed on the Contractor by applicable industry standards, licensing requirements, laws, or regulatory requirements.

- J. Inspectors may additionally be employed by the Owner or the Architect/Engineer. Inspectors will be authorized to inspect all work and materials which are to become a part of the completed Project. Inspectors will have no authority to revoke, alter or waive any requirements of the Specifications or to make any changes in the Plans. Each Inspector will be authorized to call the attention of the Contractor to any failure of the work to conform to the Plans or the Specifications and will have authority to suspend the work affected until any question at issue can be referred to and decided by the Engineer. The Inspector will have no authority to delay the Contractor by failure to inspect the work and materials with reasonable promptness.
- K. If authorized in writing by the Owner, the Field Representative and/or Architect/Engineer will administer the Contract and the orders of the Owner are to be given through the Field Representative and/or Architect/Engineer. The Field Representative and/or Architect/Engineer shall make initial determinations as to the amount and quality of the several kinds of work performed and materials furnished which are to be paid for under the Contract, subject to review and approval by the Owner.
- L. The Field Representative may observe the Contractor's work for compliance with the Contract Documents. Such observation shall extend to all, or any part of the work done and to the preparation, fabrication, or manufacture of the material to be used. Owner reserves the right to observe the work via its own employees, Field Representatives, Inspector's, or the Architect/Engineer.
- M. Upon discovery, the Field Representative shall call the Contractor's attention to faulty workmanship or defective materials and shall reject work and materials not conforming to the requirements of the Contract Documents.
- N. When any work in progress or completed does not meet the requirements of the Contract Documents, the Field Representative shall have the authority to order the Contractor to shut down that portion of the work affected until the affected work is corrected to the satisfaction of the Field Representative. The Field Representative shall confirm this order in writing as soon as practicable, detailing the reasons for the shutdown. Work performed in violation of the Field Representative's order to shutdown will not be accepted or paid for.
- O. The Field Representative is not authorized to revoke, alter, or waive any requirements of the Contract. If authorized in writing by the Owner, the Field Representative will negotiate and act on behalf of the Owner to the authorized limits of his authority as specified in the Contract Documents.
- P. Whenever the Contractor intends to build, assemble, or perform any portions of the Work away from the site, the Contractor shall promptly notify the Field Representative of such intentions, including where and when such work is to be performed before such work starts. The Contractor shall also make arrangements for access thereto by the Owner, Field Representative and/or the Architect/Engineer so that the aforementioned portions of the Work may be inspected as needed.
- Q. The fact that the Field Representative has not made early discovery of materials furnished or work performed which does not meet the requirements of the Contract Documents, shall not bar the Field Representative from subsequently rejecting said materials or work and does not relieve the Contractor of his responsibility to meet the requirements of the Contract Documents.
- R. The Field Representative shall not act as a foreman or perform other duties for the Contractor, nor interfere with the management of the work by the Contractor.
- S. The administration, observation of the work, and actions by the Field Representative, as herein provided, shall not be construed as undertaking supervisory control of the construction work or of

means and methods employed by the Contractor or his subcontractors and shall not relieve the Contractor from any of his responsibilities or obligations under the Contract; the Contractor shall not request or attempt to require the Field Representative to undertake such supervisory control or to administer, to supervise, to inspect, to assist, or to act in any manner so as to relieve the Contractor from such responsibilities or obligations.

- T. If authorized in writing by the Owner, the Field Representative shall decide all questions relating to the rights of different prime contractors on the Project or site.
- U. All materials and each part or detail of the work shall be subject to observation by the Field Representative and/or the Architect/Engineer. The Architect/Engineer and the Field Representative shall be allowed access to all parts of the work and shall be furnished with such information and assistance by the Contractor as is required.

END OF ARTICLE

4. OWNER

- A. Unless otherwise specified or excluded elsewhere in the Contract Documents, the records of borings, test excavations and other subsurface investigations, if any, are offered as information only and solely for the convenience of the Contractor. The Owner does not warrant or guarantee either that said records are complete or that the said records will disclose the actual subsurface conditions. The interpretation of the records and the conclusions drawn therefrom as to the actual existing subsurface conditions are the sole responsibility of the Contractor.
- B. Any estimates of quantities of work or materials, based on said borings, test excavations and other subsurface investigations are not warranted by the Owner to indicate the true quantities or distribution of quantities unless the Contractor is expressly directed to rely on such information to prepare and submit his Bid.
- C. If the Contractor is notified by the Owner to correct defective or nonconforming work, and the Contractor fails to promptly proceed with corrective action in a reasonable time, the Owner may, upon written notice, accomplish the redesign, repair, rework, or replacement of nonconforming work by the most expeditious means available and back charge the Contractor for the cost incurred. The cost of back charge work shall include all reasonable costs associated with the corrective action.
- D. The Owner shall separately invoice or deduct from payments, otherwise due to the Contractor, back charges as provided herein. The Owner's right to back charge is in addition to any or all other rights and remedies provided in this Contract, or by law. The performance of back-charge work, on behalf of the Owner, shall not relieve the Contractor of any of its responsibilities under this Contract including but not limited to express or implied warranties, specified standards for quality, contractual liabilities and indemnifications, and the Contract Time.
- E. Miami-Dade County enters into this Contract solely in its proprietary capacity. Nothing in this Contract is intended to bind or otherwise restrict the discretion of Miami-Dade County acting in its regulatory capacity, including but not limited to the regulatory acts of the departments of Regulatory and Economic Resources (RER), Transportation and Public Works (DT&PW), Miami-Dade Fire-Rescue (MDFR) and Mia-Dade Water and Sewer Department (WASD), or their successors.

END OF ARTICLE

5. CONTRACTOR

- A. If the Contractor hereunder is comprised of more than one legal entity, each such entity shall be jointly and severally liable hereunder.
- B. The Contractor shall hold valid current certificate(s) of competency for the type of work to be performed, in accordance with the qualifications requirements as set forth in Chapter 489 of the Florida Statutes and Chapter 10 of the Code of Miami- Dade County.
- C. The Contractor shall maintain within Miami-Dade County, Florida, a duly authorized agent to accept service of legal process on its behalf and shall keep the Owner advised of such agent's name and address, during the duration of the Contract, and for three years after final payment or as long as Contractor has warranty obligations under these Contract Documents, whichever period terminates later. The Contractor shall complete the form titled "Contractor Agent to Accept Service" included in the Contract Documents and submit it to the Architect/Engineer prior to NTP.
- D. The Contractor shall be responsible for the complete performance for all of the work under the Contract, and for the methods, means, and equipment used in performing the Contract and for all materials, tools, apparatus, and property of every description used in connection therewith.
- E. If requested by the Owner, the Contractor will obtain written confirmation from impacted subcontractors agreeing to work within the timeframes specified in the Contractor's schedule as a condition of acceptance.
- F. Contractor's Superintendent: The Contractor shall provide a superintendent at the site at all times who is competent in the type of work being performed to act as the Contractor's agent, and shall give that superintendent the full authority to receive instruction from the Field Representative or Architect/Engineer and to execute the order or directions of the Field Representative or Architect/Engineer, including the prompt supply of all materials, tools, equipment, labor, and incidentals that may be required. The Contractor shall furnish such superintendence regardless of the amount of work that is subcontracted, and the superintendent shall read, speak, write, and understand English. The Contractor shall also maintain at least one other employee on the work site during Project working hours who speaks and understands English. The superintendent shall be responsible for keeping written daily logs of the work on the project.
- G. The competency of the superintendent shall be demonstrated through licensure or certification in contracting, engineering, trade, or experience as applicable to the work being performed. Proof of licensure, certification or qualification of the superintendent must be provided to the Owner at the pre-construction conference and is subject to the approval of the Architect/Engineer or Field Representative after Contractor receipt of said requirements. The Contractor shall replace the Superintendent only with written notice to the County five (5) days in advance of the proposed substitution, and only with a superintendent qualified to perform the work as reasonably determined by the Field Representative.
- H. In the event that the Field Representative or Architect/Engineer determines, through the course of the actual work progress, that the superintendent lacks the knowledge or expertise necessary to execute the work in an efficient and competent manner, in keeping with all current codes and best practices, the Field Representative or Architect/Engineer shall notify the Contractor in writing and the

superintendent shall be replaced by the Contractor with a person acceptable to the Field Representative or Architect/Engineer within five (5) working days.

- I. The Contractor's failure to replace the superintendent in the time allotted shall be cause for the Owner to suspend work with such delays chargeable to the Contractor as Liquidated Damages as specified elsewhere in this contract.
- J. The Contractor shall maintain a daily accounting of his daily manpower, by trade and position, and provide this information to the Field Representative on a weekly basis.
- K. The Contractor shall notify the Owner of any changes of key personnel and all replacement personnel prior to assigning them to the jobsite.

END OF ARTICLE

6. SUBCONTRACTORS

- A. The Contractor will be permitted to subcontract portions of the Work to competent subcontractors. Such subcontractors shall hold valid current certificate(s) of competency for the type of work to be performed, in accordance with the qualifications requirements as set forth in the Florida Statutes and the Code of Miami-Dade County. Use of Subcontractors who were not listed on the Subcontracting Form, or equivalent, at the time of award may occur only with the express consent of the Owner.
- B. Nothing contained herein shall create any contractual relationship between the Owner and any level of subcontractor, materialman, or supplier.
- C. All work performed for the Contractor by a subcontractor shall be pursuant to an appropriate agreement between the Contractor and the subcontractor which shall contain provisions that:
- 1) Preserve and protect the rights of the Owner and any of its authorized representatives under the Contract, including but not limited to, the Architect/Engineer and Field Representative, with respect to the Work to be performed under the subcontract so that the subcontracting thereof will not prejudice such rights;
 - 2) Require that such Work be performed in accordance with the requirements of the Contract Documents including the Contractor's accepted schedule;
 - 3) Require submission to the Contractor of applications for payment under each subcontract to which the Contractor is a part, in reasonable time to enable the Contractor to apply for payment in accordance with any and all payment provisions of the Contract Documents;
 - 4) Require that all claims for additional costs, extensions of time, damages for delays or otherwise with respect to subcontracted portions of the Work shall be submitted to the Contractor (via any subcontractor or Sub-subcontractor or Supplier where appropriate) in sufficient time so that the Contractor may comply in the manner provided in the Contract Documents for like claims by the Contractor upon the Owner;
 - 5) Require specific consent to all relevant provisions of the Contract Documents; and
 - 6) Incorporate all flow-down clauses specifically called for in the Contract, as directed.
- D. Contractor Participation: The Contractor shall perform not less than 10 percent of the Work, not inclusive of materials purchased, with his own organization. If the Contractor is a joint venture, the requirement shall be satisfied by any one, or a combination of any of the joint venture partners. Where a percentage of a Bid Item is subcontracted, the dollar value of that percentage subcontracted will be based on the estimated cost of such Bid Item, determined from information submitted by the Contractor, subject to approval by the Owner. If, during the progress of the Work, the Contractor requests a reduction in such participation percentage, and the Owner determines that, due to the special nature of the conditions of the Work at the time, it would be to the Owner's advantage, the percentage of the Work required to be performed by the Contractor may be reduced, provided written approval of such reduction is obtained by the Contractor from the Owner. The Contractor shall not proceed with any such reductions until his request is approved in writing by the Owner or his authorized designee. Under no circumstances shall less than 10 percent of the Work be performed with the Contractor's own forces.

E. Work Performed by Equipment-Rental Agreement:

- 1) The amount of work performed under equipment rental agreements shall not be considered subcontractor work. However, for work to be performed by equipment-rental agreement, the Contractor shall notify the Architect/Engineer in writing of such intention before using the rented equipment and shall indicate whether the equipment is being rented on an operated or non-operated basis. The Contractor's written notice shall contain a listing and description of the equipment and a description of the particular work to be performed with such equipment. As an exception to the above requirements for a written notice to the Architect/Engineer, such notice will not be required for equipment to be rented (without operators) from an equipment dealer or from a firm whose principal business is the renting or leasing of equipment.
- 2) The operators of rented equipment, whether rented on an operated or a non-operated basis, will be subject to wage rate requirements applicable to the Project. If equipment is being rented without operators, the Contractor shall be required to carry the operators on his own payroll. When equipment is rented on an operated basis, the Contractor, when required by the Contract or requested by the Architect/Engineer, shall submit payrolls from the lessor with the names of the operators shown thereon.

F. No work is to be performed at the Work site until the Contractor is in compliance with the Insurance Specifications, has furnished satisfactory evidence of required insurance to the Owner and obtained all required permits.

G. Approval of Subcontractor:

- 1) Prior to entering into any subcontract for Work to be performed on the Project, the Contractor shall secure the approval of the Owner regarding the prospective subcontractor's qualifications and employment data. The Owner will review the submittal from each subcontractor and will furnish written notification to the Contractor concerning approval of the award of the subcontract. If the Owner objects to the proposed award or fails to respond to the Contractor within five (5) business days of the complete submittal of the required information, the Contractor may furnish written notice of another subcontractor for consideration. The Owner may, at its discretion, waive or reduce subcontractor information submittal requirements as it deems appropriate.
- 2) In accordance with Miami-Dade County Code Sections 2-8.1 and 10-33.01, the Contractor shall not, without written consent of the Owner, either replace any subcontractor or permit any such subcontract to be assigned or transferred, or allow that portion of the Work to be performed by anyone other than the approved subcontractor, except he may perform the work himself with qualified personnel upon written notice to the Owner in accordance with applicable law.

END OF ARTICLE

7. PROSECUTION OF THE WORK

A. Workmanship and Unauthorized Work

- 1) Work under this Contract shall be performed in a skillful and workmanlike manner. Unless otherwise indicated in the Contract Documents, the Contractor shall be solely responsible for means and methods and for the coordination of all trades through completion of the Work and without damage to the existing or newly installed components and surfaces. The Architect/Engineer or Field Representative may, in writing, require the Contractor to remove from the work any employee the Architect/Engineer or Field Representative determines incompetent, careless, or otherwise objectionable. Such request shall be at no cost to the Owner.
- 2) Unauthorized Work: Work performed beyond the lines and grades shown on the Contract Drawings and approved Shop Drawings or established by the Owner, and Extra Work done without a Work Order or Change Order, will be unauthorized work and the Contractor will receive no compensation therefor. If required by the Owner, unauthorized work shall be remedied, removed, or replaced by the Contractor at the Contractor's expense. Upon failure of the Contractor to remedy, remove or replace unauthorized work, the Owner may at its discretion, remedy, remove or replace the unauthorized work and the Contractor shall bear the responsibility for any and all costs and for delays resulting from such work.
- 3) The entire work and each part thereof, unless otherwise specified in the Contract Documents, shall be placed at the location, elevation, grade and gradient specified, and in proper alignment and adjustment. The Contractor shall provide all frames, forms, falsework, shoring, guides, anchors, and temporary structures required to ensure these results.
- 4) No deviation from the approved Plans/Specifications shall be permitted unless (1) the Contractor has submitted an RFI requesting the deviation, and (2) the Contractor has prior written approval of the Architect/Engineer and/or Owner. Written approval shall be by Work Order or Change Order, shall be documented to the extent required by, and shall otherwise comply with the requirements of, the Contract Documents.
- 5) The Contractor shall, at all times, employ sufficient labor and equipment for prosecuting the work to full completion in the manner and time required by the Contract Documents. All workers shall have sufficient skill and experience to properly perform the work assigned to them. Workers engaged in special work or skilled work shall have sufficient experience in such work and in the operation of the equipment required to perform the work satisfactorily.
- 6) All proposed equipment shall be of sufficient size and in such mechanical condition as to meet requirements of the work, producing a satisfactory quality of work. Equipment used on any portion of the work shall be such that no damage to previously completed work, adjacent property, or existing facilities will result from its use.
- 7) When the Contract Documents expressly specify the use of certain methods and equipment, such methods and equipment shall be used unless other methods are authorized in writing by the Architect/Engineer by Work Order or Change Order. If the Contractor desires to use a method or type of equipment other than specified in the Contract, he may request permission from the Architect/Engineer to do so. The request shall be in writing and shall include a full description of the methods and equipment proposed and of the reasons for desiring to make the change. If approval

is given, it will be on the condition that the Contractor will be fully responsible for producing work in conformity with Contract requirements. If, after trial use of the substituted methods or equipment, the Architect/Engineer determines that the work produced does not meet Contract requirements, the Contractor shall discontinue the use of the substitute method or equipment and shall complete the remaining work with the specified methods and equipment. The Contractor shall remove any deficient work and replace it with work of specified quality or take such other corrective action as the Architect/Engineer may direct at no additional cost to the Owner. No change will be made to the Contract price or the Contract Time as a result of authorizing a change in methods or equipment under this article.

- 8) The Contractor shall give constant attention to the work to facilitate the progress thereof such that the work will be completed during the contract time and shall cooperate with the Architect/Engineer and its Field Representatives and with other Contractors in every way possible.
- 9) The Contractor warrants to the Owner that all materials and equipment furnished under this Contract will be new unless otherwise expressly allowed in the Plans and Specifications, or otherwise expressly approved in writing by the Owner and that the work will be of good quality, free from faults and defects in materials and workmanship for a period of one year from the date of Substantial Completion, unless otherwise required under this Contract. Work not conforming to these standards may be considered defective. If required by the Architect/Engineer, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- 10) Contractors working in the Public Rights-of-Way shall be cognizant of and comply with Miami-Dade County Code Section 2-103.1 relating to restoration after construction of utilities or works in the public right of way; and Miami-Dade County Code Sections 21-221 through 228 relating to excavation and protection of underground utilities and requiring various Contractor activities; The Contractor shall make every effort to minimize construction impact to business in the area of the Project and as appropriate, the Department will recover any costs caused the County by Contract delays or other business impacting activities attributable to the Contractor. To this end the Contractor shall conduct its construction activities in a manner that will minimize these detrimental effects.
- 11) The Contractor shall at all times ensure that the work site is maintained in a clean and orderly fashion. As soon as the work in any one locality is completed, the accumulated rubbish or surplus materials thereat shall be promptly removed. The Contractor shall also restore all public and private property in a manner acceptable to the Engineer, to a condition equal to or better than pre-construction conditions. This shall apply to public and private property which has been displaced or damaged during the prosecution of the work, and the Contractor shall leave the site and vicinity unobstructed and in a neat and presentable condition. In the event of delay exceeding two days after written notice is given to the Contractor by the Engineer to remove such rubbish or materials, or to restore displaced or damaged property, the Engineer may employ such labor and equipment as he may deem necessary for the purpose, and the cost of such work, together with the cost of supervision, shall be charged to the Contractor and shall be deducted from any money due the Contractor on the monthly or final estimate. No Contract shall be considered as having been completed until all rubbish and surplus materials have been removed and disposed of properly.
- 12) The Architect/Engineer shall furnish the Contractor with horizontal and vertical controls which shall be utilized as specified elsewhere herein to layout the work. The Florida Registered Land Surveyor hired by the Contractor shall verify all controls provided by the Engineer of Record and it shall be the responsibility of the Contractor to preserve same.

- a. The Contractor shall retain the services of a Florida Registered Land Surveyor who, shall furnish and set stakes, establishing line and grade and shall solely be responsible for the layout of the work as well as the recording of all as-built dimensions and elevations. The Contractor shall furnish all additional stakes, templates, and other materials for marking and maintaining survey points and lines given and shall be responsible for their preservation. Should any of the horizontal and vertical control points furnished by the Engineer of Record be destroyed or disturbed, they shall be reset by the Contractor's Florida Registered Land Surveyor, at the Contractor's expense. All control points previously furnished by the Engineer of Record shall be verified by the Contractor's surveyor.
 - b. For pipeline Projects the Engineer of Record shall furnish the Contractor with horizontal and vertical control every 1,320 feet which shall be utilized as specified elsewhere herein to layout the work. If a pipeline Project is less than 1,320 feet, the Engineer of Record will provide the Contractor with two horizontal and vertical control points. At on-plant-site Projects, the Engineer of Record
 - c. shall furnish the Contractor with three horizontal and vertical controls.
 - d. No direct payment shall be made for the cost to the Contractor of any of the work occasioned by delay in giving lines and grades, or making other necessary measurements, or by inspection.
- 13) Chapter 446 of the Florida Statutes, as amended, which is by reference incorporated herein, provides labor standards for ratios of apprentices or trainees to journeymen on State, County, or municipal contracts. It shall be the responsibility of the Contractor, prior to the opening of bids, to inform themselves of the provisions of Chapter 446, Florida Statutes, as amended, which are, or may become, applicable to the Contract, and he shall abide by these provisions at no cost to the County. The Contractor is advised to direct all inquiries concerning Chapter 446, Florida Statutes, as amended to the Florida State Apprenticeship Advisory Council.

B. Material

- 1) Unless otherwise indicated in the Contract Documents, equipment, material, and products incorporated in the Work covered by this Contract shall be new and of the grade specified for the purpose intended. Unless otherwise specifically indicated, reference to equipment, material, product, or patented process by trade name, make, or catalog number, shall be regarded as establishing a standard of quality and shall not be construed as limiting competition. The Contractor may, at his option and, subject to the approval of the Architect/Engineer, use any equipment, material, article, or process which is equivalent to that named, subject to the requirements of these Contract Documents or propose a substitute equipment, material, article, or process as indicated below. The Contractor shall at all times comply with Green Building or LEED standards, as established in the Contract Documents; unless otherwise specified, LEED Silver standards shall be the minimum standards acceptable to the County. Proposed alternative equipment, material, products, or patented processes shall be considered equivalent if the Architect/Engineer determines that the proposed alternative is functionally equal to and/or sufficiently similar to that specified in the Contract Documents. The Architect/Engineer and/or the Owner may consider the Department's current maintenance history, requirements for spare parts, training of personnel and conformity to existing systems when reviewing alternatives.

- 2) The Architect/Engineer shall be the sole judge of the quality, suitability and cost of the proposed alternative equipment, material, article, or process. A proposed alternative shall be considered equivalent and/or functionally equal to that specified in the Contract Documents if, in the exercise of reasonable judgment, the Architect/Engineer determines that the proposed alternative is at least equal in materials of construction, quality, durability, appearance, strength and design characteristics, will reliably perform at least equally well the function and achieve the results imposed by the Design Professional's Basis of Design and has a proven record of performance and availability, and the procurement and installation of same will not impact project costs or schedule.
- 3) If the Architect/Engineer determines that a proposed alternative does not qualify as equivalent or functionally equal, the alternative may be proposed for consideration as a substitute subject to the Contractor submitting sufficient information as provided below to allow the Architect/Engineer to determine that the proposed alternative is essentially equivalent to or better than the specified item and is an acceptable substitute for that said specified item.
- 4) The burden and cost of proving the quality, suitability and cost of an alternative shall be borne by the Contractor. All information required by the Architect/Engineer in judging an alternative shall be supplied by the Contractor at the Contractor's expense. The Architect/Engineer's costs in evaluating a proposed alternative, irrespective of its acceptance, will be reimbursed by the Contractor to the Owner. In the case of approved alternatives, the Contractor shall also reimburse the Owner for the Architect/Engineer's costs to revise the Contract Documents.
- 5) The Contractor certifies that, if approved and incorporated into the Work, there will be no increase in cost to the Owner or in Contract Time and the proposed alternative shall conform substantially to the detailed requirements of the item specified in the Contract Documents.
 - a. Where use of an alternative material involves redesign of or changes to other parts of the Work, the cost and the time required to affect such redesign or change will be considered in evaluating the suitability of the alternative material. All costs pertaining to redesign and changes in other parts of the Work, including remedial work to completed work, shall be at the Contractor's expense,
 - b. No action relating to the approval of alternative materials will be taken until the request for approval of the alternative materials is made in writing by the Contractor accompanied by complete data as to the quality, suitability and cost of the materials proposed. Such request shall be made at least 60 days before the early start date of the activity. Any delays in receiving approval shall be the responsibility of the Contractor.
 - c. The Architect/Engineer will examine and review the proposed alternative with the Owner and return it, within twenty-one (21) calendar days from the date of its receipt at the Architect/Engineer's office, to the Contractor noted with the final decision. If the final decision approves either an equal or a substitution, the approval must also contain the Owner's written approval. When requested by the Architect/Engineer, the Contractor shall resubmit such Shop Drawings, descriptive data and samples as may be required. Contractor is solely responsible for submitting alternatives in a timely fashion so as not to impact project schedule; in the event that Owner's or Architect/Engineer's review of an alternative delays the project, or redesign of the

project required to accommodate the alternative delays the project, such delay shall be considered non-compensable delay.

- d. Where classification, rating, or other certification by a body such as, but not limited to, Underwriters' Laboratories Inc. (UL), National Electrical Manufacturer's Association (NEMA), or American Railway Engineering Association (AREA) is a part of the specification for any material, proposals for use of alternative materials shall be accompanied by reports from the listed body, or equivalent independent testing laboratory, indicating compliance with Contract Documents requirements. Testing required proving equality of the material proposed shall be at the Contractors expense.
 - e. Approval of an alternative material will be only for the characteristics and use named in such approval, and shall not change or modify any Contract requirement, or establish approval for the material to be used on any other Project for the Owner.
- 6) Source of Supply and Quality of Materials: The Contractor shall furnish all materials and products required to complete the Work except those designated to be furnished by the Owner.
- a. Notwithstanding prior inspection and approval by the Architect/Engineer, only materials conforming to the requirements of the Contract Documents shall be incorporated in the Work.
 - b. The materials shall be manufactured, handled, and incorporated so as to ensure completed work in accordance with the Contract Documents.
- 7) Defective Materials: Contractor-furnished materials not conforming to the requirements of the Contract Documents will be rejected, whether in place or not. Rejected material shall be removed immediately from the Work site. No rejected material, the defects of which have been subsequently corrected, shall be used in the Work. The Owner may cause the removal and replacement of rejected material and the cost thereof will be deducted from any monies due or to become due to the Contractor.
- 8) Handling of Materials: Materials shall be transported, handled, and stored by the Contractor in a manner which will ensure the preservation of their quality, appearance, and fitness for the Work. Materials shall be stored in a manner to facilitate inspection.
- 9) The Owner will have no responsibility to the Contractor concerning local material sources.
- a. The Contractor shall make all necessary arrangements with the owners of material sources. The Contractor shall pay all costs in connection with making such arrangements, exploring, developing and using material sources, whether or not indicated, except such costs as the Owner expressly agrees in writing to assume.
- 10) Disposal of Material Outside the Work Site: Unless otherwise specified in the Contract Documents, the Contractor shall make his own arrangements for properly disposing of waste and excess materials outside the Work Site and he shall pay all costs, therefore. Contractor shall comply with all local, state, and federal requirements when disposing of waste and excess materials.
- a. Prior to disposing of material outside the Work Site, the Contractor shall obtain written permission from the owner on whose property the disposal is to be made. The Contractor shall file with the Architect/Engineer said permit, or a certified copy thereof, together with a

written release from the property owner absolving the Owner from any and all responsibility in connection with the disposal of material on said property.

- 11) Property Rights in Materials: The Contractor shall have no property right in materials after they have been attached or affixed to the Work or the soil, or after payment has been made by the Owner to the Contractor for materials delivered to the site of the Work, or stored subject to or under the control of the Owner, as provided in these Contract Documents. However, the Contractor shall be responsible for the security of the material on-site until Final Acceptance by the Owner.

C. Methods of Sampling and Testing

- 1) Sampling and testing of all materials shall be as set forth in the Contract Documents. Except for quality control testing and any other testing that may be the direct responsibility of the Contractor as set forth in the Contract Documents, the testing of samples and materials will be made at the expense of the Owner by the project testing laboratory. The Contractor shall furnish the required samples without charge. Any and all fees for non-conforming materials or work shall be solely borne by the Contractor. The Contractor shall give sufficient notification to the Field Representative of the placing of orders for or receipt of materials to permit testing.
- 2) The Field Representative may inspect, at its source, any specified material or assembly to be used in the Work. Manufacturing plants may be inspected from time to time for the purpose of determining compliance with specified manufacturing methods or materials to be used in the Work and to obtain samples required for its acceptance of the material or assembly. Should the Field Representative conduct plant inspections, the following shall exist:
 - a. The Field Representative shall have the cooperation and assistance of the Contractor and the producer with whom he has contracted for materials.
 - b. The Field Representative shall have full entry at all reasonable times to such parts of the plant that concern the manufacture or production of materials being furnished.
 - c. If required by the Field Representative, the Contractor shall arrange for adequate office or working space that may be reasonably needed for conducting plant inspections. Office or working space should be conveniently located with respect to the plant.
- 3) It is understood and agreed that the Owner shall have the right to retest any material which has been tested and approved at the source of supply after it has been delivered to the site. The Field Representative shall have the right to reject only material which, when retested, does not meet the requirements of the Contract Documents. In such an event, the cost of re-testing shall be borne by the Contractor if it results in a rejected material.
- 4) All inspections and testing of materials, assemblies and equipment will be performed in Miami-Dade County. If the Contractor's material or manufacturing sources are such that inspections or tests cannot be made in Miami-Dade County, all traveling and lodging expenses in connections with such inspections and testing shall be borne by the Contractor.

D. Meetings

- 1) A pre-construction conference will be held prior to the issuance of the Notice to Proceed to discuss the work to be performed under this contract. The Contractor and its major subcontractors shall

be required to attend this meeting. The Contractor will be advised of the time, date, and location of the meeting.

- 2) The Contractor shall attend weekly construction coordination meetings at a time and place to be designated by the Architect/Engineer. These meetings are intended to determine job progress, identify job problems, assist in solving and preventing job problems, and promote coordination with all entities involved in the Contract and with other Contractors. The Contractor shall cause subcontractors and suppliers to attend as he deems advisable, or as requested by the Architect/Engineer. Unless otherwise provided for in these Contract Documents, the Contractor shall be responsible for generating and distributing meeting minutes for all such meetings. Notwithstanding, the Owner may generate and disseminate supplemental meeting minutes, as may be necessary in the owner's discretion.

E. Permits and Compliance with Laws

- 1) Unless otherwise provided for in these Contract Documents, the Contractor shall be responsible for obtaining necessary licenses and permits and for complying with applicable Federal, State, County and Municipal laws and latest codes and regulations in connection with the prosecution of the Work. (For payment of permit(s), see Special Provisions). No time extensions will be allowed for delays in obtaining the required permits unless revisions directly caused by the Owner, or its agents are required to the Contract Drawings due to changes in codes, regulations, and applicable contract standards during the contract term. See Special Provisions for additional permit requirements.
- 2) The Owner will not pay or reimburse the Contractor for any penalties relating to his permits or fees as a result of the Contractor's failure to timely obtain all his permits, inspections, and approvals.
- 3) The Contractor shall observe and comply with all applicable Federal, State, County and other laws, codes, ordinances, rules, and regulations of the Federal, State and County governments, all authorities having jurisdiction, and any and all programs developed in compliance therewith, in any manner affecting the conduct of the Work.
- 4) Dewatering of excavations shall be performed in accordance with the applicable provisions of the County's Department of Regulatory and Economic Resources (RER), Florida Department of Environmental Protection (DEP), U.S. Environmental Protection Agency (EPA) and the South Florida Water Management District (SFWMD) Dewatering Permits and/or any and all authorities having jurisdiction and any other requirements specified in the Contract Documents. The means and methods of dewatering shall be determined by the Contractor who shall bear the full cost of same as part of the contract price.
- 5) All construction activities shall be subject to the pollution prevention requirements established under the National Pollutant Discharge Elimination System (NPDES) program under the Clean Water Act regulating storm water discharge from construction sites.
- 6) Upon completion of all of the work contemplated under the Contract Documents, the Contractor shall obtain and deliver to the Field Representative such Certificate(s) of Occupancy or Certificate(s) of Completion as required by the Florida Building Code and/or authority having jurisdiction.

- 7) The Contractor shall be subject to and comply with all the provisions of Miami-Dade County Code Section 2-8.4.1, which provides that, whenever any individual or corporation or other entity attempts to meet its contractual obligations with the County through fraud, misrepresentation or material misstatement, the County shall, whenever practicable, terminate the Contract. The Contractor is further directed to Section 10-38 of the Miami-Dade County Code, which provides for the debarment of County contractors.
- 8) The use of explosives will not be permitted under this Contract, except that powder and/or explosive fasteners may be allowed with the prior written consent of the Owner.

F. Coordination and Access

- 1) Other Contracts: The Owner may undertake or award other contracts for additional work, and the Contractor shall fully cooperate and coordinate with other Contractors and the Owner and carefully fit his own work to such additional work. The Contractor shall not perform any act which will interfere with the performance of work by any other contractor or by the Owner. The Contractor shall be responsible for obtaining all necessary scheduling details from other Contractors and these requests must be provided, in writing, to the Owner. The Owner, or, if authorized in writing by the Owner, the Architect/Engineer shall have the authority to resolve conflicts related to coordination between Contractors.
- 2) In the event of interference between the work of the Contractor and other contractors working concurrently at the Site, the Field Representative will instruct the Contractor as to which work has priority in performance and such instructions shall be binding upon the Contractor.
- 3) Utility companies, railroads, municipal agencies, and County tenants/lessees having facilities within the limits of the Work shall always have access to their facilities for operations, inspection, and repair.
- 4) Lands to be furnished by the County for construction operations, roads, or for other purposes, will be specifically shown on the drawings or provided for in the Specifications. Should the Contractor find it necessary to use any additional land for the construction operations or for other purposes during the construction of the work, they shall provide for the use and restoration of such lands at their own expense.
- 5) Rights-of-way for work to be done under the Contract will be provided by the County. Nothing herein contained, however, and nothing marked on the drawings, shall be interpreted as giving the Contractor exclusive occupancy of the territory provided. When two or more contracts are being executed at one time on the same or adjacent land in such a manner that work on one contract may interfere with that on another, the Owner, or, if directed in writing by the Owner, the Architect/Engineer will decide which Contractor shall cease work, and which shall continue, or whether the work of both contracts shall progress at the same time, and in what manner. When the territory of one contract is a necessary or convenient means of access for the execution of another contract, the Engineer may grant to the Contractor so desiring such privilege of access to the territory as the Engineer shall deem to be appropriate, and no such decision shall be made the basis of any claim for delay or damage, except as provided in Article 8 herein.

G. Rights in Land and Improvements

The Contractor shall make no arrangements with any person to permit occupancy or use of any land, structure or building within the Work Site for any purpose whatsoever, either with or without

compensation, in conflict with any agreement between the Owner and any property owner, former property owner or tenant of such land, structure or building. The Contractor shall not occupy County-owned property outside the Work Site without obtaining prior written approval from the County.

H. Interference With Existing Utilities

- 1) Attention of the Contractor is specifically directed to the need for careful control of all aspects of his work to prevent damage to cables, ducts, water mains, sewers, fire mains, telephone cables, fuel lines, radar cables, and any other existing overhead or underground utilities and structures.
- 2) Before commencing work in any given area, the Contractor shall contact utility companies to identify any potential conflicts. Further, the Contractor shall also carefully review the plans, survey, and search the site for utility locations, and determine possible utility conflicts. All known above and underground utilities, including, but not limited to, electrical, telephone, communications, lighting cables, fuel lines, sewer, drainage and water pipes, and other existing structures are shown on the Plans for reference purposes only, but no guarantee is expressed or implied that the information is accurate. It shall be the sole responsibility of the Contractor to ascertain and/or verify the location of any and all such utilities or structures using magnetic and electronic detectors and by hand excavation or other appropriate measures before performing any work that could result in damage to such existing utilities or structures. The Contractor shall make a thorough search of the particular location for underground utilities or structures whether or not shown on the drawings before excavation work is commenced in any particular location. To this end the Contractor shall provide and maintain throughout the term of the Contract, electronic and magnetic detecting devices capable of locating underground or other non-observable utilities or structures. The Contractor shall, after locating primary and critical existing utilities, mark their location with indelible material or other means satisfactory to the Field Representative and maintain above ground physical identification during the work.
- 3) In the event of damage to, or accidental disruption of utilities or other facilities as a result of the Contractor's operations, the Contractor shall take immediate steps to repair or replace all damage and to restore all services. Further, the Contractor shall engage any additional outside services which may be necessary to prosecute repairs on a continuous "around the clock" basis until services are restored. The Contractor shall also provide and operate any supplemental temporary services to maintain uninterrupted use of the facilities. All costs involved in making repairs and restoring disrupted service resulting from the Contractor's work shall be borne by the Contractor and the Contractor shall be fully responsible for any and all claims resulting from the damage.

I. Protection of Existing Facilities, Vegetation, Structures, Utilities, and Improvements

- 1) The Contractor shall preserve and protect existing vegetation such as trees, shrubs, and grass on or adjacent to the work site which are not indicated to be removed and which do not unreasonably interfere with the construction work and he shall replace in kind the vegetation, shrubs, and grass damaged by him at his own expense.
- 2) The Contractor shall protect from damage all utilities, foundations, walls, or other parts of adjacent, abutting or overhead buildings, railroads, bridges, structures, surface and subsurface structures at or near the site of the Work and shall repair or restore any damage to such facilities, except utilities, resulting from failure to comply with the requirements of this Contract or the failure to exercise reasonable care in the performance of the Work. If, after receipt of notification

from the Architect/Engineer, the Contractor fails to or refuses to repair any such damage promptly, the Owner may have the necessary Work performed and charge the cost thereof to the Contractor.

- 3) At points where the Contractor's operations are adjacent to utility facilities, damage to which might result in expense, loss, disruption of service or other undue inconvenience to the public or to the owners, Work shall not be commenced until all arrangements necessary for the protection thereof have been made by the Contractor. The Contractor shall be solely and directly responsible to the owners and operators of such utilities for any damage, injury, expense, loss, inconvenience, or delay, caused by the Contractor's operations.
 - a. Where public utilities or their appurtenances interfere with permanent construction, unless otherwise specified, work involved in permanently relocating or otherwise altering such public utilities and their appurtenances will not be a part of this Contract but will be done by utility owners at no cost to the Contractor. If the Contractor wishes to have utilities temporarily relocated, he shall make necessary arrangements with utility owners and reimburse them at his own expense for cost of the Work. The Contractor shall keep the Architect/Engineer advised of temporary relocation arrangements.
 - b. The Contractor shall not repair or attempt to repair utility damage but shall immediately contact the utility owner. The Contractor shall obtain the name, address, and telephone number of each utility company that the work will affect and the person in such utility company to contact. He shall submit to the Architect/Engineer said names, addresses and telephone numbers.
- 4) The Contractor shall comply with the latest version of the Florida Building Code, Florida Fire Prevention Code or the Code under which the Contract Documents were approved, whichever is applicable at the time the Work is performed.
- 5) In order to safeguard the owners and tenants of abutting property and at the same time prevent unjust or fraudulent claims against the Contractor the Government, State, the Owner, and the Architect/Engineer in respect thereto, the Contractor shall cause a detailed examination of abutting property to be made before construction is begun. The owner or tenant of each parcel or structure or his or their duly authorized representative will be invited to be present during the examination by a notice in writing delivered by the Contractor to a person in charge of the premises or structure, or by the mailing of the notice to the owner at the premises. The Architect/Engineer will attend while the Contractor makes the detailed examination. A complete record including photographs of the existing conditions of each parcel or structure shall be made in triplicate, signed by the Contractor, Owner, and the Architect/Engineer and one copy will be delivered to the Owner, one to the Architect/Engineer and one will be retained by the Contractor. At such time as the Architect/Engineer may direct, or upon the filing of the verified statement by the owner, tenant, lessee, operator, or occupant of the building structure, and in any event, upon the completion of any work that in the opinion on the Architect/Engineer might affect the abutting property, the Contractor will make another detailed examination of such abutting property. A complete record of the then existing conditions of said property will be made in triplicate, signed by the Contractor and one copy will be delivered to the Owner, one to the Architect/Engineer and one will be retained by the Contractor. In any action, which may be brought by any owner, tenant, lessee, operator, or occupant of abutting property to recover under the provisions of this article or any paragraph hereof, the

record of the existing conditions of each parcel will be prima facie evidence of the conditions thereof at the time of the making of the examination.

- 6) The Contractor shall maintain access to fire hydrants and fire alarm boxes throughout the prosecution of the Work. Hydrants, alarm boxes and standpipe connections shall be kept clear and visible at all times unless approved otherwise. If visibility cannot be maintained, the Contractor shall provide clearly visible signs showing the location of the fire hydrant, fire alarm box or standpipe connection. The Contractor shall promptly notify the authority having jurisdiction of any impairment to any fire systems.

J. Damage to the Work and Responsibility for Materials

- 1) The Contractor shall be responsible for materials delivered and work performed until completion and Final Acceptance of the entire construction thereof, except those materials and work which may have been accepted under the applicable sections of this article and shall take all necessary steps to protect the Work, from all causes, at his expense.
- 2) The Contractor shall bear the risk of injury, loss or damage to any and all parts of the Work for whatever cause, whether arising from the execution or from the non-execution of the Work, except as provided for in this article. The Contractor shall rebuild, repair or restore work and materials which have been damaged or destroyed from any cause before Completion and Acceptance of the Work and shall bear the expense thereof. The Contractor shall provide security including, but not limited to, security guards, temporary drainage systems and erection of temporary structures and temporary fencing as necessary to protect the Work and materials from damage.
- 3) The Contractor shall be responsible for materials not delivered to the site for which any progress payment has been made to the same extent as if the materials were so delivered.
- 4) The Contractor's responsibility for material shall be the same for Owner-furnished material, upon receipt of said material from the Owner, under this Contract as for Contractor-furnished material.
- 5) Relief from Maintenance and Responsibility: The Contractor may request, in writing, from the Owner, that the Owner relieve the Contractor of the duty of maintaining and protecting certain portions of the Work, as described in this paragraph, which have been completed in all respects in accordance with the requirements of the Contract. Such action by the Owner will relieve the Contractor of responsibility for injury or damage to said completed portions of the Work resulting from use by the Owner or the public for any cause, but not from injury or damage resulting from the Contractor's own operations or negligence. Portions of the Work for which the Contractor may be relieved of the duty of maintenance and protection, as provided in this paragraph, include the following:
 - A. Early possession by the Owner of any portion of the Work, in accordance with the Contract Documents.
 - B. This Paragraph 5 does not relieve the Contractor of responsibility for repairing or replacing defective work or materials in accordance with the Contract requirements
- 6) If it is specifically stated in the Specifications that the Department will furnish materials or equipment to the Contractor for incorporation into the work for which this Contract pertains, the County shall not be liable for any: expenses, losses, damages, claims or demands including but not limited to, all direct costs of Contractor such as labor, material, job

overhead, and profit markup but also includes any costs for modifications or changes in sequence of work to be performed, delays, rescheduling, disruptions, extended direct overhead or general overhead, acceleration, material or other escalation which includes wages, and other impact cost, or inflationary factors, arising out of any late delivery of such materials or equipment caused by any force Majeure. Compliance with delivery schedules by the Department shall be excused when delays are caused by force Majeure, and, if the delay causes the Contractor to exceed the Contract time stipulated for the final completion of the Project, a non-compensable time extension in the Contract time. An extension in this Contract time will be allowed equal to the length of the delay.

K. Emergencies

- 1) In an emergency affecting the safety of life, the work, or adjacent property, the Contractor shall notify the Owner, the Field Representative, or the Architect/Engineer as early as possible that an emergency exists. In the meantime, without special instruction as to the manner of dealing with the emergency, the Contractor shall act at his own discretion to prevent such threatened loss or injury. As emergency work proceeds, the Owner, the Field Representative, or the Architect/Engineer may issue instructions, which the Contractor shall follow. Contractor shall present any claims for compensation for emergency work under this section as claims for Extra Work; however, the Contract shall not be entitled to claim Extra Work for if the Contractor did not cause or contribute to the occurrence of the emergency via its actions or omissions.
- 2) For purposes of this article, an emergency is defined as an act or event that has occurred or may imminently occur and which is not caused by actions or inactions of the Contractor, which, if no immediate action is taken may affect the safety of life, the work, or adjacent property. This article does not apply to steps taken by the Contractor to protect the work, adjacent structures, utilities, existing vegetation, etc. under other sections of the Contract Documents. Furthermore, this article does not apply to preparations the Contractor may make prior to storms or hurricanes or other acts of God.

L. Accident Prevention

- 1) Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - a. All persons on the Site or who may be affected by the Work;
 - b. All the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and other property at the Site or adjacent thereto, including trees, shrubs lawns, walks, pavements, roadways, structures, utilities, and underground facilities not designated for removal, relocation, or replacement in the course of construction.
- 2) Contractor shall comply with all applicable laws and regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss and shall erect and maintain all necessary safeguards for such safety and protection.

- 3) Upon notification from the Owner or its representative(s), the Contractor shall promptly correct any deficiencies affecting the safety and wellbeing of the construction workers and the public that have been identified by the notice.
- 4) Should a situation of imminent danger be identified, work in the affected area must be suspended immediately until the condition has been corrected. Imminent danger is defined as the exposure or vulnerability to harm or risk that is impending or about to occur as defined by the Field Representative or the Architect/Engineer. The Contractor will not be entitled to future claims alleging impacts caused by the Owner stoppage of the Work due to safety reasons.
- 5) When the Contract involves work on a plant, pump station or other site or restricted area, the Contractor shall comply with the Owner's Process Safety Management Plan, or other safety management plan or Operation Directives as may be promulgated by Owner prior to the commencement of the work and shall instruct their personnel as required by that plan.

M. Warranty of Work

- 1) Except where longer periods of warranty are indicated for certain items, the Contractor warrants the Work under the Contract to be free from faulty materials and workmanship for a period of not less than one (1) year from the date of Substantial Completion. This one-year period shall be covered by the Surety Performance Bond as specified in this Contract, except that in the case of defects or failure in a part of the work which the Owner takes possession of prior to Substantial Completion, such a period shall commence on the date the Owner takes possession. Upon receiving notification from the Owner or any public body, to whom the ownership of the Work has been transferred or who has agreed to maintain the Work, the Contractor shall immediately remedy, repair, or replace, without cost to the Owner or other notifying party and to the entire satisfaction of the notifying party, defects, damages, or imperfections due to faulty materials or workmanship appearing in said Work within said period of not less than one year. Remedial work shall carry the same warranty as the original work starting with the date of acceptance of the replacement or repair. Payment to the Contractor will not relieve him of any obligation under the Contract. Notwithstanding, the correction of latent defects shall not be considered as warranty work.
- 2) The Contractor, at no additional expense to the Owner, shall also remedy damage to equipment, the site, or the buildings or the contents thereof, which is the result of any failure or defect in the Work, and restore any Work damaged in fulfilling the requirements of the Contract. Should the Contractor fail to remedy any such failure or defect within ten (10) days after receipt of notice thereof, the Owner will have the right to replace, repair, or otherwise remedy such failure or defect and deduct all costs from the Contractor's pay request or Payment and Performance Bond if final payment has been made.
- 3) The Contractor will correct all latent defects discovered within ten (10) years after Substantial Completion provided that the Owner shall notify the Contractor of each latent defect within the time specified by law and shall provide the Contractor with an opportunity to conduct test as contemplated in Chapter 558, Fla. Stat. The Contractor, without prejudice to the terms of the Contract, shall be liable to the Owner for all damages sustained by the Owner resulting from latent defects, fraud, or such gross mistakes as may amount to fraud, discovered after the stated guarantee and warranty periods have expired. If the Contractor fails to act within ten (10) days, the Owner reserves the right to have the work performed by others at the expense of the Contractor, and the Contractor agrees to pay the Owner the actual cost associated with

procurement, implementation, and management thereof upon demand. The Owner shall also be entitled to reasonable attorney's fees, necessarily incurred upon the Contractor's refusal to pay the above costs.

- 4) Subcontractors', manufacturers' and suppliers' warranties and guaranties, expressed or implied, with respect to any part of the Work and any material used therein shall be deemed obtained and shall be enforced by the Contractor for the benefit of the Owner provided that, if directed by the Owner, the Contractor requires such subcontractors, manufacturers, and suppliers to execute such warranties and guaranties, in writing, directly to the Owner.
- 5) The rights and remedies of the Owner provided in this article are in addition to and do not limit any rights and remedies afforded by the Contract or by law.
- 6) Nothing in the above intends or implies that this warranty shall apply to work that has been abused or neglected by the Owner, its agents or other public body, utility or railroad to which ownership has been transferred.

END OF ARTICLE

8. CONTRACT TIME

A. Notice to Proceed

- 1) The Contract shall be effective 10 days after notice is provided to the Contractor of contract award (“the effective date”) The Contractor shall, immediately after the effective date of the contract: deliver the specified bonds and certificates of insurance to the Owner, if same were not delivered prior to the effective date; apply for all necessary permits; provide a schedule and a schedule of values in accordance with the requirements herein. Contract time shall not begin on the effective date, but instead shall begin upon issuance of a Notice to Proceed. Contractor shall use continuous diligent good faith efforts to provide bonds, insurance, schedules, schedule of values, and to cause the issuance of permits. The failure of Contractor to utilize such continuous diligent good faith efforts shall render the Contractor in default of this Agreement. Alternatively, if the Contractor is unable to obtain all necessary permits within 30 days, through no fault of the Contractor, the Owner has the option, but not the obligation, to terminate the Contract, without fault to the Contractor or the Owner, effective immediately upon written notice by the Owner or give the Contractor additional time to obtain the permits.
- 2) Upon receipt of all required bonds and insurance, issuance of all required permits, and approval by the Owner of the Schedule and the Schedule of values, the Owner may issue a Notice to Proceed. Except as specifically authorized in writing by the Owner, the Contractor is not authorized to perform work (other than obtaining permits) under the Contract until the effective date of the Notice to Proceed, upon which the Contractor shall commence work and shall diligently prosecute the Work to completion within the time limits specified. The Contract time commences on the start date shown on the Notice to Proceed. The Notice to Proceed shall be effective as of the day it is issued by Owner.
- 3) Any Work Performed by the Contractor (other than obtaining permits) prior to Notice-To-Proceed shall be at the Contractor’s own risk and shall not be considered as the basis for any claim.

B. Schedules

- 1) The Contractor shall provide, maintain, and submit monthly updated schedules in strict accordance with the Contract Documents. The Contractor shall at all times maintain an electronic schedule in the critical path methodology (“CPM”) format or in a format as designated in the technical specifications (e.g., Microsoft Project, Primavera, etc). The Special Provisions and Division 01 of the Technical Specifications may contain further specific requirements for the form, content and date of submission of the baseline schedule and all schedule updates. The County shall approve this schedule prior to issuance of Notice to Proceed. The approved schedule shall be the Baseline Construction Schedule.
- 2) The Contractor shall prosecute the Work in accordance with the approved Baseline Construction Schedule or most recently approved revision to the baseline schedule. In the event that progress along the critical path is delayed, the Contractor shall revise his planning to include additional forces, equipment, shifts or hours as necessary to meet the time or times of completion specified in this Contract at no additional cost to the Owner, unless the Contractor has demonstrated it is entitled a compensable time extension pursuant to the terms of this Contract. In addition, the Contractor shall revise his schedule to reflect these recovery actions

and submit it to the Owner for review and acceptance it being understood that such acceptance will be as to the format and composition of the schedule and not the Contractor's means and methods. Additional costs resulting therefrom will be borne by the Contractor. Delayed progress is defined as:

- a. A delay in the start or finish of any activity on the critical path of the approved baseline schedule or most recently approved revision to the baseline such that the last activity in the critical path occurs after the contract time; or
 - b. A delay in the start or finish of any non-critical activity which consumes more than the available float shown on the approved baseline schedule or most recently approved revision to the baseline, thereby making the activity critical and late; or
 - c. A projected completion date shown on a schedule update which is later than the contractual completion date; or
 - d. Any combination of the above.
- 3) Failure of the Contractor to comply with the requirements under this provision will be grounds for determination that the Contractor is not prosecuting the Work with such diligence as will ensure completion within the Contract Time. Upon such determination, the Owner may terminate the Contractor's right to proceed with the Work, or any separate part thereof, in accordance with the Contract Documents. If in the Contractor's estimation, the cause(s) of delay are beyond the Contractor's control, the Contractor shall adhere to the sections of the Contract Documents related to extensions of time, claims and others as appropriate.
- 4) The Contractor shall be responsible for scheduling and coordinating the work of all crafts and trades, subcontractors, and suppliers, required to perform the Work and to complete the Work within the prescribed time. Any inefficiency or loss of productivity in the labor, materials, or special equipment of the Contractor or its subcontractors of any tier, from any cause, shall be the responsibility of the Contractor. No reimbursement of these or any other costs can be requested by or granted to the Contractor or any of its subcontractors of any tier for inefficiency or loss of productivity in labor, materials, or special equipment, except as specified in the paragraph in this article dealing with Liquidated Indirect Costs, for delays in the performance and completion of the Work directly caused by the Owner or its authorized representatives. Other than the exception described above, additional costs may only be paid to the Contractor as a result of additional Work added to the Contract scope of work.

C. Extensions of Time and Classification of Types of Delays

- 1) Once a delay has been identified and it has been established through a Time Impact Analysis that a delay affects the Project's end date or contractually mandated milestone date, the delay must be classified to determine responsibility and to compute damages, if any. Before the Contractor can submit a request for time extension, claim or any request for additional compensation involving or related to time, the Contractor must classify the delay(s) in accordance with the following classifications. These delay classifications shall be used by the Owner and the Contractor in resolving any time-related disputes. Delays fall into three basic categories: non-excusable, excusable, and compensable.
 - a. Non-excusable delays are those delays to the critical path which were foreseeable at the time of contract award or delays caused by the Contractor due to the Contractor's

fault or negligence or his/her own inefficiencies or problems, due to his/her inability to coordinate subcontractors and/or other flaws in his/her planning. In these types of delays, the Contractor is not entitled to extra time or compensation and the Owner may be allowed to assess Liquidated Damages or actual damages, depending on the contract provisions.

- b. Excusable delays are those delays to the critical path beyond the Contractor's control and without the active interference of the Owner, such as extreme weather, force majeure, strikes, and delays caused by third parties (i.e. not the Contractor or the Owner). Contractors are granted a time extension but no additional compensation for the extended time of performance for excusable delays.
- c. Compensable delays are delays to the critical path caused by active interference or participation of the Owner or Owner's consultant. Examples of compensable delays are failure of the Owner to provide right-of-way, introducing late design changes, late review of shop drawings by the Owner or his Architect/Engineer and failure of the Owner to coordinate the work of various prime Contractors. In the case of a compensable delay, the compensation for the extended period of performance shall be the Liquidated Indirect Costs as specified in the Contract Documents. Where a delay is caused by Extra Work, the direct costs of the Extra Work shall be paid for in accordance with Section 9 herein.
- d. Concurrent delays involve two or more delays to the critical path occurring at the same time (irrespective of whether each delay would if analyzed alone, be compensable or non-compensable), either of which had it occurred alone, would have affected the end date of the Project.
- e. The compensability of concurrent delays depends on the types of delays involved. The following shall determine the effects of concurrent delays on time extensions and compensable costs:
 - i. EXCUSABLE DELAY CONCURRENT WITH A NON-EXCUSABLE DELAY. For excusable delays concurrent with non-excusable delays, the Contractor is entitled to a time extension only. For example, it rains the day footings are to be excavated (excusable delay) but the excavation equipment was down for repairs (non-excusable delays).
 - ii. NON-EXCUSABLE DELAY CONCURRENT WITH A COMPENSABLE DELAY. For non-excusable delays concurrent with compensable delays, the Contractor is entitled to a time extension only. For example, if the Owner introduces a design change for a beam but the Contractor has failed to submit the shop drawings for said beam in a timely manner. This would be an example of a non-excusable delay (late shop drawings) concurrent with a compensable delay (Owner introducing design change).
 - iii. EXCUSABLE DELAY CONCURRENT WITH A COMPENSABLE DELAY. For excusable delays concurrent with compensable delays, the Contractor is entitled to a time extension only. For example, the Owner does not provide the necessary right-of-way to begin construction (compensable delay) but the Contractor's forces are on strike (excusable delay).

- 2) Time Extensions: The Contractor may be granted an extension of time and will not be assessed Liquidated Damages for any portion of the delay in completion of the Work, arising from acts of God, acts of the public enemy, fires, floods, epidemics, quarantine restrictions, freight embargoes, strikes, labor disputes, or weather more severe than the norm, provided that the aforesaid causes were not foreseeable and did not result from the fault or negligence of the Contractor, and provided further that the Contractor has taken reasonable precautions to prevent further delays owing to such causes, and has given to the Architect/Engineer immediate verbal notification, with written confirmation within 48 hours, of the start of the delay of: (1) the cause or causes of delay, (2) the schedule activities impacted by the delay, (3) a rough order of magnitude estimate of the duration of the delay, and (4) potential measures to recover the schedule. Within thirty (30) days after the end of the delay, the Contractor shall furnish the Architect/Engineer with detailed information concerning the circumstances of the delay, the actual number of days actually delayed, the appropriate Contract Document references, and the measures taken to prevent or minimize the delay; notwithstanding, where monthly schedule updates are required prior to the end of the delay, that monthly updated schedule shall reflect all delay experienced through the date of the submittal. All requests for extension of time shall be submitted in accordance with the Contract Documents. Failure to submit such information will be sufficient cause for denying the delay claims, irrespective of the Contractor's entitlement to a time extension or liquidated damages. The Owner will ascertain the facts and the extent of the delay, and its findings thereon will be final and conclusive subject to the dispute provisions in the Contract Documents. The extensions of time granted for these reasons shall be considered excusable and shall not be the basis for any additional compensation.
- a. Weather more severe than the norm shall apply only as it affects particular portions of the Work and operations of the Contractor, as determined by the Architect/Engineer. Weather more severe than the norm is defined as any situation exceeding the mean data as recorded by The National Climatic Data Center, Asheville, North Carolina, and published by the National Oceanic and Atmospheric Administration (this data is taken from the table of normal, means, and extremes in the latest version of the "Local Climatological Data, Annual Summary with Comparative Data, Miami, Florida"). For the calculation of delays due to rain, precipitation of 0.01 inches or more a day occurring during normal work hours shall be considered to be a rainy day, if the rain actually prevented the Contractor from performing work. The effects of weather less severe than the norm may be taken into account in granting time extensions at the Owner's sole discretion.
 - b. An extension of time will not be granted for a delay to the critical path caused by a shortage of materials, except Owner-furnished materials, unless the Contractor furnishes to the Architect/Engineer documentary proof that he has diligently made every effort to obtain such materials from every known source within reasonable reach of the Work. The Contractor shall also submit proof, in the form of a CPM network analysis data, that the inability to obtain such materials when originally planned, did in fact cause a delay in final completion of the Work which could not be compensated for by revising the sequence of his operations. Only the physical shortage of material will be considered under these provisions as a

cause for extension of time. No consideration will be given to any claim that material could not be obtained at a reasonable, practical, or economical cost, unless it is shown to the satisfaction of the Architect/Engineer that such material could have been obtained only at exorbitant prices, entirely inconsistent with current rates taking into account the quantities involved and the usual practices in obtaining such quantities.

- 3) Delays Caused by the Owner: If the Contractor's performance of the Work along the critical path is delayed by any condition or action directly caused by the Owner, and which was not foreseeable by the Contractor at the time the Contract was entered into, the Contractor shall, provide notification in accordance with the Contract Documents, of any such delay and of the anticipated results thereof. The Contractor shall cooperate with the Owner and use its best efforts to minimize the impact on the schedule of any such delay. In instances where the Owner causes a delay which is responsible for extending the Contract beyond the completion date, the Contractor may claim Liquidated Indirect Costs as specified in the paragraph in this article dealing with Liquidated Indirect Costs. These delays shall be considered compensable, except for the period in which these delays may be concurrent with Contractor-caused delays. If a delay on the part of the Owner is concurrent, that is, if it occurs at the same time as a Contractor-caused delay, the Owner-caused delay shall be considered an excusable delay for the portion of the Owner-caused delay which is concurrent with the Contractor-caused delay.
- 4) Delays Beyond Contractor's Control Not Caused by the Owner: If Contractor's performance of the Work along the critical path is delayed by any conditions beyond the control and without the fault or negligence of Contractor and not caused by the Owner, and if the Owner determines that the delay was beyond the control and without the fault or negligence of the Contractor and not foreseeable by the Contractor at the time this Contract was entered into, the Owner will determine the duration of the delay based on the documentation provided by Contractor, and may extend the time of performance of this Contract provided; however, that Contractor shall cooperate with the Owner and use its best efforts to minimize the impact on the schedule of any such delay. These delays shall be considered excusable, and the Contractor shall not be entitled to, and hereby expressly waives recovery of, any damages suffered by reason of the delays contemplated by this paragraph and extension of time shall constitute Contractor's sole remedy for such delays.
- 5) In addition to the delays in the Work specified in this section, delays in the Work directly caused by an act or omission by an owner of an adjoining property, or by tenants or permittees on County property, will not be considered an Owner-controlled delay. An owner of an adjoining property is a person, firm, corporation, partnership, or other organization who either owns or occupies, or both, structures, or parcels or both, immediately adjacent to the Work Site. Extension of time for those delays will be considered excusable and shall be treated as specified in this article, provided that:
 - a. The Contractor has, in accordance with this article, given to the Architect/Engineer immediate verbal justification, with written confirmation within 48 hours of the delay; and
 - b. The Contractor establishes, to the satisfaction of the Architect/Engineer, that:
 - i. The delay was caused directly by an act or omission by the owner of the adjoining property; and

ii. The Contractor has taken reasonable precautions and has made substantial effort to minimize the delay.

- 6) A Change Order will be furnished to the Contractor within a reasonable period of time, after approval of a request for extension of time, specifying the number of days allowed, if any, and the new dates for completion of the Work or specified portions of the Work. All requests for time extension shall be in accordance with the Contract Documents. With the exception of time extensions covered under the time contingency allowance in the contract, pursuant to Section 9-3 of the Code of Miami-Dade County. All change orders shall be in full accord with the Contract Documents. The Board of County Commissioners shall not be bound by the recommendation of County Staff with respect to time extensions, and may accept, reject, or modify change orders in its sole discretion.
- 7) Additional requirements for the submittal of time extension requests may be included in the Technical Specifications,

D. Substantial Completion, Final Completion and Final Acceptance

- 1) The following items must be satisfied before Substantial Completion, as defined in the Contract Documents, will be approved:
- a. All Work must be completed to the satisfaction of the appropriate permitting agencies having jurisdiction over the Work. The Contractor must furnish the Owner with a “Temporary Certificate of Occupancy” or a “Certificate of Completion,” as applicable, from the permitting agency unless circumstances arise outside the contract scope that prohibits such certificates from being issued (i.e. utility connections).
 - b. All operational systems which may include but not be limited to electrical systems, security systems, irrigation systems and fire systems, must be completed in accordance with the Contract Documents, tested and approved.
 - c. All plumbing, heating, ventilation, and air conditioning systems must be completed, tested, and approved. Whenever the scope of work includes a facility or building, an HVAC test and balance report must be submitted and approved as a condition precedent to Substantial Completion.
 - d. The punch list may not be so extensive or of a nature that the Contractor’s completion will significantly interfere with the Owner’s beneficial use of the facility.
- 2) When the Contractor believes that all the Work or designated portion thereof required by the contract is substantially completed, the Contractor shall submit to the Field Representative and the Architect/Engineer a request for Substantial Completion inspection. The Contractor, the Field Representative, the Architect/Engineer, sub-consultants, and the Owner shall meet at the Project site for the purpose of making a combined inspection of the Work. During this inspection, any item of work remaining to be done or Work to be corrected shall be noted on a Punch List. If the Field Representative and/or the Architect/Engineer and the Owner indicate on this inspection report that the Work is substantially complete, a Certificate of Substantial Completion will be issued to the Contractor. The Certificate of Substantial Completion shall establish the date of Substantial Completion and shall have attached the Punch List reflecting any items to be completed or corrected, but which do not prevent beneficial use and occupancy, and shall state the date by which the Punch List is to be completed. The completion time for

the Punch List shall not be greater than 60 days from the date of issuance of the Certificate of Substantial Completion.

- 3) If any of the conditions listed in this article are not met and the Work has not been completed, or the Owner determines that the final Punch List cannot be completed within sixty (60) days, a Certificate of Substantial Completion shall not be issued. The Contractor shall continue work, reducing the number of items on the Punch List that were not met. Additional inspections shall be scheduled as necessary until Substantial Completion is declared. However, costs incurred by the Owner for any inspections beyond a second inspection will be charged back to the Contractor.
- 4) In the event the Contractor fails to achieve Substantial Completion within the period specified in the Contract for completion, the Contractor shall be liable for Liquidated Damages and the Owner has, as its option, the right to, after 10 calendar day-notice to the Contractor, to remove such work from the Contract, in which case the value of the work, as measured by the Owners' cost to have such work performed by others, shall be deducted from Contractor's final payment, whether or not the Owner causes such work to be performed. In the event that the Owner chooses to remove such work, there shall not be any further non-excusable delays charged to the Contractor beyond the 10 days following notice to the Contractor. However, the Contractor shall not be relieved of any non-excusable delays incurred through the date of termination. The Punch List and the Contract shall remain open until all the Work is complete and accepted. The current retainage will be used to offset any Liquidated Damages and any back charges, after which, any surplus retainage will be released to the Contractor. If the retainage is insufficient to cover the Liquidated Damages and any back charge, the Owner will bill the Contractor for the balance and the Contractor shall promptly remit to the Owner an amount equal to the billing.
- 5) Final Completion: When the Owner or Architect/Engineer considers all Work indicated on the Punch List to be complete, the Contractor shall submit written certification that:
 - a. Work has been inspected for the compliance with the Contract Documents.
 - b. Work has been completed in accordance with the Contract Documents, and that deficiencies listed within the Certificate of Substantial Completion and its attachments have been corrected.
 - c. Work is completed and ready for Final Inspection.
- 6) Should the Owner and/or Architect/Engineer inspection find that Work is incomplete, he will promptly notify the Contractor in writing listing all observed deficiencies. The Contractor shall be responsible for all Direct and Indirect Costs to the County resulting from the Contractor's failure to complete the Punch List items within the time allowed for completion.
- 7) The Contractor shall remedy deficiencies and send a second certification. Another inspection will be made that shall constitute the final inspection. Provided that work has been satisfactorily completed, the Architect/Engineer will notify the Contractor in writing of Final Acceptance as of the date of this final inspection.
- 8) Prior to Final Acceptance, the Contractor shall deliver to the Field Representative complete As-Built drawings, all approved Shop Drawings, maintenance manuals, pamphlets, charts, parts lists and specified spare parts, operating instructions and other necessary documents required

for all installed materials, equipment, or machinery, all applicable warranties and guarantees, and the appropriate Certificate of Occupancy.

- 9) Upon notification of Final Acceptance to the Contractor, the Architect/Engineer will request and consider closeout submittals from the Contractor including but not limited to the final Contractor's Affidavit and Release of All Claims.
- 10) The Contractor, without prejudice to the terms of the Contract, shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty or guaranty.
- 11) Re-Inspection Fees: Should the status of completion of the Work require re-inspection of the Work by the Owner and the Architect/Engineer due to failure of the Work to comply with the Contractor's representations regarding the completion of the Work, the Owner will deduct from the final payment to the Contractor, fees and costs associated with re-inspection services in addition to scheduled Liquidated Damages.

E. Use and Possession

The Owner shall have the right to occupy, take possession of or use any completed or partially completed portions of the Work. Such possession or use will not be deemed an acceptance of work not completed in accordance with the Contract. While the Owner is in such possession, the Contractor, notwithstanding the provisions of the Contract Documents, will be relieved of the responsibility for loss or damage to those portions of the Work occupied by Owner, excepting those resulting from the Contractor's fault or negligence or breach of warranty. The Contractor shall be responsible for maintenance of all equipment in these areas until these responsibilities are turned over to the County in writing. If such prior possession or use by the Owner delays the progress of the Work or causes additional expense to the Contractor, a Contract change in the Contract price, or the time of completion will be made, and the Contract will be modified in writing accordingly.

F. Liquidated Damages and Liquidated Indirect Costs

- 1) The parties to the Contract agree that time, in the completion of the Work, is of the essence. The Owner 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 Liquidated Damages on a daily basis for each Day that individual milestones, both interim and cumulative as specified in the Contract Documents, are not timely achieved or that Contract Time is exceeded due to a non-excusable delay. These Liquidated Damages shall be assessed, not as a penalty, but as compensation to the Owner for expenses which are difficult to quantify with any certainty and which were incurred by the Owner due to the delay. The amount of Liquidated Damages assessed shall be an amount, as stipulated in the Contract Documents, 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.
- 2) The Owner and the Contractor recognize and agree that the precise amount of the Contractor's Indirect Costs 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, Liquidated Indirect Costs recoverable by the Contractor, shall be assessed on a daily basis for each Day the Contract Time is delayed due to compensable delay.

These Liquidated Indirect Costs shall be paid to the Contractor in full satisfaction of all costs and damages caused by compensable excusable delays, except for Direct Costs. There shall be no Liquidated Indirect Costs payable for time directly related to Extra Work for which a Change Order has been issued.

- 3) The amount of Liquidated Indirect Costs recoverable shall be an amount, as stipulated in the Contract Documents per day for each day the Contract is delayed due to compensable excusable delay. Unless otherwise specified in the Contract, for lump sum contracts, the daily amount of Liquidated Indirect Costs will be calculated by dividing the total amount in the Contractor's approved Schedule of Values for General Requirements by the Contract duration (in days) after deducting any general conditions costs directly paid by the Owner during the execution of the Project. The amount of the Liquidated Indirect Costs calculated in accordance with this formula shall be stated in the Notice-to-Proceed. For unit price contracts, the daily amount of Liquidated Indirect Costs will be calculated as defined in the formula below:

$$\frac{(\text{Amount of Bid} \times 8\%) \text{ less any General Requirements items paid independently/individually}}{\text{Original Contract Duration (In Days)}}$$

- 4) 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 Owner for any actual damages which the Owner may sustain as a result of such failure on the part of the Contractor. The Owner reserves the right to retain these amounts from monies due the Contractor.
- 5) Nothing in this article shall be construed as limiting the right of the Owner to terminate the Contract and/or to require the Surety to complete said Project and/or to claim damages for the failure of the Contractor to abide by each and every one of the terms of this Contract as set forth and provided for in the Contract Documents.
- 6) Consequential Damages: This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination. Nothing contained in this Section shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. Notwithstanding anything whatsoever contained in this Agreement to the contrary, the Parties expressly agree that no Party to this Agreement shall be liable to any other Party or Parties to this Agreement for any special, consequential, or exemplary damages of any kind whatsoever, whether arising in contract, warranty, tort (including but not limited to negligence), strict liability, or otherwise, including without limitation losses of use, profits, business reputation and financing.

END OF ARTICLE

9. PROGRESS PAYMENTS

A. Payments

- 1) The Contractor shall receive and accept compensation provided for in the Contract as full payment for furnishing all materials, for performing all work under the Contract in a complete and acceptable manner, and for all risk, loss, damage, or expense of whatever character arising out of the nature of the work or the prosecution thereof.
- 2) The Owner will make progress payments monthly as the work proceeds. Prior to issuance of the Notice to Proceed, unless the Special Provisions provide for the payment to be determined by using a cost-loaded CPM, the Contractor shall, furnish a Schedule of Values for review and approval by the Owner consisting of a detailed cost breakdown of each lump sum bid item in the Bid Form in such detail as the Architect/Engineer shall request, showing the amount included therein for each principal category of the work, to provide the basis for determining the amount of progress payments. Unit price bid items shall be paid for in accordance with the Bid Form. The Schedule of Values shall clearly indicate the amount to be paid by the Contractor to each individual subcontractor. Notice to Proceed shall not be issued, and the Contractor cannot submit monthly invoices, without an approved Schedule of Values.
- 3) In making such progress payments, a maximum of 5 percent of the estimated amount shall be retained from each progress payment made to the Contractor until 50 percent Completion of the work has been established. 50 percent completion is defined as the point in time when at least 50 percent of the Work under contract has been physically and satisfactorily completed in accordance with the intent of the Contract Documents as determined by the Architect/Engineer. At this point, the retainage amount withheld from each subsequent progress payment may be reduced, at the discretion of the Owner, provided the Owner finds that satisfactory progress is being made. Also, whenever the Work is Substantially Complete, the Owner, if it considers the amount retained to be in excess of the amount adequate for its protection, may release to the Contractor all or a portion of such excess amount.
- 4) Material and work covered by progress payments shall become the sole property of the Owner. This provision shall not be construed as relieving the Contractor from the sole responsibility for material and work upon which payments have been made, the restoration of damaged work or as waiving the right of the Owner to require the fulfillment of the terms of the Contract.
- 5) Progress payments will be made in accordance with the Miami-Dade County Code, Florida Statute, s. 218.70 Florida Prompt Payment Act, and Florida Statute, s. 218.735.
 - a. The Contractor's attention is directed to Florida Statute, s. 218.735, revising provisions regarding timely payment, revising deadlines for the payment of contractors, subcontractors, sub-subcontractors, materialmen and suppliers. The contractor shall remit payment due to subcontractors within 10 days after the contractors' receipt of payment. The subcontractor shall remit payment due to sub-subcontractors and suppliers within seven (7) days after the subcontractors' receipt of payment. Dispute resolution is provided within the Statute.
 - b. The Contractor's attention is further directed to Miami Dade County Code Section 10-33.02, Section 2-8.1.4 , Section 2-8.1.1.1.1 and Section 2-8.1.1.1.2 , providing for prompt payments of fourteen (14) days upon receipt of an approved invoice are made

to prime contractor certified as Miami Dade County certified small businesses or prime contracts with Miami Dade County certified small businesses are participating as subcontractors by County agencies and the Public Health Trust; creating dispute resolution procedures for payment of County and Public Health Trust obligations; and requiring the prime Contractor to issue prompt payments within two (2) days upon receipt of payment from the owner, and have the same dispute resolution procedures as the County, for all small business subcontractors. Failure of the Contractor to issue prompt payment to small businesses, or to adhere to its dispute resolution procedures, may be cause for suspension, termination, and debarment, in accordance with the terms of the County contract or Public Health Trust contract and debarment procedures of the County.

- 6) No progress payments will knowingly be made for work not in accordance with this Contract, but payment of a requisition shall not constitute acceptance of non-conforming work or otherwise constitute a waiver of any of the Owner's rights under the Contract
- 7) Applications for progress payments shall be in the format as prescribed by the Owner. These applications shall be supported by evidence, which is required by this article. Each application for payment shall clearly indicate the amount to be paid to the Contractor as well as the amount to be paid to each of the Contractor's subcontractors and suppliers, based on work installed and approved at the time of the application. The Contractor shall certify, pursuant to the Miami-Dade County False Claims Ordinance, that the work for which payment is requested has been done and that the materials listed are stored where indicated. Those items on the progress payment application that, in accordance with the applicable sections of the Contract Documents, compensate for Force Account Work, for materials not yet incorporated in the work, or for work under change orders negotiated on a cost-reimbursable basis will, under procedures of the Owner, be subject to the Owner's audit review of the Contractor's records supporting the payment application. Audits will be performed so as not to interfere with timely processing of applications for payment. If audit indicates the Contractor has been overpaid under a previous payment application, that overpayment will be credited against current progress payment applications. For a period of five years from Final Acceptance of the Contract, the Contractor shall maintain and make available for audit inspection and copying by the Owner, State and the Government and their authorized representatives, all records subject to audit review.
- 8) The Owner, at its discretion, may authorize payment for materials not yet incorporated into the Work, whether or not delivered to the Work Site. The value of materials on hand but not incorporated into the Work will be determined by the Field Representative, based on actual invoice costs to the Contractor, and such value will be included in a monthly application for payment only if the materials have been properly stored on the Site, provided that such materials meet the requirements of the Contract Documents, and are delivered to acceptable locations on Site or in bonded warehouses that are acceptable to the Owner; materials paid for in this manner shall be kept segregated from other materials purchased by Contractor and shall not be used for other projects undertaken by Contractor. Such delivered costs of stored or stockpiled materials may be included in the next application for payment after the following conditions are met:
 - a. The material has been stored and stockpiled in a manner acceptable to the Field Representative at or on the Work site or in a secure storage facility within Miami-Dade County or other location as approved by the Architect/Engineer. If such

materials are stored outside Miami-Dade County, the Contractor shall accept responsibility for and pay all personal and property taxes that may be levied against the Owner by any state or subdivision thereof on account of such storage of such material. The Owner will permit the Contractor, at his own expense, to contest the validity of any such tax levied against the Owner and in the event of any judgment or decree of a court against the Owner, the Contractor agrees to pay same.

- b. The Contractor has furnished the Field Representative with acceptable evidence of the quantity and quality of such stored or stockpiled materials.
- c. The Contractor has furnished the Field Representative with satisfactory evidence that the materials and transportation costs have been paid including but not limited to certified bills of sale for such materials and insurance certificates or other instruments, in writing, and in a form as required by the Owner. The Architect/Engineer may allow only such portion of the amount represented by these bills as, in his opinion, is consistent with the reasonable cost of such materials.
- d. The Contractor has furnished the Owner legal title (free of debts, claims, liens, mortgages, taxes, or encumbrances of any kind) to the material so stored and stockpiled and subject only to the Owner's payment for the materials as reflected in the application for payment. All such materials so accepted shall become the property of the Owner. The Contractor at his own expense shall mark such material as the property of the Owner and shall take such other steps, if any, the Owner may require or regard as necessary to vest title in the Owner to such material.
- e. The Contractor has furnished the Owner evidence that the material so stored or stockpiled is insured against loss by damage to or disappearance of such materials at any time prior to use in the work. The cost of the material included in an application for payment which may subsequently become lost, damaged, or unsatisfactory shall be deducted from succeeding applications for payment irrespective of the cause and whether or not due to the negligence, carelessness or fault of the Owner.
- f. It is understood and agreed that the transfer of title and the Owner's payment for such stored or stockpiled materials shall in no way relieve the Contractor of its responsibility for furnishing and placing such materials in accordance with the requirements of the Contract Documents and does not waive Owner's right to reject defective material when it is delivered to the Site until such material is delivered to the Site and satisfactorily incorporated into the work.
- g. In no case will the amount in an application for payment for material on hand exceed the Contract price for such material, the Contract price for the Contract item in which the material is intended to be used or the value for such material established in the approved Schedule of Values. Payment for material furnished and delivered as indicated above will be based on 100 percent of the cost to the Contractor and retention will be withheld as specified in the Contract Documents. In any event, partial payments for materials on hand will not exceed 70 percent of the item's Bid Price, including taxes and shipping, or the agreed amount within the Schedule of Values.

- h. No partial payment will be made for stored or stockpiled living or perishable plant materials.
 - i. The Contractor shall bear all costs associated with the partial payment of stored or stockpiled materials in accordance with the provisions of this Article.
 - j. Materials may be subject to being purchased by the Owner directly under the County's "Direct Material Purchase Program" and installed by the Contractor, as applicable, in accordance with the Special Provisions.
- 9) Payment of the Contract lump sum price for General Requirements, if applicable, will be made in the following manner:
- a. The General Requirements Lump Sum amount, including cost for bonds and insurance, shall be paid in proportion to the total percent of completion. The Owner will consider requests for payment for bonds and insurance under the General Requirements after receipt of certified invoices from the Contractor showing that the Contractor has paid them.
 - b. The Owner reserves its right to withhold payment for General Requirements, in whole or in part, at the Owner's sole discretion, in accordance with Paragraph 11 below.
- 10) If any claim is filed against the project for labor, materials, supplies or equipment which the Owner has determined to have been incorporated on the site and the Contractor has not paid for, the Owner will have the right to retain from payments otherwise due the Contractor, in addition to other amounts properly withheld under this article or under other provisions of the Contract, an amount equal to such amounts claimed.
- 11) In addition to the provisions of this article and other relevant sections of the Contract Documents, payment may also be withheld proportionately for the following reasons:
- a. Reasonable doubt that the Work can be completed for the unpaid balance of the Contract Sum,
 - b. Reasonable indication that the Work will not be completed within the Contract Time,
 - c. Damage to another Contractor,
 - d. Unsatisfactory prosecution of the Work by the Contractor,
 - e. Failure of the Contractor, or his subcontractors, to pay wage rates, when applicable as required by the Contract.
 - f. In the event the Surety on the Performance and Payment Bond provided by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has its right to do business in the State of Florida suspended or revoked as provided by law. In this case, payment will continue when the Contractor provides a good and sufficient Bond(s) as required by the Contract Documents, in lieu of the Bond(s) so executed by such Surety.
 - g. If any work or material is discovered which, in the opinion of either the Architect/Engineer or the Field Representative, is defective, or should a reasonable

doubt arise on the part of either the Architect/Engineer or the Field Representative as to the integrity of any part of the work completed previous to the final acceptance and payment. In this case, there will be deducted from the first application for payment subsequent to the discovery of such work, an amount equal in value to the defective or questioned work, and this work will not be included in any subsequent applications for payment until the defects have been remedied or the causes for doubt removed.

- 12) Failure to comply with the insurance requirements listed in the Contract Documents may result in the Owner's withholding or delaying payment to the Contractor.
- 13) In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.

B. Taxes

- 1) Except as may be otherwise provided for in the Contract Documents, the price or prices bid for the Work shall include full compensation for all federal, state, local and foreign taxes, fees and duties that the Contractor is or may be required to pay and the Contractor shall be responsible for the payment thereof during the prosecution of the work.
- 2) The Contractor's attention is directed to the fact that materials and supplies necessary for the completion of this Contract are subject to the Florida Sales and Use Tax, in accordance with Section 212.08, Florida Statutes, as amended. The Contractor shall not collect taxes upon making delivery to the Owner.
- 3) The Owner, at its sole discretion, upon request of the Contractor and where appropriate, may furnish to the Contractor appropriate evidence to establish exemption from any taxes, fees or duties which may be applicable to the agreement and from which the Owner is exempt.

C. Tax Exempt Owner Purchase Materials

The owner may incorporate specifications for tax exempt owner purchase in all covered contracts. A tax-exempt owner purchase is one made directly by the County which is intended to be tax exempt in accordance with Section 212.08(6) of the Florida Statutes and Rule 12A-1.094 of the Florida Administrative Code, as the same may be amended. A covered contract is a contract for the construction, improvement or rehabilitation of property which is estimated to exceed ten million dollars (\$10,000,000.00) in cost.

The contractor must include Florida State Sales Tax and other applicable taxes in his bid for materials, supplies, and equipment. The owner, being exempt from sales tax, reserves the right to make direct purchases of various construction equipment, materials or supplies included in the Contractor's bid and/or contract, substantially in accordance with the contract.

OWNER DIRECT PURCHASE PROCEDURES

- A) Contractor shall provide Owner's Representative a list of all intended suppliers, vendors, and materialmen for consideration as Owner Direct Purchased materials. This list shall be submitted at the same time as the preliminary schedule of values and the Project schedule. The Contractor shall submit a description of the materials to be supplied, estimated quantities and prices.
- B) Upon request from Owner, and in a timely manner, Contractor shall submit the attached Purchase Order Requisition Form to the Owner's Representative, to specifically identify the materials which Owner has, at its sole option, elected to purchase directly. On the Purchase Order Requisition Form, the Contractor will provide the Owner the required quantities of material at the price established in the vendor's quote to the Contractor, less any sales tax associated with such price.
- C) Such Purchase Order Requisition Forms are to be submitted to Owner's designated representative no less than two (2) weeks prior to the need for ordering such Owner Direct Purchased Materials, in order to provide sufficient time for Owner review and approval and to assure that such Directly Purchased Materials may be directly purchased by Owner and delivered to the Project site so as to avoid any delay to the Project.
- D) After receipt of the Purchase Order Requisition Form, Owner shall prepare its Purchase Order for equipment, materials or supplies which the Owner chooses to purchase directly. Promptly, within two (2) business days of receipt of each Purchase Order, the Contractor shall verify the terms and conditions of the Purchase Order prior to its issuance to supplier and in a manner to assure proper and timely delivery of items. After such verification by the Contractor, The Owner shall issue the Purchase Order to the supplier or vendor. The Purchase Order shall require that the supplier provide the required shipping and handling insurance. The Purchase Order shall also require the delivery of the Owner Direct Purchased Materials on the delivery dated provided by the Contractor in the Purchase Order Requisition Form and shall indicate F.O.B. jobsite. The Owner's Purchase Order shall also provide that the supplier shall invoice the Owner directly for the items purchased and not the Contractor. Owner shall immediately provide Contractor with copies of such invoices it receives. The Owner's Purchase Orders shall contain or be accompanied by the Owner's exemption certificate and must include the Owner's name, address, and exemption number with issue and expiration date shown. The Owner shall issue each supplier or vendor a Certificate of Entitlement on the Certificate of Entitlement Form attached hereto with each Purchase Order.
- E) All shop drawings and submittals shall be made by the Contractor in accordance with the Project Specifications.
- F) Contractor shall be fully responsible for all matters relating to the receipt of materials in accordance with these Procedures, including, but not limited to, verifying correct

quantities, verifying documentation of orders in a timely manner, coordinating purchases, providing and obtaining all warranties and guarantees in favor of and for the benefit of the Owner required by the Contract Documents, inspection and acceptance of the goods at the time of delivery. At the time of, and subsequent to, the delivery of such materials, the Owner shall be liable for all loss or damage to equipment and materials purchased pursuant to the Purchase Order. The Contractor shall coordinate delivery schedules, sequence of delivery, loading orientation, and other arrangements normally required by the Contractor for the particular materials furnished. The Contractor shall provide all services required for the unloading, handling and storage of materials through installation. The Contractor agrees to indemnify and hold harmless the Owner from any and all claims of whatever nature resulting from non-payment of goods to suppliers arising from the actions or directions of Contractor. Notwithstanding the foregoing, the Owner shall be responsible for payment of the invoices issued by the supplier or vendor pursuant to the procedures in Paragraph G below.

- G) As Owner Direct Purchased Materials are delivered to the jobsite, the Contractor and the Owner's Representative, shall visually inspect all shipments from the suppliers, and approve the vendor's invoice issued to the Owner for material delivered. The Contractor shall assure that each delivery of Owner Direct Purchased Material is accompanied by documentation adequate to identify the Purchase Order against which the purchase is made. This documentation may consist of a delivery ticket and an invoice from the supplier delivered to the Owner (and provided to Contractor) conforming to the Purchase Order, together with such additional information as the Owner or Contractor may require. The Contractor shall verify in writing to the Owner's Representative that the Materials were received in order for the Owner to agree to approve the invoice for payment of the invoice issued. The Owner shall have the right to assign Owner personnel to verify and audit the accuracy of all Direct Purchase documents.
- H) The Contractor shall insure that Owner Direct Purchase materials conform to the Specifications, and determine prior to incorporation into the Work if such materials are patently defective, and whether such materials are identical to the materials ordered and match the description on the bill of lading. If the Contractor discovers defective or nonconformity's in the Owner Direct Purchased Material upon such visual inspection, the Contractor shall not utilize such nonconforming or defective materials in the Work and instead shall promptly notify the Vendor of the defective or non-conforming condition in order to pursue repair or replacement of those materials without any undue delay or interruption to the Project. Additionally the Contractor shall notify the Owner of such occurrence. If the Contractor fails to perform such inspection and otherwise incorporates Owner Direct Purchased materials, the condition of which it either knew or should have known by performance of an inspection, Contractor shall be responsible for all damages to Owner resulting from Contractor's incorporation of such materials into the Project, including liquidated or delay damages. In the event that materials furnished are found to be defective or nonconforming, the Contractor shall promptly take action to remedy the defect or nonconformance so as not to delay the work.
- I) The Contractor shall be responsible for obtaining and managing all warranties and guarantees in favor of and for the benefit of the Owner for all materials and products as

required by the Contract Documents. All repairs, maintenance or damage repair calls shall be forwarded to the Contractor for resolution with the appropriate supplier or vendor.

- J) The transfer of possession of Owner Direct Purchased Materials from the Owner to the Contractor shall constitute a bailment for mutual benefit of the Owner and the Contractor. The Owner shall be considered the bailor and the Contractor the bailee of the Owner Direct Purchased materials. Owner Direct Purchased Materials shall be considered returned to the Owner for purposes of its bailment at such time as they are incorporated into the Project or consumed in the process of completing the Project. Bailee shall have the duty to safeguard, store and protect all Owner Direct Purchased Materials.
- K) The Contractor shall maintain insurance in favor of and for the benefit of the Owner pursuant to the requirements set forth in the Owner and Contractor Agreement which shall be sufficient to protect against any loss of or damage to Owner Direct Purchased equipment, materials or supplies. Such insurance shall cover the value of any Owner Direct Purchased Materials not yet incorporated into the Project from the time the Owner first takes title which shall be at the time of delivery and acceptance of the materials by the Contractor as provided in Paragraph F above.
- L) On a monthly basis, Contractor shall be required to review invoices submitted by all suppliers of Owner Direct Purchased Materials delivered to the Project site during that month and either concur or object to the Owner's issuance of payment to the supplier, based upon Contractor's records of materials delivered to the site and any defects in such materials.
- M) In order to arrange for the prompt payment to the supplier, the Contractor shall provide to the Owner, a list indicating the acceptance of the goods or materials in accordance with the established monthly Payment Request Schedule. The list shall include a copy of the applicable Purchase Order, invoices, delivery tickets, written acceptance of the delivered items, and such other documentation as may be reasonably required by the Owner. Upon receipt and verification of the appropriate documentation, the Owner shall prepare a payment to the supplier based upon the receipt of data provided. This payment will be released, delivered and remitted directly to the supplier by the Owner. The Contractor agrees to assist the Owner to immediately obtain partial or final release of lien waivers as appropriate.
- N) Salvage materials shall be the property of the Owner and stored or removed from the site by the Contractor at the Owner's discretion.
- O) From the time of delivery and acceptance, the Owner shall have and retain title to any and all Owner Direct Purchased materials.

- P) Upon completion of the project, the Contractor shall execute and deliver to the Owner, one or more deductive Change Orders, referencing the full value of all Owner Direct Purchased materials purchased directly, plus all sales tax savings associated with such materials in Contractor's bid to Owner's Representative.

D. Payments to Subcontractors and Suppliers

- 1) The Contractor shall pay all subcontractors for and on account of work performed by such subcontractors in accordance with the terms of their respective subcontracts and in accordance with Miami-Dade County Code Section 10-33.02 and Florida Statute s. 218.735.
- 2) Before the Contractor can receive any payment, except the first payment, for monies due him as a result of a percentage of the work completed, he must provide the Architect/Engineer with duly executed release of claim from all subcontractors and suppliers who have performed any work or supplied any material on the project as of the date, stating that said subcontractors or suppliers have been paid their proportionate share of all previous payments. In the event such affidavits cannot be furnished, the Contractor may, at the Owner's sole discretion after the Contractor demonstrates justifiable reasons, submit an executed Consent of Surety to Requisition using the form provided in the Contract Documents identifying the subcontractors and the amounts for which the Statement of Satisfaction cannot be furnished.
- 3) The Contractor's failure to provide a Consent of Surety to Requisition Payment will result in the amount in dispute being withheld until (1) the Statement of Satisfaction is furnished, or (2) Consent of Surety to Requisition Payment is furnished. The subcontractor(s) shall submit with each monthly invoice the Certified Payroll forms for all employees on the job in accordance with applicable Provisions. Failure to provide this information will cause the Architect/Engineer to return the invoice to the Contractor until such time as the Contractor properly submits the information.

E. Contract Prices - Bid Form

Payment for the various Bid Items listed in the Bid Form shall constitute full compensation for furnishing plant, labor, equipment, appliances, and materials and for performing operations required to complete the Work in conformity with the Contract Documents. All costs for work shown or indicated by the Contract Documents, although not specifically provided for by a Bid Item in the Bid Form, shall be included in the most appropriate Bid Item price for the items listed. Except for the relief provided by the applicable section of the Contract Documents governing Differing Site Conditions, the Contractor will not be entitled to additional compensation for providing an activity or material necessary for the completion of the Work in accordance with the Contract even though the activity or material is not included in a specific Bid Item or indicated in the Contract Documents.

F. Final Payment

- 1) After the Work has been accepted by the Owner, subject to the provisions of the Contract Documents, a final payment will be made as follows:
 - a. Prior to Final Acceptance of the Work, the Contractor shall prepare and submit a proposed final application for payment to the Architect/Engineer showing the proposed total amount due the Contractor, segregated as to Bid Item quantities, force

account work, and other bases for payments; deductions made or to be made for prior payment; amounts to be retained; any claims the Contractor intends to file at that time or a statement that no claims will be filed; and any unsettled claims, stating amounts. Prior applications and payments shall be subject to correction in the proposed final application for payment. Claims filed with the final application for payment must be otherwise timely under these General Conditions.

- b. The Owner will review the Contractor's proposed final application for payment and necessary changes, or corrections will be forwarded to the Contractor. Within 10 days thereafter, the Contractor shall submit a final application for payment incorporating changes or corrections made by the Architect/Engineer together with additional claims resulting therefrom. Upon approval by the Owner, the corrected proposed final application for payment will become the approved final application for payment.
 - c. If the Contractor files no claims with the final application for payment and no claims remain unsettled within 30 days after final inspection of the Work by the Architect/Engineer and the Owner, and agreements are reached on all questions regarding the final application for payment, the Owner, in exchange for an executed release of all claims and properly executed close-out documents specified in Paragraph 3 below, will pay the entire sum found due on the approved final application for payment.
 - d. Upon final determination of any and all claims, the Owner, in exchange for properly executed close-out documents specified in Paragraph 3 below, will pay the entire sum found due on the approved final application for payment, including the amount, if any, allowed on claims.
 - e. The release from the Contractor will be from any claims arising from the Work under the Contract. If the Contractor's claim to amounts payable under the Contract has been authorized by the Owner for assignment pursuant to the relevant sections of the Contract Documents, a release may be required from the assignee.
 - f. Final payment will be made within 30 days after approval of the final notice and resolution of Contractor's claims, or 30 days after Final Acceptance of the Work by the Owner, whichever is later. If a final application for payment has not been approved within 30 days after final inspection of the Work, the Owner shall make payment of sums not in dispute without prejudice to the rights of either the Owner or the Contractor in connection with any disputed items.
 - g. Prior to payment of a claim settlement, the claim may be audited by the Owner and may be subject to approval by the funding agencies.
 - h. Final payment made in accordance with this article will be conclusive and binding against both parties to the Contract on all questions relating to the amount of work done and the compensation paid.
- 2) With the final application for payment, the Contractor shall return and submit final releases of claim from himself, from each subcontractor of record and from other subcontractors or material suppliers who may have notified the Owner that they were furnishing labor or materials for this project. These releases from subcontractors and suppliers shall be final, originals, notarized

and executed on the form provided by the Owner and included in the Contract Documents, all in accordance with all applicable Florida Statutes. In addition, the Contractor shall execute and return to the Owner all the enclosed close-out documents. In the event that all of the above releases cannot be furnished, the Contractor may, at the Owner's sole discretion after the Contractor demonstrates justifiable reasons, submit a Consent of Surety to Final Payment in a form acceptable to the Owner, recognizing lack of such releases of claim. Furthermore, the Contractor and the Surety shall agree in writing, in a form acceptable to the Owner, to indemnify, defend and hold harmless the Owner from any claims of subcontractors and suppliers who refuse to execute final releases.

3) The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:

- a. Faulty or defective Work appearing after Final Completion;
- b. Failure of the Work to comply with the requirements of the Contract Documents, discovered after Final Completion;
- c. The performance of audits to seek reimbursement of any overpayments discovered as a result of an audit as provided in the Contract Documents;
- d. The enforcement of those provisions of the Contract Documents which specifically provide that they survive the completion of the Work;
- e. The enforcement of the terms of the Payment and Performance Bonds against the Surety;
- f. Terms of all warranties/guarantees required by the Contract Documents.

4) The acceptance of final payment shall constitute a waiver of all claims by the Contractor.

5) Escalation of Bid Items

Q) A dedicated allowance account has been established in this contract for escalation of contractor Unit Prices. The funds in the dedicated allowance account may not be used for any purpose other than escalation of Unit Prices as provided for below. Funds in the dedicated allowance account are the property of the Owner, and any unused funds at the end of the Contract shall remain property of the Owner. The Contractor expressly agrees that it is solely responsible for all cost escalations which exceed the value of the dedicated allowance account. Payment shall be made in a lump sum, based on escalation occurring in the preceding 365 days, as outlined below.

R) The Contractor shall be entitled to escalation of its Unit Prices 365 days after award of the contract, and every 365 days thereafter.

S) The Contractor shall utilize the most recent statistical data available as published by the Bureau of Labor Statistics.

T) The formula for the alteration of the Unit Prices shall be the percentage change for the previous 12 months with a not-to-exceed percentage change of five percent (5%) for each bid item. Should the Bureau of Labor Statistics make a major CPI revision, such as a change to the applicable CPI base period, it remains that the Unit Prices shall be altered utilizing the percentage change of the most recent 12 months as published within the

changed CPI. The percentage change in Unit Prices shall be computed similar to the following example:

CPI for the most recent month 135.8
Less CPI for the month 12 months previous 129.9
Equals the index point change 5.9
Divided by previous period CPI. 129.9
Equals 0.0454
The result is multiplied by 100 0.0454 x 100
Which equals the percentage change multiplier 4.54

The percentage multiplier shall be rounded to two decimal places using the 5/4 rounding method, e.g., if the 3rd digit to the right of the decimal is a 5 through 9, then the 2nd digit to the right of the decimal is rounded up one value; or if the 3rd digit to the right of the decimal is 0 through 4, then the 2nd digit to the right of the decimal remains as is.

- E) Following each escalation period, the Contractor shall submit a request for escalation during the prior 365 days. The Owner shall, upon receipt of a proper request submitted in accordance with the provisions of these General Conditions, issue a work order for a lump sum amount representing the cost of escalation for all Unit Price items accepted and paid by the Owner during the preceding 365 days (Unit Price work accepted and paid multiplied times the percentage change multiplier). The Contractor shall at all times throughout the contract submit monthly invoices based on the Unit Prices contained in the bid, and shall not submit monthly invoices based on escalated pricing. Escalation Unit Prices shall only be paid retroactively and in a lump sum. Where the Dedicated Allowance Account is insufficient to pay for Escalated Unit Prices, the Owner shall pay the Contractor to the remaining value in the Dedicated Allowance Account and Owner shall have no further liability for escalated costs.

In the event that base contract work is not broken out into Unit Prices (i.e., for projects which were bid on a lump sum basis) escalation shall apply to the costs of such project as broken out in the approved Schedule of Values as if such costs were Unit Prices.

END OF ARTICLE

10. CHANGES

A. Changes

NOTE: “OVERHEAD” AS USED IN THIS SECTION IS DEFINED IN SECTION 1 DEFINITIONS - PAGE 8

- 1) The Owner reserves the right to, at any time, without notice to the sureties and without invalidating the Contract, by written notice or order designated as a Change Notice or Change Order, make any change in the Work within the general scope of the Contract including but not limited to changes:
 - a. In the Contract Documents;
 - b. In the method or manner of performance of the Work;
 - c. In Owner-furnished facilities, equipment, materials, services, or site or;
 - d. Directing acceleration in performance of the Work.

The Owner may authorize, via Allowance Account Work Order, Extra Work which does not change any provision of the General Covenants and Conditions or the Contract Documents, if the value of such work is less than the value remaining in the applicable Allowance Account and/or Time Contingency Account.

- 2) In the event the Owner exercises its right to change, delete or add work under the Contract, such work will be ordered and paid for as provided for in the Contract Documents.
- 3) Changes in the work may be initiated by the issuance of a Change Notice by the Architect/Engineer. The Contractor shall submit a proposal to the Architect/Engineer and the Owner for their review, in accordance with the Contract Documents, within five days after receipt of a Change Notice. The Contractor shall maintain this proposal, for acceptance by the Owner, for a minimum of 90 calendar days after submittal. The cost or credit to the Owner for any change in the work shall be determined in accordance with the provisions of the Contract Documents. The Contractor shall not be compensated for effort expended in preparing and submitting price quotes.
- 4) In the event the Contractor fails to provide the full cost and time estimate for the change work or refuses to execute a full accord Change Order, the Owner will, at its sole discretion, 1) determine the total cost and time impacts of the change and compensate the Contractor and/or extend the Contract Time, if applicable, through a unilateral Change Order signed only by the Owner; or 2) direct the Contractor to proceed with the Work under the Force Account provisions of this article. Failure of the Contractor to submit his total and final estimated cost and time impact within the time period specified on the Change Notice form shall constitute a waiver by the Contractor to claim additional costs or time beyond that which has been determined by the Owner. Any disputes arising out of an Owner determination shall be resolved in accordance with the dispute provisions in the Contract Documents. Pending the Owner’s final decision, the Contractor shall proceed diligently with the performance of the Work under the Contract.
- 5) Changes in the work covered by Unit Prices, as stated in the Contract Documents shall be all inclusive. These prices will include all Direct and Indirect Costs and means and methods of

execution. To be compensable, units must be measured daily by the Contractor and approved in writing by the Owner or his authorized representative.

- 6) The following mark-ups on Extra Work shall apply to all changes in the Work performed under this article:
 - a. For Extra Work performed by the Contractor's own forces, the Contractor agrees that proposed cost to perform said Extra Work will in no event include a rate for total overhead in excess of 20 percent of the actual costs of the Extra Work.
 - b. For Extra Work performed by a subcontractor's forces, the Contractor agrees that the overhead, for each sub-contractors, sub-subcontractors, and suppliers, shall not exceed 15% of the total of all sub-contractor's actual direct costs of the Extra Work. The Contractor may then add five percent (5%) times the subcontractor's or sub-tier subcontractor's actual Direct Cost as direct compensation for the Contractor's Overhead and all other costs associated with the subcontractors Extra Work at all tiers.
- 7) Increases to the Contract Amount shall be authorized by a Change Order executed by the Contractor, the Contractor's Surety and the Owner and approved by the Board of County Commissioners; where the Board of County Commissioners has delegated via Ordinance authority to County Staff to execute change orders, such change orders are subject to ratification by the Board of County Commissioners as described in such ordinance. BCC. Decreases to the Contract amount shall be by Change Order or Work Order as determined by the Owner and shall also be subject to BCC approval when the decrease results from a reduction in the scope of the work.
- 8) A cost of bonds for Change Orders that impact the Contract price shall be established by the Contractor's actual reimbursement costs, as approved by the Owner, based on the original Contract Amount and the original amount reimbursed to the Contractor for bonds at the commencement of the Work. This cost of bonds shall be added to all credit amounts allowed by the Owner. For Change Orders paid under the Allowance Account, no additional bond cost will be allowed unless the Allowance Account is not included in the original Contract Amount. In this case, additional bond costs for these Change Orders will be considered.
- 9) Any claim for payment of Extra Work that is not covered by a Change Order or Work Order will be rejected by the Owner.

B. Allowance Accounts

- 1) Certain portions of work which may be required to be performed by the Contractor under this Contract are either unforeseeable or have not yet been designed, and the value of such work, if any, is included in the Contract as a specific line item(s) entitled "Allowance Account(s)."
 - a. The Allowance Account (Contingency) can be used to reimburse the Contractor for 1) furnishing all labor, materials, equipment and services necessary for modifications or Extra Work required to complete the Project because of unforeseeable conditions and; 2) for performing construction changes required to resolve: Owner directed changes in the work, unforeseen conditions (if compensation for same is otherwise allowed under the contract), revised regulatory requirements, work required by any Authority Having Jurisdiction (if not required

due to errors or omissions of the Contractor), and for making final adjustment to estimated quantities shown on the Schedule of Values or amounts bid in the Bid Form to conform to actual quantities installed.

- b. Other Allowance Account(s) (Dedicated) may be used as specified in the Contract Documents to fund specific items of work at the sole discretion of the Owner. These dedicated allowance accounts shall be used only for the purposes approved pursuant to a written Work Order issued by the Owner or his authorized representative.
- 2) At such time as work is to be performed under the Allowance Account(s), if any, the work shall be incorporated into the Schedule and the Schedule of Values and shall in all respects be integrated into the construction as a part of the Contract as awarded.
- 3) The Work Order for the required work will be issued by the Owner or Architect/Engineer upon receipt from the Contractor of a satisfactory proposal for performance of the work, and the acceptance thereof by the Architect/Engineer and the Owner. If the Contractor and the Owner are unable to agree upon an amount of compensation or; if the nature of the work is such that a Unit Price or Lump Sum price is not economically practical or if the change work is deemed essential to the Project and actual conditions require work to be swiftly conducted to avoid or minimize delays, the Work Order may be issued to perform the work on a Force Account basis. In the event that an equitable adjustment for the said change work cannot be arrived at, either by mutual agreement or under the dispute provisions of the Contract Documents, the compensation hereunder will be the total compensation for this work.
- 4) No Work Orders shall be issued against an Allowance Account if such Work Orders in the aggregate exceed the authorized amount of that Allowance Account, provided however that such excess may be authorized by appropriate Change Order.
- 5) The unexpended amounts under the allowance accounts shall remain with the Owner and the Contractor shall have no claim to the same.

C. Deletion or Addition of Work

- 1) In the event the Owner exercises its right to delete any portion(s) of the work contemplated herein, such deletion will be ordered, and the Contract Total Amount and Time may be adjusted as provided for in these Contract Documents by Change Order or by Work Order, as appropriate. The Contractor shall be reimbursed for any actual reasonable expenses incurred prior to the notice of deletion of work as a result of preparing to perform the work deleted. In the event of a dispute between Owner and Contractor as to the adjustment to the amount of time, the dispute shall be handled in accordance with these General Conditions.
- 2) Deleted Work - Lump Sum Bid Item(s): The Contractor shall credit the Owner for the reasonable value of the deleted work determined from the approved Schedule of Values, subject to approval by the Architect/Engineer. If the reasonable value of the deleted work cannot be readily ascertained from the Schedule of Values submitted in accordance with these General Conditions, or if requested by the Architect/Engineer, the Contractor shall supply all data required by the Architect/Engineer, including the actual agreements executed by the Contractor with the subcontractors and suppliers affected by the deleted work, to substantiate the amount of the credit to be given the Owner. The Contractor shall also submit for the Owner's approval a revised schedule of values reflecting the work remaining under the Contract following the deletion.

- 3) No payment(s) shall be made to the Contractor by the Owner for loss of anticipated profit(s) from any deleted work.
- 4) In the event the Owner exercises its right to add to any portion of the work contemplated herein, such addition will be ordered, and the Contract Total Amount and Contract Time will be adjusted as provided for in these Contract Documents, by Change Order or by Work Order as appropriate. In the event of a dispute between Owner and Contractor as to the adjustment to the Amount or the Time, the dispute shall be handled in accordance with the Contract Documents.

D. Increased or Decreased Quantities (Unit Prices)

- 1) This section applies to Owner-initiated additions or deletions from the Work and to the unit prices contained within this contract and controls payments or credits for variations between estimated and actual quantities required to complete the Work, even though the additions or deletions may be distinct or separate structures or activities and regardless of the fact that the addition or deletion is a result of field adjustments, site conditions, a design change, or any other cause. Increases or decreases will be determined by comparing the actual quantity required to the Architect/Engineer's estimated quantity in the Bid Form.
- 2) If the actual quantity of Bid Item varies from the Architect/Engineer's quantity estimate by 25 percent or less, payment for the Bid Item will be made at the Contract unit price. If the actual quantity varies from the Bid quantity by more than 25 percent, the compensation payable to the Contractor will be the subject of review by the Contractor and the Architect/Engineer and a Contract adjustment will be made by means of a Change Order in accordance with the Contract Documents to credit the Owner with any reduction in unit prices or to compensate the Contractor for any increase in unit price resulting from variations between estimated and actual quantities. The unit price to be re-negotiated shall be only for that quantity above 125 percent or below 75 percent of the original bid quantities.
- 3) The Contractor shall submit to the Architect/Engineer all data required to substantiate the amount of compensation requested, therefore. In no event shall the Contractor be entitled to compensation greater than the aggregate amount of all the Unit Prices times the original bid quantities of Work reflected in the Bid Form.
- 4) No compensation will be made in any case for loss of anticipatory profits, loss of bonding capacity or consequential damages.

E. Extra Work

- 1) Except as otherwise expressly provided above, all additional work ordered, work changed or work deleted shall be authorized by Work Order(s) or Change Order(s). All changed or added work so authorized shall be performed by the Contractor at the time and in the manner specified. The Change Order shall include, as a minimum:
 - a. Scope of work to be added, deleted, or modified;
 - b. Cost of work to be added, deleted, or modified;
 - c. The Contract time extension or reduction in contract time in the case of deleted work required to perform the work to be added, deleted, or modified;
 - d. Full release of claims associated with the Contract through the date of the change order, or, if the Owner and Contractor cannot agree on entitlement to a claim, a

reservation of the specific claims at issue; such reservation must, to be effective: identify each specific claim reserved, the scope of the work, the maximum cost of the work associated with the claim, and the maximum number of days of Contract time requested.

The Work Order shall include, at a minimum:

- a. Scope of work to be added, deleted, or modified;
 - b. Cost of work to be added, deleted, or modified;
 - c. The Contract time extension required to perform the work to be added, deleted, or modified;
 - d. Full release of claims associated with the work order work, or a reservation of claims identified as to each claim reserved, the scope of the work, the maximum cost of the work, and the maximum number of days of Contract time requested, shall be specified.
- 2) If Work is ordered, changed, or deleted which is not covered by Unit Prices, then, the Owner and the Contractor shall negotiate an equitable adjustment to the Contract Price for the Direct Costs for the performance of such work in accordance with this article. Indirect Costs for Work ordered, changed, or deleted may be reimbursed for Excusable and Compensable Delay as defined in these Contract Documents.
- a. In order to reimburse the Contractor for additional Direct Costs, either by Work Order, Change Order or any other means, the Contractor must have additional work added to the Contract Scope of Work. The additional cost of idle or inefficient labor, from any cause, or the additional cost of labor made idle or inefficient from any cause will not be considered a reimbursable additional Direct Cost. Special equipment or machinery, which is made idle or inefficient by the Work ordered, changed, or deleted, may be reimbursable if approved by the Architect/Engineer as an unavoidable cost to the Contractor, caused by the Owner.
 - b. Costs of special equipment or machinery, not already mobilized on the site, approved by the Architect/Engineer, shall be calculated using the current issue of the Associated Equipment Distributors (AED) Manual plus any required mobilization. The selection of which of the AED rates (daily, weekly, monthly) to be used to calculate these costs shall be as follows:
 - i. Between one (1) day and seven (7) days, use the daily rate.
 - ii. Between seven (7) days and 30 days, use the weekly rate.
 - iii. Greater than 30 days, use the monthly rate.
 - c. For less than one (1) day hourly rates, use the daily rate divided by eight (8).
 - d. For overtime hourly rates use the daily rate divided by eight (8), the weekly rate divided by 40, or the monthly rate divided by 176 as appropriate.
 - e. Costs for Special Equipment and Machinery already mobilized on the site, shall not exceed the monthly rate stated in the AED Manual, divided by 176, per hour that the

Special Equipment and Machinery is in use on the work plus any required re-mobilization.

- f. The cost calculation shall not combine rates within the range of a time extension. It shall use decimals of the time extension rate that the extension falls under. For example, the cost calculation for a piece of Special Equipment with an approved delay of 45 days shall be one and one-half (1.5) months times the monthly rate, not one (1) month at the monthly rate, plus two (2) weeks at the weekly rate, plus one (1) day at the daily rate.
- g. Rental for special equipment and machinery, not already mobilized to the site, shall be an amount equal to the appropriate daily, weekly, or monthly rental rate for such equipment, in accordance with the current issue of Associated Equipment Distributors' (AED) "Compilation of Nationally Averaged Rental Rates and Model Specifications for Construction Equipment" (notwithstanding the caveats contained therein that such rental rates are not for use by government agencies) for each and every rental period (in weeks, days, or months as applicable) that the special equipment or machinery is in use on the work plus any required mobilization. Payment for special equipment and machinery already mobilized to the site shall not exceed the monthly rate stated in the AED standards divided by 176 to establish a per hour rate that the special equipment and machinery is in use on the Work, plus any required re-mobilization.
- h. For indirect costs, the Contractor shall be allowed a percentage mark-up as set forth in paragraph (6) above...

F. Differing Site Conditions

- 1) The Contractor shall immediately, upon discovery and before such conditions are further disturbed, notify the Architect/Engineer in writing of: 1) subsurface or latent physical conditions at the site differing materially from those indicated in the Contract Documents, or 2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract.
- 2) The Architect/Engineer will promptly investigate the conditions, and if such conditions materially differ from those warranted by the County, and if same cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under the Contract, a Contract change may be made, and the Contract modified in writing in accordance with the Contract Documents.
- 3) No claim of the Contractor under this article will be allowed unless the Contractor has given the notice required in the Contract Documents.
- 4) No claim by the Contractor for a Contract change hereunder will be allowed if asserted after final payment under this Contract.
- 5) If the Owner is not given written notice prior to the conditions being disturbed, the Contractor will be deemed to have waived his right to assert a claim for additional time and compensation arising out of such changed conditions.

G. Force Account

- 1) If the Owner and the Contractor cannot reach agreement on an equitable adjustment to the Contract Price for any work as prescribed above, then the Extra Work will be performed on a Force Account basis as directed by the Architect/Engineer and paid for subject to the maximum markups specified in this Contract for changes in the work.
- 2) In the event Extra Work is performed on a Force Account basis, then the Contractor and the subcontractor(s), as appropriate, shall maintain itemized daily records of costs, quantities, labor and the use of authorized Special Equipment or Machinery. Copies of such records, maintained as follows, shall be furnished to the Architect/Engineer daily for approval, subject to audit.
 - a. Comparison of Record: The Contractor, including its subcontractor(s) of any tier performing the work, and the Architect/Engineer shall compare records of the cost of force account work at the end of each day. Agreement shall be indicated by signature of the Contractor, the subcontractor performing the work, and the Architect/Engineer or their duly authorized representatives.
 - b. Statement: No payment will be made for work performed on a force account basis until the Contractor has furnished the Architect/Engineer with duplicate itemized statements of the cost of such force account work detailed as follows:
 - i. Name, classification, date, daily hours, total hours, rate and extension for each laborer, tradesman, and foreman.
 - ii. Designation, dates, daily hours, total hours, rental rate, and extension of each unit of special machinery and equipment.
 - iii. Quantities of materials, prices, and extensions.
 - iv. Transportation of materials.

The statements shall be accompanied and supported by a receipted invoice of all materials used and transportation charges. However, if materials used on the force account work are not specifically purchased for such work but are taken from the Contractor's stock, then in lieu of the invoices the Contractor shall furnish an affidavit certifying that such materials were taken from its stock, that the quantity claimed was actually used, and that the price and transportation claimed represent the actual cost to the Contractor.

- c. Authorization of Special Equipment and Machinery: No compensation for special equipment or machinery shall be made without written authorization from the Architect/Engineer. The Architect/Engineer shall review and evaluate any special equipment or machinery proposed by the Contractor for use on a force account basis. As part of its evaluation, the Architect/Engineer shall determine whether any of the special equipment or machinery being proposed by the Contractor will be concurrently used on the Project, including approved changes, or on other force account work on the Project. If the Architect/Engineer determines that such a concurrent use of special equipment or machinery is being proposed by the Contractor, prior to the authorization of such special equipment or machinery, the Architect/Engineer and thereto Contractor shall establish a straight-line prorated billing mechanism based on the actual percentage of time that the equipment or

machinery is required to be used on the force account work(s). Special equipment or machinery which is approved for use by the Architect/Engineer shall be reviewed and accounted for on a daily basis as provided in the Comparison of Record and Statement paragraphs of this section of the Contract.

- d. Inefficiency in the Prosecution of the Work: If in the Owner's or Architect/Engineer's opinion, the Contractor or any of its subcontractors, in performing Force Account Work, is not making efficient use of labor, materials or equipment or is proceeding in a manner which makes Force Account Work unnecessarily more expensive to the Owner, the Owner or Architect/Engineer may, in whole or part, direct the Contractor in the deployment of labor, material and equipment. By way of illustration, inefficiency may arise in the following ways, including but not limited to: 1) the timing of the Work, 2) the use of unnecessary labor or equipment, 3) the use of a higher percentage of journeymen than in non-force account Work, 4) the failure to procure materials at lowest price, or 5) using materials of quality higher than necessary.

H. Contractor Proposals - General

The Contractor may at any time submit to the Architect/Engineer for review proposed modifications to the Work, including but not limited to, changes in the Contract Time and/or Contract Amount, supported by a cost/price proposal. Upon acceptance of the proposed modifications by the Owner, a Work Order or Change Order will be issued. Denial of a proposed modification will neither provide the Contractor with any basis for claim for damages nor release the Contractor from contractual responsibilities. A Contract change in the form of a Contract price reduction will be made if the change results in a reduction of the cost of performance and the Contractor will not be entitled to share in said savings unless the proposal is made in accordance with Paragraph I of this article. Except as provided in Paragraph I below, the Contractor will not be compensated for any direct, incidental or collateral benefits or savings the Owner receives as a result of the proposal.

I. Value Engineering Change Proposals

The Contractor may submit to the Architect/Engineer one or more cost reduction proposals for changing the Contract requirements. The proposals shall be based upon a sound study made by the Contractor indicating that the proposal:

- 1) Will result in a net reduction in the total Contract amount;
- 2) Will not impair any essential function or characteristic of the Work such as safety, service life, reliability, economy of operation, ease of maintenance and necessary standardized features;
- 3) Will not require an unacceptable extension of the Contract completion time; and
- 4) Will require a change in the Contract Documents and such change is not already under consideration by the Owner.
 - a. The Owner may accept in whole or in part any proposal submitted pursuant to the previous paragraph on Value Engineering Change Proposals by issuing a Change Order which will identify the proposal on which it is based. The Change Order will provide for a Contract change in the Contract price and will revise any other affected provisions of the Contract

Documents. The equitable adjustment in the Contract price will be established by determining the net savings resulting from the accepted change. The net savings resulting from the change will be shared between the Contractor and the Owner on the basis of 50 percent for the Contractor and 50 percent for the Owner and will be limited to one Value Engineering Change Proposal per Change Order. Net savings will be determined by deducting from the proposal's estimated gross savings 1) the Contractor's costs of developing and implementing the proposal (including any amount attributable to a subcontractor) and 2) the estimated amount of increased costs to the Owner resulting from the change, such as evaluation, implementation, inspection, related items, and Owner -furnished material. Estimated gross savings will include Contractor's labor, material, equipment, overhead, profit and bond. The Contract price will be reduced by the sum of the Owner's costs and share of the net savings. For the purposes of this article, the applicable provisions of the Contract Documents shall be used to determine the equitable adjustment to the Contract price.

- b. The Owner will not be liable for delay in acting upon, or for failure to act upon, any proposal submitted pursuant to of this article. The decision of the Owner as to the acceptance or rejection of any such proposal under the Contract will be final. The submission of a proposal by the Contractor will not in itself affect the rights or obligations of either party under the Contract.
- c. The Contractor shall have the right to withdraw part or all of any proposal he may make under Paragraph 2 of this article at any time prior to acceptance by the Owner. Such withdrawal shall be made in writing to the Architect/Engineer. Each such proposal shall remain valid for a period of 60 days from the date submitted. If the Contractor wishes to withdraw the proposal prior to the expiration of the 60-day period, they will be liable for the cost incurred by the Owner in reviewing the proposal.
- d. The Contractor shall specifically identify any proposals under Paragraph 2 of this article with the heading "Value Engineering Change Proposal," or the proposal will be considered as made under Paragraph 1 of this article.

2) The Contractor, in connection with each proposal for a Contract Change Notice under this article, shall furnish the following information:

- a. A description of the difference between the existing Contract requirement and the proposed change, and the comparative advantages and disadvantages of each, justification when a function or characteristic of an item is being altered, and the effect of the change on the performance of the end item;
- b. An analysis and itemization of the requirements of the Contract which must be changed if the Value Engineering Change Proposal is accepted and a recommendation as to how to make each such change (e.g., a suggested specification revision);

- c. A separate detailed cost estimate for both the existing Contract requirement and the proposed change to provide an estimate of the reduction in costs, if any, that will result from acceptance of the Value Engineering Change Proposal taking into account the costs of development and implementation by the Contractor;
 - d. A prediction of any effects the proposed change would have on collateral costs to the Owner such as government-furnished property costs, costs of related items, and costs of maintenance and operation;
 - e. A statement of the time by which a Contract modification accepting the Value Engineering Change Proposal must be issued so as to obtain the maximum cost reduction, noting any effect on the Contract completion time or delivery schedule; and
 - f. Identification of any previous submission of the Value Engineering Change Proposal to the Owner, including the dates submitted, the numbers of the contracts involved, and the previous actions by the Owner.
- 3) The Contractor waives any and all claims relating to any delay that may arise out of a Value Engineering Change Proposal.

END OF ARTICLE

11. CLAIMS AND DISPUTES

A. Notice of Claims

- 1) The Contractor will not be entitled to additional time or compensation otherwise payable for any act or failure to act by the Owner, the happening of any event or occurrence, or any other cause, unless he shall have given the Architect/Engineer a written notice of claim therefore as specified in this article.
- 2) The Contractor shall provide immediate verbal notification with written confirmation within 48 hours of any potential claims and of the anticipated time and/or cost impacts resulting thereof. The written notice of claim shall set forth the reasons for which the Contractor believes additional compensation and/or time will or may be due, the nature of the costs involved and the approximate amount of the potential claim.
- 3) It is the intention of this article, that differences between the parties arising under and by virtue of the Contract shall be brought to the attention of the Architect/Engineer at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action promptly taken.
- 4) The notice requirements of this article are in addition to those required in other articles of these Contract Documents.
- 5) The Contractor shall segregate all costs associated with each individual claim including but not limited to labor, equipment, material, subcontractor and supplier costs, and all other costs related to the claim. In the event that the Contractor has multiple claims, the Contractor will segregate each claim individually including the respective costs associated with each claim. Failure to segregate claims and their respective costs will be grounds for the Owner's rejection of the claim. No "total cost claims" shall be allowed under this Contract.
- 6) The Contractor must maintain a cost accounting system as a condition for making a claim against the Owner. The cost accounting system must segregate the costs of the work under the Contract (non-claims-related) from claims-related and other Contractor costs through the use of a job cost ledger and be otherwise in compliance with general accounting principles.
- 7) If the Owner decides to pay all or part of a claim for which notice was not timely made, the Owner does not waive the right to enforce the notice requirements in connection with any other claim.
- 8) Inasmuch as the notice of claim requirements of this article are intended to enable the Architect/Engineer to investigate while facts are fresh and to take action to minimize or avoid a claim which might be filed thereafter, the Contractor's failure to make the required notice on time is likely to disadvantage the Owner. Therefore, a claim that does not comply with the notice requirements above shall not be considered unless the Contractor submits with his claim proof showing that the Owner has not been prejudiced by the Contractor's failure to so comply and, in the event the Owner has been prejudiced by the Contractor's failure to submit a timely notice of claim, the Owner will reduce any equitable adjustment claimed by the Contractor to reflect the damage.

B. Claim Submittals

- 1) Claims or requests for equitable adjustments filed by the Contractor shall be filed in full accordance with this article no later than 30 calendar days after the act giving rise to the claim and in sufficient detail to enable the Owner to ascertain the basis and amount of said claims. In the case of continuing or on-going claim events, the Contractor shall be allowed to periodically amend his claim to more accurately reflect the impact of said claim, until the end of the claim event. No claims for additional compensation, time extension or for any other relief under the Contract shall be recognized, processed, or treated in any manner unless the same is presented in accordance with this Article. Failure to present and process any claim in accordance with this Article shall be conclusively deemed a waiver, abandonment, or relinquishment of any such claim, it being expressly understood and agreed that the timely presentation of claims, in sufficient detail to allow proper investigation and prompt resolution thereof, is essential to the administration of this Contract.
- 2) The Owner will review and evaluate the Contractor's claims. It will be the responsibility of the Contractor to furnish, when requested by the Architect/Engineer, such further information and details as may be required to determine the facts or contentions involved in his claims. The cost of claims preparation or Change Order negotiations shall not be reimbursable under this Contract.
- 3) Any work performed by the Contractor prior to Notice-to-Proceed (NTP) shall not be the basis for a claim from the Contractor of any kind.
- 4) Each claim must be certified by the Contractor as required by the Miami-Dade Code, False Claims Act (see Code Section 21-255, et seq.), and accompanied by all materials required by Miami-Dade County Code Section 21-257. A "certified claim" shall be made under oath by a person duly authorized by the claimant, and shall contain a statement that:
 - a. The claim is made in good faith;
 - b. The claim's supporting data is accurate and complete to the best of the person's knowledge and belief;
 - c. The amount of the claim accurately reflects the amount that the claimant believes is due from the Owner; and
 - d. The certifying person is duly authorized by the claimant to certify the claim.
- 5) In order to substantiate time-related claims (delays, disruptions, impacts, etc.), the Contractor shall, if applicable and as determined by the Owner, submit, in triplicate, the following information (schedule information shall be provided in electronic format with all logic visible):
 - a. Copy of Contractor's notice of claim in accordance with this article. Failure to submit the notice is sufficient grounds to deny the claim.
 - b. The approved, as-planned Schedule in accordance with the applicable section of the Contract Documents and computer storage media, if applicable.
 - c. The as-built Schedule reflecting changes to the approved schedule up to the time of the impact in question and computer storage media if applicable.
 - d. The basis for the duration of the start and finish dates of each impact activity and the reason for choosing the successor and predecessor events affected in the schedule

shall be explained. Also, the basis for the duration of any lead/lags inserted into the schedule and the duration in related activity duration shall be explained.

- e. A marked-up as-built Schedule indicating the causes responsible for changes between the as-planned and as-built schedule and establishing the required cause and effect relationships.
- f. After indicating specific time related changes on the as-built schedule, the documentation must be segregated into separate packages with each package documenting a specific duration change identified previously. This documentation package shall include Change Orders, Change Notices, Work Orders, written directions, meeting minutes, etc., related to the change in duration.
- g. The Contractor assumes all risk for the following items, none of which shall be the subject of any claim and none of which shall be compensated for except as they may have been included in the compensation described under Liquidated Indirect Costs: 1) home office expenses or any Direct Costs incurred allocated from the headquarters of the Contractor; 2) loss of anticipated profits on this or any other project, 3) loss of bonding capacity or capability; 4) losses due to other projects not bid upon; 5) loss of business opportunities; 6) loss of productivity on this or any other project; 7) loss of interest income on funds not paid; 8) costs to prepare, negotiate or prosecute claims and 9) costs spent to achieve compliance with applicable laws and ordinances (excepting only sales taxes paid shall be reimbursable expense subject to the provisions of the Contract Documents).
- h. All non-time-related claim items for additional compensation for Direct Costs shall be properly documented and supported with copies of invoices, time sheets, rental agreements, crew sheets and the like.
- i. Cost information shall be submitted in sufficient detail to allow for review. The basis for the budgeted or actual costs shall include man-hours by trade, labor rates, material, and equipment costs etc. These costs shall be broken down by pay item and Construction Specification Institute (CSI) Division.
- j. The documentation for budgeted cost shall, as a minimum, include:
 - i. Copies of all the Contractor's bid documents, bid quotes, faxed quotes, emailed quotes etc.
 - ii. Copies of all executed subcontracts.
 - iii. Other related budget documents as requested by the Architect/Engineer.
- k. The documentation for actual cost shall, as a minimum, include:
 - i. Time Sheets.
 - ii. Materials invoices
 - iii. Equipment invoices
 - iv. Subcontractors' payments
 - v. Other related documents as required by the Architect/Engineer.

1. The Contractor shall make all his books, employees, work sites and records available to the Owner or its representatives for inspection and audit.
- 6) No payment shall be made to the Contractor by the Owner for loss of anticipated profit(s) from any deleted work. Contractor shall not be entitled to any compensation for loss of efficiency, loss of productivity, disruption, loss of opportunity, or other similar indirect costs except via entitlement to Liquidated Indirect Damages as provided for herein. As indicated above, the Architect/Engineer and the Field Representative shall be allowed full and complete access to all personnel, documents, work sites or other information reasonably necessary to investigate any claim. Within 60 days after a claim has been received, the claim shall either be rejected with an explanation as to why it was rejected or acknowledged. Once the claim is acknowledged, the parties shall attempt to negotiate a satisfactory settlement of the claim, which settlement shall be included in a subsequent Work Order or Change Order. If the parties fail to reach an agreement on a recognized claim, the Owner shall pay to the Contractor the amount of money it deems reasonable, less any appropriate retention, to compensate the Contractor for the recognized claim.
- 7) Failure of the Contractor to make a specific reservation of rights in the form provided for above regarding any such disputed amounts in the body of the Change Order which contains the payment shall be construed as a waiver, abandonment, or relinquishment of all claims for additional monies resulting from the claims embodied in said Change Order. However, once the Contractor has properly reserved rights to any claim, no further reservations of rights shall be required, and the Contractor shall not be required to repeat the reservation in any subsequent change order. Prior reservation of rights may however be further limited or waived by express reference, in subsequent change orders. Notwithstanding the aforementioned, at the time of final payment under the Contract, the Contractor shall specify all claims which have been denied and all claims for which rights have been reserved in accordance with this section. Failure to so specify any particular claim shall be constructed as a waiver, abandonment, or relinquishment of such claim.

C. Disputes

- 1) The following provisions shall govern disputes under this Contract unless the Special Provisions to this Contract contain the requirement for the use of an alternate dispute resolution method. For example, for large projects of great complexity, a Dispute Review Board (DRB) may be employed by the Owner to settle disputes in lieu of the Department Director or Office of the Mayor (OOM) designee as specified below. In this case, the DRB alternative shall be specified by the individual department in the Special Provisions and, if utilized, shall supersede this dispute provision.
 - a. In the event the Contractor and Owner are unable to resolve their differences concerning any determination made by the Architect/Engineer or Owner on any dispute or claim arising under or relating to the Contract (referred to in this Section as a "Dispute"), either the Contractor or Owner may initiate a dispute in accordance with the procedure set forth in this article. Exhaustion of these procedures shall be a precondition to any lawsuit permitted hereunder.
 - b. For contracts with a value of \$5 million or less, all Disputes under this Contract shall be decided by the Department Director or his designee. For contracts valued at more than \$5 million, Disputes shall be decided by a designee appointed by the OOM.

Decisions rendered by the Department Director or OOM designee shall not be binding but shall be admissible in a court of competent jurisdiction.

- c. As soon as practicable, the Department Director or OOM designee shall adopt a schedule for the Contractor and Owner to file written submissions stating their respective positions and the basis, therefore. The written submissions shall include copies of all documents and sworn statements in affidavit form from all witnesses relied on by each party in support of its position. Within 20 working days of the date on which such written submissions are filed, the Department Director or OOM designee shall afford each party an opportunity to present a maximum of one hour of argument. The Department Director or OOM designee may decide the Dispute on the basis of the affidavits and other written submissions if, in his opinion, there is no issue of material fact, and the party is entitled to a favorable resolution pursuant to the terms of this Contract. As part of such decision, the Department Director or OOM designee shall determine the timeliness and sufficiency of each notice of claim and claim at issue as provided in this article. The Department Director or OOM designee shall have the authority to rule on questions of law, including disputes over contract interpretation, and to resolve claims, or portions of claims, via summary judgment where there are no disputed issues of material fact. Furthermore, the Department Director or OOM designee is authorized by both parties to strike elements of claims seeking relief or damages not available under the contract (such as, but not limited to, claims for lost profits, off-site overhead, loss of efficiency or productivity claims or claim's preparation costs) by summary disposition.
- d. In the event that the Department Director or OOM designee determines that the affidavits or other written submissions present issues of material fact, he shall allow the presentation of evidence in the form of lay or expert testimony directed solely to the issues which he may specifically identify to require factual resolution. The testimonial portion of the process shall not exceed one day in duration per side, including opening statements and closing arguments, if allowed by the Department Director or OOM designee at his reasonable discretion.
- e. No formal discovery shall be allowed in connection with any proceeding under this article. Notwithstanding the foregoing, both parties agree that all of the audit, document inspection, information and documentation requirements set forth elsewhere in this contract shall remain in force and effect throughout the proceeding. The Department Director or OOM designee shall not schedule the hearing until both parties have made all their respective records available for inspection and reproduction and the parties have been afforded reasonable time to analyze the records. The continued failure of a party to comply with the document inspection, examination, or submission requirements set forth in this contract shall constitute a waiver of that party's claims and/or defenses, as applicable. Hearsay evidence shall be admissible but shall not form the sole basis for any finding of fact. Failure of any party to participate on a timely basis, to cooperate in the proceedings, or to furnish evidence in support or defense of a claim all of which shall be a criterion in determining the sufficiency and validity of a claim.
- f. The Department Director or OOM designee shall issue a written decision within 15 working days after conclusion of any testimonial proceeding and, if no testimonial

proceeding is conducted, within 45 days of the filing of the last written submission. This written decision shall set forth the reasons for the disposition of the claim and a breakdown of any specific issues or subcontractor claims. As indicated previously, the decision of the Department Director or OOM designee is not binding on the parties but will be admissible in a court of competent jurisdiction.

- g. If either party wishes to protest the decision of the Department Director or OOM designee, such party may commence an action in a court of competent jurisdiction, within the periods prescribed by law, it being understood that the review of the court shall be limited to the question of whether or not the Department Director or OOM designee's determination was arbitrary and capricious, unsupported by any competent evidence, or so grossly erroneous to evidence bad faith.
- h. Pending final decision of a dispute hereunder, the Contractor shall proceed diligently with the performance of the Contract and in accordance with the Architect/Engineer's interpretation. Any presentation or request by the Contractor under this article will be subject to the same requirements for Submittal of Claims in this article.

D. Terminations

1) Termination for Convenience

- a. The Owner may at its option and discretion terminate the Contract, in whole or, from time to time in part, at any time without any default on the part of the Contractor by issuing a written Notice of Termination to the Contractor and its Surety, specifying the extent to which performance of work under the Contract is terminated and the date upon which such termination becomes effective, at least 10 days prior to the effective date of such termination.
- b. In the event of Termination for Convenience, the Owner shall pay the Contractor for all labor performed, all materials and equipment furnished by the Contractor and its subcontractors, materialmen and suppliers and manufacturers of equipment less all partial payments made on account prior to the date of cancellation as determined by the Field Representative and approved by the Architect/Engineer. The Contractor will be paid for:
 - i. The value of all work completed under the Contract, based upon the approved Schedule of Values and/or Unit Prices,
 - ii. The value of all materials and equipment delivered to but not incorporated into the work and properly stored on the site,
 - iii. The value of all bonafide irrevocable orders for materials and equipment not delivered to the construction site as of the date of cancellation. Such materials and equipment must be delivered to the Owner to a site or location designated by the Department prior to release of payment for such materials and equipment.
 - iv. The values calculated under i., ii., and iii. above shall be as determined by the Field Representative and approved by the Architect/Engineer.

- c. In the event of termination under this article, the Contractor shall not be entitled to any anticipated profits for any work not performed due to such termination.
- d. In the event of termination under this article, the Owner does not waive or void any credits otherwise due the Owner at the time of termination, including Liquidated Damages, and back charges for defective or deficient work.
- e. Upon termination as indicated above, the Field Representative shall prepare a certificate for Final Payment to the Contractor.

2) Termination for Default of Contractor

- a. The Contract may be terminated in whole or, from time to time in part, by the Owner for failure of the Contractor to comply with any requirements of the Contract Documents including but not limited to:
 - i. Failure to perform the work or failure to provide sufficient workers, equipment, or materials to assure completion of work in accordance with the terms of the Contract, and the approved Schedule, or
 - ii. Failure to provide the Schedule for the Project by the date due, or
 - iii. Failure to provide adequate shop drawings by the dates indicated in the approved Schedule for the Project, or
 - iv. Failure to replace the superintendent in the time allotted, if required, or
 - v. Performing the work unsuitably or neglecting or refusing to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, after written directions from the Field Representative, or
 - vi. Violating the terms of the Contract or performing work in bad faith, or
 - vii. Discontinuing the prosecution of the work, or
 - viii. Failure to resume work which has been discontinued within a reasonable time after notice to do so, or
 - ix. Abandonment of the Contract, or
 - x. Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or failure to maintain a qualifier, or
 - xi. Allowing any final judgment to stand against him unsatisfied for a period of ten (10) days, or
 - xii. Making an assignment for the benefit of creditors, or
 - xiii. For any other cause whatsoever, fails to carry out the work in an acceptable manner or to comply with any other Contract requirement.
- b. Before the Contract is terminated, the Contractor and its Surety will be notified in writing by the Architect/Engineer or the Field Representative of the conditions which make termination of the Contract imminent (Notice to Cure). The Contract may be terminated by the Owner ten (10) days after said notice has been given to the Contractor and its Surety unless a satisfactory effort acceptable to the Owner has been made by the Contractor or its Surety to correct the conditions. If the Contractor

fails to satisfactorily correct the conditions giving rise to the termination, the Owner may declare the Contract breached and send a written Notice of Termination to the Contractor and its Surety.

- c. The Owner reserves the right, in lieu of termination as set forth in this article, to withhold any payments of money which may be due or become due to the Contractor until the said default(s) have been remedied. In the event of Termination for Default, the Owner also reserves the right, in cases where the damages calculated by the Owner are expected to exceed the amount the Owner anticipated recovering from the Surety, to withhold amounts for work already performed.
- d. In the event the Owner exercises its right to terminate the Contract for default of the Contractor as set forth herein, the Owner shall have the option of finishing the work, through any means available to the Owner, or having the Surety complete the Contract in accordance with its terms and conditions. In case that the Owner decides to have the Surety take over the remaining performance of the Work, the time or delay between Notice of Default and start of work by the Surety is a non-excusable delay. If the Surety fails to act promptly, but no longer than thirty (30) calendar days after the Owner notifies the Surety of the Owner's decision to have the Surety complete the work, or after such takeover fails to prosecute the Work in an expeditious manner, the Owner may exercise any of its other options including completing the Work by whatever means and method it deems advisable. No claims for loss of anticipated profits or for any other reason in connection with the termination of the Contract shall be considered.
- e. Payments for the various Bid Items listed in the Bid Form will constitute full compensation for all expenses incurred in consequence of discontinuance of all or any portion of the Work except as provided in this section of the Contract Documents. In no event will compensation be made for anticipatory profits or consequential damages as a result of a discontinuance of all or any portion of the Work.
- f. The Contractor shall immediately upon receipt communicate any Notice of Termination for Default issued by the Owner to the affected subcontractors and suppliers at any tier.
- g. If, after Notice of Termination of the Contractor's right to proceed under the provisions of this article, it is determined for any reason that the Contractor was not in default under the provisions of this article, or that the Contractor was entitled to an extension of time under the Contract Documents, the rights and obligations of the parties shall be the same as if the Notice of Termination had been issued pursuant to the section of this article dealing with Termination for Convenience.

3) Termination for National Emergencies

- a. The Owner shall terminate the Contract or portion thereof by written notice when the Contractor is prevented from proceeding with the construction Contract as a direct result of an Executive Order of the President of the United States with respect to the prosecution of war or in the interest of national defense.

- b. When the Contract, or any portion thereof, is terminated before completion of all items of work in the Contract, payment will be made for the actual number of units or items of work completed at the Contract price or as mutually agreed for items of work partially completed or not started. No claims or loss of anticipated profits or for any other reason in connection with the termination of the Contract shall be considered.

4) Implementation of Termination

- a. If the Owner cancels or terminates the Contract or any portion thereof, the Contractor shall stop all work on the date and to the extent specified in the Notice of Termination and shall:
 - i. Cancel all orders and Subcontracts, to the extent that they relate to the performance of the work terminated and which may be terminated without costs;
 - ii. Cancel and settle other orders and Subcontracts, except as may be necessary for completion of such portion of the Work not terminated, where the cost of settlement will be less than costs which would be incurred were such orders and subcontracts to be completed, subject to prior approval of the Field Representative;
 - iii. Settle outstanding liabilities and claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner, to the extent it may require, which approval or ratification shall be final for the purposes of this Article;
 - iv. Transfer title and deliver to the Owner, in the manner, at the time, and to the extent, if any, directed by it, in accordance with directions of the Field Representative, all fabricated or un-fabricated parts, all materials, supplies, work in progress, completed work, facilities, equipment, machinery or tools acquired by the Contractor in connection with the performance of the work and for which the Contractor has been or is to be paid;
 - v. Assign to the Owner in the manner, at the times and to the extent directed by it, all of the right, title, and interest of the Contractor under the orders and subcontracts so terminated, in which case the Owner will have the right, at its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
 - vi. Deliver to the Field Representative As-Built Documents, complete as of the date of cancellation or termination, plans, Shop Drawings, sketches, permits, certificates, warranties, guarantees, specifications, three (3) complete sets of maintenance manuals, pamphlets, charts, parts lists, spare parts (if any), operating instructions required for all installed or finished equipment or machinery, and all other data accumulated by the Contractor for use in the performance of the work;
 - vii. Perform all work as may be necessary to preserve the work then in progress and to protect materials, plant, and equipment on the site or in transit

thereto. The Contractor shall also take such action as may be necessary, or as the Architect/Engineer may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest;

- viii. Complete performance of each part of the work not terminated by the Notice of Termination;
- ix. Use his best efforts to sell, in the manner, at the time, to the extent, and at the price or prices directed or authorized by the Owner, property of the types referred to above; provided, however, that the Contractor a) shall not be required to extend credit to any purchaser, and b) may acquire any such property under the conditions prescribed by and at a price or prices approved by the Owner; provided, further, that the proceeds of any such transfer or disposition will be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or will otherwise be credited to the price or cost of the work covered by this Contract or paid in such other manner as the Owner may direct;
- x. Termination of the Contract or a portion thereof shall neither relieve the Contractor of its responsibilities for the completed work nor shall it relieve its Surety of its obligation for and concerning any just claim arising out of the work performed;
- xi. In arriving at the amount due the Contractor under this article, there will be deducted, (1) any claim which the Owner may have against the Contractor in connection with this Contract and (2) the agreed price for, or the proceeds of sale of materials, supplies or other items acquired by the Contractor or sold, pursuant to the provisions of this article, and not otherwise recovered by or credited to the Owner.

5) Suspension of Work

- a. The Owner reserves the right to temporarily suspend execution of the whole or any part of the Work without compensation to the Contractor.
- b. In case the Contractor is actually and necessarily delayed by any act or omission on the part of the Owner, as determined by the Owner in writing, the time for completion of the Work shall be extended by the amount of the time of such delay as determined by the Owner, and an allowance may be made for actual direct costs, if any, which may have been borne by the Contractor. Such requests for additional time and/or compensation must be made in accordance with the applicable sections of the Contract Documents.
- c. Only the actual delay necessarily resulting from the causes specified in this Article, shall be grounds for extension of time. In case the Contractor is delayed at any time or for any period by two or more of the causes specified in this Article, the Contractor shall not be entitled to a separate extension for each one of the causes but only one period of extension will be granted for the delay.

- d. In case the Contractor is actually and necessarily delayed in the performance of the Work from one or more of the causes specified in this Article, the extension of time to be granted to the Contractor shall be only for such portion of the Work so delayed. The Contractor shall not be entitled by reason of such delay to an extension of time for the completion of the remainder of the Work. If the Contractor shall be so delayed as to a portion of the Work they shall nevertheless proceed continuously and diligently with the prosecution of the remainder of the Work. No demand by the Contractor that the Owner determine and certify any matter of extension of time for the completion of the Work or any part thereof will be of any effect whatsoever unless the demand be made in writing at least 30 days before the completion date of the Work or any part thereof for which Liquidated Damages are established when meeting those dates is claimed to have been delayed by a suspension under this Article. Owner's determination as to any matter of extension of time for completion of the Work or any part thereof shall be binding and conclusive upon the Contractor.
- e. Permitting the Contractor to finish the Work or any part thereof after the time fixed for completion or after the date to which the time for completion may have been extended or the making of payments to the Contractor after any such periods shall not operate as a waiver on the part of the Owner of any rights under this contract.
- f. The Contractor shall insert in each subcontract a provision that the subcontractor shall comply immediately with a written order of the Owner to the Contractor to suspend the Work, and that they shall further insert the same provision in each subcontract of any tier.

END OF ARTICLE

12. MISCELLANEOUS PROVISIONS

A. Third-Party Beneficiary

No contractual relationship will be recognized under the Contract other than the contractual relationship between the Owner and the Contractor. There shall be no third-party beneficiary to this Contract.

B. Venue

Any litigation which may arise out of this Contract shall be commenced either in the Eleventh Judicial Circuit Court in and for Miami-Dade County, Florida, or in the United States District Court, Southern District of Florida.

C. Governing Laws

1) The Contractor shall, during the term of this Contract and in the prosecution of the work, be governed by the statutes, regulatory orders, ordinances and procedures of the United States of America, the State of Florida, and Miami-Dade County including, but not limited to, the Florida Building Code and Florida Fire Prevention Code.

2) The Contractor(s) shall comply with all applicable laws including, but not limited to, the Small Business Enterprise (SBE) programs (including, without limitation, SBE-Construction, SBE-Architectural and Engineering, and SBE-Goods, SBE-Services); as set forth in Sections 10-33.02, 2-10.4.01, 2-8.1.1.1.2, 2-8.1.1.1.1, 2-11.16, 2-1701, and 2-11.17 of the Code; the Sustainable Buildings Program; Chapter 119 of the Florida Statutes regarding public records laws; the State of Florida and the County's Prompt Payment laws as set forth in Sections 2-8.1.4 and 10-33.02 of the County's ordinances; the County's Inspector General requirements as set forth herein; the County's Art in Public Places requirements as set forth herein; and provide the requisite bonding in accordance with Section 255.05 of the Florida Statutes, as well as the insurance requirements set forth in this Agreement

Specifically, the Contractor and his subcontractors shall comply with Miami-Dade County Resolution Nos. R-1386-09 and R-138-10 governing the treatment of SBE-CON firms.

3) In addition, the Contractor agrees to abide by all federal, state, and local procedures, as may be amended from time to time, regarding how documents that the Contractor has access to, are handled, copied, and distributed, particularly documents that contain sensitive security information.

D. Successors and Assigns

The Owner and the Contractor each bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. The Contractor shall not assign the Contract or sublet it as a whole without the written consent of the Owner, nor shall the Contractor assign any moneys due or to become due the Contractor hereunder, without the previous written notice to the Owner. Consent will not be given to any proposed assignment, which would relieve the Contractor or his Surety of their responsibilities under the Contract.

E. Written Notice

- 1) Written notice to the Contractor shall be deemed to have been duly served if delivered in person to the individual or member of the firm or to any officer of the corporation for whom it was intended or if delivered at or sent by registered or certified mail to the last business address known to those who give the notice.
- 2) Written notice to the Owner shall be deemed to have been duly served if delivered in person, delivered at or sent by registered or certified mail to the individual identified in the Special Provisions.

F. Indemnification

- 1) In consideration of this Agreement, and to the maximum extent permitted by Chapter 725, Florida Statutes, as may be amended, the Contractor agrees to indemnify, protect, defend, and hold harmless the Government, State, County, their elected officials, officers, employees, consultants, and agents from claims, liabilities, damages, losses, and costs including, but not limited to reasonable attorney's fees at both the trial and appellate levels to the extent caused by the negligence, recklessness, or intentionally wrongful conduct of the Contractor and other persons employed or utilized by the Contractor in the performance of the Work.
- 2) The indemnification obligation under this clause shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for the Contractor and/or any subcontractor under worker's compensation acts, disability benefit acts, or other employee benefit acts.
- 3) In the event that any claims are brought, or actions are filed against the Owner with respect to the indemnity contained herein, the Contractor agrees to defend against any such claims or actions regardless of whether such claims or actions are rightfully or wrongfully brought or filed. The Contractor agrees that the Owner may select the attorneys to appear and defend such claims or actions on behalf of the Owner. The Contractor further agrees to pay at the Contractor's expense the attorneys' fees and costs incurred by those attorneys selected by the Owner to appear and defend such claims or actions on behalf of the Owner. The Owner, at its sole option, shall have the sole authority for the direction of the defense, and shall be the sole judge of the acceptability of any compromise or settlement of any claims or actions against the Owner.
- 4) To the extent this indemnification clause or any other indemnification clause in this Agreement does not comply with Chapter 725, Florida Statutes, as may be amended, this provision and all aspects of the Contract Documents shall hereby be interpreted as the parties' intention for the indemnification clauses and Contract Documents to comply with Chapter 725, Florida Statutes, as may be amended.
- 5) This Section shall survive expiration or termination of this Agreement.

G. Audit Rights

1) Access to Records

- a. The Contractor shall, during the term of this Contract and for a period of five years thereafter, allow the Owner and its duly authorized representatives to inspect all payroll records, invoices for materials, books of account, job cost ledgers, Project correspondence and Project-related files and all relevant records pertinent to the Contract.

- b. The Owner retains the right to audit accounts and access all files, correspondence and documents in reference to all work performed under this Contract. The Owner shall be provided full access upon request to all documents, including those in possession of subcontractors or suppliers during the work and for a period of five years after the completion of the Work. In case of any litigation regarding this Project, such rights shall extend until final settlement of such litigation. Failure to allow the Owner access shall be deemed a waiver of Contractor's claims.
- c. The Contractor shall maintain a banking account within Miami-Dade County for all payments to laborers, subcontractors and vendors furnishing labor and materials under this Contract. All records shall be maintained in Miami-Dade County for the term of this Contract.

2) Inspector General

- a. According to Section 2-1076 of the Code of Miami-Dade County, Miami-Dade County has established the Office of the Inspector General (IG) which may, on a random basis, perform audits, inspections, and reviews of all, on any County/Trust contracts, throughout the duration of said contracts. This random audit is separate and distinct from any other audit by the County. To pay for the functions of the Office of the Inspector General, any and all payments to be made to the Contractor under this contract will be assessed one quarter (1/4) of one (1) percent of the total amount of the payment, to be deducted from each progress payment as the same becomes due unless this Contract is federally or state funded where federal or state law or regulations preclude such a charge or where such a charge is otherwise precluded by Special Condition. The Contractor shall, in stating its agreed prices, be mindful of this assessment which will not be separately identified, calculated, or adjusted in the proposal or Bid Form.
- b. The Miami-Dade Office of the Inspector General is authorized to investigate County affairs and empowered to review past, present, and proposed County and Public Health Trust programs, accounts, records, contracts and transactions. In addition, the Inspector General has the power to subpoena witnesses, administer oaths, require the production of witnesses, and monitor existing Projects and programs. Monitoring of an existing Project or program may include a report concerning whether the Project is on time, within budget and in conformance with the Contract Documents and applicable law. The Inspector General shall have the power to audit, investigate, monitor, oversee, inspect and review operations, activities, performance and procurement process including but not limited to Project design, bid specifications, (bid/proposal) submittals, activities of the (Contractor/ Vendor/ Consultant), its officers, agents and employees, lobbyists, County and Public Health Trust staff and elected officials to ensure compliance with the Contract Documents and to detect fraud and corruption.
- c. Upon 10 days written notice to the Contractor, the Contractor shall make all requested records and documents available to the Inspector General for inspection and copying. The Inspector General is empowered to retain the services of independent private sector inspectors general to audit, investigate, monitor, oversee, inspect and review operations, activities, performance and procurement process

including but not limited to Project design, bid specifications, (bid/proposal) submittals, activities of the (Contractor/ Vendor/ Consultant), its officers, agents and employees, lobbyists, County staff and elected officials to ensure compliance with the Contract Documents and to detect fraud and corruption.

- d. The Inspector General shall have the right to inspect and copy all documents and records in the (Contractor/Vendor/Consultant's) possession, custody or control which in the Inspector General's sole judgment, pertain to performance of the contract, including, but not limited to original estimate files, change order estimate files, worksheets, proposals and agreements from and with successful subcontractors and suppliers, all Project-related correspondence, memoranda, instructions, financial documents, construction documents, (bid/proposal) and contract documents, back-change documents, all documents and records which involve cash, trade or volume discounts, insurance proceeds, rebates, or dividends received, payroll and personnel records and supporting documentation for the aforesaid documents and records.
- e. The Contractor shall make available at its office at all reasonable times the records, materials, and other evidence regarding the acquisition (bid preparation) and performance of this contract, for examination, audit, or reproduction, until three (3) years after final payment under this contract or for any longer period required by statute or by other clauses of this contract. In addition:
 - i. If this contract is completely or partially terminated, the Contractor shall make available records relating to the work terminated until three (3) years after any resulting final termination settlement; and
 - ii. The Contractor shall make available records relating to appeals or to litigation or the settlement of claims arising under or relating to this contract until such appeals, litigation, or claims are finally resolved.
- f. The provisions in this section shall apply to the (Contractor/Vendor/Consultant), its officers, agents, employees, subcontractors, and suppliers. The (Contractor/Vendor/Consultant) shall incorporate the provisions in this section in all subcontracts and all other agreements executed by the (Contractor/Vendor/Consultant) in connection with the performance of this contract.
- g. Nothing in this section shall impair any independent right to the Owner to conduct audits or investigative activities. The provisions of this section are neither intended nor shall they be construed to impose any liability on the Owner by the (Contractor/Vendor/Consultant) or third parties.

H. Severability

In the event any article, section, sub-article, paragraph, sentence, clause or phrase contained in the Contract Documents shall be determined, declared or adjudged invalid, illegal, unconstitutional or otherwise unenforceable, such determination, declaration or adjudication shall in no manner affect the other articles, sections, sub-articles, paragraphs, sentences, clauses or phrases of the Contract Documents, which shall remain in full force and effect as if the article, section, sub-article, paragraph, sentence, clause or phrase declared, determined or adjudged invalid, illegal, unconstitutional or otherwise unenforceable was not originally contained in the Contract Documents.

I. Payment and Performance Bond

- 1) A single instrument Payment and Performance Bond, satisfactory to the Owner, for twice the penal sum (no less than 100 percent of the total maximum contract amount for payment-related issues and 100 percent of the total maximum contract amount for performance-related issues), shall be required of the Contractor.
- a. The bond shall be written through surety insurers authorized to do business in the State of Florida as Surety, with the following qualifications as to management and financial strength according to the latest edition of Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey:

Bond (Total Contract) Amount	Best's Rating
\$500,001 to \$1,500,000	B V
\$1,500,001 to \$2,500,000	A VI
\$2,500,001 to \$5,000,000	A VII
\$5,000,000 to \$10,000,000	A VIII
Over \$10,000,000	A IX

- 2) On Contract amounts of \$500,000 or less, the Bond provisions of Section 287.0935, Florida Statutes shall be in effect and surety companies not otherwise qualifying with this paragraph may optionally qualify by:
- a. Providing evidence that the surety has twice the minimum surplus and capital required by the Florida Insurance Code at the time the Invitation to Bid is issued.
- b. Certifying that the surety is otherwise in compliance with the Florida Insurance Code, and
- c. Providing a copy of the currently valid Certificate of Authority issued by the United States Department of Treasury under 31 U.S.C. 9304-9308.

Surety insurers shall be listed in the latest Circular 570 of the U.S. Department of the Treasury entitled "Surety Companies Acceptable on Federal Bonds," published annually. The Bond amount shall not exceed the underwriting limitations as shown in this circular.

- 3) For Contracts in excess of \$500,000 the provisions of the Contract Documents will be adhered to, plus the surety insurer must have been listed on the U.S. Treasury list for at least three consecutive years, or currently hold a valid Certificate of Authority of at least 1.5 million dollars and listed on the Treasury list.
- 4) Payment and Performance Bonds guaranteed through U.S. Government Small Business Administration or Contractors Training and Development Inc. will also be acceptable.
- 5) The attorney-in-fact or other officer who signs a Payment and Performance Bond for a surety company must file with such Bond a certified copy of his/her power of attorney authorizing him/her to do so.
- 6) The cost of the Bonds shall be included in the Bid.

- 7) The required Bond shall be written by or through and shall be countersigned by, a licensed Florida agent of the surety insurer, pursuant to Section 624.425 of the Florida Statutes.
- 8) The Bond shall be delivered to the Contracting Officer in accordance with the instructions within the Notice of Award.
- 9) In the event the Surety on the Payment and Performance Bond given by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has its right to do business in its State of domicile or the State of Florida suspended or revoked as provided by law, the Owner shall withhold all payments under the provisions of these Contract Documents until the Contractor has given a good and sufficient Bond in lieu of Bond executed by such Surety.
- 10) Cancellation of any bond, or non-payment by the Contractor of any premium for any Bond required by this Contract, shall constitute a breach of this Contract. In addition to any other legal remedies, the Owner at its sole option may terminate this Contract or pay such premiums and deduct the costs thereof from any amounts that are or may be due to the Contractor.

J. Insurance

The Contractor shall maintain the insurance set forth in the Special Provisions throughout the performance of this Contract until the Work has been completed by the Contractor and accepted by the Owner.

K. Conflict of Interest

- 1) The Contractor or his employees shall not enter into any Contract involving services or property with a person or business prohibited from transacting such business with Miami-Dade County pursuant to Section 2-11.1 of the Code of Miami-Dade County, Florida, known as the Miami-Dade County Conflict of Interest and Code of Ethics Ordinance.
- 2) In the event the Contractor, or any of its officers, partners, principals, or employees are convicted of a crime arising out of, or in connection with, the work to be done or payment to be made under this Contract, this Contract, in whole or any part thereof may, at the discretion of the Owner, be terminated without prejudice to any other rights and remedies of the Owner under the law.
- 3) In accordance with the Code of Miami-Dade County, no officer or employee of Miami-Dade County during his tenure or for two years thereafter shall have any interest, direct or indirect, in this Contract or the proceeds thereof.

L. Rights in Shop Drawings

- 1) Shop Drawings submitted to the Architect/Engineer by the Contractor, pursuant to the Work, may be duplicated by the Owner and the Owner may use and disclose, in any manner and for any purpose Shop Drawings delivered under this Contract.
- 2) This paragraph shall be included in all subcontracts hereunder at all tiers.

M. Patent and Copyright

- 1) If the Contractor is required or desires to use any design, device, material, or process covered by letters of patent or copyright, he shall provide for such use by suitable legal agreement with the patentee or owner. The Contractor and the surety shall indemnify and save harmless the Owner, the Field Representative, and the Architect/Engineer from any and all claims for

infringement by reason of the use of any such patented design, device, material or process, or any trademark or copyright, and shall indemnify the Owner for any costs, expenses, and damages which it may be obliged to pay by reason of an infringement, at any time during the prosecution or after the completion of the work.

- 2) The Contractor shall warrant that the materials, equipment, or devices used on or incorporated in the Work shall be delivered free of any rightful claim of any third party for infringement of any United States patent or copyright. The Contractor shall defend, or may settle, at his expense, any suit or proceeding against the Owner or the Architect/Engineer so far as based on a claimed patent or copyright infringement which would result in a breach of this warranty, and the Contractor shall pay all damages and costs awarded therein against the Owner or the Architect/Engineer due to such breach. The Contractor shall report to the Architect/Engineer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this Contract of which the Contractor has knowledge. In the event of any claim or suit against the Owner on account of any alleged patent or copyright infringement arising out of the performance of this Contract or out of the use of any supplies furnished or work or services performed hereunder, the Contractor shall furnish to the Owner when requested, all evidence and information in possession of the Contractor pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Contractor.
- 3) The Contractor shall bear all costs arising from the use of patented materials, equipment, devices, or processes used on or incorporated in the Work. In such case materials, equipment, devices, or processes are held to constitute an infringement and their use enjoined, the Contractor, at his expense shall:
 - a. Secure for the Owner the right to continue using said materials, equipment, devices, or processes by suspension of the injunction or by procuring a license or licenses; or
 - b. Replace such materials, equipment, devices or processes with non-infringing materials, equipment, devices, or processes; or
 - c. Modify them so that they become non-infringing or remove the enjoined materials, equipment, devices, or processes and refund the sum paid therefore without prejudice to any other rights of the Owner.
- 4) The preceding paragraph shall not apply to any materials, equipment or devices, specified by the Owner or the Architect/Engineer or manufactured to the design of the Owner or the Architect/Engineer or in accordance with the details contained in the Contract Documents; and as to any such materials, equipment or devices the Contractor assumes no liability whatsoever for patent or copyright infringement and the Owner will hold the Contractor harmless against any infringement claims arising therefrom.
- 5) Patent rights to patentable invention, item or ideas of every kind or nature arising out of the Work, as well as information, designs, specifications, know-how, data and findings shall be made available to the Government for public use, unless the Owner shall, in specific cases where it is legally permissible, determine that it is in the public interest that it not be so made available.
- 6) The sense of this article shall be included in all subcontracts. The foregoing states the entire liability of the Contractor for patent or copy infringement by use of said materials, equipment, or devices.

- N. The Contractor shall be responsible for acknowledging the County's Recycling Programs when hauling materials that meets the requirement for a commercial business establishment. Please contact the Department of Solid Waste Management at dswm@miamidade.gov or visit www.earth911.com to search for recycling or disposal options and locations.
- O. Historical, Scientific and Archaeological Discoveries
All articles of historical, scientific, or archaeological interest uncovered by the Contractor during progress of the Work shall be preserved and reported immediately to the Architect/Engineer. Further operations of the Contractor with respect to the find, including disposition of the articles, will be decided by the Owner.
- P. Use of Owner's Name in Contractor Advertising or Public Relations
The Owner reserves the right to review and approve Owner-related copy prior to publication. The Contractor shall not allow Owner-related copy to be published in Contractor's advertisement or public relations programs until submitting the Owner-related copy and receiving prior approval from the Owner. The Contractor shall agree that published information on the Owner or the Owner's program shall be factual and in no way imply that the Owner endorses the Contractor's firm, service or product. The Contractor shall insert the substance of this provision, including this sentence, in each subcontract and supply Contract or purchase order.
- Q. Accounts Receivable Adjustments
In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.
- R. User Access Program (UAP)
Pursuant to Miami-Dade County Code Section 2-8.10. User Access Program in County Purchases this Contract is subject to a user access fee under the County's User Access Program (UAP) in the amount of two percent (2%). All construction services provided under this contract are subject to the two percent (2%) UAP. This fee applies to all Contract usage whether by County Departments or by any other governmental, quasi-governmental or not-for-profit entity. From every payment made to the Contractor under this contract (including the payment of retainage), the County will deduct the two percent (2%) UAP fee provided in the ordinance and the Contractor will accept such reduced amount as full compensation for any and all deliverables under the contract. The County shall retain the two percent (2%) UAP for use by the County to help defray the cost of its procurement program. Contractor participation in this pay request reduction portion of the UAP is mandatory.
- S. Public Records and Contracts for Services Performed on Behalf of Miami-Dade County
The Contractor shall comply with the Public Records Laws of the State of Florida, including but not limited to: (1) keeping and maintaining all public records that ordinarily and necessarily would be required by Miami-Dade County (County) in order to perform the service; (2) providing the public with access to public records on the same terms and conditions that the County would provide the

records and at a cost that does not exceed the cost provided in Chapter 119, F.S., or as otherwise provided by law; (3) ensuring that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (4) meeting all requirements for retaining public records and transferring, at no cost, to the County all public records in possession of the Contractor upon termination of the contract and destroying any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements upon such transfer. In addition, all records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County. Failure to meet any of these provisions or to comply with Florida's Public Records Laws as applicable shall be a material breach of the agreement and shall be enforced in accordance with the terms of the agreement. **If the contractor has questions regarding the application of Chapter 119, F.S. to the contractor's duty to provide public records relating to this contract, contact the custodian of public records via phone at (305) 375-5773, or via email at isd-vss@miamidade.gov. Offices are located at 111 NW 1st Street, Suite 1300, Miami, FL 33128.**

END OF ARTICLE

13. APPLICABLE LEGISLATION

Contractors and subcontractors are required to abide by all applicable federal, state, and local laws and ordinances, as they may be amended from time to time. Applicable local laws and ordinances include, but are not limited to, the following:

A. Resolutions

<http://www.miamidade.gov/govaction/searchleg.asp>

- R-1049-93 - Affirmative Action Plan Furtherance and Compliance
- R-385-95 - Policy prohibiting contracts with firms violating the American with Disabilities Act (ADA) and other laws prohibiting discrimination on the basis of disability ADA requirements, are a condition of award, as amended by Resolution R-182-00
- R-531-00 - Prohibition of contracting with individuals and entities while in arrears with the County
- R-894-05 - Independent Private Sector Inspector General (IPSIG) Services
- R-183-00 - Family Leave Requirements
- R-185-00 - Domestic Violence Leave
- R-1386-09 - Community Small Business Development Program; directing County Mayor to include additional subcontractor provisions in all future contracts, where applicable unless waived by the Board of County Commissioners
- R-138-10 - Resolution requiring that construction contracts include language mandating that the scope of work of SBEs be separately stated and accounted for in schedule of values.
- R-63-14 - Contractor Due Diligence

B. Administrative Orders

<http://www.miamidade.gov/ao/home.asp?Process=completelist>

- 3-20 - Independent Private Sector Inspector General (IPSIG) Services
- 3-39 - Standard Process for Construction of Capital Improvements, Acquisition of Professional Services, Construction Contracting, Change Orders and Reporting
- 10-10 - Duties and Responsibilities of County Departments for Compliance with the Americans with Disabilities Act (ADA)

C. Implementing Orders

<http://www.miamidade.gov/ao/home.asp?Process=completelist>

- 3-9 - Accounts Receivables Adjustments
- 3-21 - Bid Protest Procedure
- 3-22 - Small Business Enterprise (SBE) Program for the Purchase of Construction Services
- 3-41 - Small Business Enterprise (SBE) Program for the Purchase of Goods and Services

D. Code of Miami-Dade County:

- https://library.municode.com/fl/miami_-_dade_county/codes/code_of_ordinancesSection 2-1 Rule 5.09 Statement of consideration of impact of sea level rise.
- Section 2-1076 - Office of the Inspector General
- Section 2-2113 First Source Hiring Referral Program
- Section 2-8.1 - Contracts and Purchases
- Sections 2-8.1.1 Bids from related parties and bid collusion for the purchase of goods and services, leases, permits, concessions, and management agreements.
- Section 2-8.1(d) Disclosure required of contractors and entities transacting business with Miami-Dade County.
- Section 2-8.1(f) Listing of subcontractors required
- Section 2-8.2.6.1 Buy American Iron and Steel Products
- Section 2-8.2.6.2 Cybersecurity and Information Technology
- Section 2-8.2.7 Economic Stimulus Ordinance
- Section 2-8.4 - Protest Procedures
- Section 2-8.5 - Local Preference
- Section 2-8.5.1 - Local Certified Veteran Business Enterprise
- Section 2-8.8 - Fair Subcontracting PracticesSection 2-8.8(4) Reporting of subcontracting policies procedures and payments
- Section 2-8.10. - User Access Program in County Purchases.
- Section 2-10.4.01 Small Business Enterprise – Architecture & Engineering Program
- Section 2-10.33.02 Small Business Enterprise – Construction Program
- Section 2-10.7 Sales Tax Exemption Program
- Section 2.11.1 - Conflict of Interest and Code of Ethics
- Section 2-11.1 (i)-(r) Financial Disclosure
- Section 2-11.16.1 Construction Contract Fee for Affordable Housing
- Section 2-1076 Office of the Inspector General
- Section 9-71 through 9-75 Sustainable Building Program
- Section 10-34 - Listing of Subcontractors Required
- Section 11A-38 through 11A-52 Discrimination
- Section 21-255 through 21-266 False Claims Ordinance

END OF ARTICLE

SECTION 14

SPECIAL PROVISIONS TO BE ATTACHED

SPECIAL PROVISIONS

1.0 SCOPE OF WORK:

The Contractor is responsible for verifying all quantities to perform this work. The quantities provided are an approximation only.

2.0 ALLOWANCE ACCOUNTS:

- A. **Contingency Allowance** - A Contingency Allowance Account has been established for the exclusive use of the Department of Solid Waste Management as a reserve account to cover unforeseeable and unavoidable costs associated with the Work. This Contingency Allowance account shall be calculated at ten percent (10%) of the base bid total for the Work. It is understood that any unspent portion of the contingency allowance account is to remain with the COUNTY.
- B. **Dedicated Allowance** (if applicable) - A Dedicated Allowance Account has been established for the exclusive use of the Department of Solid Waste Management as a reserve account for the purpose of *Shed Roof Beam Deterioration Repair*. The Dedicated Allowance shall be in the amount of **\$23,920.00**. It is understood that any unspent portion of the allowance account is to remain with the COUNTY. No Authorization to Proceed on a change shall be issued against this Allowance Account if the aggregate of the change exceeds the authorized amount of this Allowance Account.

3.0 INSURANCE REQUIREMENTS:

Refer to the Indemnification and Insurance section below.

4.0 CONTRACTOR USE OF PREMISES:

- 4.1 The Contractor's use of the premises is limited to the limits of construction. The Contractor will coordinate all work with the Project Manager and perform the work in a manner which allows continuous use of adjoining facilities by DSWM. The Contractor shall always maintain safe access to all project areas.
- 4.2 The Contractor shall remain flexible with respect to his work schedule and if the Contractor is delayed due to the non-availability of the project site, his sole remedy for delay shall be limited to a contract time extension only, with no consideration for additional compensation for lost productivity. This remedy for delay (time extension only, no additional compensation) shall also apply to inclement weather conditions.
- 4.3 The Contractor and his subcontractors shall obtain all necessary Permits and provide copies to the Project Manager prior to commencement of work. At the

completion of the project, the Contractor shall provide to the Project Manager as-built drawings, all equipment owner's manuals and related documentation provided by the Manufacturers and a copy of the permit(s) with all required inspections signed off.

- 4.4 The Contractor shall clean the area after each workday. In addition, the contractor shall clean the area, remove materials and equipment that would create a potential hazard to pedestrians and DSWM operations personnel.

5.0 EQUIPMENT:

The contractor will provide equipment of sufficient size and capacity to meet project needs.

6.0 INSPECTIONS/MATERIAL TESTING:

- A. **Inspections:** Daily inspections may be performed by the DSWM Representative at their sole discretion. Inspections by the DSWM Representative shall not relieve the Contractor of his duties and obligations related to performance and/or quality of the Work.

The Contractor shall coordinate with the DSWM Representative the inspection of all pertinent work activities that may be deemed crucial to the completion of the Project. The pertinent work activities shall be defined by the DSWM Representative prior to installation. The Contractor will be responsible for scheduling a meeting with the DSWM Representative to identify the pertinent work activities. Refer to technical specifications/notes provided in the project drawings. Installation Procedures recommended by the manufacturer shall be submitted by the Contractor to the DSWM Representative. Contractor to comply with Technical Specifications/Notes provided on the Contract Drawings.

- B. **Materials:** As specified in the Scope of Work and Project Schedule of Values.

7.0 MEASUREMENT AND PAYMENT:

The Schedule of Values includes all costs required for the complete construction of the specified unit of work including cost of material, delivery; installation, testing, and labor including social security, insurance, and other required fringe benefits, workmen's compensation insurance, bond premiums, cost of the Inspector General random audits, rental of equipment and machinery, taxes, incidental expenses and supervision.

The Contractor shall be compensated based on the percentage of work completed if a lump sum contract or by unit price quantities as agreed upon by the DSWM Representative. The Schedule of Values will be used for payment and negotiation of additions/deletions to scope. DSWM reserves the right to modify/adjust any of the unit

item quantities at the same unit rate as specified on the Schedule of Values with no additional adjustment (compensation) for the reduction of work scope.

The Contractor shall comply with Resolution No. R-138-10, which mandates that SBE firms work be identified in the Schedule of Values, if applicable. In accordance with Resolution R-138-10, the Contractor is required as a condition subsequent to award and prior to the issuance of notice to proceed, that the scope of work to be performed by any SBE utilized to satisfy any SBE goal in the contract be separately identified in such schedule of values. Payment requisitions for the scope of work of such SBE shall be accomplished by statements of completion of the work of the SBE and shall be accompanied by appropriate documentation including invoicing and checks reflecting payment of the SBE for the previous construction draw.

8.0 TIME OF WORK:

Refer to Request for Price Quotation/Technical Specification and related technical documents.

9.0 PRE-CONSTRUCTION MEETING:

A Pre-Construction Meeting will be scheduled prior to the NTP date. The DSWM Representative may require the Contractor to submit at the time of the Pre-Construction meeting a Project Schedule, Detailed Schedule of Values, Maintenance of Traffic (MOT) Plan, Shop Drawing Submittal Log, Emergency Contact List, and List of Subcontractors.

10.0 CONSTRUCTION COORDINATION MEETINGS:

The Contractor shall attend Construction Coordination meetings at the site, if required by the DSWM Representative. The DSWM Representative will advise the Contractor of the frequency of the meetings. The meetings shall be attended by the Contractors representative and the DSWM Representative at a time and location to be determined by the DSWM Representative.

11.0 COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK:

TIME IS OF THE ESSENCE. The work to be performed under this Contract shall commence on the effective date of the Notice-to-Proceed and be completed and released to MDC upon completion of all punch list items within the time specified.

Completion of All Work: The Contractor shall complete all work included in the Contract Documents, including punch list, no later than **120** calendar days after NTP.

12.0 LIQUIDATED DAMAGES:

TIME IS OF THE ESSENCE and completing the work within the specified time is of the utmost importance to MDC. The following liquidated damages rate(s) have been determined based on the best information available at the time of bidding and represent a good faith effort by MDC to quantify the damages that MDC will incur if the contract duration is not achieved. Therefore, for failure to complete the work within the number of days stipulated in the RPQ, the Contractor and his/her sureties will be assessed Liquidated Damages as follows:

Final Completion

Liquidated Damages shall be assessed in the amount of \$349.20, per day for each day of delay, not as a penalty, but as Liquidated Damages for each day or fraction thereof of delay until the Final Completion Date is met, which will be paid to Miami-Dade County by the Contractor.

13.0 COLLUSION AFFIDAVIT:

In accordance with Sections 2-8.1.1 and 10-33.1 of the Miami-Dade County Code as amended by Ordinance No. 08-113, bidders/proposers on County contracts are requested to submit the Collusion Affidavit within five (5) days from notification of intent to award.

Failure to provide a Collusion Affidavit within 5 business days after the recommendation to award has been filed with the Clerk of the Board shall be cause for the contractor to forfeit their bid/proposal bond.

NTP shall not be issued, and no work shall commence until a fully executed Collusion Affidavit is submitted and approved by DSWM.

14.0 SUBCONTRACTOR / SUPPLIER LISTING (WHEN APPLICABLE):

Pursuant to Section 2-8.1 and 10.34 of the Miami-Dade County Code, for contracts valued at \$100,000 or more when subcontractor(s) and/or supplier(s) are utilized, the Prime contractor/vendor/consultant shall report to Miami-Dade County the race, gender, and ethnic origin of all such first-tier subcontractor(s) and supplier(s). The paper-based Subcontractor/Supplier Listing that was previously submitted at time of bid submission is no longer being used. The Prime contractor/vendor/consultant shall be required to identify its first-tier subcontractor(s)/supplier(s) and provide demographic information for both their firm and each subcontractor/supplier on the contract as soon as reasonably available and in any event prior to final payment under the contract via Miami-Dade County's online Business Management Workforce System (BMWS).

15.0 E-VERIFY:

Obligations of State Funded Contracts

Executive Order 11-116, which supersedes Executive Order 11-02, directs all agencies under the direction of the Governor to verify the employment eligibility of all new agency employees through the U.S. Department of Homeland Security's E-Verify system. Further agencies are directed to include as a condition of all contracts for the provision of goods or services to the state in excess of nominal value, an express requirement that contractors utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the contractor during the contract term, and an express requirement that contractors include in such subcontracts the requirement that subcontractors performing work or providing services pursuant to the state contract utilize the E-Verify system to verify the employment eligibility of all new employee hired by the subcontractor during the contract term.

In accordance with Executive Order 11-116, Miami-Dade County required all vendors doing business with the County who are awarded state-funded contracts to verify employee eligibility using the E-Verify system. It is the responsibility of the awarded vendor to ensure compliance with E-Verify requirements (as applicable). To enroll in E-Verify, employers should visit the E-Verify website (<http://www.uscis.gov-e-verify>) and follow the instructions. The employer must, as usual, retain the I-9 Form for inspection.

16.0 PUBLIC RECORDS AND CONTRACTS FOR SERVICES PERFORMED ON BEHALF OF MIAMI-DADE COUNTY (HB 1309):

HB 1309 re: governmental accountability has been signed into law by the Governor and was effective July 1. It generally applies only to state agencies, but there is one provision of HB 1309 that also applies to counties. This provision requires public agency contracts for services performed on behalf of the public agency to contain contract provisions clarifying the public record responsibilities of the contractor.

The Contractor shall comply with the Public Records Laws of the State of Florida, including but not limited to, (1) keeping and maintaining all public records that ordinarily and necessarily would be required by Miami-Dade County (County) in order to perform the service; (2) providing the public with access to public records on the same terms and conditions that the County would provide the records and at a cost that does not exceed the cost provided in Chapter 119, F.S., or as otherwise provided by law; (3) ensuring that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (4) meeting all requirements for retaining public records and transferring, at no cost, to the County all public records in possession of the Contractor upon termination of the contract and destroying any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements upon such transfer. In addition, all records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County. Failure to meet any of these provisions or to comply with Florida's Public Records Laws as applicable shall

be a material breach of the agreement and shall be enforced in accordance with the terms of the agreement.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (305) 375-5773; ISD-VSS@MIAMIDADE.GOV; 111 NW 1 STREET, SUITE 1300, MIAMI, FLORIDA 33128.

17.0 DISCLOSURE OF ALLEGED DISCRIMINATION LAWSUITS:

In accord with Resolution No. R-828-19, the County reserves the right to request from any Bidder the disclosure of any lawsuits which include allegations of discrimination in the last ten years prior to date of solicitation, the disposition of such lawsuits, or statement that there are NO such lawsuits.

18.0 PRE-BID MEETING:

Pre-Bid Meeting will be held as indicated in the Request for Price Quotation (RPQ). Please refer to the RPQ for instructions and additional information.

19.0 METHOD OF AWARD:

The award shall be made to the lowest, responsive and responsible bidder. DSWM reserves the right to negotiate additional or deductive services related to this project with the low bidder. DSWM reserves the right to reject all bids if deemed in the best interest of Miami-Dade County.

20.0 PERFORMANCE & PAYMENT BOND:

The Contractor shall provide a Surety Performance and Payment Bond for 100% of the contract amount. NTP shall not be issued, and no work shall commence until a fully executed performance bond and required insurance are submitted and approved by Miami-Dade County's Risk Management Division. Failure to provide a Performance & Payment Bond within the time required inclusive of any time extensions granted by DSWM may be considered withdrawal of the bid and forfeiture of the Bid Bond. The Contractor will be reimbursed for the direct (actual) Surety Performance and Payment costs upon presentation of an invoice and paid receipt/cancelled check (**when applicable**).

21.0 SCRUTINIZED COMPANIES:

By executing this proposal through a duly authorized representative, the bidder certifies that the bidder is not on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, as

those terms are used and defined in sections 287.135 and 215.473 of the Florida Statutes. In the event that the bidder is unable to provide such certification but still seeks to be considered for award of this solicitation, the bidder shall execute the proposal through a duly authorized representative and shall also initial this space: _____ . In such event, the bidder shall furnish together with its proposal a duly executed written explanation of the facts supporting any exception to the requirement for certification that it claims under Section 287.135 of the Florida Statutes. The bidder agrees to cooperate fully with the County in any investigation undertaken by the County to determine whether the claimed exception would be applicable. The County shall have the right to terminate any contract resulting from this solicitation for default if the bidder is found to have submitted a false certification or to have been, or is subsequently during the term of the contract, placed on the Scrutinized Companies for Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List.

22.0 USER ACCESS PROGRAM:

Pursuant to Miami-Dade County Budget Ordinance No. 03-192, this Contract is subject to a user access fee under the County's User Access Program (UAP) in the amount of two percent (2%). All construction services provided under this contract are subject to the 2% UAP. This fee applies to all Contract usage whether by County Departments or by any other governmental, quasi-governmental or not-for-profit entity. From every payment made to the Contractor under this contract (including the payment of retainage), the County will deduct the two percent (2%) UAP fee provided in the ordinance and the Contractor will accept such reduced amount as full compensation for any and all deliverables under the contract. The County shall retain the 2% UAP for use by the County to help defray the cost of its procurement program. Contractor participation in this pay request reduction portion of the UAP is mandatory (**when applicable**).

23.0 CONTRACTOR DUE DILIGENCE AFFIDAVIT:

The attention of the Contractor is hereby directed to the requirements of Resolution R63-14 in that the award of this contract is conditioned on the Contractor providing the County, when required, with a "CONTRACTOR DUE DILIGENCE AFFIDAVIT".

24.0 CONE OF SILENCE:

The attention of the Contractor is hereby directed to the requirements of Miami-Dade County Administrative Order No. 3-27 – Cone of Silence.

25.0 BID PROTEST:

The attention of the Contractor is hereby directed to the requirements of Miami-Dade County Implementing Order No. 3-21 – Bid Protest and Resolution R-1080-19 which

updated the Bid Protest filing fees for contracts set-aside for bidding solely by certified Small Business Enterprises, and other relevant sections.

26.0 PROMPT PAYMENT:

The attention of the Contractor is hereby directed to the requirements of Miami-Dade County Administrative Order No. 3-19 – Prompt Payment.

27.0 ASSIGNABILITY/ASSIGNMENT:

ASSIGNABILITY - Department of Solid Waste Management (DSWM) may assign its rights and obligations under the Contract to any successor to the rights and functions of DTW or to any governmental agency to the extent required by applicable laws or governmental regulations or to the extent that DSWM deems necessary or advisable under the circumstances.

ASSIGNMENT - The Contractor shall not assign, transfer, or otherwise dispose of this Contract, including any rights, title or interest therein, or their power to execute such Contract to any person, company or corporation without the prior written consent to DSWM. DSWM's consent for any assignment will not be unreasonably withheld.

28.0 SECTION 20.055 (5):

The contractor/consultant/vendor agrees to comply with s.20.055 (5), Florida Statutes, and to incorporate in all subcontracts the obligation to comply with s.20.055 (5), Florida Statutes.

Section 20.055 (5): It is the duty of every state officer, employee, agency, special district, board, commission, contractor, and subcontractor to cooperate with the inspector general in any investigation, audit, inspection, review, or hearing pursuant to this section. Beginning July 1, 2015, each contract, bid, proposal, and application or solicitation for a contract shall contain a statement that the corporation, partnership, or person understands and will comply with this subsection.

29.0 RESOLUTION NO. 1181-18 / DIRECTIVE NO. 182536

The Contractor is directed to the attached report regarding consideration of Contractor Safety Information as a Part of the Contractor Responsibility Review for Contract Award – Directive No. 182536 and the requirements of Resolution No. 1181-18, applicable to this Project.

30.0 BUY AMERICAN IRON AND STEEL PRODUCTS PROCUREMENT PROGRAM

Pursuant to Section 2-8.2.6.1 of the County Code, this section shall be known as the "Buy American Iron and Steel Products Procurement Program" and is intended to set forth requirements to use iron and steel products produced in the United States for construction contracts that are subject to approval or ratification by the Board of County Commissioners.

31.0 CYBERSECURITY AND INFORMATION TECHNOLOGY PROCUREMENT AND PROTECTION PROGRAM (When Applicable)

Pursuant to Section 2-8.2.6.2 of the County Code, this section shall be known as the "Cybersecurity and Information Technology Procurement and Protection Program" and is intended to set forth requirements to purchase cybersecurity products produced in the United States for contracts that are subject to approval or ratification by the Board of County Commissioners and to provide heightened review of vendors with access to County cybersecurity systems.

32.0 AMERICANS WITH DISABILITY ACT (ADA)

Pursuant to Administrative Order No. 10-10, it is the policy of Miami-Dade County to ensure that all Miami-Dade County departments adhere to the Americans with Disabilities Act (ADA). The ADA is a federal law that prohibits public entities from discriminating on the basis of disability by providing comprehensive civil rights protections to individuals with disabilities in the areas of employment, state and local government services, telecommunications, and public accommodations. This Administrative Order establishes the duties and responsibilities of Miami-Dade County departments, and their respective ADA Coordinators and designated staff, to ensure compliance and improve equity and engagement with the disability community.

33.0 KIDNAPPING, CUSTODY OFFENSES, HUMAN TRAFFICKING AND RELATED OFFENSES AFFIDAVIT

The Kidnapping, Custody Offenses, Human Trafficking and Related Offenses Affidavit is required by Section 787.06, Florida Statutes ("F.S."), as amended by HB 7063, which is deemed as being expressly incorporated into this Form. The Form must be completed by a person authorized to make this attestation on behalf of the Contractor (Nongovernmental Entity) for the purpose of executing, amending, or renewing a Contract with the County (Governmental Entity). The associated Contract shall not become effective unless and until this completed and executed Form is submitted to the County (Governmental Entity). The term Governmental Entity has the same meaning as in Section 287.138(1), F.S.

****Bidders may request a copy of any ordinance, resolution and/or administrative order cited in this bid solicitation, by contacting the Clerk of the Board at 305-375-5126.**



INDEMNIFICATION AND INSURANCE

Contractor shall indemnify and hold harmless the County and its officers, employees, agents and instrumentalities from any and all liability, losses or damages, including attorneys' fees and costs of defense, which the County or its officers, employees, agents or instrumentalities may incur as a result of claims, demands, suits, causes of actions or proceedings of any kind or nature arising out of, relating to or resulting from the performance of this Agreement by the Contractor or its employees, agents, servants, partners principals or subcontractors. Contractor shall pay all claims and losses in connection therewith and shall investigate and defend all claims, suits or actions of any kind or nature in the name of the County, where applicable, including appellate proceedings, and shall pay all costs, judgments, and attorney's fees which may issue thereon. Contractor expressly understands and agrees that any insurance protection required by this Agreement or otherwise provided by Contractor shall in no way limit the responsibility to indemnify, keep and save harmless and defend the County or its officers, employees, agents and instrumentalities as herein provided.

The Contractor shall furnish to the *Department of Solid Waste Management, Dr. Martin Luther King Jr. Office Plaza, 2525 NW 62 Street, Suite 5100, Miami, FL 33147*, Certificate(s) of Insurance which indicate that insurance coverage has been obtained which meets the requirements as outlined below:

- A. Worker's Compensation Insurance for all employees of the Contractor as required by Florida Statute 440.
- B. Commercial General Liability Insurance in an amount not less than \$1,000,000 per occurrence, and \$2,000,000 in the aggregate, not to exclude Products and Completed Operations. **Miami-Dade County must be shown as an additional insured with respect to this coverage.**
- C. Automobile Liability Insurance covering all owned, non-owned and hired vehicles, in an amount not less than \$1,000,000 combined single limit per occurrence for bodily injury and property damage.
- D. Umbrella Liability Insurance in an amount not less than \$3,000,000 per occurrence, and \$3,000,000 in the aggregate.
 - a. *If Excess Liability is provided must be follow form of the General Liability coverage.*

All insurance policies required above shall be issued by companies authorized to do business under the laws of the State of Florida, with the following qualifications:

The company must be rated no less than "A-" as to management, and no less than "Class VII" as to financial strength, by Best's Insurance Guide, published by A.M. Best Company, Oldwick, New Jersey, or its equivalent, subject to the approval of the County Risk Management Division.

or

The company must hold a valid Florida Certificate of Authority as shown in the latest "List of All Insurance Companies Authorized or Approved to Do Business in Florida" issued by the State of Florida Department of Financial Services.

Miami-Dade County reserves the right, upon reasonable notice, to request and examine the policies of insurance (including but not limited to policies, binders, amendments, exclusions or riders, etc.).

NOTE: CERTIFICATE HOLDER MUST READ:

**MIAMI-DADE COUNTY
111 NW 1st STREET
SUITE 2340
MIAMI, FL 33128**

ATTACHMENT “ A “

Certificate of Acceptance for Substantial Completion

Certificate of Final Acceptance

CERTIFICATE OF ACCEPTANCE FOR SUBSTANTIAL COMPLETION

RPQ No.: _____

Date : _____

Description : _____

Address : _____

Contractor : _____

Consultant : _____

Surety : _____

*The work performed under the subject Contract has been reviewed, and subject to the Contract requirements of **Article 29, Substantial Completion, Final Inspection and Acceptance**, all remaining work has been found to be Substantially Completed as of _____ .*

*A **Punch List** of items to be completed or corrected, is appended hereto.*

*In the event that the Work, including the Punch List items, is not corrected by the Contract Completion date, the Contract stipulations regarding **Liquidated Damages** will be imposed until such time as the work is certified by the County's Resident Engineer or its Consultant and the Director, DSWM to be complete in all respects and a **Certificate of Final Acceptance** is issued.*

(COMPANY SEAL)

Signed : _____

Contractor

Recommended : _____

Resident Engineer/Project Manager

Recommended : _____

Chief, Construction

Certificate of Final Acceptance

RPQ No.:
Description:
Address:
Consultant:

Contractor:
Surety:

The **UNDERSIGNED** hereby certify that, to the best of our knowledge and belief, based on observations of the punch list work required under the terms of the Agreement, we have found that the Work items identified in the **PUNCH LIST**, dated _____ (**"PUNCH LIST"**) were completed as of _____. We therefore recommend that the **FINAL ACCEPTANCE DATE** be established as: _____

Notwithstanding the above, this Certificate shall not be construed as a finding regarding whether work performed on this Contract was done in accordance with all applicable Contract requirements, and the County expressly reserves all of its rights and claims under the Contract, or otherwise, to seek recovery or indemnity for any defects in materials, equipment, or workmanship, or for non-conformance with any Contract requirements.

Recommended : _____
Resident Engineer/Project Manager

Recommended : _____
Chief, Construction

:

ATTACHMENT “ B “

Contractor Release

Agreement on Final Quantities and Amounts

Final Affidavit

Labor Standards Provisions Final Certificate

Memorandum of Understanding

Certificate of Sub-Contractor Status

Final Release of Lien

CONTRACTOR RELEASE

RPO No.:

KNOW ALL MEN BY THESE PRESENTS : Pursuant to the terms of the Contract and in consideration of the sum of _____ paid by the *Miami-Dade County* under the Contract, the undersigned Contractor does, and by the receipt of said sum shall, for itself, its successors and assigns, remise, release and forever discharge MDC, its officers , agents and employees, of and from all liabilities, obligations, and claims whatsoever, in law and in equity, under or arising out of said Contract.

IN WITNESS WHEREOF, this release has been executed this _____ day of _____, 20__

(*COMPANY SEAL*)

Contractor

Signature

WITNESS :

Print Name : _____

Print Title : _____

NOTE : In the case of a corporation, witnesses are not required , but the ***CERTIFICATE*** below must be completed.

CERTIFICATE

I, _____, certify that I am the ***Secretary*** of the corporation named as Contractor in the foregoing release; that _____ who signed said release on behalf of the Contractor, was then _____ of said Corporation; that said release was duly signed for and on behalf of said corporation under the authority of its governing body, and within the scope of its corporate powers.

(*CORPORATE SEAL*)

Signature

AGREEMENT
ON
FINAL QUANTITIES AND AMOUNTS

RPO No.:

The Contractor and Resident Engineer agree that the **QUANTITIES** as shown on the **FINAL PAY REQUEST No.** are **EQUITABLY** paid for by application of the agreed **LUMP SUM PRICES**.

It is finally agreed that the right in the Contract clause to request negotiation of a different amount is **WAIVED** by the Contractor and the Authorized Representative of the Contracting Officer.

(Company Seal)

Contractor

Signature

Print Name

Print Title

Date

Resident Engineer

Print Name

Date

FINAL AFFIDAVIT

RPQ No.:

The undersigned Contractor, _____, certifies and warrants to **Department of Solid Waste Management** that _____ has paid in full and completely discharged any and all claims, demands, obligations and liabilities of _____ in connection with or arising out of ***RPQ No.*** _____, including without limitation, all claims for labor performed and materials, supplies, equipment and other items furnished or used in connection with performance of said Contract.

(*COMPANY SEAL*)

Contractor : _____

Signature : _____

Print Name : _____

Print Title : _____

Date : _____

LABOR STANDARDS PROVISIONS

FINAL CERTIFICATE

RPO No.:

The undersigned Contractor, _____, hereby certifies that all laborers, mechanics, apprentices and trainees employed by him or by any Subcontractor performing work under the Contract on the project have been paid **wages at rates no less than those required by the Contract provisions**, and that the work performed by each laborer, mechanic, apprentice or trainee conformed to the classifications set forth in the Contract or training program provisions applicable to the wage rate paid.

EXCEPTION (S) :

Contractor : _____

(COMPANY SEAL)

Signature : _____

Print Name : _____

Print Title : _____

Date : _____

MEMORANDUM OF UNDERSTANDING

RPO No.:

WHEREAS, _____, (hereafter referred to as the " Contractor ") and the **Department of Solid Waste Management**, the parties hereto, have mutually agreed to the **total Contract amount** in the sum of _____ and a final payment of _____ for a **COMPLETE CLOSE-OUT** of **RPO No.**

It is understood and expressly agreed that :

- (1) This Memorandum of Understanding is subject to the recommendations of the Assistant Director and the Director of Department of Solid Waste Management.
- (2) In consideration of the payment by DSWM of a **total Contract amount** of _____, (inclusive of all finalized Change Orders), the Contractor hereby withdraws with prejudice all Claims, Disputes, and Appeals of the Contractor or any of its Subcontractors or Suppliers under the subject Contract. DSWM likewise, withdraws with prejudice, all Claims and/or Backcharges it has against the Contractor.
- (3) The retention withheld in **Pay Request No.** _____ is _____ and will be paid in full. Therefore, the Contractor acknowledges the final payment of _____ in **Pay Request No.** _____ as the outstanding balance due to date on the Contract.
- (4) DSWM reserves the right to complete an audit upon the request of the Assistant Director, Engineering Services when warranted.
- (5) All terms and conditions of the Contract otherwise remain unchanged including the Contractor's liabilities for warranties, latent defects and the like.
- (6) The execution of this Memorandum and payment in accordance with these terms, and the finalized Contract Change Orders, shall constitute a full accord and satisfaction of all Claims and all rights of the parties against each other, except for claims of the Owner for latent defects discussed after the date of this Memorandum or for warranty items.

(COMPANY SEAL)

Contractor : _____

Signature : _____

Print Name : _____

Print Title : _____

Date : _____

RECOMMENDED

By : _____
Resident Engineer/Project Manager

By : _____
Chief, Construction Division

CERTIFICATE OF SUB-CONTRACTOR STATUS

This is to certify that the following is a complete list of sub-contractors who worked on **RPO No.**

Name	Description of work	Original Contract Amount	Paid to date	Amount Owed

(COMPANY SEAL)

Contractor

Signature

Print Name & Title

Date

ATTACHMENT "C"

Sub-Contractor's/Supplier's Release of Claim

Consent of Surety Company to Requisition Payment

SUBCONTRACTOR'S / SUPPLIER'S RELEASE OF CLAIM

NOTE: The General Contractor shall attach this statement, completed by each Subcontractor whose work appears on the prior requisition for payment or has work in place since the last requisition for payment.

Project No.: _____

Date: _____

Project Title: _____

Subcontractor: _____

Requisition No.: _____ From: _____ To: _____

Before me, the undersigned authority, authorized to administer oaths and take acknowledgments appeared: _____ who, after being first duly sworn, upon oath, deposes and says that pursuant to the provisions of his contract for said project, all money due him under prior requisitions for payment have been paid to him by _____, the General Contractor.

(COMPANY SEAL)

Legal Name of Subcontractor

Title

Signature

State of _____)

) ss

County of _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 20__ by _____ on behalf of _____.

[] who is personally known to me or [] who has produced _____ as identification and who

[] did [] did not take an oath.

Notary Signature: _____

Type or Print Name: _____

Notary Seal:



CONSENT OF SURETY COMPANY TO REQUISITION PAYMENT

PROJECT No. _____

PROJECT TITLE: _____

PROJECT LOCATION: _____

TO: _____ Re: PAY REQUEST No. _____ DATE: _____

IN THE AMOUNT OF: _____

CONTRACTOR: _____ RPQ No. _____

THE UNDERSIGNED SURETY COMPANY _____,
(INSERT NAME OF SURETY COMPANY)

_____, ON BOND OF
(ADDRESS)

THE CONTRACTOR LISTED ABOVE, HEREBY APPROVES THIS PAYMENT TO THE CONTRACTOR AND AGREES THAT THE PAYMENT TO THE CONTRACTOR SHALL NOT RELIEVE THE SURETY COMPANY OF ANY OF ITS OBLIGATIONS TO MIAMI-DADE COUNTY, INCLUDING THE SECURITY FROM ANY AND ALL LIENS, CLAIMS OR DEMANDS WHATSOEVER THAT MAY NOW EXIST OR BE MADE IN THE FUTURE BY ANY SUB-CONTRACTOR OR MATERIAL SUPPLIERS AGAINST THIS PROJECT AND CONTRACT.

THIS CONSENT OF SURETY RECOGNIZES THAT CLAIMS HAVE BEEN MADE BY THE FOLLOWING SUB-CONTRACTORS AND MATERIAL SUPPLIERS AGAINST THE CONTRACT IN THE AMOUNTS LISTED BELOW:

_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____
_____	\$ _____

SURETY RECOGNIZES THAT RELEASES OF LIEN OR RELEASES AND ASSIGNMENT OF CLAIM HAVE NOT BEEN REQUESTED OR RECEIVED FROM ALL THE SUB-CONTRACTORS AND MATERIAL SUPPLIERS FOR THIS FACILITY.

IN WITNESS THEREOF,
THE SURETY COMPANY HAS HEREUNTO SET ITS HAND THIS _____ DAY OF _____, 20____.

SURETY COMPANY

ATTEST:
(SEAL)

SIGNATURE OF AUTHORIZED REPRESENTATIVE

TITLE

ATTACHMENT "D"

"Contractor Agent to Accept Service"

CONTRACTOR AGENT TO ACCEPT SERVICE

RPQ No.: _____

DATE: _____

CONTRACT TITLE: _____

CONTRACTOR: _____

NOTICE TO PROCEED (NTP) DATE: _____

CONTRACTOR ADDRESS: _____

CONTRACTOR TELEPHONE No.: _____

CONTRACTOR E-MAIL ADDRESS: _____

AGENT'S NAME: _____

AGENT'S TITLE: _____

AGENT'S ADDRESS: _____

AGENT'S TELEPHONE No. _____

AGENT'S E-MAIL ADDRESS _____

Contractor Corporate Representative

Submitted By: _____

SIGNATURE

CONTRACTOR

ATTACHMENT "E"

Force Account Daily Report:
Labor, Material & Equipment



**FORCE ACCOUNT DAILY REPORT:
LABOR, MATERIAL & EQUIPMENT**

DATE: _____

CONTRACTOR: _____

CONTRACT No. _____ REPORT No. _____

CONTRACT CHANGE NOTICE / DSWM LETTER: _____ PAGE No. _____ of _____

IMPORTANT-THIS FORM MUST BE SIGNED AND SUBMITTED NOT LATER THAN THE DAY FOLLOWING DATE WORK WAS PERFORMED.

The following work was performed this date requiring the use of the Labor Force, Materials, Equipment, Special Forces and Services listed hereon:

Description of work performed:

LABOR					EQUIPMENT					
NAME	CRAFT	HRRAT	HOURS	TOTALS	MAKE	MODEL	DESCRIPTION	HOURS	RATE	EXT.

CERTIFIED CORRECT BY: _____

DATE _____

MATERIAL INVOICE ON UNIT PRICES TO BE PROVIDED.
NO INVOICE OLDER THAN 30 DAYS ACCEPTED.

ALL EQUIPMENT RATES ARE ADJUSTED TO REFLECT CALIFORNIA BLUE BOOK

QUAN.	UNIT	DESCRIPTION	MATERIALS	RECAP
				LABOR
				MATERIALS
				EQUIPMENT

CERTIFIED CORRECT BY: _____ DATE _____

TOTAL THIS SHEET

FOR ENGINEER'S USE

APPROVED AS TO SUBSTANCE

EXTENSION OF LABOR, MATERIAL & EQUIPMENT VERIFIED BY:

BY: _____
RESIDENT ENGINEER DATE _____

INSPECTOR _____ DATE _____

ATTACHMENT "F"

Certification of the Contractor

CERTIFICATION OF THE CONTRACTOR

The Contractor shall execute this Affidavit and submit it with all releases.
RPQ No.

According to the best of my knowledge and belief, I certify that as of the date of this release all work has been performed and materials supplied in full accordance with the terms and conditions of the Contract.

I further certify that to the best of my knowledge and believe there are no outstanding claims for Labor, material or Time by or against Contractor unless otherwise noted below and that payments in full have heretofore been made by the Contractor, for which payment has been received, to all persons, firms and corporations supplying labor, materials, equipment or supplies, used directly or indirectly by the Contractor or by any subcontractor in the prosecution of the work provided for in said Contract.

Estimate No. _____

For period ending: _____

Date: _____

Contractor: _____

Affix corporate seal if corporation

By: _____

Exception(s) for claims and to appropriate payment to subcontractors and obtaining a Miami-Dade County Release of Lien is/are:

Signed, Sealed and Delivered in the presence of:

State of _____

County of _____

On this _____ day of _____ 20____, before me, a Notary Public, in aforesaid County, personally appeared _____, the _____ of _____ who acknowledged that he/she executed the above Affidavit on behalf of the Corporation or Entity as its free act and deed.

Notary Public: _____

My Commission Expires: _____

SPECIFICATIONS

- Scope of Work
- Technical Specifications
- Drawings

Scope of Work

Project name: Northeast Transfer Station Improvements Phase II (Compactors Bldg. Tipping Floor Roof)

RPQ NO. 18652-26

Site Address: 18701 NE 6th Avenue, Miami, FL 33160

Site Hours of Operation: Monday – Saturday, 7:00 a.m. - 5:00p.m.

Work Hours: Monday – Friday, 7:00 a.m. to 5:00 p.m.

- Requests for approval by the Owner to work other than regular working hours must be submitted to the Owner at least 48 hours prior to any proposed weekend work or extended work hours during the week.
- Off-hours work shall be incorporated into Bid. Additional payment will not be provided for off-hours work.

Project Description

The purpose of the project is to construct a new steel roof deck above the compactors building tipping floor, modify existing steel joists to support additional wind loads, and repair the concrete corbel and masonry wall cracks. Work to be performed includes, but is not limited to, the following:

1. Corbel Repair
 - Remove the steel travel beam for reuse
 - Remove the existing corbel
 - Add reinforcing steel
 - Form and place new concrete
2. South Façade Crack Sealing
 - Remove stucco in a limited area
 - Rake joints in the existing Concrete Masonry Unit (CMU) façade using gouging tools
 - Insert reinforcing steel and grout the joints
 - Repair stucco and paint the affected area from corner to corner
3. Retrofit Existing Roof Structure
 - Remove existing roofing materials
 - Clean all framing
 - Install new framing where noted
 - Prime and paint steel
 - Install the new roofing system

Additional Information

- The Contractor shall coordinate with the Facility Supervisor and the Engineer of Record (EOR) to phase the work in a manner that minimizes impacts to facility operations, equipment, and vehicle circulation.
- Hours of operation will remain unaffected during construction.
- Work Restriction: Maintain uninterrupted truck access to the existing surge pit throughout construction. Provide phased construction sequencing to ensure continuous access.

Additional Requirements

- All construction and materials shall conform to the County's Sustainable Buildings Program - Cool Roofs per Resolution 54-18.

PROJECT MANUAL

Issue for Construction

Specification Divisions 00 through 09

MIAMI – DADE COUNTY
DEPARTMENT OF SOLID WASTE MANAGEMENT
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENT,
PHASE 2

NORTHEAST TRANSFER STATION FACILITY
18701 NE 6th AVENUE
MIAMI, FLORIDA 33179

OWNER'S CONTRACT NUMBER EDP-SW-18487-22-R
E/A PROJECT NUMBER US-EI-EDPPSA2024.2760

FEBRUARY 26, 2026



WSP USA Buildings Inc.
3348 Peachtree Road, Suite 1100
Atlanta GA 30326
T 404.815.2053

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SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Phased Construction.
4. Contractor Interface with Owner.
5. Contractor's use of site and premises.
6. Work restrictions.
7. Specification and drawing conventions.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 PROJECT INFORMATION

A. Project Identification: Northeast Transfer Station Facility Improvement Phase 2. EDP-SW-18487-22-R.

1. Project Address:

Northeast Transfer Station
18701 NE 6th Avenue
Miami FL 33179

B. Owner: Miami-Dade County Department of Solid Waste Management.

2525 NW 62nd Street
5th Floor
Miami FL 33147

C. Engineer/Architect:

WSP USA Inc.
3348 Peachtree Road
Suite 300
Atlanta GA 30326
Telephone (404) 815-2053

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Construct new steel roof deck and modify steel joists to support additional wind load.
2. Repair concrete corbel.
3. Repair masonry wall cracks.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 PHASED CONSTRUCTION

A. Construct the Work in phases, with each phase substantially complete as indicated below and shown graphically in a plan mark-up added to the end of this Section.

1. See Work Restrictions Article in this Section for requirements making phased construction necessary.
2. Phase 1: Construct the north portion of roof.

a. Description:

- 1) Perform selective demolition indicated in drawings to permit construction of Phase 1.
 - a) Portions of remaining required selective demolition may take place at Contractor's option.
- 2) Provide structural steel work indicated in drawings for the north portion of the roof.
- 3) Provide high performance coatings for structural steel as indicated in the drawings on the north portion of the roof
- 4) Provide high performance coatings required for structural columns and piers.
- 5) Install roof deck on the north portion of the roof.
- 6) Install gutters and downspouts.

3. Phase 2: Construct the south portion of roof, and the remainder of the Work. The remaining Work shall be substantially complete at time of Substantial Completion.

a. Description

- 1) Perform selective demolition indicated in drawings for the south portion of the roof.
- 2) Provide structural steel work indicated in the drawings for the south portion of the roof.
- 3) Provide high performance coatings for structural steel as indicated in the drawings on the south portion of the roof.
- 4) Install remaining roof deck.
- 5) Install cold formed metal framing and expansion joint between Tipping Roof and Compactor Building Roof.
- 6) Install coverboard on entire roof.
- 7) Install tapered insulation on entire roof as required to meet minimum slope.
- 8) Install roof membrane on entire roof.
- 9) Perform the remaining work.

- B. Before commencing work on each phase, submit Contractor's construction schedule with commencement and completion dates for each phase of work.

1.5 CONTRACTOR INTERFACE WITH OWNER

A. Owner's Responsibilities

1. Provide the Contractor written rules and requirements for construction work on premises.
2. Facilitate communications with the Contractor for utility shutdowns or noisy activities.

B. Contractor's Responsibilities

1. Provide prompt reporting of conditions uncovered during construction that could impact the Owner's continued operations.
2. Comply with Owner's written rules and requirements for construction work on premises.
3. Review Owner-reviewed Product Data, Shop Drawings, and Samples, noting discrepancies and other issues in providing for Owner-furnished products in the Work.
4. Receive, unload, handle, store, protect, and install Owner-furnished products.
5. Make building services connections for Owner-furnished products.
6. Protect Owner-furnished products from damage during storage, handling, and installation and prior to Substantial Completion.
7. Repair or replace Owner-furnished products damaged following receipt.

1.6 CONTRACTOR USE OF SITE AND PREMISES

- A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

- B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Unless otherwise specified or indicated, confine construction operations to the space indicated.
2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to the Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
 - c. Obtain Owner's permission to store materials and equipment outside the immediate project area.

- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.7 WORK RESTRICTIONS

- A. Work Restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and with other requirements of authorities having jurisdiction.
 2. Comply with rules and requirements established by the Owner.
- B. Work Restriction: Maintain uninterrupted truck access to existing surge pit during the entirety of construction. Provide phased construction to enable truck access.
1. Phased Construction specified in this Section is intended to enable compliance with the above work restriction.
- C. Normal business working hours are 7:00 AM to 5:00 PM local time, Monday through Friday.
1. Off-hours work may take place if required to maintain Owner's uninterrupted truck access and operations.
 2. Off-hours work shall be incorporated into Bid. Additional payment will not be provided for off-hours work.
- D. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:
1. Notify Owner not less than seven days in advance of proposed utility interruptions.
 2. Obtain Owner's written permission before proceeding with utility interruptions.
- E. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner's occupancy.
1. Notify Owner not less than seven days in advance of proposed disruptive operations.
 2. Obtain Owner's written permission before proceeding with disruptive operations.
- F. Nonsmoking Building: Smoking, including electronic cigarette smoking, is not permitted within the building, on the Owner's premises or in Contractor's vehicles while parked on premises.
- G. Controlled Substances: Use of controlled substances is not permitted within the building or premises.

1.8 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

- C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings.
 3. Keynoting: Materials and products are identified by reference keynotes referencing Specification Section numbers found in this Project Manual.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 PLAN MARK-UP OF PHASED CONSTRUCTION

- A. The plan mark-up of the phased construction follows:



END OF SECTION 011000

SECTION 012100 - ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
 - 1. Contingency allowances.
- C. Related Requirements:
 - 1. Section 012200 "Measurement and Payment."
 - 2. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.
 - 3. Section 014000 "Quality Requirements" for procedures governing the use of allowances for field testing by an independent testing agency.

1.2 DEFINITIONS

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

1.3 SELECTION AND PURCHASE

- A. At the earliest practical date after award of the Contract, advise Owner Representative of the date when final selection, or purchase and delivery, of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At Owner Representative's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by Owner Representative from the designated supplier.

1.4 ACTION SUBMITTALS

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.5 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.

- B. Submit time sheets and other documentation to show testing to be reimbursed by the Testing Allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.6 LUMP-SUM ALLOWANCES

- A. Allowance shall include cost to Contractor of specific products and materials selected by Owner Representative under allowance and shall include taxes, freight, and delivery to Project site.
- B. Unless otherwise indicated, Contractor's costs for receiving and handling at Project site, labor, installation, overhead and profit, and similar costs related to products and materials selected by Architect under allowance shall be included as part of the Contract Sum and not part of the allowance.

1.7 CONTINGENCY ALLOWANCES

- A. Use the contingency allowance only as directed by Owner Representative for Owner's purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit.
- D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

1.8 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
 - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
 - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
 - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.

2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine products covered by an allowance promptly on delivery for damage or defects. Return damaged or defective products to manufacturer for replacement.

3.2 PREPARATION

- A. Coordinate materials and their installation for each allowance with related materials and installations to ensure that each allowance item is completely integrated and interfaced with related work.

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Contingency Allowance: Include a contingency allowance of 10-percent of base price amount (Base Bid Total Amount). for use according to Owner's written bid instructions and form.
- B. Allowance No. 2: Lump-Sum Allowance: Include the sum of \$30,000.00 for shed roof beam deterioration repair, including paint removal, welded straps and stiffeners.
 1. This allowance includes material, receiving, handling, and installation costs, and Contractor overhead and profit.

END OF SECTION 012100

SECTION 012200 – MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. General requirements applicable to all bid/pay items.
2. General provisions on lump sums.
3. Listing of the various bid/pay items in the Project, together with criteria for measuring Unit Price Work for payment.

B. Related Requirements:

1. Include but are not necessarily limited to:
 - a. Section 012100 "Allowances."
 - b. Section 012900 "Payment Procedures."

1.2 REQUIREMENTS APPLICABLE TO ALL BID/PAY ITEMS

A. In this Section and elsewhere in the Contract Documents, the terms "bid item", "pay item", "bid/pay item", "Item" followed by a number designation, "this item" and the like, all have the same meaning and refer to one or more specific elements of the Contract established for pricing and payment, as indicated in the Bid Form and in the Agreement (or exhibit to the Agreement) at the time the Contract was signed by the parties.

B. This Article applies to all bid/pay items in the Contract.

C. Prices – General:

1. The bid/pay items listed starting with Article 1.5 of this Section refer to and are the same bid items listed in the Bid Form and included in the Contract, and constitute all bid/pay items for the Work at the time the Contract was signed by the parties.

D. Contract Price, Payment Procedures, and Related Matters:

1. Contract Price: The Contract Price, as apportioned among bid/pay items in the Contract, is indicated in the Agreement and any associated exhibits thereto and may be modified by Change Order.
2. Payments to Contractor: Refer to the Agreement general conditions (including provisions on retainage, if any).
3. Schedule of Values: Refer to the Agreement general conditions and Section 0129 73 - Schedule of Values.
4. Procedures for Changes in Contract Price: Refer to the Agreement general conditions.
5. Defective Work is not eligible for payment.

1.3 GENERAL PROVISIONS ON UNIT PRICES AND QUANTITIES

- A. Quantities. All bid items will be reimbursed on completed task basis. Therefore, measurement of quantities for partial payment or draws is not applicable.
- B. Measuring for Payment. Successful completion of each task will be required for payment. Therefore, partial completion and measurement thereof is irrelevant.

1.4 GENERAL PROVISIONS ON LUMP SUM ITEMS

- A. Progress payments for Work paid on a lump sum basis will be based on Contractor's estimate of the Work (in accordance with the Contract Documents) performed through the end of the associated pay period, based on the Schedule of Values accepted by Owner or Owner's representative in accordance with the Contract Documents.
- B. At its sole discretion, Owner or Owner's representative may correct amounts of lump sum Work included in prior payment requests based on improved data or information available to Owner or Owner's representative, or Owner or Owner's representative's knowledge or reasonable belief that Work is incomplete or defective.

1.5 BID/PAY ITEMS – GENERAL CONTRACT

- A. Item 1 (Lump Sum) – Mobilization and Demobilization:
 - 1. Measurement: In accordance with the Contract's provisions on Schedule of Values and progress payments for lump sum Work.
 - 2. Item Includes:
 - a. Work and activities indicated in this provision are intended as illustrative for purposes of scope and payment and do not represent a complete list of all preconstruction activities and Submittals, or all Work or activities required by the contract for mobilization and demobilization.
 - b. Summary: Mobilization to the site with all necessary equipment and personnel. Restore the site to its original condition and remove all equipment and personnel from the site.
 - c. Mobilization Work paid under this item will include:
 - 1) Furnishing any required performance bond and payment bond.
 - 2) Furnishing required insurance and associated documentation.
 - 3) Obtaining Owner's acceptance of proposed Subcontractors, Suppliers, and Shop Drawings, and entering into subcontracts and purchase orders needed to start the Work.
 - 4) Preparing and obtaining Owner or Owner's representative's acceptance of schedules, including Progress Schedule, Schedule of Submittals, and Schedule of Values.
 - 5) Preconstruction conference(s) required by the Contract Documents.
 - 6) Preconstruction photographic documentation.
 - 7) Establishing Contractor's site-specific health and safety plan, preconstruction activities needed to start implementing Contractor's safety programs, and verifying status of training of construction workers and personnel and condition of construction equipment, machinery, and tools.

- 8) Submitting acceptable emergency contact information
 - 9) Obtaining required permits needed to start the Work.
 - 10) Establishing construction equipment, machinery, and tools at the Site.
- d. Demobilization Work paid under this item will include:
- 1) Removal from the Site and adjacent areas of excess materials and equipment.
 - 2) Removal of temporary controls, temporary facilities, temporary barriers, and similar materials and equipment.
 - 3) Removal of all storage areas, staging and laydown areas, and other areas needed to perform the Work and restoration of such areas.
 - 4) Removal from the Site of all construction equipment, machinery, tools, Contractor's containers, temporary fuel storage tanks, and similar items.
 - 5) Closeout of permits on which Contractor is a permittee or co-permittee.
 - 6) Final cleaning.
 - 7) Furnishing required closeout documents.
 - 8) Other costs and effort by Contractor for demobilization.
- e. Other cost and Work are under other bid/pay items in the Contract.
3. Payment: Lump sum price for this item will be full compensation for all mobilization and demobilization required and needed for the Contract, not included under other bid/pay items or contracts.
- B. Corbel Repair
1. Measurement: Task
 2. Item Includes: Remove the steel travel beam for reuse. Remove the existing corbel, add reinforcing steel, form and place concrete
 3. Payment: Task
- C. South Façade Crack Sealing
1. Measurement: Task
 2. Item Includes: Remove stucco in limited area, rake joints into exiting CMU façade using gouging tools. Insert reinforcing steel into the raked joints. Grout closed the rake joints. Repair stucco and paint corner to corner of this limited area.
 3. Payment: Task
- D. Retrofit Existing Roof Structure
1. Measurement: Task
 2. Item Includes: Remove roofing materials, clean all framing, install new framing where noted, prime and paint steel and install new roofing system.
 3. Payment: Task
- E. Reimbursable Items
1. Measurement: Third party invoice.
 2. Item includes:
 - a. Permitting fees from the Miami-Dade County Building Department.
 - b. Testing specified in individual Sections and listed generally in Section 014000 "Quality Requirements."

3. Payment: Task with backup.

F. Allowance Items

1. Allowance No 1: Contingency Allowance.

- a. Measurement: As specified in Section 012100 "Allowances" and directed by Owner's Representative.
- b. Payment: Based on cost of authorized work.

2. Allowance No 2: Lump sum allowance for shed roof beam repair.

- a. Measurement: As specified in Section 012100 "Allowances" and directed by Owner's Representative.
- b. Payment: Task.

PART 2 - PRODUCT (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012200

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

- A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
 - 1. Substitutions for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
 - 2. Substitutions for Convenience: Changes proposed by Contractor or Owner that are not required in order to meet other Project requirements but may offer advantage to Contractor or Owner.

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use form CSI 13-1A.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.

- g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES and Miami-Dade County regulations.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
3. Engineer/Architect's Action: If necessary, Engineer/Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Engineer/Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Engineer/Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Engineer/Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.5 PROCEDURES

- A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.6 SUBSTITUTIONS

- A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.
 - 1. Conditions: Engineer/Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer/Architect will return requests without action, except to record noncompliance with these requirements:

- a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Substitution request is fully documented and properly submitted.
 - c. Requested substitution will not adversely affect Contractor's construction schedule.
 - d. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - e. Requested substitution is compatible with other portions of the Work.
 - f. Requested substitution has been coordinated with other portions of the Work.
 - g. Requested substitution provides specified warranty.
 - h. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience: Engineer/Architect will consider requests for substitution if received within 60 days after commencement of the Work. Requests received after that time may be considered or rejected at discretion of Engineer/Architect.
1. Conditions: Engineer/Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Engineer/Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Engineer/Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
 - b. Requested substitution does not require extensive revisions to the Contract Documents.
 - c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - d. Substitution request is fully documented and properly submitted.
 - e. Requested substitution will not adversely affect Contractor's construction schedule.
 - f. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - g. Requested substitution is compatible with other portions of the Work.
 - h. Requested substitution has been coordinated with other portions of the Work.
 - i. Requested substitution provides specified warranty.
 - j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 MINOR CHANGES IN THE WORK

- A. Engineer/Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710, "Architect's Supplemental Instructions."

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Engineer/Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Engineer/Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 10 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail," or forms acceptable to Engineer/Architect.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Engineer/Architect.
 - 1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
7. Proposal Request Form: Use CSI Form 13.6A, "Change Order Request (Proposal)," with attachments CSI Form 13.6D, "Proposal Worksheet Summary," and Form 13.6C, "Proposal Worksheet Detail." or form acceptable to Engineer/Architect.

1.4 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Changes Proposal Request, Engineer/Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.5 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Engineer/Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
 1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.
- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Section
 - 1. Section 012200 "Measurement and Payment."

1.2 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items listed in Bid Sheet included at the end of this Section.
 - 2. Submit the schedule of values to Owner or Owner's representative at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Bid Sheet included at the end of this Section as a guide to establish line items for the schedule of values.
 - 1. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports.
 - 2. Overhead Costs: Include total cost and proportionate share of general overhead and profit for each line item.
 - 3. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.3 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments as certified by Owner or Owner's representative and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Application for Payment Forms: Use Owner's forms
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Owner or Owner's representative will return incomplete applications without action.

1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Owner or Owner's representative by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from entities lawfully entitled to file a mechanic's lien arising out of the Contract and related to the Work covered by the payment.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- G. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Products list (preliminary if not final).
 5. Submittal schedule (preliminary if not final).
 6. List of Contractor's staff assignments.
 7. Copies of building permits.
 8. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 9. Initial progress report.
 10. Certificates of insurance and insurance policies.
 11. Performance and payment bonds.
 12. Data needed to acquire Owner's insurance.
- H. Application for Payment at Substantial Completion: After Engineer/Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

- I. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 1. Evidence of completion of Project closeout requirements.
 - a. Include As-Built and record drawings, warranties, operations and maintenance data, copy of permit drawings and other documents specified in Sections 017700 "Closeout Procedures," 017823 "Operation and Maintenance Data," and 017839 "Project Record Documents."
 - b. Include copies of measurement and payment documents.
 - c. Include bid forms and support documents.
 2. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 3. Updated final statement, accounting for final changes to the Contract Sum.
 4. Evidence that claims have been settled.
 5. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. Requests for Information (RFIs).
 - 4. Project meetings.

1.2 DEFINITIONS

- A. RFI: Request from Owner, Engineer/Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

- A. Key Personnel Names: Within 5 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site.

1.4 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work.

1.5 COORDINATION DRAWINGS

- A. Coordination Drawings, General: Prepare coordination drawings according to requirements in individual Sections, and additionally where installation is not completely indicated on Shop Drawings, where limited space availability necessitates coordination, or if coordination is required to facilitate integration of products and materials fabricated or installed by more than one entity.

1.6 REQUESTS FOR INFORMATION (RFIs)

- A. General: Immediately on discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Engineer/Architect will return RFIs submitted to Engineer/Architect by other entities controlled by Contractor with no response.
 - 2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation.
- C. RFI Forms: AIA Document G716 or Software-generated form with substantially the same content as indicated above, acceptable to Engineer/Architect.
 - 1. Attachments shall be electronic files in Adobe Acrobat PDF format.
- D. Engineer/Architect's Action: Engineer/Architect will review each RFI, determine action required, and respond. Allow five working days for Engineer/Architect's response for each RFI. RFIs received by Engineer/Architect after 1:00 p.m. will be considered as received the following working day.
 - 1. Engineer/Architect's action may include a request for additional information, in which case Engineer/Architect's time for response will date from time of receipt of additional information.
 - 2. Engineer/Architect's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Section 012600 "Contract Modification Procedures."
 - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer/Architect in writing within 5 days of receipt of the RFI response.
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly.
- F. On receipt of Engineer/Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer/Architect within five days if Contractor disagrees with response.
 - 1. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
 - 2. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer/Architect of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer/Architect, within three days of the meeting.
- B. Preconstruction Conference: Schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Engineer/Architect, but no later than 5 days after execution of the Agreement.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.
2. Photographic Documentation

1.2 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file, where indicated.
2. PDF electronic file.

- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

- C. Photographic Documentation

1. Digital Photographs: Submit image files within three days of taking photographs.
 - a. Digital Camera: Minimum sensor resolution of 8 megapixels.
 - b. Format: Minimum 3200 by 2400 pixels, in unaltered original files, with same aspect ratio as the sensor, uncropped, date and time stamped, in folder named by date of photograph, accompanied by key plan file.
 - c. Identification: Provide the following information with each image description in file metadata tag:
 - 1) Name of Project.
 - 2) Name of Engineer/Architect.
 - 3) Name of Contractor.
 - 4) Date photograph was taken.
 - 5) Description of vantage point.

1.3 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

- A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Substantial Completion.
- C. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion.

2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 21 days of date established for commencement of the Work. Insert articles for other schedules and lists to suit Project, depending on complexity.

2.3 REPORTS

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:
 - 1. List of subcontractors at Project site.
 - 2. Approximate count of personnel at Project site.
 - 3. Equipment at Project site.
 - 4. Material deliveries.
 - 5. High and low temperatures and general weather conditions, including presence of rain or snow.
 - 6. Testing and inspection.
 - 7. Accidents.
 - 8. Meetings and significant decisions.
 - 9. Stoppages, delays, shortages, and losses.
 - 10. Meter readings and similar recordings.
 - 11. Emergency procedures.
 - 12. Orders and requests of authorities having jurisdiction.
 - 13. Change Orders received and implemented.
 - 14. Construction Change Directives received and implemented.
 - 15. Services connected and disconnected.
 - 16. Equipment or system tests and startups.

2.4 PHOTOGRAPHIC MEDIA

- A. Digital Images: Provide images in JPG format, produced by a digital camera with minimum sensor size of 8 megapixels, and at an image resolution of not less than 3200 by 2400 pixels.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Distribution: Distribute copies of approved schedule to Engineer/Architect, Owner or Owner's representative, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

3.2 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
- B. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
 - 1. Date and Time: Include date and time in file name for each image.
 - 2. Field Office Images: Maintain one set of images accessible in the field office at Project site, available at all times for reference. Identify images in the same manner as those submitted to Engineer/Architect.
- C. Periodic Construction Photographs: Take photographs weekly, with timing each month adjusted to coincide with the cutoff date associated with each Application for Payment. Select vantage points to show status of construction and progress since last photographs were taken.

END OF SECTION 013200

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for the submittal schedule and administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Engineer/Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer/Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."
- C. Portable Document Format (PDF): An open standard file format licensed by Adobe Systems used for representing documents in a device-independent and display resolution-independent fixed-layout document format.

1.3 ACTION SUBMITTALS

- A. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates.

1.4 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

- A. Engineer/Architect's Digital Data Files: Electronic digital data files of the Contract Drawings will not be provided by Engineer/Architect for Contractor's use in preparing submittals.
- B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer/Architect's receipt of submittal. The commencement of review time for submittals received after 3:00 PM at the Engineer/Architect's office shall be the following business day. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 5 business days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer/Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow 5 business days for review of each resubmittal.

- C. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:
1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 2. Name file with submittal number or other unique identifier, including revision identifier.
 3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Engineer/Architect.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Engineer/Architect.
 4. Name of Contractor.
 5. Name of firm or entity that prepared submittal.
 6. Names of subcontractor, manufacturer, and supplier.
 7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
 8. Submittal purpose and description.
 9. Drawing number and detail references, as appropriate.
 10. Indication of full or partial submittal.
 11. Location(s) where product is to be installed, as appropriate.
- B. Options: Identify options requiring selection by Engineer/Architect.
- C. Deviations and Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer/Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer/Architect's action stamp.

PART 2 - PRODUCTS

2.1 SUBMITTAL PROCEDURES

- A. General Submittal Procedure Requirements: Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Submit electronic submittals via email as PDF electronic files.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are not suitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Testing by recognized testing agency.
 - d. Notation of coordination requirements.
 4. Submit Product Data before or concurrent with Samples.
 5. Submit Product Data in the following format:
 - a. PDF electronic file.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate requirements in the Contract Documents.
 2. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches (215 by 280 mm), but no larger than 30 by 42 inches (750 by 1067 mm).
 3. Submit Shop Drawings in the following format:
 - a. PDF electronic file.
- D. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other elements and for a comparison of these characteristics between submittal and actual component as delivered and installed.
1. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
 2. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected.
- E. Test and Research Reports:
1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
 2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
 3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.

4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
 5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
- F. Coordination Drawing Submittals: Comply with requirements specified in Section 013100 "Project Management and Coordination."
 - G. Contractor's Construction Schedule: Comply with requirements specified in Section 013200 "Construction Progress Documentation."
 - H. Application for Payment and Schedule of Values: Comply with requirements specified in Section 012900 "Payment Procedures."
 - I. Test and Inspection Reports and Schedule of Tests and Inspections Submittals: Comply with requirements specified in Section 014000 "Quality Requirements."
 - J. Closeout Submittals and Maintenance Material Submittals: Comply with requirements specified in Section 017700 "Closeout Procedures."
 - K. Maintenance Data: Comply with requirements specified in Section 017823 "Operation and Maintenance Data."
 - L. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.
 - M. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
 - N. Design Data for Delegated Design: Prepare and submit written and graphic information, including, but not limited to, performance and design criteria, list of applicable codes and regulations, and calculations. Include list of assumptions and other performance and design criteria and a summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Include page numbers.

2.2 DELEGATED-DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 1. If criteria indicated are insufficient to perform services or certification required, submit a written request for additional information to Engineer/Architect.
- B. Delegated-Design Services Certification: In addition to Shop Drawings, Product Data, and other required submittals, submit digitally signed PDF file and three paper copies of certificate, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

PART 3 - EXECUTION

3.1 CONTRACTOR'S REVIEW

- A. Action and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer/Architect.
- B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017700 "Closeout Procedures."
- C. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.2 ARCHITECT'S ACTION

- A. Action Submittals: Engineer/Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Engineer/Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.
- B. Informational Submittals: Engineer/Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer/Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer/Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Submittals not required by the Contract Documents may be returned by the Engineer/Architect without action.

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Provide testing, including Special Inspection and Testing, specified for the Project.
 - a. The Owner will not perform testing.
 - b. Costs for testing shall be borne by the Owner as a reimbursable expense.

1.2 DEFINITIONS

- A. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- D. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer/Architect.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with specified requirements.
 - 1. Provide specified testing and inspection services as defined above and specified in technical specifications. Submit costs to Owner for reimbursement against Testing and Inspection Allowance specified in Section 012100 "Allowances."
- F. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
- G. Experienced: When used with an entity or individual, "experienced" means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.3 DELEGATED DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
- B. Delegated Design Services Statement: Submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.

1.4 CONFLICTING REQUIREMENTS

- A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Engineer/Architect for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer/Architect for a decision before proceeding.

1.5 INFORMATIONAL SUBMITTALS

- A. Contractor's Quality-Control Plan: For quality-assurance and quality-control activities and responsibilities.
- B. Qualification Data: For Contractor's quality-control personnel.
- C. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- D. Schedule of Tests and Inspections: As specified in Part 3 of this Section.
 - 1. Where individual Sections or authorities having jurisdiction require tests and inspections not listed in the Schedule of Tests and Inspections, submit Request for Information as specified in Section 013100 "Project Management and Coordination."
- E. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

- A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed. Submit in format acceptable to Engineer/Architect. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's construction schedule.
- B. Quality-Control Personnel Qualifications: Engage qualified full-time personnel trained and experienced in managing and executing quality-assurance and quality-control procedures similar in nature and extent to those required for Project.
 - 1. Project quality-control manager may also serve as Project superintendent.
- C. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.
- D. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:
 - 1. Contractor-performed tests and inspections including subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and inspections.
 - 2. Special inspections required by authorities having jurisdiction and indicated on the "Statement of Special Inspections."
- E. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.
- F. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Engineer/Architect has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.7 REPORTS AND DOCUMENTS

- A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections.
- B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections.
- C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections.

1.8 QUALITY ASSURANCE

- A. General: Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.
- F. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated.
- G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.9 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities required to verify that the Work complies with requirements, whether specified or not.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
- B. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.
- C. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
- D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including

service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

- E. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

- A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:
 - 1. Date test or inspection was conducted.
 - 2. Description of the Work tested or inspected.
 - 3. Date test or inspection results were transmitted to Engineer/Architect.
 - 4. Identification of testing agency or special inspector conducting test or inspection.
- B. Maintain log at Project site. Post changes and revisions as they occur.

3.2 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

3.3 SCHEDULE OF TESTS AND INSPECTIONS

- A. Generally: Provide testing and inspections specified for this project, including the following. Submit costs for testing to the Owner as reimbursable expenses.
 - 1. Section 033000 "Cast-in-Place Concrete": As specified in Article "Quality Control" including the following:
 - a. Testing of Concrete Materials.
 - b. Concrete Tests.
 - c. Controlled Concrete – Tests and Supervision
 - 2. Section 051000 "Structural Steel": As specified in Article "Quality Assurance" including the following:

- a. Mill Tests.
 - b. Shop Inspection.
 - c. Field Inspection.
 - d. Magnetic testing.
 - e. Weld testing.
 - f. Ultrasonic testing.
3. Section 053200 "Metal Roof Deck": As specified in Article "Field Quality Control" including the following:
 - a. Weld testing.
 4. Section 054000 "Cold-formed Metal Framing": As specified in Article "Field Quality Control" including the following:
 - a. Welding tests.
 5. Section 061000 "Rough Carpentry."
 - a. Testing of treated carpentry.
 6. Section 099113 "Exterior Painting": As specified in Article "Field Quality Control" including the following:
 - a. Dry film thickness testing.
 7. Section 099600 "High Performance Coatings": As specified in Article "Field Quality Control" including the following:
 - a. Dry film thickness testing.
- B. The Owner or Owner's Representative will perform Special Inspections specified in the following sections.
1. Section 051000 "Structural Steel."
 2. Section 053200 "Metal Roof Deck."
 3. Section 054000 "Cold-formed Metal Framing."
 4. Testing associated with Special Inspections shall be by the Contractor, with costs submitted as reimbursable expenses.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": When used to convey Engineer/Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer/Architect's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": A command or instruction by Engineer/Architect. Other terms including "requested," "authorized," "selected," "required," and "permitted" have the same meaning as "directed."
- D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms, including "shown," "noted," "scheduled," and "specified," have the same meaning as "indicated."
- E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.
- H. "Provide": Furnish and install, complete and ready for the intended use.
- I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.
 - 1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AABC - Associated Air Balance Council; www.aabc.com.
2. AAMA - American Architectural Manufacturers Association; www.aamanet.org.
3. AAPFCO - Association of American Plant Food Control Officials; www.aapfco.org.
4. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
5. AATCC - American Association of Textile Chemists and Colorists; www.aatcc.org.
6. ABMA - American Bearing Manufacturers Association; www.americanbearings.org.
7. ABMA - American Boiler Manufacturers Association; www.abma.com.
8. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org
9. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
10. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
11. AF&PA - American Forest & Paper Association; www.afandpa.org.
12. AGA - American Gas Association; www.aga.org.
13. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
14. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
15. AI - Asphalt Institute; www.asphaltinstitute.org.
16. AIA - American Institute of Architects (The); www.aia.org.
17. AISC - American Institute of Steel Construction; www.aisc.org.
18. AISI - American Iron and Steel Institute; www.steel.org.
19. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
20. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
21. ANSI - American National Standards Institute; www.ansi.org.
22. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
23. APA - APA - The Engineered Wood Association; www.apawood.org.
24. APA - Architectural Precast Association; www.archprecast.org.
25. API - American Petroleum Institute; www.api.org.
26. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
27. ARI - American Refrigeration Institute; (See AHRI).
28. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
29. ASCE - American Society of Civil Engineers; www.asce.org.
30. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
31. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
32. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
33. ASSE - American Society of Safety Engineers (The); www.asse.org.
34. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
35. ASTM - ASTM International; www.astm.org.

36. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
37. AWEA - American Wind Energy Association; www.awea.org.
38. AWI - Architectural Woodwork Institute; www.awinet.org.
39. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
40. AWPA - American Wood Protection Association; www.awpa.com.
41. AWS - American Welding Society; www.aws.org.
42. AWWA - American Water Works Association; www.awwa.org.
43. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
44. BIA - Brick Industry Association (The); www.gobrick.com.
45. BICSI - BICSI, Inc.; www.bicsi.org.
46. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.org.
47. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
48. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bissc.org.
49. CDA - Copper Development Association; www.copper.org.
50. CE - Conformite Europeenne; <http://ec.europa.eu/growth/single-market/ce-marking/>
51. CEA - Canadian Electricity Association; www.electricity.ca.
52. CEA - Consumer Electronics Association; www.ce.org.
53. CFFA - Chemical Fabrics and Film Association, Inc.; www.chemicalfabricsandfilm.com.
54. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
55. CGA - Compressed Gas Association; www.cganet.com.
56. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
57. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
58. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
59. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
60. CPA - Composite Panel Association; www.pbmdf.com.
61. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
62. CRRC - Cool Roof Rating Council; www.coolroofs.org.
63. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
64. CSA - CSA Group; www.csa.ca.
65. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
66. CSI - Construction Specifications Institute (The); www.csinet.org.
67. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
68. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
69. CWC - Composite Wood Council; (See CPA).
70. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
71. DHI - Door and Hardware Institute; www.dhi.org.
72. ECA - Electronic Components Association; (See ECIA).
73. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
74. ECIA - Electronic Components Industry Association; www.eciaonline.org.
75. EIA - Electronic Industries Alliance; (See TIA).
76. EIMA - EIFS Industry Members Association; www.eima.com.
77. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
78. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
79. ESTA - Entertainment Services and Technology Association; (See PLASA).
80. ETL - Intertek (See Intertek); www.intertek.com.
81. EVO - Efficiency Valuation Organization; www.evo-world.org.
82. FCI - Fluid Controls Institute; www.fluidcontrolsinstitute.org.
83. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
84. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.

85. FM Approvals - FM Approvals LLC; www.fmglobal.com.
86. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
87. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridarroof.com.
88. FSA - Fluid Sealing Association; www.fluidsealing.com.
89. FSC - Forest Stewardship Council U.S.; www.fscus.org.
90. GA - Gypsum Association; www.gypsum.org.
91. GANA - Glass Association of North America; www.glasswebsite.com.
92. GS - Green Seal; www.greenseal.org.
93. HI - Hydraulic Institute; www.pumps.org.
94. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
95. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
96. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
97. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
98. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
99. IAS - International Accreditation Service; www.iasonline.org.
100. IAS - International Approval Services; (See CSA).
101. ICBO - International Conference of Building Officials; (See ICC).
102. ICC - International Code Council; www.iccsafe.org.
103. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
104. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
105. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
106. IEC - International Electrotechnical Commission; www.iec.ch.
107. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
108. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
109. IESNA - Illuminating Engineering Society of North America; (See IES).
110. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
111. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
112. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
113. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
114. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
115. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
116. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).
117. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
118. ISO - International Organization for Standardization; www.iso.org.
119. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
120. ITU - International Telecommunication Union; www.itu.int/home.
121. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
122. LMA - Laminating Materials Association; (See CPA).
123. LPI - Lightning Protection Institute; www.lightning.org.
124. MBMA - Metal Building Manufacturers Association; www.mbma.com.
125. MCA - Metal Construction Association; www.metalconstruction.org.
126. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
127. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
128. MHIA - Material Handling Industry of America; www.mhia.org.
129. MIA - Marble Institute of America; www.marble-institute.com.
130. MMPA - Moulding & Millwork Producers Association; www.wmmpa.com.
131. MPI - Master Painters Institute; www.paintinfo.com.
132. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
133. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.

134. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
135. NADCA - National Air Duct Cleaners Association; www.nadca.com.
136. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
137. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
138. NBI - New Buildings Institute; www.newbuildings.org.
139. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
140. NCMA - National Concrete Masonry Association; www.ncma.org.
141. NEBB - National Environmental Balancing Bureau; www.nebb.org.
142. NECA - National Electrical Contractors Association; www.necanet.org.
143. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
144. NEMA - National Electrical Manufacturers Association; www.nema.org.
145. NETA - InterNational Electrical Testing Association; www.netaworld.org.
146. NFHS - National Federation of State High School Associations; www.nfhs.org.
147. NFPA - National Fire Protection Association; www.nfpa.org.
148. NFPA - NFPA International; (See NFPA).
149. NFRC - National Fenestration Rating Council; www.nfrc.org.
150. NHLA - National Hardwood Lumber Association; www.nhla.com.
151. NLGA - National Lumber Grades Authority; www.nlga.org.
152. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
153. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
154. NRCA - National Roofing Contractors Association; www.nrca.net.
155. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
156. NSF - NSF International; www.nsf.org.
157. NSPE - National Society of Professional Engineers; www.nspe.org.
158. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
159. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
160. NWFA - National Wood Flooring Association; www.nwfa.org.
161. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
162. PDI - Plumbing & Drainage Institute; www.pdionline.org.
163. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); <http://www.plasa.org>.
164. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
165. RFCI - Resilient Floor Covering Institute; www.rfci.com.
166. RIS - Redwood Inspection Service; www.redwoodinspection.com.
167. SAE - SAE International; www.sae.org.
168. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
169. SDI - Steel Deck Institute; www.sdi.org.
170. SDI - Steel Door Institute; www.steeldoor.org.
171. SEFA - Scientific Equipment and Furniture Association (The); www.sefalabs.com.
172. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
173. SIA - Security Industry Association; www.siaonline.org.
174. SJI - Steel Joist Institute; www.steeljoist.org.
175. SMA - Screen Manufacturers Association; www.smainfo.org.
176. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
177. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
178. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
179. SPIB - Southern Pine Inspection Bureau; www.spib.org.
180. SPRI - Single Ply Roofing Industry; www.spri.org.
181. SRCC - Solar Rating & Certification Corporation; www.solar-rating.org.
182. SSINA - Specialty Steel Industry of North America; www.ssina.com.
183. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
184. STI - Steel Tank Institute; www.steeltank.com.

185. SWI - Steel Window Institute; www.steelwindows.com.
 186. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
 187. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
 188. TCNA - Tile Council of North America, Inc.; www.tileusa.com.
 189. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
 190. TIA - Telecommunications Industry Association (The); (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
 191. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
 192. TMS - The Masonry Society; www.masonrysociety.org.
 193. TPI - Truss Plate Institute; www.tpinst.org.
 194. TPI - Turfgrass Producers International; www.turfgrassod.org.
 195. TRI - Tile Roofing Institute; www.tilerroofing.org.
 196. UL - Underwriters Laboratories Inc.; <http://www.ul.com>.
 197. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
 198. USAV - USA Volleyball; www.usavolleyball.org.
 199. USGBC - U.S. Green Building Council; www.usgbc.org.
 200. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
 201. WA - Wallcoverings Association; www.wallcoverings.org.
 202. WASTEC - Waste Equipment Technology Association; www.wastec.org.
 203. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
 204. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
 205. WDMA - Window & Door Manufacturers Association; www.wdma.com.
 206. WI - Woodwork Institute; www.wicnet.org.
 207. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
 208. WWPA - Western Wood Products Association; www.wwpa.org.
- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.
1. DIN - Deutsches Institut für Normung e.V.; www.din.de.
 2. IAPMO - International Association of Plumbing and Mechanical Officials; www.iapmo.org.
 3. ICC - International Code Council; www.iccsafe.org.
 4. ICC-ES - ICC Evaluation Service, LLC; www.icc-es.org.
- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.
1. COE - Army Corps of Engineers; www.usace.army.mil.
 2. CPSC - Consumer Product Safety Commission; www.cpsc.gov.
 3. DOC - Department of Commerce; National Institute of Standards and Technology; www.nist.gov.
 4. DOD - Department of Defense; www.quicksearch.dla.mil.
 5. DOE - Department of Energy; www.energy.gov.
 6. EPA - Environmental Protection Agency; www.epa.gov.
 7. FAA - Federal Aviation Administration; www.faa.gov.
 8. FG - Federal Government Publications; www.gpo.gov/fdsys.
 9. GSA - General Services Administration; www.gsa.gov.
 10. HUD - Department of Housing and Urban Development; www.hud.gov.
 11. LBL - Lawrence Berkeley National Laboratory; Environmental Energy Technologies Division; www.eetd.lbl.gov.

12. NIH – National Institutes of Health
13. OSHA - Occupational Safety & Health Administration; www.osha.gov.
14. SD - Department of State; www.state.gov.
15. TRB - Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
16. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
17. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
18. USDOJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
19. USP - U.S. Pharmacopeial Convention; www.usp.org.
20. USPS - United States Postal Service; www.usps.com.

E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CFR - Code of Federal Regulations; Available from Government Printing Office; www.gpo.gov/fdsys.
2. DOD - Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.quicksearch.dla.mil.
3. DRM – Design Requirements Manual published by the National Institutes of Health, latest edition.
4. DSCC - Defense Supply Center Columbus; (See FS).
5. FED-STD - Federal Standard; (See FS).
6. FS - Federal Specification; Available from DLA Document Services; www.quicksearch.dla.mil.
 - a. Available from Defense Standardization Program; www.dsp.dla.mil.
 - b. Available from General Services Administration; www.gsa.gov.
 - c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org/ccb.
7. MILSPEC - Military Specification and Standards; (See DOD).
8. USAB - United States Access Board; www.access-board.gov.
9. USATBCB - U.S. Architectural & Transportation Barriers Compliance Board; (See USAB).

F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. CBHF; State of California; Department of Consumer Affairs; Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; www.bearhfti.ca.gov.
2. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.calregs.com.
3. CDHS; California Department of Health Services; (See CDPH).
4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cal-iaq.org.
5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
6. MDC; Miami-Dade County (Florida).
7. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.

8. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development;
www.txforestservation.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.2 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to Engineer/Architect, testing agencies, and authorities having jurisdiction.
- B. Water and Sewer Service from Existing System: Water from Owner's existing water system is available for use. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use. Provide connections and extensions of services as required for construction operations.

1.3 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, vehicle circulation, and parking areas for construction personnel.
 - 1. Obtain Owner permission for proposed site utilization plan.
- B. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- C. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- D. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold. Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.

1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and requirements for replacing water-damaged Work.
 2. Indicate methods to be used to avoid trapping water in finished work.
- E. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Identify further options if proposed measures are later determined to be inadequate.

1.4 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil (0.25-mm) minimum thickness, with flame-spread rating of 15 or less per ASTM E 84 and passing NFPA 701 Test Method 2.
- B. Dust-Control Adhesive-Surface Walk-off Mats: Provide mats minimum 36 by 60 inches (914 by 1624 mm).

2.2 TEMPORARY FACILITIES

- A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 1. Store combustible materials apart from building.

2.3 EQUIPMENT

- A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.
- B. HVAC Equipment: Unless Owner authorizes use of permanent HVAC system, provide vented, self-contained, liquid-propane-gas or fuel-oil heaters with individual space thermostatic control. Obtain Owner's acceptance of proposed temporary heaters.

1. Use of gasoline-burning space heaters, open-flame heaters, or salamander-type heating units is prohibited.
2. Heating, Cooling, and Dehumidifying Units: Listed and labeled for type of fuel being consumed, by a qualified testing agency acceptable to authorities having jurisdiction, and marked for intended location and application.
3. Permanent HVAC System: If Owner authorizes use of permanent HVAC system for temporary use during construction, provide filter with MERV of 8 at each return-air grille in system and remove at end of construction. and clean HVAC system as required in Section 017700 "Closeout Procedures."

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.2 TEMPORARY UTILITY INSTALLATION

- A. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- B. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 1. Maintain dust partitions during the Work.
 2. Perform daily construction cleanup and final cleanup.
- D. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.
 1. Provide dehumidification systems when required to reduce substrate moisture levels to level required to allow installation or application of finishes.
- E. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

3.3 SUPPORT FACILITIES INSTALLATION

- A. General: Comply with the following:
 - 1. Provide construction for temporary offices, shops, and sheds located within construction area of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
 - 2. Maintain support facilities until Engineer/Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.
- B. Parking: Use designated areas of Owner's existing parking areas for construction personnel. Do not utilize parking areas designated for adjacent or nearby tenants.
 - 1. Review parking plan with Owner.
- C. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.
 - 1. Temporary Signs: Provide other signs as indicated and as required to inform public and individuals seeking entrance to Project.
 - a. Provide temporary, directional signs for construction personnel and visitors.
- D. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
- C. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using environmentally safe materials.
- D. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each work day.
- E. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- F. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

- G. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.

- 1. Prohibit smoking in construction areas.

3.5 MOISTURE AND MOLD CONTROL

- A. Contractor's Moisture-Protection Plan: Avoid trapping water in finished work. Document visible signs of mold that may appear during construction.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.
 - 1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.

- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
 - 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 - 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
- F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
 - 2. Engineer/Architect's Action: If necessary, Engineer/Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Engineer/Architect will notify Contractor of approval or rejection of proposed comparable product request within 5 days of receipt of request, or 7 days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 013300 "Submittal Procedures."
 - b. Use product specified if Engineer/Architect does not issue a decision on use of a comparable product request within time allocated.
- B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 013300 "Submittal Procedures." Show compliance with requirements.
- C. Regulatory Submittals: Demonstrating compliance with Regulatory Requirements specified in this Section.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
- B. REGULATORY REQUIREMENTS
 - 1. Products and assemblies shall be provided with Notice of Approval conferred by the Miami-Dade County (Florida) Department of Regulatory and Economic Resources; Product Control Section.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 5. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
 - 1. Where products are accompanied by the term "as selected," Engineer/Architect will make selection.
 - 2. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 - 3. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

4. Or Equal: For products specified by name and accompanied by the term "or equal," or "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
 - a. Limited List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
 - b. Non-limited List: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed, or an unnamed product, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
 - a. Limited List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
 - b. Non-limited List: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed, or a product by an unnamed manufacturer, that complies with requirements. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.

- C. Visual Matching Specification: Where Specifications require "match Engineer/Architect's sample", provide a product that complies with requirements and matches Engineer/Architect's sample. Engineer/Architect's decision will be final on whether a proposed product matches.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration: Engineer/Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Engineer/Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.
- B. Engineer/Architect's Action on Comparable Products Submittal: If necessary, Engineer/Architect will request additional information or documentation for evaluation, as specified in Section 013300 "Submittal Procedures."
1. Form of Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 2. Use product specified if Engineer/Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Single-Step Process: When acceptable to Engineer/Architect, incorporate specified submittal requirements of individual Specification Section in combined submittal for comparable products. Approval by the Engineer/Architect of Contractor's request for use of comparable product and of individual submittal requirements will also satisfy other submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Installation of the Work.
 - 2. Cutting and patching.
 - 3. Progress cleaning.
 - 4. Protection of installed construction.

1.2 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of other work.

1.3 INFORMATIONAL SUBMITTALS

- A. Cutting and Patching Plan: Submit plan describing procedures at least 5 days prior to the time cutting and patching will be performed. Include the following information:

1.4 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, notify Engineer/Architect of locations and details of cutting and await directions from Engineer/Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection
 - 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
 - 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
 - 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Engineer/Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Engineer/Architect for the visual and functional performance of in-place materials.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents caused by differing field conditions outside the control of Contractor, submit a request for information to Engineer/Architect.

3.3 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- D. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.4 CUTTING AND PATCHING

- A. Cutting and Patching, General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
 - 1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Temporary Support: Provide temporary support of work to be cut.
- C. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- D. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching according to requirements in Section 011000 "Summary."
 - 1. Notify Owner a minimum of seven days in advance of the date such interference or interruption is to begin.
- E. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- F. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
- G. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other work. Patch with durable seams that are as invisible as

practicable. Provide materials and comply with installation requirements specified in other Sections, where applicable.

1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will minimize evidence of patching and refinishing.

3.5 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."
- G. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

3.6 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

END OF SECTION 017300

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Submittal of O&M manuals
 - 5. Submittal of As-built and Record Drawings.
 - 6. Submittal of Final Payment, including waiver release.
 - 7. Final cleaning.
 - 8. Repair of the Work.
- B. Related Sections:
 - 1. Section 017823 "Operation and Maintenance Data" for O&M manuals.
 - 2. Section 017839 "Project Record Documents" for As-Built and Record Drawings.

1.2 ACTION SUBMITTALS

- A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

1.3 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's punch list), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 5 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

2. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 5 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Complete final cleaning requirements.
 3. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer/Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer/Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer/Architect, that must be completed or corrected before certificate will be issued.

1.5 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining final completion, complete the following:
1. Submit a final Application for Payment.
 2. Certified List of Incomplete Items: Submit certified copy of Engineer/Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer/Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the work will be completed and ready for final inspection and tests. On receipt of request, Engineer/Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer/Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.

1.6 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Submit list of incomplete items in the following format:
 - a. MS Excel electronic file. Engineer/Architect will return annotated file.

- b. PDF electronic file. Engineer/Architect will return annotated file.

1.7 SUBMITTAL OF PROJECT WARRANTIES

- A. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.
- B. Provide additional copies of each warranty to include in operation and maintenance manuals.

1.8 SUBMITTAL OF OPERATIONS AND MAINTENANCE MANUALS

- A. Organize O&M documents into an orderly sequence as specified in Section 017823 "Operations and Maintenance Data."

1.9 SUBMITTAL OF AS-BUILT DRAWINGS AND RECORD DOCUMENTS

- A. Organize As-built Drawings and Record Documents into an orderly sequence as specified in Section 017839 "Project Record Documents."

1.10 SUBMITTAL OF FINAL PAYMENT APPLICATION

- A. Organize payment application, including waivers and releases, as specified in Section 012900 "Payment Procedures."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

- a. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - b. Remove labels that are not permanent.
 - c. Leave Project clean and ready for use.
- C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations before requesting inspection for determination of Substantial Completion.
- B. Repair or remove and replace defective construction. Where damaged or worn items cannot be repaired or restored, provide replacements. Restore damaged construction and permanent facilities used during construction to specified condition.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

- A. Manual Content: Operations and maintenance manual content is specified in individual Specification Sections to be reviewed at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
- B. Format: Submit operations and maintenance manuals in the following format:
 - 1. PDF electronic file. Assemble each manual into a composite electronically indexed file. Submit on digital media acceptable to Engineer/Architect.
- C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Engineer/Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Engineer/Architect's comments. Submit copies of each corrected manual within 5 days of receipt of Engineer/Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 PRODUCT MAINTENANCE MANUALS

- A. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- B. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.

- C. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Schedule for routine cleaning and maintenance.
 - 3. Repair instructions.
- D. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- E. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.

PART 3 - EXECUTION

3.1 MANUAL PREPARATION

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
- B. Related Requirements:
 - 1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit PDF electronic files and CAD files of scanned record prints and one set(s) of file prints.
 - 2) Engineer/Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit Record Digital Data Files and three set(s) of Record Digital Data File plots.
 - 2) Plot each drawing file, whether or not changes and additional information were recorded.
- B. Record Specifications: Submit annotated PDF electronic files and one of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it.
 - c. Record and check the markup before enclosing concealed installations.
 - d. Cross-reference record prints to corresponding photographic documentation.
 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Locations and depths of underground utilities.
 - d. Changes made by Change Order or Construction Change Directive.
 - e. Changes made following Engineer/Architect's written orders.
 - f. Details not on the original Contract Drawings.
 - g. Field records for variable and concealed conditions.
 - h. Record information on the Work that is shown only schematically.
 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Engineer/Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Same digital data software program, version, and operating system as for the original Contract Drawings.
 2. Format: Annotated PDF electronic file with comment function enabled.
 3. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 4. Refer instances of uncertainty to Engineer/Architect for resolution.
 5. Engineer/Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file with comment function enabled.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Engineer/Architect.
 - e. Name of Contractor.

1.4 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 3. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
- B. Format: Submit record specifications as annotated PDF electronic file.

1.5 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 3. Note related Change Orders and Record Drawings where applicable.
- C. Format: Submit Record Product Data as annotated PDF electronic file.
 1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.6 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Engineer/Architect's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Demolition and removal of selected portions of building or structure.
2. Demolition and removal of selected site elements.

1.2 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.3 INFORMATIONAL SUBMITTALS

- A. Engineering Survey: Submit engineering survey of condition of building.
- B. Schedule of selective demolition activities with starting and ending dates for each activity.
- C. Predemolition photographs or video.

1.4 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Engineer/Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
1. If suspected hazardous materials are encountered, do not disturb; immediately notify Engineer/Architect and Owner.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
1. Maintain fire-protection facilities in service during selective demolition operations.
- G. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Perform an engineering survey of condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective building demolition operations.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems indicated to remain and protect them against damage.

3.3 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
- C. Remove temporary barricades and protections where hazards no longer exist.

3.4 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.

2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 3. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 4. Maintain fire watch during and for at least two hours after flame-cutting operations.
 5. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 6. Dispose of demolished items and materials promptly.
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
- C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Engineer/Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.5 CLEANING

- A. Remove demolition waste materials from Project site and dispose of them in an EPA-approved construction and demolition waste landfill acceptable to authorities having jurisdiction.
1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SECTION 024119

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The general provisions of the Contract, including General and Supplementary Provisions and General Requirements, apply to the work specified in this Section.

1.2 SCOPE OF WORK

- A. All labor, materials, equipment and accessories necessary for or incidental to the completion of all concrete superstructure and cement superstructure work, and related items as shown on the drawings, as specified herein, and as required by conditions at the site, are a part of the Contract.
- B. Without restricting the generality of the foregoing, the following items of work are included:
 - 1. Concreting fills as required.
 - 2. Surface finishing of all exposed concrete work. Ground surface finishing on exposed concrete ceilings, beams and columns except in unfinished areas or where applied finish is noted on the Architectural Drawings.
 - 3. Setting and grouting of all anchors, hanger supports, ties, blocking, bolts, sockets, sleeves, etc., built into concrete work except inserts specified to be installed under Mechanical Sections. Also furnishing of nailing strips, inserts and anchors as hereinafter specified in this Section.
 - 4. Grouting and setting of base plates for structural steel.
 - 5. Temporary bracing as required in connection with work of this section.
 - 6. All other labor and materials which may reasonably be inferred as needed to make the work of this section complete.
- C. Related work specified elsewhere:
 - 1. Metal Decking - Section 053200.
 - 2. Structural Steel - Section 051000.

1.3 APPLICABLE CODES AND STANDARDS

- A. General: All work shall be done in accordance with all applicable codes and regulations having jurisdiction. Unless specifically specified otherwise herein or by local ordinance, all work shall be done in accordance with the following codes, standards and specifications, and such requirements shall be binding as if specified directly herein. Only the latest editions (at bid date) of the following codes, standards and specifications shall form part of this Specification to the extent indicated by the reference thereto.
 - 1. Florida Building Code.
 - 2. American Concrete Institute (ACI):
 - ACI - 211.1 "Recommended Practice for Selecting Proportions for Normal, Heavyweight and Mass Concrete."
 - ACI - 214 "Evaluation of Results of Tests Used to Determine the Strength of Concrete."
 - ACI - 301 "Specifications for Structural Concrete for Buildings."
 - ACI - 304 "Recommended Practice for Measuring, Mixing, Transporting and Placing Concrete."
 - ACI - 305 "Hot Weather Concreting."

- ACI - 306 "Cold Weather Concreting."
- ACI - 309 "Consolidation of Concrete."
- ACI - 311 "Recommended Practice for Concrete Inspection."
- ACI - 315 "Details and Detailing Reinforced Concrete Construction."
- ACI - 318 "Building Code Requirements for Reinforced Concrete."
- ACI - 347 "Recommended Practice for Concrete Formwork."
- 3. Concrete Reinforcing Steel Institute (CRSI):
 - CRSI - 63 "Recommended Practice for Placing Reinforcing Bars."
 - CRSI - 65 "Recommended Practice for Placing Bar Supports, Specifications and Nomenclature."
- 4. National Ready Mix Concrete Association (NRMCA):
 - "Concrete Plant Standards" and "Truck Mixer and Agitator Standards."
- 5. American Welding Society (AWS):
 - AWS D12.1 "Recommended Practice for Welding Reinforcing Steel, Metal Inserts and Connections in Reinforced Concrete Construction."
- 6. Wire Reinforcement Institute (WRI):
 - "Manual of Standard Practice."
- 7. American Society for Testing and Materials (ASTM):
 - ASTM A185 "Standard Specification for Welded Steel Wire Fabric for Concrete Reinforcement."
 - ASTM A615 "Standard Specification for Deformed and Plain Billet Steel Bars for Concrete Reinforcement."
 - ASTM C31 "Standard Method of Making and Curing Concrete Test Specimens in the Field."
 - ASTM C33 "Standard Specification for Concrete Aggregate."
 - ASTM C39 "Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens."
 - ASTM C42 "Standard Method of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete."
 - ASTM C94 "Standard Specification for Ready-Mix Concrete."
 - ASTM C138 "Test of Unit Weight Yield and Air Content (Gravimetric) of Concrete."
 - ASTM C150 "Standard Specification for Portland Cement."
 - ASTM C172 "Standard Method of Sampling Fresh Concrete."
 - ASTM C173 "Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method."
 - ASTM C192 "Standard Method of Making and Curing Concrete Test Specimens in the Laboratory."
 - ASTM C231 "Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method."
 - ASTM C330 "Standard Specification for Lightweight Aggregates for Structural Concrete."
 - ASTM C494 "Specification for Chemical Admixtures for Concrete."

- B. Conflicts: The Contractor shall conform to the requirements of the above standards unless specified otherwise hereinbelow. In case of apparent conflict between standards or between standards and the specifications hereinbelow, the more restrictive requirement shall control.

1.4 SUBMITTALS

- A. Details shall be carried out in accordance with the Florida Building Code and where no requirements are set forth in the Code, with ACI rules and as shown on the Drawings.
- B. Regardless of any details or instructions shown on the drawings or called for in these

Specifications, the Contractor will be required to comply with all regulations, rules, requirements and specifications of the Florida Building Code and shall thoroughly familiarize himself with them.

C. Shop Drawings:

1. The Contractor shall submit for approval of the Engineer of Record shop drawings showing reinforcement and all necessary bending diagrams and reinforcing steel list, and construction joint locations.
2. Shop drawings shall be prepared and submitted in accordance with requirements of "Conditions." Dimensions, bar schedules and bending details shall be shown. Reinforced concrete walls shall be shown in scale elevation (scale at least one quarter inch to one foot). Two prints and one transparency (sepia) shall be submitted for each submission. Details shall be in accordance with ACI rules. Reinforcing for flat slabs shall have top steel and bottom steel on separate Drawings.
3. The Contractor shall submit to the Architect shop drawings of all formwork for concrete surfaces which are to remain exposed in the finished work.
4. The Engineer of Record shall within reasonable time either accept the drawings or return them for revision. Drawings marked "Approved as Noted" can be released to the field and must be resubmitted for record. "Rejected" or "Revised and Resubmit" drawings must be resubmitted and cannot be released to the field.
5. The Contractor shall keep a set of shop drawings with the Engineer of Record's acceptance stamp on the job site at all times.
6. The Engineer of Record's acceptance stamp shall not relieve the Contractor of responsibility for any error or for furnishing material of the proper size, quantity or quality.

D. Mill Test Certificates: With each shipment of these materials, the Contractor shall submit mill test certificates for the cement and for the steel reinforcement.

E. Samples: The Contractor shall submit samples of the following:

1. Premolded Expansion Joint Filler.
2. Vapor Barrier.
3. Slide Bearings.
4. Aggregate for Non-Slip Surfaces.
5. Cement and other Concrete Materials: Samples shall be of the same brand, type and source, and aggregate samples shall be of the same source, grading, and mineral composition as the materials to be used in actual construction.

F. Deviations: Should the Contractor desire, a deviation from the drawings or specifications, or both, he shall call the specific deviation to the Architect's attention in writing prior to the submittal of shop drawings showing the subject deviation. Requests for deviations shall be submitted on the Contractor's letterhead. Deviations not identified, or identified only in letters of transmittal or in shop drawings or both, without the required written description on the Contractor's letterhead may not be accepted and shall be sufficient cause for the Architect to return each shop drawing including such deviations, rejected, without further action. Acceptance of shop drawings including deviations not detected by the Architect during shop drawing review shall not relieve the Contractor from responsibility to conform strictly to the Contract documents. Deviations will be allowed only where permitted by the Architect in writing.

1.5 JOB CONDITIONS

A. The Contractor, before commencing work, shall examine all adjoining work on which this work is in

any way dependent for proper installation and perfect workmanship according to the extent of this specification, and shall report to the Construction Manager any conditions which prevent this Contractor from performing first-class work; no "waiver of responsibility" for defective adjoining work will be considered unless notice has been filed by the Contractor and acceded to in writing by the Construction Manager before this Contractor begins any part of this work.

- B. The Contractor shall supply a competent engineer or surveyor to establish all lines and levels necessary to the proper locating, laying out and erecting his work.

1.6 QUALITY ASSURANCE

- A. Procedures of Work: The Contractor shall keep himself constantly informed as to the progress of the work in the field, and have his materials and men ready to start work immediately when conditions of preceding work are available or ready; wholly or in part, so as not to delay the progress of building work or to interfere with the progress of work of other Contractors, in any event he shall, within 24 hours after notice from the Construction Manager to proceed with such work as directed to maintain the uninterrupted progress of the work.

1.7 QUALITY CONTROL

- A. Testing of Concrete Materials:

1. Sand shall be tested for the requirements herein before specified.
2. Colorimetric tests, sieve analysis, sediment tests, comparative tensile tests shall be made at the start of the job. Additional tests may be required by the Engineer of Record if the source of supply of material is changed. These additional tests (if required) shall be made at the Contractor's expense.
3. Coarse aggregate shall be tested for requirements hereinafter specified. If, after approval, the character of the material changes, it shall be subjected to further tests for approval or rejection. If, after trial, it is found that partly developed quarries, ledges, pits, banks or other sources of supply do not furnish a uniform product or, if for any reason the product from any source, at any time, proves to be unsatisfactory to the Owner's Inspector, the Contractor shall furnish acceptable material from other sources of supply, at no additional cost to the Owner. Samples and tests shall be taken and made on each 200 tons of fine aggregate to be used in the work, all in accordance with the ASTM Standards herein specified and before each allotment is used in the work.
4. All tests required under this Section will be made at a laboratory approved by the Engineer of Record. Owner will appoint the Special Inspector, and any testing required by special inspections shall be conducted by the contractor, and reimbursed by owner.

- B. Concrete Tests:

1. The Owner's Inspector and the Engineer of Record shall have the right to order the making of load tests and compression tests on specimen taken from the concrete work, in place of any other tests during the course of construction. If these tests do not meet specifications, concrete work shall be removed and replaced without cost to the Owner.
2. The Contractor shall be responsible for additional architectural and engineering fees on any additional work required, when original field tests made in accordance with the Building Code have failed.
3. The Owner shall engage the services of a licensed professional engineer (Owner's representative), to observe the testing of materials, and to observe the construction of all structural concrete work. The contractor shall file with and obtain all necessary approvals of all other agencies having jurisdiction in accordance with applicable provisions of the

Florid Building Code and the Specifications.

C. Controlled Concrete - Tests and Supervision:

1. Concrete unless otherwise specified, shall be controlled concrete.
2. Preliminary tests for the purpose of determining concrete mixes, in accordance with Agencies having Jurisdiction, Florida Building Code, and tests of cement and other concrete materials will be made at a laboratory approved by the Engineer of Record. [The supplier of the light weight aggregate shall submit for approval the design mix of the concrete.] The Contractor shall have his representative present when preliminary tests are made. It shall be the responsibility of the Contractor to satisfy himself that concrete mixes, based on the results of the preliminary tests, will produce concrete strengths as required by the Contract.
3. Cement and other concrete materials will be given preliminary tests. Approval of concrete materials will be conditional on acceptable results of preliminary tests and approval of preliminary test results by the Florida Department of Buildings.
4. A representative of the supplier in addition to that of the testing laboratory, shall supervise at the start of concrete operations the batching at the plant and the placing of concrete at the site in accordance with his instructions and to the satisfaction of the Engineer of Record.
5. The ultimate strength of concrete shall be as specified on the Structural Drawings.
6. From results of the preliminary tests, a smooth curve shall be drawn through the average position of points plotted, using the 28 day strengths of the test cylinders as ordinates and corresponding water-cement ratios as abscissas. The maximum ratio of water to cement shall include at least four different water cement ratios and at least four specimens for each water cement ratio. The water cement ratio to be used in the structure shall correspond to a point on the curve established by these tests representing a strength of concrete 25% higher than the minimum ultimate strengths called for on the plans. However, if the producer demonstrates to the satisfaction of the Engineer of Record or Owner's Inspector, on the basis of job performance records of the coefficient of variation that the quality control exercised in the producer's plant warrants a change in the 25% factor, the change may be permitted. In no case, however, shall the concrete used in the work be produced using a water-cement ratio in excess of, or a cement factor less than, that corresponding to a point in the strength vs. water-cement ratio curve representing a strength of concrete, at the design slump, 15% higher than the specified strength called for on the plans. The design slump shall be as specified by the Engineer of Record or the Owner's Inspector and the concrete shall be placed at a slump equal to or less than the design slump. The weight of the aggregate shall be such that the quality and consistency of the concrete shall be suitable for proper placing and required finishes. The concrete proportions used by the Contractor shall be such that daily field cylinder tests made will show that all the concrete used meets the strength requirements of the Contract.
 - a. The minimum cement content per cubic yard of concrete shall be as per the Florida Building Code.
 - b. In the design mix all exposed concrete shall be air-entrained, employing an approved air-entraining agent.
 - c. Materials shall be measured by weight, one bag of cement shall be considered as 94 lbs in weight and one gallon of water as 8.38 lbs.
7. The consistency of the concrete shall be such that it can be placed without segregation of the materials. The slump shall be 5" for stone concrete or 4" for light weight concrete with a tolerance of plus or minus 1", with slump and weight checked frequently, and as requested by the Engineer of Record. Whenever it is indicated by inspection or tests that segregation has occurred to an extent that the quality or strength of the concrete has been impaired, the mix shall be revised by decreasing the water content, or increasing the

- cement content, or both. Water reducing admixtures may be used.
8. A sieve analysis of each shipment of aggregate shall be made by the test laboratory on the working day previous to its use. In lieu thereof, and subject to the approval of the Owner's Inspector, each shipment shall be accompanied by sieve analysis data which will be subject to check by the Owner's Inspector.
 9. In the event that the grading of aggregate is sufficiently different from that used in the preliminary tests to indicate that water must be added to the design mix, to obtain proper plasticity, the testing laboratory shall determine from the established water-cement ratio the amount of additional cement required to be added, subject to the approval of the Engineer of Record.
 10. The source of supply of the aggregate shall not be changed during the course of the job without notice to the Engineer of Record, and the material from any new source shall be subject to acceptance or rejection by the Engineer of Record as based on the test to be made by the testing laboratory.
 11. The method of storage and handling of the light weight coarse aggregate shall be such as to maintain uniform gradation and constant moisture content.
 12. The Owner shall not be responsible for any variation in yield of each batch.
 13. Should more than one concrete mixing plant be used at the same time for controlled concrete, the Contractor will bear the cost of additional plant inspection.
 14. All tests shall be made in accordance with applicable provisions of the Standard Specification of the American Society of Testing Materials. Cost of this inspection and tests are to be borne by the Owner.
 15. The Owner will engage the services of an contractor to provide the following services:
 - a. Preliminary Tests.
 - b. Take and test cylinders of concrete as placed.
 - c. Plant inspection.
 - d. Field inspection of concrete.
 - e. Submit reports.
 16. The Inspection Agency shall make, transport and test standard 6" diameter by 12" in height test specimens as required by applicable ASTM Specifications. Three test specimens shall be made for each 50 yards of concrete placed, or not less than three cylinders for each day's pour. The tests cylinders shall be clearly marked and the system of marking shall have a definite sequence. In addition, one set of three cylinders per 150 cubic yards of concrete placed shall be taken directly from the bucket or hopper and clearly identified. The test specimens shall be carefully stored and transported so as not to damage them in any way.
 - a. Records shall be kept identifying each cylinder with the locations of the concrete from which the tests cylinders were taken.
 - b. The method of making, storing and testing specimens shall be in accordance with the procedures set forth in applicable provisions of Standard Specifications of the American Society for the Testing of Materials.
 17. The Inspection Agency is to provide a full time qualified inspector at the place of batching who will inspect concrete and materials for concrete.
 18. The Inspection Agency shall provide adequate equipment for the determination of moisture content and gradation of fine and coarse aggregate. Adjustment shall be made in batch weights to compensate for variation in moisture content. The inspector shall verify the batch weights.
 19. The Inspection Agency shall provide a qualified inspector at the site to see that concrete is thoroughly mixed and properly placed. It shall be the responsibility of the inspector to control the consistency of the mix in order that there will be no segregation due to excessive

- water. The inspector shall also supervise for proper spading and vibration of the concrete.
20. The Inspection Agency shall submit reports to the Engineer of Record. Five copies of all reports shall be submitted as the tests are completed and a weekly report of the amount of the concrete placed each day shall be submitted. The reports shall also include air temperatures. Results of cylinder tests shall be submitted to the Engineer of Record within 48 hours after breaking.
 21. The inspectors shall immediately call to the attention of the Engineer of Record any discrepancies found in the work.
 22. The Contractor shall furnish all materials to be tested and shall cooperate and provide every assistance to facilitate the work of inspection and testing.
 23. If the results of these tests and inspections indicate that the concrete does not meet requirements as set forth on the drawings or in these Specifications or as otherwise unsatisfactory, the Contractor shall only proceed as will be directed by the Engineer of Record. Additional costs resulting from retesting, load testing, replacement of concrete and/or damage to the work of other trades and any delay caused to the schedule shall be borne by the Contractor.
 24. If, during the progress of the work, it is found that concrete of the required workability and strength cannot be attained with the materials furnished by the Contractor, the Engineer of Record may order such changes in proportions or materials, or both, as may be necessary to secure the desired results. Any changes so ordered will be at no cost to the Owner.

PART 2 - PRODUCTS

2.1 CEMENT

- A. Portland Cement, meeting all requirements for Type I and/or Type III Cement of the Standard Specifications for Portland Cement of the American Society for Testing and Materials Designation C-150 (current edition), shall be used for all work. All the cement shall be stored in waterproof sheds. The Contractor shall submit mill test certificates for cement. Color of any exposed concrete is to be approved by the Architect. Air entrained cement shall not be permitted.
- B. During the course of construction no change shall be made to brand of cement unless approved by the Engineer of Record.
- C. Cement shall be delivered and bear the name of the manufacturer and the brand and mill test certificates shall be submitted with each shipment. All cement shall be from one manufacturer.
- D. Cement shall be stored in waterproof bins, completely covered and protected from dampness. Cement in any container which has been caked, partially set, or otherwise deteriorated, or any material which has become damaged or contaminated, shall be rejected for use and shall be entirely removed from the site.
- E. The Owner reserves the right to take samples for testing any or every lot of cement delivered upon the work. The tests shall be made as determined by the Owner and the cost of these shall be charged to the Owner when cement meets Specification requirements.
- F. The use of high early strength cement shall be in accordance with the Florida Building Code. The use of high early strength cement Type III is not permitted except under special conditions and only on the express approval of the Engineer of Record. The use of high early strength cement will not be permitted except during the months of November, December, January, February and March. When such approval is given, it will be restricted to a specific location and limited to a given period of time. When permission has been given to use high early strength cement, a cement batching

plant shall be set aside exclusively for high early strength concrete during the time that this concrete is being supplied to the project. All cement bins shall be properly painted with a distinctive color.

2.2 ADMIXTURES

- A. For all exposed concrete an admixture shall be furnished which, when added to the mix, shall produce concrete compression strength at 7 days and 28 days as required by the Design Drawings and in compliance with the "water-cement laws." Such admixture shall entrain between 4% and 6% air by volume. The air entraining agent shall be Darex or approved equal. The air entrainment may be checked by as per ASTM C-260. Acceptable documentary evidence must be submitted with additives showing this material increases the durability of the concrete, and that such material has been in use for not less than 5 years. Air entrained cement is not permitted. All concrete cast on ground, such as ramps and slabs on grade shall have air entraining agent specified above.
- B. Water Reducing Admixture: "Eucon WR-75" by the Euclid Chemical Co., "Pozzolith 200N" by Master Builders or "Plastocrete 160" by Sika Chemical Corp., or approved equal. The admixture shall conform to ASTM C 494, Type A and not contain more chloride ions than are present in municipal drinking water.
- C. Water Reducing, Retarding Admixture: "Eucon Retarder-75" by the Euclid Chemical Co., "Pozzolith 100XR" by Master Builders or "Plastiment" by Sika Chemical Corp., or approved equal. The admixture shall conform to ASTM 494, Type D and not contain more chloride ions than are present in municipal drinking water.
- D. High Range Water-Reducing Admixture (Superplasticizer): "Eucon 37" by the Euclid Chemical Co. or "Sikament" by Sika Chemical Corp., or approved equal. The admixture shall conform to ASTM C 494, Type F or G, and not contain more chloride ions than are present in municipal drinking water.
- E. Non-Corrosive, Non-Chloride Accelerator: "Accelguard 80" by the Euclid Chemical Company or approved equal. The admixture shall conform to ASTM C 494, Type C or E, and not contain more chloride ions than are present in municipal drinking water. The admixture manufacturer must have long-term non-corrosive test data from an independent testing laboratory (of at least a year's duration) using an acceptable accelerated corrosion test method such as that using electrical potential measures.
- F. Prohibited Admixtures: Calcium chloride, thiocyanates or admixtures containing more than 0.05% chloride ions are not permitted.
- G. Certification: Written conformance to the above mentioned requirements and the chloride ion content of the admixture will be required from the admixture manufacturer prior to mix design review by the Engineer of Record.

2.3 FINE AGGREGATE

- A. Fine aggregate shall consist of sand, stone screenings or other inert materials with similar characteristics, or a combination thereof conforming to ASTM C-33 having clean, hard, strong, durable uncoated grains and free from injurious amounts of dust, lumps, soft or flaky particles, shales, alkali, organic matter, loam or other deleterious substances.
- B. Sand shall meet the following requirements:
 - 1. Colorimetric test in accordance with ASTM Designation C-40 current edition, color not

- darker than Figure 1.
2. Sediment test for excess loam (5% limit).
 3. Sieve analysis as follows:

Sieve No.	% Retained
4	0 to 5
8	10 to 20
16	40 to 70
30	40 to 70
50	70 to 88
100	92 to 98

4. Fineness modulus shall be from 2.30 to 2.90.
5. No mica pyrites or other deleterious materials.
6. The mortar made with this sand must produce tensile strength at least equal to 80% of Ottawa Sand Mortar Briquettes, of the proportions of one part of cement to three parts of sand.

2.4 COARSE AGGREGATE

- A. Coarse aggregate for stone concrete slabs shall consist of crushed stone, or gravel having clean, hard, strong, durable, uncoated particles free from injurious amounts of soft, friable, thin, elongated or laminated pieces, alkali, organic or other deleterious matter. Particles shall be well graded between the upper and lower limit in order that voids may be reduced to a minimum as follows:

Sieve Size	% Retained
1"	0
3/4"	0 - 10
3/8"	45 - 80
No. 4	90 - 100

2.5 WATER

- A. Water for concrete shall be clean and free from oil, acid alkali, organic matter or other deleterious substances.

2.8 REINFORCEMENT

- A. Reinforcing bars shall be deformed new billet steel bars manufactured by the basic open hearth or electric furnace process. Bars shall conform to ASTM A-615, Grade 60.
- B. Welded wire fabric shall conform to ASTM A-82 and A-185. Wire fabric shall have a minimum ultimate strength of 70,000 psi. Splicing shall conform to the requirements of ACI 318.
- C. Certified copies of mill reports for all reinforcing shall be submitted before reinforcing is placed.
- D. Bars shall be correctly rolled to section and free from surface defects.
- E. Splices in reinforcement shall be as directed. Lapped ends of bars may be placed in contact and securely wired or may be separated sufficiently to permit the embedment of the entire surface of each bar in concrete. Lapped splices shall not be used in bars larger than size No. 11. Splices in bars larger than No. 11, or where No. 11 bars are spliced to larger sizes, shall be welded as

hereinafter specified. Splices in bars No. 11 and smaller may be welded as specified or lapped. Splices in adjacent bars shall be staggered.

2.9 FORMS

- A. The Contractor shall be responsible for the proper design, bracing, shoring and construction of all forms. He shall retain a licensed professional engineer to design such formwork, bracing and shoring in accordance with the requirements of the local Building Code.
- B. Form ties including bolts and rods shall be of suitable design and adequate strength for the purpose.
- C. Supports for forms shall consist of wood or steel posts.

2.10 CONCRETE ADMIXTURE

All concrete required to be air-entrained shall contain an approved air-entraining admixture. All pumped concrete and concrete with a water/cement ratio below 0.150 shall contain the specified HRWR admixture, (superplasticizer).

2.11 MISCELLANEOUS MATERIALS

- A. Premolded expansion joint filler strips shall be expanded polyethylene closed cell of approved type and size, as indicated on the drawings. Premolded fillers shall have adhesive surface on one side and shall be positioned as the construction progresses. Fillers shall be at least 30% wider than width of joint, (measured in the field) to which it is applied. Compression on installed filler shall be sufficient to allow no movement of filler in joint. Hardness shall be between 15-20 Shore A value. The methods employed in installing expansion joint fillers shall be according to procedures required by the approved product.
- B. Six mil thick polyethylene vapor barrier over subgrade of 6" of gravel (by others) shall be provided under all slabs on ground supplied in the widest possible widths and lapped not less than 6" on all sides and turned up a minimum of 4" along the perimeter edges of the stone slab. Installation is to be in accordance with manufacturer's recommendations. At all columns and interior concrete walls vapor barrier is to be lapped up 4" minimum. Note areas to receive 3 inches of approved damp compactible fill before placing of concrete.
- C. Clear Curing and Sealing Compound (VOC compliant): The compound shall have 30% solids content minimum, and will not yellow under ultraviolet light after 500 hours of test in accordance with ASTM D4887. Compound shall be "Super Aqua Cure VOX" or "Super Diamond Clear VOX" by the Euclid Chemical Company, or "Masterseal" by Master Builders or approved equal.
- D. Sealer/Dustproofer: The compound shall be a water-based acrylic sealer and shall not yellow under ultraviolet light after 200 hours of test in accordance with ASTM D4887. Compound shall be "Floor Seal VOX" by the Euclid Chemical Company, or approved equal.
- E. Non-Shrink Grout: The non-shrink grout shall be "Hi-Mod" (non-catalyzed metallic) or "Euco NS" (non-metallic) by the Euclid Chemical Co., or "Embeco 636" (non-catalyzed metallic) or "Masterflow 713" (non-metallic) by Master Builders or approved equal. The grout shall conform to CRD-C-621-83, "Corps of Engineers Specification for Non-Shrink Grout," having a minimum compressive strength of 10,000 psi.

PART 3 - EXECUTION

3.1 MIXING

- A. All concrete shall be machine mixed.
- B. A water gauge shall be provided to deliver the exact predetermined amount of water for each batch.
- C. A reliable system must be employed to insure that no less than the predetermined amount of cement goes into each batch.
- D. Retempering partly set concrete will not be permitted.

3.2 TRANSIT MIX CONCRETE

- A. Transit mix concrete may be used provided it conforms to the Specifications and tests herein described and ASTM Specification C-94, current edition and further provided that the central plant producing the concrete and equipment transporting it are in the opinion of the Engineer of Record suitable for production and transportation of controlled concrete. The maximum elapsed time between the time of the introduction of water and placing shall be one hour. The minimum time of mixing shall be one minute per cubic yard after all material, including water, has been placed in the drum, and the drum shall be reversed for an additional two minutes. Mixing water shall be added only in the presence of the Inspecting Engineer or the inspector employed by the testing agency retained by the Owner. Trucks shall not be overloaded in excess of rated capacity as recommended by the manufacturer.

3.3 PLACING OF CONCRETE

- A. Metal decks and/or forms shall be absolutely cleaned and free from shavings and dirt before starting concreting.
- B. Concrete must be placed as rapidly as possible after mixing and thoroughly spaded and rammed in place. All possible care is to be exercised to prevent honeycombing and segregation.
- C. Permissible locations of construction joints and additional reinforcement required shall be as shown on the Drawings. Where new concrete is to be bonded to the existing concrete, the surfaces of the existing concrete shall be swept with a stiff brush or scraped to remove laitance and roughened. The bonding surface after the removal of all loose particles shall be moistened and the specified bonding compound applied.
- D. Structural concrete shall be placed with the aid of a mechanical vibrator. The vibrators shall be of a type and design approved and shall be capable of transmitting to the concrete not less than 3200 impulses per minute. The vibration shall be sufficiently intense to visibly affect the concrete over a definite radius of at least two feet around the point of application but not applied long enough to segregate the ingredients. Enough vibrators shall be used to cause all concrete to flow or settle readily into place. The vibrators shall be of the internal type, applied directly to the concrete and not through the forms, except sections too thin to permit the insertion of the internal type in which case form vibrators may be employed at the discretion of the Engineer of Record. Use and type of vibrators shall conform to ACI 309 "Recommended Practice for Consolidation of Concrete."
- E. Concrete, if placed in hot weather, shall be wet twice daily for the first week's placement. Maximum placing temperature is to be 90 degrees F.
- F. No concrete shall be deposited in water.

- G. When depositing concrete at temperatures below 40 degrees F, the concrete shall have a temperature of at least 50 degrees F, but not more than 90 degrees F. The concrete shall be maintained at a temperature of at least 50 degrees F for not less than 72 hours after depositing and shall be sufficiently protected so that this temperature can be maintained. No salt or other chemical may be used for such protection.
1. The heating devices used by the Contractor to maintain the specified temperatures shall have baffle plate above, of sufficient size, and a sand bed below, in order to distribute heat.
 2. The heating devices shall be so operated that the temperature of the air immediately below the slab forms shall not exceed 100 degrees F. The Contractor shall provide sufficient and suitable thermometers to verify compliance.
 3. Only the specified non-corrosive non-chloride accelerator shall be used. Calcium chloride, thiocyanates or admixtures containing more than 0.05% chloride ions are not permitted.
- H. Concrete placed in "winter weather" shall be protected against freezing; no concrete containing ice shall be used. Definition of "winter weather" and protection of such placed concrete shall be as specified in ACI 306R, Chapters 1 and 4, respectively.
- I. Concrete on metal deck and structural steel shall be placed as follows:
1. At areas with cambered beams or girders:
Floor slabs at areas with cambered beams or girders shall be placed with uniform minimum thickness of concrete as called for on the plans over the entire area by using hard screed. In cases where the floor assembly deflects below the level line after concrete is placed, additional concrete is to be provided to maintain floor tolerances as noted in the specification. Placement shall begin at the mid span or high point of the beams or girders and proceed toward each end.
 2. At areas where beams are not cambered:
Floor slabs shall be poured to the floor levelness as noted in the specification by adding concrete and maintaining the minimum thickness of slab as called for on the plans. The additional concrete required to maintain the specified floor levelness shall be included in the contract.

3.4 FORMS

- A. Forms shall be constructed to conform to shape, form, line and grade required, and shall be maintained sufficiently rigid to prevent deformation under load.
- B. The forms shall be true and rigid tight to prevent leakage of concrete, thoroughly braced and sufficiently strong to carry the dead weight of the construction as liquid without deflection.
- C. Forms shall provide for all rabbets, reglets, keys, chamfers and projections as per detail drawings.
- D. Removable panel openings at the bottom for forms for cleanouts and inspection shall be provided.
- E. All exposed concrete surfaces shall be without voids. Where honeycombs appear, the loose aggregate shall be removed and the voids filled with cement mortar. After removal of fins, irregular surfaces shall be brought to smoothness by rubbing and troweling. On concrete exposed to view where metal ties are used, they shall be snap cone type detached 1" back from the surface of the exposed side. If exposed concrete contains defects which in the opinion of the Architect or Engineer of Record, are not suitable for appearance or permanency, the Architect or Engineer of Record may order same removed and replaced.

- F. When pouring against previously placed concrete all rough projects shall be removed before continuing the work to secure a clean true joint. The surface of contact shall be thoroughly cleaned.
- G. Tops of walls such as ramps, areaways and concrete retaining walls which will be permanently exposed, shall be finished with steel trowel. Tops of other walls and grade beams shall be floated level and true. The surface of ramp floors shall be screeded, darried, floated and finally broomed to form a rough surface.
- H. If any material is used to coat form work to facilitate the removal, this material shall be such nature as not to stain or injure the concrete, or cause injury to the painted finish to be applied on exposed surfaces of the concrete.
- I. Temporary shoring at mid span of all metal deck as required shall be provided.
- J. Forms shall not be removed until the concrete has attained the strength to support its own weight and any construction loads. Under no circumstances shall forms be stripped before concrete has aged 48 hours unless otherwise approved by the Engineer of Record.

3.5 FLOOR FLATNESS/LEVELNESS TOLERANCES

F_F : defines the maximum floor curvature allowed over 24 inches. Computed on the basis of successive 12 in.) elevation differentials F_F is commonly referred to as the "Flatness F-Number."

$$F_F = 4.5 \text{ divided by } d1$$

Where $d1$ = Maximum difference in elevation, in decimals of inches between successive 12" elevation differences.

F_L : defines the relative conformity of the floor surface to a horizontal plane as measured over a 10 ft. (3.05 m) distance.

$$F_L = 12.5 \text{ divided by } d10$$

Where $d10$ = Maximum difference in elevation, in decimals of inches, between two points separated by 10 ft.

All floors shall be measured in accordance with ASTM E-1155 "Standard Test Method for Determining Floor Flatness and Levelness Using the "F Number" System (Inch-Pound Units).

All trowel finished slabs shall achieve an overall tolerance of $F_F/25/F_L/20$ and all float finished surfaces shall achieve an overall $F_F/20/F_L/17$ tolerance. The minimum local tolerance (1/2 bay or as designated by the architect) shall be 2/3 of the specified tolerances.

3.6 PLACING REINFORCEMENT

- A. All metal reinforcement, before being placed, shall be free from loose rust or mill scale, grease, oil, clay or other coatings, or from substances that destroy or reduce the bond. Metal reinforcements shall be accurately positioned as called for on the drawings and shall be secured against displacement by using annealed wire of not less than No. 18 gauge, or by suitable clips at intersections and shall be supported on adequate spacers, bolsters and chairs except that reinforcement required for concrete to be placed on ground shall be supported on concrete

briquettes at least 2" wide and 3" long and of a thickness to maintain at least clearances shown on the structural drawings. Chairs shall be plastic tipped. Other accessories may, at the option of the Contractor, be zinc coated, except on exposed surfaces which have plastic tipped accessories.

- B. The top wire of all spacers, bolsters and chairs shall be corrugated.
- C. Top reinforcement in slabs may be provided with transverse tie bars. Unless larger sizes or closer spacing is indicated on the drawings, these bars shall be a minimum No. 3 bars, 12" on center for roofs. Chairs supporting slab reinforcement shall be spaced as required by the drawings but shall not be more than 5 feet on center for bottom bars or more than 4 feet on center for top slab bars. Where top slab bars are more than 9 feet long, at least four rows of chairs will be required except where other equivalent support is supplied. For flat slab construction provide two additional parallel chairs equal to the column face in length and located 4" from opposite faces of interior columns for the support of top reinforcement.
- D. High chairs shall be of the two different sizes so as to provide the cover over reinforcing bars as indicated on plans. They shall be made of No. 2 gauge wire for legs, with legs 8" o/c.
- E. Reinforcement shall be bent cold. The minimum radius of bend shall be 4 diameters for bars 5/8" round or less, and 6 diameters for larger bars.
- F. Where lapping or anchoring of reinforced steel is specified on the drawings in relation to the diameter of the bar, the actual diameter shall be taken. The actual diameter is defined as follows:

No. 3 bar .375"	No. 8 bar 1.00"
No. 4 bar .500"	No. 9 bar 1.128"
No. 5 bar .625"	No. 10 bar 1.270"
No. 6 bar .750"	No. 11 bar 1.410"
No. 7 bar .875"	

3.7 CONCRETE FINISHING AND CURING

- A. Surfaces of floor slabs where ceramic or terrazzo is specified for finish shall be screeded and roughened and left in a condition satisfactory to the Engineer of Record. Where carpet or vinyl tile is specified in Schedule of Interior Finishes, surfaces shall be steel troweled to provide suitable base for receiving the tile floor covering.
- B. After the concrete has reached its initial set and is free from excess water, the top surface of all floors and roof slabs shall be treated with a curing material. Apply in accordance with manufacturer's directions.
 - 1. During at least the first twelve hours after application, this film shall have a distinct color, all traces of which shall be invisible 30 days later so that the natural appearance of concrete is not changed. This material shall have no harmful effect upon concrete but shall form a film which, at the end of three days after application, retains in the concrete at least 90% of water if tested according to the ASTM Tentative Method of Testing for Water Retention by Curing Concrete Materials, C-156. Protect work during construction.

3.8 FLOOR PAVING

- A. Unless otherwise noted, monolithic floor slabs on ground, except supported slabs, shall be of strength and reinforcement as shown on the drawings.

- B. All soil or fill under concrete slabs on ground, except supported slabs, shall be thoroughly wet with water and tamped down or rolled down before depositing any concrete.
- C. On top of porous fill placed under another Section, install 6 mil polyethylene vapor seal, lapped 6" at sides and ends and spot cemented. Care shall be taken not to tear the seal during pouring.
- D. Where pipes under floor slabs are indicated on the drawings or have already been installed, the Contractor shall install the slab reinforcing and concrete to support the pipes as shown on the drawings.

3.9 CEMENT BASE

- A. Cement base occurring as noted on Schedule of Interior Finishes shall be of the same material as the cement floors in these rooms. Base shall be 4" high above the finished floor and shall be plain straight base.
- B. At concrete walls and columns, the concrete shall be chipped slightly or otherwise roughened and prepared to provide a strong bond for the cement base.
- C. Cement bases shall be hydrolithic cement, using an approved integral waterproofing compound, at least 1" thick as shown on the drawings. Mix shall be one part hydrolithic cement and three parts sand.

3.10 WORK IN CONNECTION WITH OTHER SECTIONS

- A. Pipe Shaft: All boxed openings at pipe shafts in floors and roofs shall be installed as shown on drawings in accordance with approved shop drawings prepared by the Plumbing Contractor. Spaces between pipe sleeves shall be filled up with 3000 psi minimum concrete after same are in place. All grouting shall be done with cement and filled as required or necessary throughout the project.
- B. Ventilating Duct Openings: All ventilating duct opening in floors and roofs are to be laid out in accordance with approved shop drawings prepared by Heating and Ventilating Contractor.
- C. Non-slip treads provided under the Miscellaneous and Ornamental Metal Section for treads and platforms of concrete stairs where shown on drawings shall be set.
 - 1. Pea-gravel concrete of 3000 psi over metal pan stairs and landings reinforced with 4 x 4 - W1.4 x W14. w.w.f. shall be provided.
- D. The Contractor shall cooperate with Plumbing, Heating and Ventilating and Electrical Contractors for location of all sleeves.
- E. All inserts for elevators (furnished by Elevator Contractor) shall be set. All cutouts, offsets, etc., for proper installation of elevators according to approved shop drawings for elevators shall be provided. All this work shall be under the supervision of the Elevator Contractor, and to the satisfaction of the Engineer of Record.
- F. All pipe sleeves carried through floor slabs shall be carefully pointed around to present a neat finish.
- G. All buffer channels and door saddles for elevators shall be grouted in.
- H. Frames and covers furnished under Plumbing and Miscellaneous and Ornamental Metal Sections

for all house traps, pits, etc. shall be solidly embedded.

- I. Cooperate in setting floor drains, frames and covers for sump pits and all other similar fittings called for in the Plumbing Section.
- J. Anchor bolts shall be installed, lintel and other structural members furnished under other Sections of the work where same are shown embedded in concrete work shall be set.
- K. Reglets and grounds for flashings as required by the drawings shall be built in.
- L. For embedded items such as threaded or wedge inserts and anchor bolts, the following shall be done:
 - 1. Compliance with ACI 301, Chapter 6, Paragraph 6.4 and 6.5.
 - 2. Anchorage devices are to be accurately set by line and transit, and the location of all anchorage devices to set for the accommodation of the work of other trades is to be coordinated.
 - 3. Anchor bolts as shown on the Drawings and on shop drawings are to be located.
- M. The Contractor is alerted that he is not to place concrete until other trades have completely finished their work of installing embedded items.

3.11 DUSTPROOFING APPLICATION

- A. Treatment - All concrete surfaces receiving a dustproofing treatment shall have all materials mixed and applied in accordance with the application method as recommended by the approved product. The material shall be such that it will react chemically with any free lime and calcium carbonate in the concrete to create a hard insoluble concrete surface for heavy traffic and to prevent dusting, checking and crumbling.
- B. Dustproofing materials shall be applied to all concrete and cement finish wearing surfaces only after such surfaces have been thoroughly cleaned, and properly prepared to receive the dustproofing application.
 - 1. Flood Coats - Dustproofing shall be applied in two flooding coats of such inconsistency as to thoroughly and uniformly saturate the surface and attain the necessary penetration.
 - 2. Elimination of Film - Dustproofing application shall be performed with a wide brush, and material shall be thoroughly brushed out to eliminate as much of the surface film as is possible.
- C. Abrasive Test - All treated surfaces shall be subjected to an abrasion test applied with a stiff steel wire brush to a portion of the floor designated by the Owner. The test shall be made by the Contractor in the presence of a representative of the Owner. The surface shall not dust under the strokes of the steel wire brush, but shall polish, without the appearance of abrasions.

3.12 DAMAGED MATERIAL

- A. All material which have been damaged or condemned shall be removed from the site.

3.13 CUTTING AND PATCHING

- A. The Contractor shall be responsible for all cutting and patching of his work as specified in General Conditions of Contract.

3.14 REPAIR OF DEFECTIVE AREAS

With prior approval of the Engineer of Record, as to method and procedure, all repairs of defective areas shall conform to ACI 301, Chapter 9.

All structural repairs shall be made with prior approval of the Engineer of Record, as to method and procedure, using an approved epoxy adhesive and/or epoxy mortar.

Leveling of floors for subsequent finishes shall be achieved by use of an approved underlayment material.

[NOTE: IF PROJECT HAS PARKING, SEE C.I.P. CONCRETE SPECS (CONCRETE BUILDING) FOR ADDITIONAL SECTIONS.]

3.15 CLEANING

- A. The premises shall be kept free from accumulation of waste material or rubbish. At the completion of the work, all surplus materials, tools and equipment shall be removed.

END OF SECTION 033000

SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. The Contractor shall furnish and install unit masonry of the types indicated on the contract drawings or ordered, in accordance with requirements of this section.

1.2 DESCRIPTION

- A. All unit masonry, except as otherwise specified, shall be laid in Portland cement mortar, and shall be built to the forms and dimensions shown on the Contract drawing or as directed by the Engineer from time to time; and the system of joining or bonding ordered by the Engineer shall be strictly followed.

1.3 WATER NOT TO INTERFERE

- A. Care shall be taken that no water shall interfere with the proper laying of unit masonry in any of its parts.

1.4 FREEZING WEATHER

- A. During freezing weather no masonry shall be built unless properly protected against frost, and masonry shall not be built in exposed places where, in the opinion of the Engineer, it is impracticable to give such protection. During freezing weather or when there is frost in the materials to be used in the masonry, the materials shall be heated before mixing so as to remove all the frost and the mix shall, unless otherwise permitted by the Engineer, show a temperature of not less than 70 degrees F when placed in the work area. The Contractor shall provide such appliances, subject to the approval of the Engineer, as are necessary for the heating of the sand, stone and other materials.
- B. During freezing weather all masonry shall be protected by a suitable covering of salt hay, canvas, tarpaulin or by such materials or in such ways as may be necessary to insure proper protection and to insure that the concrete is kept at a temperature of not less than 40 degrees F for a period of five days after placing.

1.5 HOT WEATHER

- A. During hot weather all masonry, especially concrete, shall be kept wet by sprinkling and properly covered until it has become thoroughly set and hardened.

1.6 POINTING

- A. Unless otherwise permitted, every joint that is to be pointed shall be raked out within two days after being laid.
- B. Pointing of the face joints of masonry shall be thoroughly made with cement mortar mixed in the preparation of one part cement to one part sand, except where otherwise specifically provided.

- C. No pointing shall be done in freezing weather; masonry laid between December 1st and April 1st shall not be pointed until permitted by the Engineer.

1.7 DEFECTIVE MASONRY

- A. Before the final completion and acceptance of the work, any masonry which is found to be defective from any cause whatsoever shall be removed and properly rebuilt, or, if damaged, shall be properly repaired.

1.8 UNIT MASONRY TO BE CLEANED

- A. All unit masonry before being laid shall be thoroughly cleaned and if so directed by the Engineer shall be washed.

1.9 SAMPLES

- A. The Contractor shall call at the office of the Engineer and inspect the samples of approved unit masonry before submitting a proposal for the work.

PART 2 - MATERIALS

2.1 CONCRETE BLOCK

- A. Concrete block masonry units shall conform to the requirements of the Standard Specifications for Solid Load-Bearing Concrete Masonry Units of the ASTM Serial Designation: C145, Type I, Grade N-1. Concrete blocks shall be made from approved Portland cement, sand and crushed stone. The net cross-sectional area of the unit in every plan parallel to the bearing surface shall be not less than 75% of its gross-sectional area measured in the same place. All units shall be sound and free from cracks or other defects that would interfere with the proper placing of the unit or impair the strength or permanence of the construction. Minor cracks incidental to the usual method of manufacture, or minor chipping resulting from customary methods of handling in shipment and delivery, shall not be deemed grounds for rejection.
- B. Concrete blocks shall be of the size indicated or as may be required to fit special conditions. Half blocks and blocks of special sizes and shapes shall be provided where required. All blocks shall have smooth faces with unbroken edges in exposed work. Closure blocks with finished ends shall be used at all levels, returns and at ends of walls.

2.2 REINFORCEMENT AND ANCHORS

- A. Horizontal reinforcing frame shall consist of two No. 9 wire side rods and a No. 9 wire separator so bent as to form a truss or triangle when welded to side rods. Anchors shall be 1/8" by 1□"; one end bent for securing to walls and columns or dovetailed for anchor channels, the other end to be deformed as may be required. Dowels shall be □" in diameter. All anchors and ties shall be galvanized steel.

2.7 SEALANT STRIP

- A. Sealant strip shall be 3/8" continuous POLY-TITE as manufactured by Sandell Manufacturing Co., or approved equal. Sealant strip shall be provided where so indicated on the contract drawings.

2.3 NEOPRENE ROPE

- A. Neoprene rope shall be closed cell bonded neoprene conforming to ASTM Designation D1752.

PART 3 - EXECUTION

3.1 MASONRY UNITS; HOW LAID

- A. All masonry units shall be laid in mortar.
- B. Common bricks shall be thoroughly wet before laying and shall be completely imbedded in mortar under the bottom and on the sides and ends in one operation, care being taken to have every joint full of mortar.
- C. The ends of brick, which ends are to come in contact with the ends of brick already laid, shall be completely buttered with a full surface of mortar at the tub and then shoved into contact with the brick already laid. The buttering of ends of brick is an unqualified requirement.
- D. Thickness of joints for brick masonry shall be $\frac{3}{8}$ of an inch and shall be of the type indicated on the contract drawings. The pointing of the finished joints shall be in one operation when laying up the walls.
- D. Concrete block shall be laid plumb, square and true to the dimensions given and shall be laid with the voids running vertically whether indicated on the contract drawings otherwise or not. Bearing surfaces of blocks shall have a mortar bed placed between face of blocks and cell voids. No mortar shall be placed on the webs. Vertical joints between hollow tile blocks shall have only the vertical ends of the blocks buttered with mortar. Joints shall be approximately $\frac{3}{8}$ " in width. Excess mortar shall not be cut off in such a manner that it will pull the mortar from the contiguous block surface. The vertical height of the wall that will be permitted to be laid up shall not be greater than a height that the mortar of previously laid courses will be capable of supporting without compressing. Joints shall be troweled smooth and be struck with a jointing tool to give a slightly convex joint after the mortar has taken its initial set.
- E. All surfaces of walls shall be smooth and regular.
- F. At the close of each day's work on masonry walls a layer of sisal kraft paper, or an approved equal, shall be placed over the top of, and extending down the side of the walls to prevent the entrance of moisture. The paper shall be sufficiently weighted down to insure its remaining in place.

3.2 FACES CLEANED

- A. The inside faces of all masonry walls and other exposed parts shall have all the surplus mortar scraped off, shall be washed clean (with diluted muriatic acid, where required), immediately after the centers have been struck, and shall be pointed and left in a neat condition.

3.3 NO "BATS" TO BE USED

- A. All bricks of whatever nature shall be carefully culled and, if necessary, gaged before laying at the expense of the Contractor. No "bats" shall be used except in large masses of brickwork, where a moderate proportion, to be determined by the Engineer, may be used, but none smaller than half bricks.

3.4 UNFINISHED WORK

- A. All unfinished work shall be raked back or toothed, as directed by the Engineer, and, before new work is jointed to it, the faces of the brick in the old work shall be scraped entirely clean, scrubbed with a stiff brush and shall be well moistened.

3.5 ANCHORS

- A. Masonry walls shall be anchored and tied as indicated on contract drawings. All anchors and ties shall be galvanized steel.
- B. Anchors shall be securely fastened with expansion bolts set in existing masonry walls or by welding to columns as indicated. Holes in masonry shall be drilled with carbide tipped masonry drilled. Anchors provided in new concrete walls shall have dovetail ends inserted into trapezoidal cross-section galvanized steel channels which are embedded in the concrete . Anchors shall be spaced as required by the contract drawings.
- C. Masonry walls, where indicated on the contract drawings, shall be reinforced with continuous welded steel wire reinforcing frame. Reinforcing frame shall be provided in every horizontal course, or as otherwise indicated on the contract drawings. Reinforcing shall be wide enough to extend within one inch of the exterior and interior faces of the wall.

3.6 CAULKING

- A. Caulking shall be provided where indicated on contract drawings or as directed by the Engineer and shall consist of an approved polysulfide permanent elastic type caulking compound of a color as determined by the Engineer.
- B. Where joints to be caulked are more than one inch deep, neoprene rope shall be placed in the joint to serve as a backing before the caulking is applied.

END OF SECTION

SECTION 051000 - STRUCTURAL STEEL

PART 1 - GENERAL

1.1 GENERAL DESCRIPTION

- A. Work of this Section shall conform to the requirements of the General Conditions, Supplementary General Conditions and Special Requirements.

1.2 DESCRIPTION

- A. Work included: Structural steel required for this work is indicated on the drawings and includes, but is not limited to the following:
1. Beams, girders, trusses and channels.
 2. Columns, posts, struts and hangers.
 3. Base plates and bearing plates.
 4. Furnishing anchor bolts and wall plates.
 5. Lintel angles, relieving angles, and all other support fittings and materials connected to the framework, including final adjustment.
 6. Shop painting and field touch-up.
 7. Bracing, guying and surveying of erected steel.
 8. All connections.
 9. All shoring and temporary bracing.
 10. All reinforcing and bracing of structural steel as required for erection of the work.
 11. Metal deck support angles or channels.
 12. All other work which may reasonably be inferred as making the work of this Section complete.

1.3 QUALITY ASSURANCE

A. Standards and Codes:

1. Except as modified by the requirements specified herein, the following codes and standards (latest editions and revisions unless noted) shall apply to the work of this Section:
 - a. Florida Building Code.
 - b. AISC - "Specification for Structural Steel Buildings."
 - c. AISC - "Code of Standard Practice", Latest Edition. As modified within this specification.
 - d. AISC - "Specifications for Structural Joints Using ASTM A325 or A490 Bolts," including commentary section.
 - e. American Society for Testing and Materials - ASTM Standards.
 - f. AWS - "Structural Welding Code," D1.1 - including all supplements, addenda, and special rulings applicable to building construction, except amendments to sections or inspection specified herein.
 - g. SSPC - "Steel Structures Painting Manual"
 - h. Welding Rules 13 thru 17 New York City Board of Standards and Appeals, Cal. No. 1-38 Sr, Volume II.
 - i. Occupational Safety and Health Act of 1970 (OSHA), as amended to date.

B. Testing and Inspection:

1. Prior to the fabrication of any steel, mill test reports shall be furnished to the Engineer of Record in accordance with shop drawings procedures. The test reports shall be obtained from the mill producing steel, certifying that the furnished steel meets the requirements for structural steel specified as to physical properties, inspection, marking and tests. (If required, these manufacturer's reports shall be filed with the Department of Buildings by the Contractor's representative.)
 - a. Any additional reports, affidavits or other requirements of the Department of Buildings shall be furnished.
 - b. Manufacturer's certification or letter of compliance of bolt, nut, washer and filler material for welding shall be furnished, to the Engineer of Record.
2. Testing and inspection of structural steel will be performed by an independent testing agency (contractor) retained and paid for by the Owner. The inspection service shall be provided with the following:
 - a. Information as to time and place of starting fabrication on shop.
 - b. A complete set of approved shop and erection drawings.
 - c. Cutting lists, order sheets, material bills and shipping bills.
 - d. Representative sample pieces requested by the inspection agency, for testing, if necessary.
 - e. Full and ample means of assistance for testing inspection of material.
 - f. Proper facilities, including scaffolding, temporary work platforms, etc., for inspection of the work in shop and field.
3. Each bolting crew and welder shall be assigned an identifying symbol or mark and all shop and field connections shall be so identified that the inspector can refer back to the crew or person making the connection.
 - a. Testing and Calibration: Apparatus and procedure for measuring torque and tension for calibrating wrenches shall be furnished and maintained by the Contractor, and shall be approved by the Owner's Inspection Agency. Impact wrenches shall be calibrated each day at beginning of work, each time the bolt size or length of pressure hose is changed, and at such other times as the inspection service may direct. Periodic checks of high-strength-steel bolted connections will be made in the field by the Owner's Inspection Service. Maintain at all times during fabrication and erection a suitable gauge for calibrating the torque wrench. Provide scaffolding and personnel as required for the testing of connections by the Owner's Inspection Service inspectors.
4. Shop inspection will consist of, but not limited to the following:
 - a. Certification of welders and welding procedures.
 - b. Inspection and testing of bolting and welding in accordance with contract documents, specifications and codes.
 - c. Examination of sections for proper cleaning and painting.
5. Field inspection will consist of, but not limited to the following:
 - a. Certification of welders.
 - b. Inspection and testing of bolting and welding in accordance with Contract Documents, Specifications and Codes.
6. All welding inspection for shop and field will, in general consist of complete visual

inspection, and the following:

- a. Magnetic Particle Inspection - as per ASTM E709.
 - (1) Manual Fillet Welds - Random testing approximately 10% linear inches of weld made.
 - (2) Automatic Fillet Welds - One foot of each end of all welds. (Applies to web-to-flange of plate girders. Elsewhere, 10% linear inches of weld made.)
 - b. Ultrasonic Inspection - As per AWS Section 6, Part C and Section 8.15.3.
 - (1) Manual Groove Welds - Ultrasonic testing, all welds - 100% tension.
 - (2) Automatic Groove Welds - Ultrasonic testing, 50% of all welds; minimum run 4 feet per web-to-flange of plate girders.
 - (3) Tension Welds - Ultrasonic inspection of all welds.
 - (4) Compression welds automatic 25% of all welds - manual - all welds.
 - (5) Procedures for testing prior to welding in regard to base material, shall be in accordance with ASTM A-435. Repair (or replace) rejected material at no cost to the Owner. Repair (or replace) repaired material if rejected after welding, at no cost to the Owner.
 - (6) Liquid penetration as per ASTM E-165, if required.
 7. Inspection by the Owner's Inspection Service does not relieve the Contractor of his responsibility to perform the work and provide the materials required.
 8. If material or workmanship is rejected by the Engineer or Owner's Inspection Service, the following procedures shall be adhered to:
 - a. Any and all material or workmanship which is rejected at the shop or building shall be promptly replaced without additional cost to the Owner.
 - b. Any applied marks or tags identifying rejected steel from any members shall not be removed while they are on the job site or shop and any steel members are not to be re-used once they have been rejected.
 - c. Replacements shall be made to comply with requirements of drawings and specifications and as directed by the Architect or Engineer.
 - d. If arrangements for replacements are not made after seven days notice of rejection, the Owner will have the option to replace rejected material and charge the cost thereof against the balance of monies withheld.
 - e. Acceptance of steel work at shop will not preclude rejections, whether erected or not, if found defective in any way.
 - f. Rejected steel shall be removed from the site within three working days of notice of rejection without additional cost to the Owner.
- C. Procedures for Defective or Substandard Welds:
1. When defects are revealed, additional inspection by whatever method is deemed necessary by the testing laboratory shall be performed to the extent necessary to assure that the full amount of defect has been located.
 2. The Engineer may require additional examination of any welds where there is reason to question the weld quality.
 3. Defects shall be repaired using approved welding repair procedure. Unless otherwise accepted by the Engineer, examination of the repaired weld shall be by the same method that was used to reveal the defect. A second repair of a defective area shall not be made

- without the approval of the Engineer.
4. In all cases where the inspector has reason to question the quality of the material or workmanship, no further work shall be done on the assemblies or sub-assemblies until proper corrections have been made.
 5. Material or work that is not acceptable shall be designated by words such as "reject" marked directly on the material of the work.
 6. Any weld which, upon examination or testing is found to be defective, shall be removed to the satisfaction of the Owner's Inspection Service and the weld shall be remade. The Contractor shall remake the welds and bear the costs of reinspection of such remade welds.

D. Reports:

1. Reports on shop and field welding and bolting and structural steel shall include the following:
 - a. Name of inspectors.
 - b. Description of work.
 - c. Description of type of inspection.
 - d. Type of weld (or bolts).
 - e. Condition of weather.
 - f. Welding operator's name and number.
 - g. Type of welding equipment (or bolt size).
 - h. Total inches of welds made (or bolted locations), inspection, rejection, acceptance.
 - i. Remarks.
2. Immediately after tests or inspections have been made, the laboratory shall furnish copies of all tests and inspection reports as follows:

Four copies to:
Engineer of Record
WSP
One Penn Plaza
250 West 34th Street
New York, New York 10119
3. Permanent records of the details of all tests shall be maintained by the laboratory.
4. Laboratory data records and field books shall be available for examination by authorized parties upon request.

1.4 SUBMITTALS

- A. The Contractor shall retain an engineer licensed in the State of Florida to prepare design computations and detailing data regarding all connections. The computations shall be signed and sealed by such engineer who shall certify that the individual shop drawings are in conformance with such computations.
- B. Fabricator shall submit job standards, with their respective calculations, signed and sealed by a New York licensed engineer, for all typical connections to the engineer of record for approval, prior to the submission of erection drawings and individual piece drawings.
- C. From the design drawings the Contractor shall submit to the Engineer for approval prior to fabrication full dimensioned drawings of all items in this Section.
- D. Drawings shall include all fabrication, erection plans, member details, and anchor bolt setting

plans. Column details, including column flange and/or web reinforcement sized by the Contractor in accordance with AISC requirements, and beam details shall be submitted simultaneously for each area. Index sheets and update for each submission shall be provided concurrently with the shop drawings they represent. Calculations shall be submitted.

1. Substitutions of shapes or sections, or modifications of details, or both and all deviations from the Structural Design Drawings, and the reasons therefore, shall be submitted with shop drawings for approval and shall be specifically called to the attention of the Engineer of Record. Failure to specifically indicate modifications, or revisions to previously submitted drawings, shall automatically be considered for rejection of the modification or revision whether or not the drawing has been approved by the Engineer.
 2. The Contractor alone shall be responsible for all errors of detailing, fabrication, and for the correct fitting of the structural members.
 3. All individual piece drawings shall clearly reference the appropriate job standard and shall clearly show the provided connection reaction or force.
- E. The Contractor shall be responsible for the correct coordination of his work where it comes in conjunction and/or contact with any other work. Dimensions are the responsibility of the Contractor.
- F. Fabrication of any material or performance of any work shall not proceed until shop drawings have been approved by the Engineer.
- G. The details shall be prepared in such a way as to avoid having steel connections, bracing, etc., interfere with architectural details or in any way reduce the area of shafts, openings, clearances, etc.
- H. Samples of paint to be used shall be furnished with names and certification of formulas, if required. Samples of any other products and materials requested by the Engineer shall be furnished.
- I. Mill certificates certifying chemical and physical properties of all steel furnished on the project shall be submitted.
- J. Final Drawings: Drawings at completion of the structural steel work shall be submitted.
- 1.5 DELIVERY AND STORAGE
- A. Structural steel shall not be handled until paint has thoroughly dried. Care must be exercised to avoid abrasions and other damage.
 - B. Material shall be stocked out of mud and dirt and proper drainage shall be provided. Structural steel must be protected from damage or soiling by adjacent construction operations.
 - C. Anchor bolts, bearing plates and other items to be set by other Contractors shall be delivered to the site in ample time for installation and with templates and/or setting instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All materials shall conform to the requirements of the current editions of the ASTM and other specifications and standards listed below.

2.2 STRUCTURAL STEEL

- A. Steel shall comply with requirements of the following specifications:
1. Steel shall be ASTM A36, A992 Grade 50, or other, as noted on the drawings.
 2. A certificate of conformance shall be submitted to the Engineer of Record by the steel manufacturer certifying that the steel is new steel conforming to the above referenced ASTM specification.
 3. Specified steel shapes not available for any reason shall be fabricated from plate material equal in strength and size to the specified. rolled shape.

2.3 BOLTS

- A. Bolts shall comply with requirements of the following specifications:
1. High Strength Bolts (carbon steel) - ASTM A325.
 2. High Strength Bolts (alloy steel) - ASTM A490.
 3. All ASTM A325 and A490 bolts shall be preferably cold-forged and with rolled threads.
Note: Type 2 A325 bolts and Type 3 A490's are not to be used.
 4. All heavy hex nuts for high strength bolts must be ASTM A194 2H or ASTM A563 DH for use with plain (uncoated) bolts or nuts under ASTM A194 or A536 that have a minimum proof stress not below 175,000 psi. No other nuts are acceptable, and nuts must show both the manufacturer's mark and the relevant symbol.

2.4 WASHERS

- A. Round washers shall conform to the American Standard B27, Type B. Washers in contact with high strength bolt heads and nuts shall be hardened in accordance with ASTM Designation A325. Beveled washers shall be furnished in accordance with the specifications of the "Research Council on Riveted and Bolted Structural Joints."
- B. Hardened round washers in contact with high strength bolt heads and nuts must be manufactured to ASTM F436 which requires a hardness of 38 to 45 HRC and must show manufacturer's mark. Washers for use with short slotted or oversized holes on over 1" A490 bolts must also be 5/16" thick or thicker.

2.5 ELECTRODES AND FLUX

- A. Electrodes and flux for carbon steel shall be low hydrogen (E70) and shall conform to the requirements of the current edition of the American Welding Society's Standard Code for Welding in Building Construction (D1.1) and current rules and regulations of the New York City Building Code, and local and state agencies having jurisdiction.

2.6 PAINT

- A. Paint for shop coating of steel not exposed to the exterior shall be Tnemec No. 88 H.S. or Sherwin Williams steel Spec Heavy Duty Primer and for exposed exterior structural steel Tnemec Series 27 FC or Sherwin Williams Recoatable Epoxy Primer or approved equal.

2.7 FABRICATION

- A. The Contractor shall note the following:

1. End of beams shall be reinforced where cuts or blocks reduce shear or moment strength below required values.
2. Billet thicknesses indicated on column schedule are finished sizes.
3. Mill column and bearing stiffeners to give full bearing over the cross section. Plane contact surfaces of bearing plates. It is not necessary to plane bottom surfaces of plates on grout bed.
4. Camber shall be provided on those members where and as indicated on the drawings. Camber shall be measured at the mid-length of member. Members without specified camber shall be fabricated so that after erection any minor camber due to rolling or shop assembly will be upward. Camber noted on the contract documents are the as erected in place cambers. Camber tolerances shall be as noted in the Code of Standard Practice with the following modifications: "For the purpose of inspection cambers shall be measured in the field after erection and prior to concrete placement." Cambers deviating from the acceptable tolerances will require correction prior to concrete placement.
5. Holes shall be drilled or punched at right angles to the surface of the metal. Holes shall not be made or enlarged by burning. Drill material shall have a thickness in excess of the bolt diameter and material thicker than 7/8". Holes shall be clean cut without torn or ragged edges. Burrs resulting from drilling operations shall be removed.

B. Size of Holes:

1. Ordinary holes shall be nominal bolt diameter plus 1/16".
2. Members with shear connections only that frame into exterior columns or spandrel girders may have elongated holes of nominal bolt diameter plus 3/16" in direction perpendicular to load. Elongated holes shall be placed in detail pieces only. Slotted holes will not be permitted.
3. Holes, slots and openings required by other trades and contracts shall be provided, together with necessary reinforcing as shown on the drawings. Suitable templates for proper location of these openings shall be used. Where openings are shown on the drawings or approved shop drawings, no change in location will be permitted without prior approval.
4. Manual oxygen cutting shall be done only with a mechanically guided torch. Any unguided torch may be used provided cut is not within 1/2" of the finished dimension and final removal is completed by means such as chipping or grinding to produce a surface quality equal to that of the base metal.
5. Exposed exterior structural steel shall have exposed sharp edges and corners ground off smooth and rounded or chamfered. Where water will collect in members, drain holes at low points with chamfered edges shall be provided.

2.8 CONNECTIONS

- A. Connections shall be a minimum of 7/8" dia. with a minimum of 2 bolts. Minimum connections shall conform to appropriate tables headed "Uniform Load Constants" shown in the manual of steel construction of AISC. Composite beam reactions will be greater. Criteria for determining minimum connection capacity required is shown on the structural drawings. Seated connections may be used only when they do not interfere with architectural features and only upon acceptance of the Engineer of Record.
- B. Shop connections not indicated on the structural drawings shall be prepared by fabricator and submitted to the Engineer of Record for review. Where connections are indicated on the structural drawings, no deviation from the approved type and method thereof shall be made without the approval of the Engineer of Record. Single angle, one-sided, or other type of eccentric connections will not be permitted unless specifically approved by the Engineer of Record, Prior to preparation of shop drawings.

- C. Connections designed by this Contractor, together with all the necessary computations, shall be submitted to the Engineer of Record for review. The Contractor shall accept full responsibility for the design of all connections, as required to resist the loads and reactions shown on the Contract Drawings and as specified excepting those completely designed and detailed on the contract documents.

Immediately upon submission of initial Typical Detail Sheets or erection drawings, the Contractor shall submit an affidavit from a Professional Engineer licensed in the State of New York, whose registration number shall appear on the affidavit, stating the following:

"All connections and details required to resist the loads and reactions shown on the Contract Drawings and as specified, excepting those completely designed and detailed on the Contract Documents will be designed by me personally or by qualified personnel under my direct supervision."

At the completion of the work, the Licensed Professional Engineer shall submit an affidavit stating:

"All connections and details required to resist the loads and reactions shown on the Contract Drawings and as specified, excepting those completely designed and detailed on the Contract Documents have been designed by me personally or by qualified personnel under my direct supervision."

- D. Non-Standard Connections: Where standard connection cannot be used, the substituted connection shall provide for the reaction equal to that which a standard connection would provide. In addition, such connection shall be designed to transmit properly the total reaction, moments, and stresses without exceeding the allowable unit stresses.
- E. Bolted connections: Bolts shall be driven accurately into the holes without damaging the thread, and bolt heads and nuts shall rest squarely against metal. Bolt heads shall be protected from damage during driving. Where structural members having sloping flange faces, bolted connections shall be provided with appropriate beveled washers to afford square seating for bolt heads or nuts.
1. All A325 and A490 bolts shall be drawn up to a bolt tension not less than that specified in Table 3 of the AISC Specification for Structural Joints using ASTM A325 or A490 bolts, and the Specifications for Structural Joints Research Council on Riveted and Bolted Structural Joints. An approved, calibrated, manual or power torque shall be used to obtain the proper torque and tension.
 2. Bolts shall be of a length that will extend not less than 1/4" beyond the nuts.
 3. All bolts shall be high strength slip critical bolts.
 4. High-strength bolted joints shall be made without the use of erection bolts. Bring members tightly together with sufficient high-strength "fitting-up" bolts which shall be retightened as all the bolts are finally tightened. Manual torque wrenches will not be accepted for final tightening. Protect bolt heads from damage during driving. Provide washer under torque element.
 5. In addition to all other requirements, a hardened washer shall be installed between all bolt heads or nuts and material having elongated holes.
- F. Welded Connections:
1. Before welding, particular attention shall be paid to surface preparation, fit up and cleanliness of surface to be welded.
 2. Minimum preheat and interpass temperatures for structural steel welding shall be as specified in the American Welding Society Standard for Welding in Building Construction, except that no welding shall be performed when ambient temperature is lower than 0

- degrees F. The temperature shall be measured from the side opposite that upon which preheat is applied.
3. Welding shall be done by the American Welding Society's approved methods.
 4. The head, input, length and sequence of weld shall be controlled to prevent distortions. The surfaces to be welded and the filler metals to be used shall be subject to inspection before any welding is performed.
 5. No welding shall begin until joint elements are bolted in intimate contact and adjusted to dimensions shown on the drawings, or both, with allowance for any weld shrinkage that is expected. Heavy sections and those having a high degree of restraint with low hydrogen type electrodes shall be welded. No members are to be spliced without prior approval of the Architect.
 6. All groove welds shall be continuous and full penetration welds unless otherwise shown on the design drawings. Welds made without the aid of a backing bar shall have their roots chipped, ground, gouged out to sound metal from the second side, before welding is done from the second side.
 7. No joining in which material 2" or more in thickness is involved shall be interrupted once welding is started unless at least two thirds of its size for its full length is complete without an interruption of more than one hour. The welding may be interrupted for longer periods provided the required preheat temperature is maintained for the full length of the joint for the entire time the welding is interrupted.
 8. Welds shall be sounded throughout. There shall be no defect in any weld or welds pass.
 9. Welds shall be free from overlap.
 10. Craters shall be filled to the full cross section of the weld.
 11. Exposed exterior structural steel shall have joints seal welded.
- G. The contact surface of high strength bolted and welded connections shall be cleaned and left unpainted. The several pieces forming any built-up or joint shall be straight and close fitting, free from twists, bends or open joints in the finished assembly.
- H. Seated connections may be used only where they do not impose eccentricities on columns, where they do not interfere with architectural features and where approved by the Engineer.
- I. Connections may be designed utilizing the bolt bearing values except in the following locations:
1. All connections indicated as requiring slip critical bolts.
 2. Connections for supports or running, machinery, trucks and/or of other live loads which produce impact.
 3. Wind connections and/or seismic connections, (i.e. bracing members, wind girders, WG, etc.).
 4. Connections carrying elevator loads.
 5. Connections carrying cooling tower loads.
 6. Beams supporting columns or posts.
 7. Connections for cantilevers.
 8. Connections carrying window washer loads.
 9. Trusses.
 10. Connections to columns or within 5 feet of a column.

2.9 SHOP PAINTING AND COATING

- A. Preparation:
1. Structural steel exposed to the exterior shall be cleaned in accordance with SSPC-SP6 Commercial Blast Cleaning.
 2. All steel shall be cleaned in accordance with SSPC-SP2 Hand Tool Cleaning.

- B. After fabrication, all steel shall receive a shop coat of paint, except for the following:
1. Members encased in concrete or spray fireproofed.
 2. Areas within 2" of field welds.
 3. Contact surfaces of high strength bolted friction type connections.
 4. Milled surfaces.
- C. Application:
1. Paint shall be applied to dry surfaces, when temperatures are above dew point, thoroughly and evenly, strict accordance with manufacturer's label instructions, to provide a dry film thickness of 2.0-3.5 mils for interior steel and 4.0 - 6.0 mils for exterior steel. Paint shall be dry before handling or loading steel for shipment.
 2. Surfaces inaccessible after assembly or erection shall receive a second coat of the shop paint.
- D. Machined surfaces shall be protected by an approved rust-inhibitive coating, readily removable prior to erection, or of a type not requiring removal.
- E. Complete painting details shall be included in the shop drawings.
- F. Field Touch-Up:
1. After erection, all damaged areas in the shop coat, loosened scale, rust, exposed surfaces of bolts, nuts and washers, and all field welds and unpainted areas shall be cleaned to the same standards as the shop coat and painted with the same paint used for the shop coat, at same film thickness.

PART 3 - ERECTION

3.1 BENCHMARK AND LAYOUT

- A. The Owner will provide, once, at the site, benchmarks indicating grades, property and axis lines, generally at street or grade level, sufficient in his opinion for the construction of the project.
- B. Surveys: The Construction Manager will provide a survey indicating the location of such benchmarks. Such survey will locate building lines, lot lines and datum which shall be worked to by this Contractor. This Contractor shall rectify and correct all apparent errors after a check by survey of the completed work.
- C. Protection and Relocation of Benchmarks: The Contractor shall erect and maintain protection for such benchmarks during the construction of the project. If any benchmark require relocation, the Contractor shall offset such benchmarks, when and as directed by the Engineer of Record and be responsible for its accuracy and maintenance.
- D. Installation of Work Under This Contract: The Contractor shall be responsible for the accurate placement of his work in accordance with the location and elevations shown on the drawings and as extended from benchmarks previously referred to.
- E. Dimensions and Levels: Before starting the work, the Contractor shall verify all dimensions and levels. Levels shall be established accurately at certain points above each level of the building and shall be carried down to floor steel and maintained carefully during the progress of the work.

3.2 DERRICKS, CRANES AND SIMILAR EQUIPMENT

- A. The Contractor shall furnish all fuel, maintenance, and equipment required for hoisting and placement of materials under this Contract.
- B. The Contractor shall process, pay for and maintain all permits and certificates of on-site inspection required for derricks, cranes and hoisting equipment. No derricks, cranes and hoisting equipment shall be operated without a certificate of operation and a certificate of on-site inspection.
 - 1. Whenever the erection equipment is supported by the structure, the Contractor shall be responsible for the retention of a licensed professional structural engineer to review the adequacy of the supporting members in relation to the loads imposed thereon. Where the imposed load exceeds the design load, the Contractor shall be responsible for any additional supports, bracing, connections, and similar measures required to support the imposed load of the equipment while in use.
 - 2. If standard manufactured elements are used for hoisting, such equipment shall have posted thereon, charts indicating the maximum loading under varying conditions of use. If specifically designed, the Contractor shall be responsible for the retention of a licensed professional structural engineer to review the adequacy of the equipment for the loads to be imposed on it.
 - 3. In addition to the above, all hoisting equipment shall be installed, operated and maintained in accordance with all applicable regulations of local city and state authorities having jurisdiction.
 - 4. Street storage and sidewalk crossing permits shall be furnished by the Construction Manager.

3.3 ERECTION

- A. Anchor bolts and other required anchorage items shall be verified for proper size and accurate location prior to erection of steel work.
- B. Errors in shop fabrication or deformation resulting from handling and transportation that prevent the proper assembly and structural fitting of parts shall be reported immediately to the Engineer of Record, and approval of the method of correction shall be obtained. Approved corrections shall be made at no additional cost to the Owner.
- C. Field connections shall be made as herein before specified.
- D. Column billets and other bearing plates shall be supported and aligned on steel wedges or shims. After the supported members have been plumbed and properly positioned and the anchor nuts tightened the entire bearing area under the plate shall be packed solidly with grout, under another Contract. Wedges and shims shall be cut off flush with the edges of plates and shall be left in place.
- E. Splices: Fastenings of splices of compression members shall be done after the abutting surfaces have been brought completely into contact. Bearing surfaces that will be in permanent contact, shall be cleaned before the members are assembled.
- F. As erection of the steel progresses, the work shall be fastened securely to take care of all dead load, wind and erection stresses. Particular care shall be exercised to ensure straightness and tautness of bracing immediately upon raising a steel column. Splices will be permitted only where indicated on the Contract Drawings or the reviewed shop drawings. Poor matching of holes shall be corrected by drilling to the next larger size, and the use of larger size bolts. Welding or

re-drilling will not be permitted without approval of the Engineer of Record. Hammering which will injure or distort the members will not be permitted. Driftpins may be used only to bring together the several parts and shall not be used in such manner as to distort or damage the metal. All structural steel shall have suitable temporary braces and stays to hold it in position until permanently secured.

- G. A re-survey of column elevations at every second splice or fourth floor, shall be made at each column. Shims shall be placed as required to re-level columns prior to bolting or welding of column section above. Columns splice elevations shall be within 3/8 of an inch from the theoretical elevation.
- H. Cutting of Steel: The use of flame, cutting torches, in the field for correction of fabrication errors will not be permitted on any member in the structural framing.
- I. Location of Billet Plates: Diagrams and templates shall be furnished to properly locate billet plates. The location of anchor bolts and inserts shall be accurately placed by means of a survey made by a competent surveyor retained by this Contractor. Setting of anchor bolts in hardened concrete, due to error, shall be made in suitable drilled holes, and solidly grouted in place.
- J. Exposed structural steel shall have joints seal welded.

3.4 PLUMBING AND LEVELS

- A. All members shall be aligned, leveled and adjusted accurately prior to final fastening. Tolerances shall conform to the AISC Code of Standard Practice except as modified below.
- B. Displacement Requirements:
 - 1. Displacement of the centerlines of columns adjacent to elevator shafts from the dimensioned column lines shall be no more than 1" maximum at any point in the building.
 - 2. The member working points of exterior column shipping pieces may be displaced from the established column line no more than 1" towards nor 1-1/2" away from the building line in the first 20 stories. Above the 20th story, the displacement may be increased by 1/16" for each additional story but may not exceed a total displacement of 1-1/2" towards nor 2" away from the building line.
 - 3. The member working points of exterior column shipping pieces at any splice level for multi-tier buildings and at the tops of columns for single tier columns may not fall outside a horizontal envelope parallel to the building line, 1-1/2" wide.
 - 4. The member working points of exterior column shipping pieces may be displaced from the established column line, in a direction parallel to the building line, no more than plus or minus 1/8" from the dimension location shown in any one floor nor more than plus or minus 1" in the first 20 stories. Above the 20th story the displacement may be increased 1/16" for each additional story but may not exceed a total displacement of plus or minus 1-1/2" parallel to the building line.
- C. Plumbing: The structural steel shall be carefully plumbed during erection. The Contractor shall submit to the Engineer a drawing showing the true position of each steel column as each tier is completed.

3.5 FIELD PAINTING

- A. After erection of structural steel exposed on exterior of building, all abrasions, bolt heads and surfaces left uncoated for welding and bolting shall be touched up with special epoxy-zinc coating. Touch up protective coating shall match epoxy-zinc shop coating.

- B. After erection abrasions, bolt heads and surfaces left unpainted for welding and bolting shall be touched up with paint of a different color.

END OF SECTION

SECTION 053200 - METAL ROOF DECK

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

- A. Work of this section shall conform to the requirements of the General Conditions, Supplementary General Conditions and Special Requirements.

1.2 SCOPE OF WORK

- A. All materials, labor, equipment and services necessary to furnish, deliver, and install all work for this section shall be provided as shown on the drawings, as specified, and as required by job conditions, including but not limited to the following:
 - 1. All metal roof deck shown on drawings.
 - 2. The cutting, drilling or punching of openings in the deck for passage of pipes, ducts, etc., and the attachment of other items shown on drawings or required openings 18" or less shall be factory cut and reinforced.
 - 3. Furnishing and installing flexible rubber closures for all deck flutes at exterior and interior partitions. These particular closures are mandatory and no substitute will be accepted.
 - 4. Welding: Including all welding required to properly fabricate and erect the steel decking.
 - 5. Hoisting of all materials required to be furnished and installed under this Contract.
 - 6. Safety Requirements: The Contractor shall be held responsible for compliance with the safety requirements of all city, state and federal agencies having jurisdiction, including the Occupational Safety and Health Administration.
 - 7. The Contractor's attention is called to the Notes on the Structural Drawings.

1.3 RELATED WORK DESCRIBED IN OTHER SECTIONS

- A. Concrete Work - Section 033000.
- B. Structural Steel - Section 051000.
- C. Field painting of steel decking, except for touch-up specified under "Scope" - Section 099600.
- D. Metal Roof Decking - Section 053200.

1.4 QUALITY ASSURANCE

- A. Section properties used in determining stress and deflection shall have been calculated in accordance with the American Iron and Steel Institute's Specification for the Design of Cold Formed Steel Structural Members, latest edition, and shall be certified by the Steel Deck Institute. Coefficients for moments and deflections shall conform to the Steel Deck Institute Design Manual for Floor Decks and Roof Decks.
- B. Certification of Welders: All welding shall be performed by competent experienced welding mechanics. Furnish certification stating that all welders employed on the work have passed qualification tests using procedures specified by the State of Florida and in the American Welding Society's Standard B3.0, Part II, current edition, and that such welders have been performing satisfactory welding of the required type within the three month period immediately preceding this

job.

1. A certification shall be submitted for each welding mechanic stating date of examination, results of testing, name of welder, and name and title of person conducting the examination.
2. All welders shall be licensed in the State of Florida.

C. Standards: All welding shall be performed in accordance with the applicable sections of the American Welding Society's Standard D1.0 for Welding in Building Construction and the Florida Building Code.

D. U.L. Approval: All welding shall be performed in strict accordance with the Underwriter's Laboratories' approvals in all cases, with no interchangeability or equivalent materials authorized.

1.5 SUBMITTALS

A. Drawings: Based on design drawings, the Contractor shall prepare fabrication and erection drawings of all steel deck work. In addition, shop drawings shall be prepared and submitted to the Engineer of Record for review.

B. Design Computation: In accordance with the Engineer of Record's design, the Contractor shall detail and be responsible for the component parts of the steel deck, indicating location, type, size, and materials, welds (lengths and dimensions), reinforcing, closures and the like.

C. Shop drawings shall be submitted, sufficiently in advance of the start of the work to allow time for examination and review. No fabrication shall be started prior to review of the drawings.

1. Modification of details and all deviations from the design drawings, and the reasons therefore, shall be submitted for review with the shop drawings. Each modification or deviation shall be brought to the Engineer of Record's attention.
2. Responsibility for all errors in detailing, fabrication and fitting of the steel decking shall be the Contractor's. Care shall be taken to maintain all architectural clearances.
3. Index sheets shall be submitted with all deck details at time of submission. Where field welding is required, details shall be submitted at the same time as corresponding shop drawings.

D. Mill Reports: The Contractor shall submit mill reports (certified) covering the physical properties and other pertinent information of all steel decking required under this Contract.

1.6 DELIVERY AND STORAGE

A. All material shall be delivered to the construction site free from warpage, rust, dirt and shall be stored under protective covers on dunnage.

1.7 COOPERATION

A. The Contractor shall cooperate with all trades regarding all parts of this work which are in any matter related to the work of others, and he shall arrange and execute his work in such a manner that the work of other trades will not be delayed. The Contractor will be held responsible for all damage to the work of other trades caused by the installation of his work and any work or materials damaged because of carelessness, negligence, or lack of precaution on the part of the Contractor shall be removed and made good at the expense of the Contractor.

- B. This Contractor shall be kept informed as to the progress of the job and be ready to start his work immediately when job conditions permit, upon 24 hours notice from the General Contractor.

PART 2 - PRODUCTS

2.1 STEEL DECKING

- A. Deck shall be Type B1 - 36" wide, ribs 1 1/2" deep, spaced 6" o.c. as manufactured by United Steel Deck, Inc., or approved equal; formed from 20 gauge steel or as indicated on plan, conforming to the latest revision of ASTM A-245. Panels shall have interlocking type of vertical male and female side joints.
- B. Deck panels shall be furnished with light commercial galvanizing, nominal 6 oz. conforming to ASTM A525 and Federal Specification QQ-S-775d, pretreated for field painting where deck is exposed.
- C. All necessary accessories such as sound barriers, insulation cleats, closure pieces, anchor clips, and other items as indicated or required shall be furnished with decking. Accessories shall be of the same material and finish as deck units and of manufacturer's approved design and recommended gauges.
- D. Metal roof deck shall be fabricated in accordance within reference standards herein before specified, generally as follows:
 - 1. Deck Panels: To be fabricated long enough to extend over three or more supports, but not less than three, and splice only over support, stagger and joints.
 - 2. Openings: Frames for all openings shall be indicated. Openings for pipes will be made by the respective trades; all others framed under this section. Refer to drawings to determine requirements.

2.2 CLOSURES AND FLASHING

- A. The Contractor shall furnish and weld in place all sheet metal closures and fillers as required to close between roof units and columns, beams and girders, ends of runs, and in all other locations where shown and noted on the Structural and Architectural Drawings, Metal flashing shall be included, wherever shown. In addition, closures, fillers and flashing shall be included in all locations as required for proper installation whether or not indicated on the Drawings.
- B. Gauges: Except as otherwise indicated on the structural drawings, closures and fillers shall be not less than No. 18 gauge in thickness; flashings not less than No. 12 gauge.
- C. Deck support steel required to be furnished and installed under this Contract shall conform to the requirements of ASTM A36, current edition. Sizes of steel angles shall be in accordance with the details at columns appearing on the Structural Drawings.

PART 3 - EXECUTION

3.1 ERECTION

- A. All surfaces to receive work of this Section shall be examined and any unsatisfactory conditions shall be reported to the General Contractor for correction. Starting of work shall be construed as an acceptance of all surfaces and conditions existing and a waiver of any subsequent claims.

- B. Alignment and level of steel beams shall be checked and inaccuracies reported to the Contractor for correction. Deck panels shall be placed and adjusted in initial bay, coverage and alignment shall be checked to avoid fanning. Deck panels are to be anchored by welding directly through the bottom of the rib to every structural support at maximum spacings of 12" on center with a puddle weld of a minimum diameter of 5/8". The female half of each side joint is to be welded.
- C. Side joints are to be welded or mechanically crimped between supports at 2'-0" intervals or as shown on plans.
- D. Top surface of field weld area is to be touched up and all damaged places with approved field paint immediately upon completion of erection.
- E. Top of deck shall be broom clean. work is to be left in perfect condition for installation of built-up roofing, flashing and insulation, to the satisfaction of the subcontractor for that work. Work is to be corrected as required to the satisfaction of the "Roofing" subcontractor.
- F. Provide 2" wood planks or other adequate protection over areas of deck used for transporting materials.
- G. Limit storing materials on deck to minimum. Take precautions to avoid concentrated loading; prevent damage to deck.
- H. After erection of deck, if roof is not placed within ten days, deck surface shall be protected from elements until roofing starts.
- I. Field cutting of units for openings shall be done in a workman like fashion, with power shears, cold chisel or other approved means. All openings cut in units for pipe sleeves, ducts, etc., shall be reinforced as required or as shown on the Drawings. No openings exceeding 6" in width parallel to permanent support shall be cut in units, unless shown on Structural Drawings, or without approval of the Engineer/Architect.

3.2 FIELD QUALITY CONTROL

- A. Inspection of steel decking shall include the following:
 - 1. Verification that all steel decking is erected in accordance with approved drawings, Contract Documents and Code requirements.
 - 2. All field welding of metal deck to steel supporting members shall be inspected by visual means to ascertain that all welds conform with drawings and with the applicable code requirements.
- B. Testing and inspection of welding will be supervised and paid for by the Owner.

END OF SECTION

SECTION 054000 - COLD-FORMED METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior non-load-bearing wall framing.

1.2 REFERENCE STANDARDS

A. American Iron and Steel Institute (AISI)

1. AISI S100: North American Specification for the Design of Cold-Formed Steel Structural Members
2. AISI S200: North American Standard for Cold-Formed Steel Framing - General Provisions
3. AISI S202: Code of Standard Practice for Cold-Formed Steel Structural Framing
4. AISI S211: North American Standard for Cold-Formed Steel Framing - Wall Stud Design, with Supplement 1
5. AISI S212: North American Standard for Cold-Formed Steel Framing - Header Design
6. AISI S213: North American Standard for Cold-Formed Steel Framing - Lateral Design, with Supplement 1

B. American Welding Society (AWS)

1. AWS D1.1/D1.1M: Structural Welding Code - Steel
2. AWS D1.3/D1.3M: Structural Welding Code - Sheet Steel

C. ASTM International (ASTM)

1. ASTM A 36/A 36M: Specification for Carbon Structural Steel
2. ASTM A 123/A123M: Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
3. ASTM A 153/A 153M: Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware
4. ASTM A 653/A 653M: Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
5. ASTM A 780/A 780M: Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings
6. ASTM A 1003/A 1003M: Specification for Steel Sheet, Carbon, Metallic- and Nonmetallic-Coated for Cold-Formed Framing Members
7. ASTM B 633: Specification for Electrodeposited Coatings of Zinc on Iron and Steel
8. ASTM C 1513: Specification for Steel Tapping Screws for Cold-Formed Steel Framing Connections
9. ASTM E 119: Test Methods for Fire Tests of Building Construction and Materials
10. ASTM E 329: Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection
11. ASTM F 593: Specification for Stainless Steel Bolts, Hex Cap Screws, and Studs
12. ASTM F 594: Specification for Stainless Steel Nuts
13. ASTM F 836M: Specification for Style 1 Stainless Steel Metric Nuts (Metric)

14. ASTM F 1941/1941M: Specification for Electrodeposited Coatings on Threaded Fasteners.
- D. ICC Evaluation Service, LLC (ICC)
 1. ICC-ES AC70: Acceptance Criteria for Fasteners Power-Driven into Concrete, Steel and Masonry Elements
 2. ICC-ES AC193: Acceptance Criteria for Mechanical Anchors in Concrete Elements
 3. ICC-ES AC308: Acceptance Criteria for Post-Installed Adhesive Anchors in Concrete Elements
 - E. The Society for Protective Coatings (SSPC)
 1. SSPC-Paint 20: Paint Specification No. 20: Zinc-Rich Coating (Type I, "Inorganic," and Type II, "Organic")
- 1.3 PREINSTALLATION MEETINGS
- A. Preinstallation Conference: Conduct conference at Project site.
- 1.4 ACTION SUBMITTALS
- A. Product Data: For each type of product.
 - B. Shop Drawings:
 1. Include layout, spacings, sizes, thicknesses, and types of cold-formed steel framing; fabrication; and fastening and anchorage details, including mechanical fasteners.
 2. Indicate reinforcing channels, opening framing, supplemental framing, strapping, bracing, bridging, splices, accessories, connection details, and attachment to adjoining work.
 - C. Delegated-Design Submittal: For cold-formed steel framing, submit calculations demonstrating compliance with project requirements, signed and sealed by a Professional Engineer registered in the State of Florida and responsible charge of the delegated design.
- 1.5 INFORMATIONAL SUBMITTALS
- A. Qualification Data: For testing agency and Professional Engineer.
 - B. Welding certificates.
 - C. Product Certificates: For each type of code-compliance certification for studs and tracks.
 - D. Product Test Reports: For each listed product, for tests performed by manufacturer and witnessed by a qualified testing agency.
 1. Steel sheet.
 2. Expansion anchors.
 3. Power-actuated anchors.
 4. Mechanical fasteners.
 5. Vertical deflection clips.
 6. Horizontal drift deflection clips
 7. Miscellaneous structural clips and accessories.

- E. Test reports for tests specified in Part 3 "Field Quality Control" article.
- F. Evaluation Reports: For nonstandard cold-formed steel framing post-installed anchors and power-actuated fasteners, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

1.6 QUALITY ASSURANCE

- A. Professional Engineer: a qualified engineer, registered in the State of Florida, and possessing five-years' experience designing cold formed metal framing, include design for wind resistance.
- B. Testing Agency Qualifications: Qualified according to ASTM E 329 for testing indicated.
- C. Product Tests: Mill certificates or data from a qualified independent testing agency indicating steel sheet complies with requirements, including base-metal thickness, yield strength, tensile strength, total elongation, chemical requirements, and metallic-coating thickness.
- D. Code-Compliance Certification of Studs and Tracks: Provide documentation that framing members are certified according to the product-certification program of the Certified Steel Stud Association the Steel Framing Industry Association or the Steel Stud Manufacturers Association.
- E. Regulatory Approvals: Cold formed metal framing shall be approved by Miami – Dade County Department of Regulatory and Economic Resources (RER) acceptance. Approval shall be current as of the date of commencement of construction and maintained through the period of construction.
- F. Welding Qualifications: Qualify procedures and personnel according to the following:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:
 - 1. ClarkDietrich.
 - 2. MarinoWARE.
 - 3. SCAFCO Steel Stud Company.
 - 4. The Steel Network, Inc.

2.2 PERFORMANCE REQUIREMENTS

- A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design cold-formed steel framing and connections.
- B. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing complies with AISI S100 and AISI S240.

- C. Structural Performance: Provide cold-formed steel framing capable of withstanding design loads within limits and under conditions indicated.
1. Design Loads: As indicated on Drawings.
 2. Deflection Limits: Design framing systems to withstand design loads without deflections greater than the following:
 - a. Exterior Non-Load-Bearing Framing: Horizontal deflection of 1/360 of the wall height.
 3. Design framing systems to provide for movement of framing members located outside the insulated building envelope without damage or overstressing, sheathing failure, connection failure, undue strain on fasteners and anchors, or other detrimental effects when subject to a maximum ambient temperature change of 120 deg F (67 deg C).
 4. Design framing system to maintain clearances at openings, to allow for construction tolerances, and to accommodate live load deflection of primary building structure as follows:
 - a. Upward and downward movement of 1/2 inch (13 mm).
 5. Design exterior non-load-bearing wall framing to accommodate horizontal deflection without regard for contribution of sheathing materials.
- D. Cold-Formed Steel Framing Standards: Unless more stringent requirements are indicated, framing shall comply with AISI S100, AISI S200, and the following:
1. Wall Studs: AISI S211.
 2. Lateral Design: AISI S213.

2.3 COLD-FORMED STEEL FRAMING MATERIALS

- A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 60 percent.
- B. Framing Members, General: Comply with AISI S240 for conditions indicated.
- C. Steel Sheet: ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated, of grade and coating designation as follows:
1. Grade: As required by structural performance.
 2. Coating: Z180 (G60), ZF180 (A60), AZM150 (AZ50), or ZGF90 (GF30).

2.4 EXTERIOR NON-LOAD-BEARING WALL FRAMING

- A. Steel Studs: Manufacturer's standard C-shaped steel studs, of web depths indicated, punched, with stiffened flanges, and as follows:
1. Minimum Base-Metal Thickness: 0.0538 inch (1.37 mm), except where manufacturer's data or delegated design requires heavier gauge for heights and conditions of use and as indicated on approved shop drawings and structural design calculations.
 2. Flange Width: 1-5/8 inches (41 mm).

- B. Steel Track: Manufacturer's standard U-shaped steel track, of web depths indicated, unpunched, with unstiffened flanges, and as follows:
 - 1. Minimum Base-Metal Thickness: Matching steel studs, except where manufacturer's data requires heavier gauge for heights and conditions of use and as indicated on approved shop drawings and structural design calculations.
 - 2. Flange Width: 1-1/4 inches (32 mm).

2.5 FRAMING ACCESSORIES

- A. Fabricate steel-framing accessories from ASTM A 1003/A 1003M, Structural Grade, Type H, metallic coated steel sheet, of same grade and coating designation used for framing members.
- B. Provide accessories of manufacturer's standard thickness and configuration, unless otherwise indicated, as follows:
 - 1. Supplementary framing.
 - 2. Bracing, bridging, and solid blocking.
 - 3. Anchor clips.
 - 4. End clips.
 - 5. Gusset plates.
 - 6. Stud kickers and knee braces.
 - 7. Hole-reinforcing plates.
 - 8. Backer plates.

2.6 ANCHORS, CLIPS, AND FASTENERS

- A. Steel Shapes and Clips: ASTM A 36/A 36M, zinc coated by hot-dip process according to ASTM A 123/A 123M.
- B. Anchor Bolts: ASTM F 1554, Grade 36, threaded carbon-steel hex-headed bolts, carbon-steel nuts, and flat, hardened-steel washers; zinc coated by hot-dip process according to ASTM A 153/A 153M, Class C.
- C. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicated; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC01 ICC-ES AC193 ICC-ES AC58 or ICC-ES AC308 as appropriate for the substrate.
 - 1. Uses: Securing cold-formed steel framing to structure.
 - 2. Material for Exterior or Interior Locations and Where Stainless Steel Is Indicated: Alloy Group A1 (1) stainless-steel bolts, ASTM F 738M (ASTM F 593), and nuts, ASTM F 836M (ASTM F 594).
- D. Power-Actuated Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- E. Mechanical Fasteners: ASTM C 1513, corrosion-resistant-coated, self-drilling, self-tapping, steel drill screws.
 - 1. Head Type: Low-profile head beneath sheathing; manufacturer's standard elsewhere.

- F. Welding Electrodes: Comply with AWS standards.

2.7 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: ASTM A 780/A 780M or SSPC-Paint 20.
- B. Shims: Load-bearing, high-density, multimonomer, nonleaching plastic; or cold-formed steel of same grade and metallic coating as framing members supported by shims.
- C. Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6 mm) thick, selected from manufacturer's standard widths to match width of bottom track or rim track members as required.

2.8 FABRICATION

- A. Fabricate cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened, according to referenced AISI's specifications and standards, manufacturer's written instructions, and requirements in this Section.
 - 1. Fabricate framing assemblies using jigs or templates.
 - 2. Cut framing members by sawing or shearing; do not torch cut.
 - 3. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, pneumatic pin fastening, or riveting as standard with fabricator. Wire tying of framing members is not permitted.
 - a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners and install according to Shop Drawings, with screws penetrating joined members by no fewer than three exposed screw threads.
 - 4. Fasten other materials to cold-formed steel framing by welding, bolting, pneumatic pin fastening, or screw fastening, according to Shop Drawings.
- B. Reinforce, stiffen, and brace framing assemblies to withstand handling, delivery, and erection stresses. Lift fabricated assemblies by means that prevent damage or permanent distortion.
- C. Tolerances: Fabricate assemblies level, plumb, and true to line to a maximum allowable variation of 1:960 (1/8 inch in 10 feet) and as follows:
 - 1. Spacing: Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.
 - 2. Squareness: Fabricate each cold-formed steel framing assembly to a maximum out-of-square tolerance of 1/8 inch (3 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, conditions, and abutting structural framing for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Install load-bearing shims or grout between the underside of load-bearing wall bottom track and the top of foundation wall or slab at locations with a gap larger than 1/4 inch (6 mm) to ensure a uniform bearing surface on supporting concrete or masonry construction.
- B. Install sealer gaskets at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.

3.3 INSTALLATION, GENERAL

- A. Cold-formed steel framing may be shop or field fabricated for installation, or it may be field assembled.
- B. Install cold-formed steel framing according to AISI S200, AISI S202, and manufacturer's written instructions unless more stringent requirements are indicated.
- C. Install shop- or field-fabricated, cold-formed framing and securely anchor to supporting structure.
 - 1. Screw, bolt, or weld wall panels at horizontal and vertical junctures to produce flush, even, true-to-line joints with maximum variation in plane and true position between fabricated panels not exceeding 1/16 inch (1.6 mm).
- D. Install cold-formed steel framing and accessories plumb, square, and true to line, and with connections securely fastened.
 - 1. Cut framing members by sawing or shearing; do not torch cut.
 - 2. Fasten cold-formed steel framing members by welding, screw fastening, clinch fastening, or riveting. Wire tying of framing members is not permitted.
 - a. Comply with AWS D1.3/D1.3M requirements and procedures for welding, appearance and quality of welds, and methods used in correcting welding work.
 - b. Locate mechanical fasteners, install according to Shop Drawings, and comply with requirements for spacing, edge distances, and screw penetration.
- E. Install framing members in one-piece lengths unless splice connections are indicated for track or tension members.
- F. Install temporary bracing and supports to secure framing and support loads equal to those for which structure was designed. Maintain braces and supports in place, undisturbed, until entire integrated supporting structure has been completed and permanent connections to framing are secured.
- G. Do not bridge building expansion joints with cold-formed steel framing. Independently frame both sides of joints.
- H. Fasten hole-reinforcing plate over web penetrations that exceed size of manufacturer's approved or standard punched openings.

3.4 EXTERIOR NON-LOAD-BEARING WALL INSTALLATION

- A. Install continuous tracks sized to match studs. Align tracks accurately and securely anchor to supporting structure.
- B. Fasten both flanges of studs to bottom track unless otherwise indicated. Space studs as follows:
 - 1. Stud Spacing: 16 inches (406 mm).
- C. Set studs plumb, except as needed for diagonal bracing or required for nonplumb walls or warped surfaces and similar requirements.
- D. Install horizontal bridging in wall studs, spaced vertically in rows indicated on Shop Drawings but not more than 48 inches (1220 mm) apart. Fasten at each stud intersection.
 - 1. Channel Bridging: Cold-rolled steel channel, welded or mechanically fastened to webs of punched studs.
 - 2. Strap Bridging: Combination of flat, taut, steel sheet straps of width and thickness indicated and stud-track solid blocking of width and thickness to match studs. Fasten flat straps to stud flanges and secure solid blocking to stud webs or flanges.
 - 3. Bar Bridging: Proprietary bridging bars installed according to manufacturer's written instructions.
- E. Install miscellaneous framing and connections, including stud kickers, web stiffeners, clip angles, continuous angles, anchors, and fasteners, to provide a complete and stable wall-framing system.

3.5 ERECTION TOLERANCES

- A. Install cold-formed steel framing level, plumb, and true to line to a maximum allowable tolerance variation of 1:960 (1/8 inch in 10 feet) and as follows:
 - 1. Space individual framing members no more than plus or minus 1/8 inch (3 mm) from plan location. Cumulative error shall not exceed minimum fastening requirements of sheathing or other finishing materials.

3.6 FIELD QUALITY CONTROL

- A. Testing: Engage a qualified independent testing and inspecting agency to perform field tests and inspections and prepare test reports. Submit costs for testing to Owner as a reimbursable expense.
- B. Field and shop welds will be subject to testing and inspecting.
- C. Report test results promptly and in writing to Contractor and Engineer/Architect.
- D. Cold-formed steel framing will be considered defective if it does not pass tests and inspections.
- E. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.7 REPAIRS AND PROTECTION

- A. Galvanizing Repairs: Prepare and repair damaged galvanized coatings on fabricated and installed cold-formed steel framing with galvanized repair paint according to ASTM A 780/A 780M and manufacturer's written instructions.
- B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that cold-formed steel framing is without damage or deterioration at time of Substantial Completion.

END OF SECTION 054000

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
1. Wood products.
 2. Wood-preservative-treated lumber.
 3. Miscellaneous lumber.

1.2 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal (38 mm actual) size in least dimension.
- B. Lumber grading agencies, and abbreviations used to reference them, include the following:
1. NeLMA: Northeastern Lumber Manufacturers' Association.
 2. NLGA: National Lumber Grades Authority.
 3. SPIB: The Southern Pine Inspection Bureau.
 4. WCLIB: West Coast Lumber Inspection Bureau.
 5. WWPA: Western Wood Products Association.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
 3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency in accordance with ASTM D5664.
 4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.4 INFORMATIONAL SUBMITTALS

- A. Material Certificates:

1. For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
2. For preservative-treated wood products. Indicate type of preservative used and net amount of preservative retained.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS

- A. Lumber: Comply with DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. Where nominal sizes are indicated, provide actual sizes required by DOC PS 20 for moisture content specified. Where actual sizes are indicated, they are minimum dressed sizes for dry wood products.
 3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content:
 1. Boards: 19 percent.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA U1, Use categories as follows:
 1. UC4A (Commodity Specification A): Non-critical sawn products in contact with ground and exposed to all weather cycles including continuous or prolonged wetting, and sawn products not in contact with ground but with ground contact-type hazards or that are critical or hard to replace. Include all rough carpentry.
 2. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

1. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece or omit marking and provide certificates of treatment compliance issued by inspection agency.

D. Application: Treat all rough carpentry unless otherwise indicated.

1. Wood cants, nailers, blocking and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.

2.3 FIRE-RETARDANT-TREATED LUMBER

A. General: Where fire-retardant-treated materials are indicated, materials are to comply with requirements in this article, that are acceptable to authorities having jurisdiction, and with fire-test-response characteristics specified as determined by testing identical products per test method indicated by a qualified testing agency.

B. Fire-Retardant-Treated Lumber and Plywood by Pressure Process: Products with a flame-spread index of 25 or less when tested in accordance with ASTM E84, and with no evidence of significant progressive combustion when the test is extended an additional 20 minutes, and with the flame front not extending more than 10.5 feet (3.2 m) beyond the centerline of the burners at any time during the test.

1. Treatment is not to promote corrosion of metal fasteners.
2. Exterior Type: Treated materials are to comply with requirements specified above for fire-retardant-treated lumber and plywood by pressure process after being subjected to accelerated weathering in accordance with ASTM D2898. Use for exterior locations and where indicated.

C. Identify fire-retardant-treated wood with appropriate classification marking of qualified testing agency and other information required by authorities having jurisdiction.

D. Application: Treat all rough carpentry unless otherwise indicated.

1. Wood cants, nailers, curbs, equipment support bases, blocking, and similar members in connection with roofing.

2.4 MISCELLANEOUS LUMBER

A. Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Cants.

B. Dimension Lumber Items: Standard, Stud, or No. 3 grade lumber of any of the following species:

1. Hem-fir (north); NLGA.
2. Mixed southern pine or southern pine; SPIB.
3. Spruce-pine-fir; NLGA.

4. Hem-fir; WCLIB or WWPA.
 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 6. Eastern softwoods; NeLMA.
- C. Concealed Boards: 19 percent maximum moisture content and any of the following species and grades:
1. Mixed southern pine or southern pine; No. 2 grade; SPIB.
 2. Hem-fir or hem-fir (north); Construction or No. 2 Common grade; NLGA, WCLIB, or WWPA.
 3. Spruce-pine-fir (south) or spruce-pine-fir; Construction or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
- D. Roofing Nailers: Structural- or No. 2-grade lumber or better; kiln-dried Douglas fir, southern pine, or wood having similar decay-resistant properties.

2.5 FASTENERS

- A. General: Fasteners are to be of size and type indicated and comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches (38 mm) into wood substrate.
1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.
- B. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.6 MISCELLANEOUS MATERIALS

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locatenailers, blocking, and similar supports to comply with requirements for attaching other construction.
- C. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- D. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

- E. Comply with AWPAC M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
- F. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- G. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.10.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.
- H. Securely attach roofing nailers to substrates by anchoring and fastening to withstand bending, shear, or other stresses imparted by Project wind loads and fastener-resistance loads as designed in accordance with ASCE/SEI 7.
- I. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 INSTALLATION OF WOOD BLOCKING AND NAILERS

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach wood blocking to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Attach wood roofing nailers securely to substrate to resist the designed outward and upward wind loads indicated on Drawings and in accordance with ANSI/SPRI ED-1, Tables A6 and A7.

3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wall and parapet sheathing.
2. Sheathing joint and penetration treatment.

B. Related Requirements:

1. Section 075423 "Thermoplastic-Polyolefin (TPO) Roofing."
2. Section 076200 "Sheet Metal Flashing and Trim."
3. Section 099113 "Exterior Painting" for finishing of exposed glass-mat gypsum sheathing.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1.3 INFORMATIONAL SUBMITTAL

- A. Notice of Approval (NOA) for sheathing and sheathing products as noted in "Quality Assurance" article.

1.4 QUALITY ASSURANCE

A. Regulatory Approvals:

1. Sheathing and sheathing products shall be approved by Miami – Dade County Department of Regulatory and Economic Resources (RER) acceptance. Approval shall be current as of the date of commencement of construction and maintained through the period of construction.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance Ratings: As tested according to ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Fire-Resistance Ratings: Indicated by design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 WALL AND PARAPET SHEATHING

- A. Glass-Mat Gypsum Sheathing, Walls: ASTM C1177/C1177M.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide USG Corporation; 5/8" or a comparable product by one of the following:
 - a. CertainTeed; Saint-Gobain.
 - b. Georgia-Pacific Gypsum LLC
 - c. Gold Bond Building Products, LLC provided by National Gypsum Company.
 - 2. Type and Thickness: Type X, 5/8 inch (15.9 mm).
 - 3. Size: 48 by 96 inches (1219 by 2438 mm).

2.3 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. For parapet and wall sheathing, provide fasteners with organic-polymer or other corrosion-protective coating having a salt-spray resistance of more than 800 hours in accordance with ASTM B117.
 - 2. For wall sheathing to receive exterior paint, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- B. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to Design Professional, based on ICC-ES AC70.
- C. Screws for Fastening Gypsum Sheathing to Cold-Formed Metal Framing: Steel drill screws, in length recommended by sheathing manufacturer for thickness of sheathing to be attached.
 - 1. For steel framing less than 0.0329 inch (0.835 mm) thick, use screws that comply with ASTM C 1002.
 - 2. For steel framing from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick, use screws that comply with ASTM C 954.

2.4 SHEATHING JOINT-AND-PENETRATION TREATMENT MATERIALS

- A. Sealant for Glass-Mat Gypsum Sheathing: Silicone emulsion sealant complying with ASTM C 834, compatible with sheathing tape and sheathing and recommended by tape and sheathing manufacturers for use with glass-fiber sheathing tape and for covering exposed fasteners.
 - 1. Sheathing Tape: Self-adhering glass-fiber tape, minimum 2 inches (50 mm) wide, 10 by 10 or 10 by 20 threads/inch (390 by 390 or 390 by 780 threads/m), of type recommended by sheathing and tape manufacturers for use with silicone emulsion sealant in sealing joints in glass-mat gypsum sheathing and with a history of successful in-service use.

2.5 MISCELLANEOUS MATERIALS

- A. Joint treatment materials for painted surfaces.
 - 1. General: Comply with ASTM C475/C475M.
 - 2. Joint Tape:
 - a. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
 - 3. Joint Compound for Exterior Applications:
 - a. Glass-Mat Gypsum Sheathing Board: As recommended by sheathing board manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.
- D. Coordinate wall sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

- E. Do not bridge building expansion joints; cut and space edges of panels to match spacing of structural support elements.
- F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 GYPSUM SHEATHING INSTALLATION

- A. Comply with GA-253 and with manufacturer's written instructions.
 - 1. Fasten gypsum sheathing to cold-formed metal framing with screws.
 - 2. Install panels with a 3/8-inch (9.5-mm) gap where non-load-bearing construction abuts structural elements.
 - 3. Install panels with a 1/4-inch (6.4-mm) gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.
- B. Apply fasteners so heads bear tightly against face of sheathing, but do not cut into facing.
- C. Horizontal Installation: Install sheathing with V-grooved edge down and tongue edge up. Interlock tongue with groove to bring long edges in contact with edges of adjacent panels without forcing. Abut ends over centers of studs, and stagger end joints of adjacent panels not less than one stud spacing. Attach at perimeter and within field of panel to each stud.
 - 1. Space fasteners approximately 8 inches (200 mm) o.c. and set back a minimum of 3/8 inch (9.5 mm) from edges and ends of panels.
 - 2. For sheathing under stucco cladding, panels may be initially tacked in place with screws if overlying self-furring metal lath is screw-attached through sheathing to studs immediately after sheathing is installed.
- D. Vertical Installation: Install vertical edges centered over studs. Abut ends and edges with those of adjacent panels. Attach at perimeter and within field of panel to each stud.
 - 1. Space fasteners approximately 8 inches (200 mm) o.c. and set back a minimum of 3/8 inch (9.5 mm) from edges and ends of panels.
- E. Seal sheathing joints according to sheathing manufacturer's written instructions.
 - 1. Apply elastomeric sealant to joints and fasteners and trowel flat. Apply sufficient amount of sealant to completely cover joints and fasteners after troweling. Seal other penetrations and openings.
 - 2. Apply glass-fiber sheathing tape to glass-mat gypsum sheathing joints and apply and trowel sealant to embed entire face of tape in sealant. Apply sealant to exposed fasteners with a trowel so fasteners are completely covered. Seal other penetrations and openings.

3.3 FINISHING OF EXPOSED GLASS-MAT GYPSUM SHEATHING

- A. General: Treat glass-mat gypsum sheathing joints, edge trim, control joints, fastener heads, surface defects, and elsewhere as required to prepare glass-mat gypsum sheathing surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

- B. Prefill open joints and damaged surface areas.
- C. Apply joint tape over glass-mat gypsum sheathing joints.
- D. Glass-mat Gypsum Board Finish Levels: Finish panels to levels indicated below and in accordance with ASTM C840:
 - 1. Level 4: Primer and its application to surfaces are specified in Section 099113 "Exterior Painting."
- E. Glass-Mat Gypsum Sheathing Board: Finish according to manufacturer's written instructions for use as exposed board.
 - 1. Exterior painting: specified in Section 099113 "Exterior Painting."

END OF SECTION 061600

SECTION 075423 - THERMOPLASTIC-POLYOLEFIN (TPO) ROOFING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Thermoplastic polyolefin (TPO) roofing system.
2. Accessory roofing materials.
3. Roof insulation.
4. Insulation accessories and cover board.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking; and for wood-based, structural-use roof deck panels.
2. Section 076200 "Sheet Metal Flashing and Trim" for metal roof edge flashings and drainage accessories.
3. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.

1.2 DEFINITIONS

- ##### A. Roofing Terminology: Definitions in ASTM D1079 and glossary in NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to Work of this Section.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Roofing Conference: Conduct conference at Project site.

1. Meet with Owner, Engineer/Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.4 ACTION SUBMITTALS

- A. Product Data:
 - 1. Thermoplastic polyolefin (TPO) roofing system.
 - 2. Accessory roofing materials.
 - 3. Roof insulation.
 - 4. Insulation accessories and cover board.
- B. Sustainable Design Submittals: per requirements of Dade County, Florida Green Procurement Practices.
 - 1. Documentation of Cool Roof Rating Council (CRRC) solar reflectance
 - 2. Documentation of recovered and recycled materials.
- C. Shop Drawings: Include roof plans, sections, details, and attachments to other work, including the following:
 - 1. Base flashings and membrane termination details.
 - 2. Flashing details at penetrations.
 - 3. Tapered insulation layout, thickness, and slopes.
 - 4. Roof plan showing orientation of steel roof deck and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
 - 5. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.
- D. Samples for Verification: For the following products:
 - 1. Roof membrane and flashings, of color required.
- E. Wind Uplift Resistance Submittal: For roofing system, indicating compliance with wind uplift performance requirements.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Manufacturer Certificates:
 - 1. Performance Requirement Certificate: Signed by roof membrane manufacturer, certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of compliance with performance requirements.
 - 2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- C. Product Test Reports: For roof membrane and insulation, for tests performed by a qualified testing agency, indicating compliance with specified requirements.
- D. Notice of Approval documentation:

1. From the Miami – Dade County Department of Regulatory and Economic Resources Board and Code Administration Division – Product Control Section:
 - a. TPO membrane system, including components and accessories.
 - E. Field quality-control reports.
 - F. Sample Warranties: For manufacturer's special warranties.
- 1.6 CLOSEOUT SUBMITTALS
- A. Maintenance Data: For roofing system to include in maintenance manuals.
 - B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.
- 1.7 QUALITY ASSURANCE
- A. Installer Qualifications: A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.
- 1.8 DELIVERY, STORAGE, AND HANDLING
- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
 - B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer. Protect stored liquid material from direct sunlight.
 1. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
 - C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources. Store in a dry location. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
 - D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.
- 1.9 FIELD CONDITIONS
- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.10 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes roof membrane, base flashings, roof insulation, fasteners, cover boards, and other components of roofing system.
 - 2. Warranty Period: 20 years from date of Substantial Completion.
- B. Special Project Warranty: Submit roofing Installer's warranty, on warranty form at end of this Section, signed by Installer, covering the Work of this Section, including all components of roofing system such as roof membrane, base flashing, roof insulation, fasteners, cover boards, and, for the following warranty period:
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing system and flashings to withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roof system and flashings to remain watertight.
 - 1. Accelerated Weathering: Roof to withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
 - 2. Impact Resistance: Roof membrane to resist impact damage when tested according to ASTM D3746, ASTM D4272, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.
- B. Material Compatibility: Roofing materials to be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:
 - 1. Zone 1 (Roof Area Field): 103.9 psf.
 - 2. Zone 2 (Roof Area Perimeter): 131.6 psf.
 - a. Location: From roof edge to 18-feet inside roof edge.
 - 3. Zone 3 (Roof Area Corners): 173.2 psf.
 - a. Location: 5-feet in each direction from each building corner.
- D. SPRI's Directory of Roof Assemblies Listing: Roof membrane, base flashings, and component materials comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a

roofing system, and are listed in SPRI's Directory of Roof Assemblies for roof assembly identical for that specified for this Project.

1. Wind Uplift Load Capacity: 105 psf.
- E. Provide roof panels in accordance with the following when tested in accordance with CRRC-1, as required by the per Dade County, Florida Green Procurement Preferences.:
1. Three-year, aged Solar Reflectance Index (SRI) of not less than 75 when calculated in accordance with ASTM E1980.
- F. Energy Performance: Roofing system to have an initial solar reflectance of not less than 0.63 and an emissivity of not less than 0.75 when tested in accordance with ANSI/CRRC S100.

2.2 THERMOPLASTIC POLYOLEFIN (TPO) ROOFING SYSTEM

- A. TPO Sheet: ASTM D6878/D6878M, internally fabric- or scrim-reinforced, TPO sheet.
1. Basis-of-Design Product: Subject to compliance with requirements, provide Flex Membrane International Corp.; Flex Deck TPO-80 or a comparable product by one of the following:
 - a. Carlisle Syntec Systems.
 - b. GenFlex Roofing Systems.
 - c. Johns Manville; a Berkshire Hathaway company.
 - d. Siplast.
 2. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturers approved by roof membrane manufacturer.
 3. Thickness: 80 mils (2.0 mm), nominal.
 4. Exposed Face Color: Bright white.

2.3 ACCESSORY ROOFING MATERIALS

- A. General: Accessory materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
1. Adhesive and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Sheet Flashing: Manufacturer's standard unreinforced TPO sheet flashing, 80-mils thick, minimum, of same color as TPO sheet.
- C. Bonding Adhesive: Manufacturer's standard.
- D. Metal Termination Bars: Manufacturer's standard, predrilled stainless steel or aluminum bars, approximately 1 by 1/8 inch (25 by 3 mm) thick; with anchors.
- E. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 1 inch wide by 0.05 inch thick (25 mm wide by 1.3 mm thick), prepunched.

- F. Miscellaneous Accessories: Provide pourable sealers, preformed cone and vent sheet flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories.

2.4 ROOF INSULATION

- A. General: Preformed roof insulation boards manufactured or approved by TPO roof membrane manufacturer.
- B. Polyisocyanurate Board Insulation: ASTM C1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
 - 1. For Basis-of-Design roof: Subject to compliance with project requirements, provide Flex-Deck Inc., Flex EG Polyiso, ACFoam-II, H-Shield, ENRGY 3.
 - 2. Compressive Strength: 20 psi (138 kPa).
 - 3. Size: 48 by 48 inches (1219 by 1219 mm).
 - 4. Thickness:
 - a. Base Layer: Minimum 2-inches (51 mm).
- C. Tapered Insulation: Provide factory-tapered insulation boards.
 - 1. Material:
 - a. Polyisocyanurate: ASTM C1289, Type II, Class 1, Grade 2, felt or glass-fiber mat facer on both major surfaces.
 - b. Compressive Strength: 20 psi (138 kPa)
 - 2. Minimum Thickness: 1/4 inch (6.35 mm).
 - 3. Slope:
 - a. Roof Field: 1/4 inch per foot (1:48) unless otherwise indicated on Drawings.

2.5 INSULATION ACCESSORIES AND COVER BOARD

- A. General: Roof insulation accessories recommended by insulation manufacturer and required by regulatory agencies for intended use and compatibility with other roofing system components.
- B. Fasteners: Factory-coated steel fasteners with metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roof insulation and cover boards to substrate, and acceptable to roofing system manufacturer.
- C. Glass-Mat Gypsum Cover Board: ASTM C1177/C1177M, water-resistant gypsum board.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, including those associated with regulatory agencies, provide USG Corporation, Securock Gypsum-Fiber Roof Board or products by one of the following:
 - a. CertainTeed; SAINT-GOBAIN..
 - b. Georgia-Pacific Gypsum LLC.
 - c. Gold Bond Building Products, LLC provided by National Gypsum Company.

d. USG Corporation.

2. Thickness: 1/2 inch (13 mm).
3. Surface Finish: Fiberglass facer.

2.6 WALKWAYS

A. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 3/16 inch (5 mm) thick and acceptable to roofing system manufacturer.

1. Size: Approximately 36 by 60 inches (914 by 1524 mm).
2. Color: Matching roof membrane.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

1. Verify that wood blocking, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
2. Verify that surface plane flatness and fastening of steel roof deck complies with requirements in Section 053100 "Steel Decking."

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing system installation according to roofing system manufacturer's written instructions. Remove sharp projections.

3.3 INSTALLATION OF ROOFING, GENERAL

A. Install roofing system according to roofing system manufacturer's written instructions, and in conformance with roof assembly receiving Notice of Approval by the Miami Dade County Department of Regulatory and Economic Resources Board and Code Administration Division – Product Control Section.

B. Complete terminations and base flashings and provide temporary seals to prevent water from entering completed sections of roofing system at end of workday or when rain is forecast. Remove and discard temporary seals before beginning Work on adjoining roofing.

C. Install roof membrane and auxiliary materials to tie in to existing roofing to maintain weathertightness of transition and to not void warranty for existing roofing system.

3.4 INSTALLATION OF INSULATION

- A. Coordinate installing roofing system components so insulation is not exposed to precipitation or left exposed at end of workday.
- B. Comply with roofing system and roof insulation manufacturer's written instructions for installing roof insulation.
- C. Installation Over Metal Decking:
 - 1. Install base layer of insulation with joints staggered not less than 24 inches (610 mm) in adjacent rows end joints staggered not less than 12 inches (305 mm) in adjacent rows and with long joints continuous at right angle to flutes of decking.
 - a. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
 - b. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - c. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
 - 1) For Basis-of-Design roof system, attach insulation as follows: Loose lay base insulation.
 - 2) Mechanically attach top layer of insulation using mechanical fasteners specifically designed and sized for fastening specified board-type roof insulation, including base insulation, to metal decks.
 - a) Fasten insulation according to requirements in SPRI's Directory of Roof Assemblies for specified Wind Uplift Load Capacity.
 - b) Fasten insulation to resist specified uplift pressure at corners, perimeter, and field of roof.
 - 2. Install tapered insulation with joints of each layer offset not less than 12 inches (305 mm) from previous layer of insulation.
 - a. Staggered end joints within each layer not less than 24 inches (610 mm) in adjacent rows.
 - b. Install with long joints continuous and with end joints staggered not less than 12 inches (305 mm) in adjacent rows.
 - c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - d. Make joints between adjacent insulation boards not more than 1/4 inch (6 mm) in width.
 - e. At internal roof drains, slope insulation to create a square drain sump with each side equal to the diameter of the drain bowl plus 24 inches (610 mm).
 - 1) Trim insulation so that water flow is unrestricted.
 - f. Fill gaps exceeding 1/4 inch (6 mm) with insulation.
 - g. Cut and fit insulation within 1/4 inch (6 mm) of nailers, projections, and penetrations.
 - h. Adhere each layer of insulation to substrate using adhesive according to SPRI's Directory of Roof Assemblies listed roof assembly requirements for specified Wind

Uplift Load Capacity and FM Global Property Loss Prevention Data Sheet 1-29, as follows:

- 1) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.

3.5 INSTALLATION OF COVER BOARDS

- A. Install cover boards over insulation and metal deck with long joints in continuous straight lines with end joints staggered between rows. Offset joints of insulation below a minimum of 6 inches (150 mm) in each direction.
 1. Cut and fit cover board tight to nailers, projections, and penetrations.
 2. Loosely lay cover board over substrate.
 3. Adhere cover board to substrate using adhesive according to SPRI's Directory of Roof Assemblies listed roof assembly requirements for specified Wind Uplift Load Capacity and FM Global Property Loss Prevention Data Sheet 1-29, as follows:
 - a. Set cover board in a solid mopping of hot roofing asphalt, applied within plus or minus 25 deg F (14 deg C) of equiviscous temperature.
 - b. Set cover board in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
 - c. Set cover board in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.6 INSTALLATION OF ADHERED ROOF MEMBRANE

- A. Adhere roof membrane over area to receive roofing according to roofing system manufacturer's written instructions.
- B. Unroll roof membrane and allow to relax before installing.
- C. Start installation of roofing in presence of roofing system manufacturer's technical personnel and Owner's testing and inspection agency.
- D. Accurately align roof membrane, and maintain uniform side and end laps of minimum dimensions required by manufacturer. Stagger end laps.
- E. Bonding Adhesive: Apply to substrate and underside of roof membrane at rate required by manufacturer, and allow to partially dry before installing roof membrane. Do not apply to splice area of roof membrane.
- F. Fabric-Backed Roof Membrane Adhesive: Apply to substrate at rate required by manufacturer, and install fabric-backed roof membrane.
- G. In addition to adhering, mechanically fasten roof membrane securely at terminations and perimeter of roofing.
- H. Apply roof membrane with side laps shingled with slope of roof deck where possible.
- I. Seams: Clean seam areas, overlap roof membrane, and hot-air weld side and end laps of roof membrane and sheet flashings, to ensure a watertight seam installation.

1. Test lap edges with probe to verify seam weld continuity. Apply lap sealant to seal cut edges of roof membrane and sheet flashings.
 2. Verify field strength of seams a minimum of twice daily, and repair seam sample areas.
 3. Repair tears, voids, and lapped seams in roof membrane that do not comply with requirements.
- J. Spread sealant bed over deck-drain flange at roof drains, and securely seal roof membrane in place with clamping ring.

3.7 INSTALLATION OF BASE FLASHING

- A. Install sheet flashings and preformed flashing accessories, and adhere to substrates according to roofing system manufacturer's written instructions.
- B. Apply bonding adhesive to substrate and underside of sheet flashing at required rate, and allow to partially dry. Do not apply to seam area of flashing.
- C. Flash penetrations and field-formed inside and outside corners with cured or uncured sheet flashing.
- D. Clean seam areas, overlap, and firmly roll sheet flashings into the adhesive. Hot-air weld side and end laps to ensure a watertight seam installation.
- E. Terminate and seal top of sheet flashings and mechanically anchor to substrate through termination bars.

3.8 FIELD QUALITY CONTROL

- A. Roof Inspector: The Owner or Owner's Representative will engage a qualified roof inspector to inspect substrate conditions, surface preparation, roof membrane application, sheet flashings, protection, and drainage components, and to furnish reports to Engineer/Architect.
- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion, in presence of Engineer/Architect, and to prepare inspection report.
- C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- D. Additional inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.9 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period. When remaining construction does not affect or endanger roofing system, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Engineer/Architect and Owner.

- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.10 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 - 1. Owner: **<Insert name of Owner>**.
 - 2. Owner Address: **<Insert address>**.
 - 3. Building Name/Type: **<Insert information>**.
 - 4. Building Address: **<Insert address>**.
 - 5. Area of Work: **<Insert information>**.
 - 6. Acceptance Date: _____.
 - 7. Warranty Period: **<Insert time>**.
 - 8. Expiration Date: _____.
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,
- C. NOW THEREFORE Roofing Installer hereby warrants, subject to terms and conditions herein set forth, that during Warranty Period Roofing Installer will, at Roofing Installer's own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.
- D. This Warranty is made subject to the following terms and conditions:
 - 1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. peak gust wind speed exceeding 190 mph;
 - c. fire;
 - d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. vapor condensation on bottom of roofing; and
 - g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
 - 2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.

3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.
7. This Warranty is recognized to be the only warranty of Roofing Installer on said work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1. Authorized Signature: _____.
2. Name: _____.
3. Title: _____.

END OF SECTION 075423

SECTION 076200 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Custom flashing and trim fabrications, made from the following:

1. Sheet metal materials.
2. Miscellaneous materials.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood nailers, curbs, and blocking.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review construction schedule. Verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review special roof details, roof drainage, and condition of other construction that affect sheet metal flashing and trim.
3. Review requirements for insurance and certificates if applicable.
4. Review sheet metal flashing observation and repair procedures after flashing installation.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For sheet metal flashing and trim.

1. Plans, elevations, sections, and attachment details.
2. Fabrication and installation layouts, and keyed details. Distinguish between shop- and field-assembled Work.
3. Identification of material, thickness, weight, and finish for each item and location in Project.
4. Details for forming, including profiles, shapes, seams, and dimensions.
5. Details for joining, supporting, and securing, including layout and spacing of fasteners, cleats, clips, and other attachments. Include pattern of seams.
6. Details of termination points and assemblies.
7. Details of edge conditions.
8. Details of connections to adjoining work.

C. Samples: For each exposed product and for each color and texture specified, 12 inches (300 mm) long by actual width.

1.4 INFORMATIONAL SUBMITTALS

- A. Certificates: For each type of coping and roof edge flashing that is ANSI/SPRI/FM 4435/ES-1 tested.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.
- C. Qualification Statements: For fabricator and Engineer.
- D. Sample warranties.
- E. Delegated-Design Submittal: For cold-formed steel framing, submit calculations demonstrating compliance with project requirements, signed and sealed by a Professional Engineer registered in the State of Florida and responsible charge of the delegated design.

1.5 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For sheet metal flashing and trim, and its accessories.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: Entity that employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
- B. Installer Qualifications: Entity that employs a supervisor who is an NRCA ProCertified Roofing Foreman or installers who are NRCA ProCertified Architectural Metal Flashings and Accessories Installers.
- A. Professional Engineer: a qualified engineer, registered in the State of Florida, and possessing five-years' experience designing sheet metal flashing and trim to resist wind forces.
- B. For roof edge flashings that are ANSI/SPRI/FM 4435/ES-1 tested, shop is to be listed as able to fabricate required details as tested and approved.
- C. Regulatory Approvals: Sheet metal flashing and trim work shall be approved by Miami – Dade County Department of Regulatory and Economic Resources (RER) acceptance. Approval shall be current as of the date of commencement of construction and maintained through the period of construction.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Do not store sheet metal flashing and trim materials in contact with other materials that might cause staining, denting, or other surface damage.
 - 1. Store sheet metal flashing and trim materials away from uncured concrete and masonry.
 - 2. Protect stored sheet metal flashing and trim from contact with water.

- B. Protect strippable protective covering on sheet metal flashing and trim from exposure to sunlight and high humidity, except to extent necessary for period of sheet metal flashing and trim installation.

1.8 COORDINATION

- A. Coordinate sheet metal flashing and trim installation with adjoining roofing and wall materials, joints, and seams to provide leakproof, secure, and noncorrosive installation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Sheet metal flashing and trim assemblies, including cleats, anchors, and fasteners, are to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim are not to rattle, leak, or loosen, and are to remain watertight.
- B. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual: Architectural Metal Flashing, Condensation and Air Leakage Control, and Reroofing" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
- C. SPRI Wind Design Standard: Manufacture and install roof edge flashings and copings tested in accordance with ANSI/SPRI/FM 4435/ES-1 and capable of resisting the following design pressure:
 - 1. Design Pressure:
 - a. Gravel Stops and Roof Edge Flashing: 131.6 psf.
 - b. Gutters and Downspouts: 76.2 psf.
 - c. Downspouts at corners: 90.1 psf.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 SHEET METAL MATERIALS

- A. Protect mechanical and other finishes on exposed surfaces from damage by applying strippable, temporary protective film before shipping.
- B. Stainless Steel Sheet: ASTM A240/A240M, Type 304, dead soft, fully annealed.
 - 1. Nominal Thickness: As required to comply with performance requirements.
 - 2. Surface: Smooth, flat.
 - 3. Exterior Finish: ASTM A480/A480M No. 4.

- a. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- b. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
 - 1) Run grain of directional finishes with long dimension of each piece.
 - 2) When polishing is completed, passivate and rinse surfaces. Remove embedded foreign matter and leave surfaces chemically clean.

2.3 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items as required for complete sheet metal flashing and trim installation and as recommended by manufacturer of primary sheet metal or manufactured item unless otherwise indicated.
- B. Fasteners: Annular threaded nails, self-tapping screws, self-locking rivets and bolts, and other suitable fasteners designed to withstand design loads and recommended by manufacturer of primary sheet metal or manufactured item.
 1. General: Blind fasteners or self-drilling screws, gasketed, with hex-washer head.
 - a. Exposed Fasteners: Heads matching color of sheet metal using plastic caps or factory-applied coating. Provide metal-backed EPDM or PVC sealing washers under heads of exposed fasteners bearing on weather side of metal.
 - b. Blind Fasteners: High-strength aluminum or stainless steel rivets suitable for metal being fastened.
 - c. Spikes and Ferrules: Same material as gutter; with spike with ferrule matching internal gutter width.
 2. Fasteners for Stainless Steel Sheet: Series 300 stainless steel.
- C. Solder:
 1. For Stainless Steel: ASTM B32, Grade Sn96, with acid flux of type recommended by stainless steel sheet manufacturer.
- D. Sealant Tape: Pressure-sensitive, 100 percent solids, polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
- E. Elastomeric Sealant: ASTM C920, elastomeric polyurethane polymer sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and trim and remain watertight.
- F. Bituminous Coating: Cold-applied asphalt emulsion in accordance with ASTM D1187/D1187M.
- G. Asphalt Roofing Cement: ASTM D4586/D4586M, asbestos free, of consistency required for application.

2.4 FABRICATION, GENERAL

- A. Custom fabricate sheet metal flashing and trim to comply with details indicated and recommendations in cited sheet metal standard that apply to design, dimensions, geometry, metal thickness, and other characteristics of item required.
1. Fabricate sheet metal flashing and trim in shop to greatest extent possible.
 2. Fabricate sheet metal flashing and trim in thickness or weight needed to comply with performance requirements, but not less than that specified for each application and metal.
 3. Verify shapes and dimensions of surfaces to be covered and obtain field measurements for accurate fit before shop fabrication.
 4. Form sheet metal flashing and trim to fit substrates without excessive oil-canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems.
 5. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view.
- B. Fabrication Tolerances:
1. Fabricate sheet metal flashing and trim that is capable of installation to a tolerance of 1/4 inch in 20 ft. (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.
 2. Fabricate sheet metal flashing and trim that is capable of installation to tolerances specified.
- C. Expansion Provisions: Form metal for thermal expansion of exposed flashing and trim.
1. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with butyl sealant concealed within joints.
 2. Use lapped expansion joints only where indicated on Drawings.
- D. Sealant Joints: Where movable, nonexpansion-type joints are required, form metal in accordance with cited sheet metal standard to provide for proper installation of elastomeric sealant.
- E. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal.
- F. Fabricate cleats and attachment devices of sizes as recommended by cited sheet metal standard for application, but not less than thickness of metal being secured.
- G. Seams:
1. Fabricate nonmoving seams with flat-lock seams. Form seams and seal with elastomeric sealant unless otherwise recommended by sealant manufacturer for intended use. Rivet joints where necessary for strength.
 2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints where necessary for strength.
- H. Do not use graphite pencils to mark metal surfaces.

2.5 ROOF-DRAINAGE SHEET METAL FABRICATIONS

A. Hanging Gutters:

1. Fabricate to cross section required, complete with end pieces, outlet tubes, and other accessories as required.
2. Fabricate in minimum 96-inch- (2400-mm-) long sections.
3. Furnish flat-stock gutter brackets and flat-stock gutter spacers and straps fabricated from same metal as gutters, of size recommended by cited sheet metal standard, but with thickness not less than twice the gutter thickness.
4. Gutter Profile: Style J in accordance with cited sheet metal standard.
5. Expansion Joints: Butt type with cover plate.
6. Accessories: Continuous, removable leaf screen with sheet metal frame and hardware cloth screen.
7. Gutters with Girth up to 15 Inches (380 mm): Fabricate from the following materials:
 - a. Stainless Steel: 0.0156 inch (0.396 mm) thick.
8. Gutters with Girth 16 to 20 Inches (410 to 510 mm): Fabricate from the following materials:
 - a. Stainless Steel: 0.0188 inch (0.477 mm) thick.
9. Gutters with Girth 21 to 25 Inches (530 to 640 mm): Fabricate from the following materials:
 - a. Stainless Steel: 0.0250 inch (0.635 mm) thick.
10. Gutters with Girth 26 to 30 Inches (660 to 760 mm): Fabricate from the following materials:
 - a. Stainless Steel: 0.0313 inch (0.795 mm) thick.
11. Gutters with Girth 31 to 35 Inches (790 to 890 mm): Fabricate from the following materials:

B. Stainless Steel: 0.0375 inch (0.952 mm) thick. Downspouts: Fabricate rectangular downspouts to dimensions indicated on Drawings, complete with mitered elbows. Furnish with metal hangers from same material as downspouts and anchors. Shop fabricate elbows.

1. Fabricated Hanger Style: Fig. 1-35E in accordance with SMACNA's "Architectural Sheet Metal Manual."
2. Fabricate from the following materials:
 - a. Stainless Steel: 0.0156 inch (0.396 mm) thick.

2.6 LOW-SLOPE ROOF SHEET METAL FABRICATIONS

A. Roof Edge Flashing (Gravel Stop) and Fascia Cap: Fabricate in minimum 96-inch- (2400-mm-) long, but not exceeding 12 ft. (3.6 m) long sections. Furnish with 6-inch- (150-mm-) wide, joint cover plates.

1. Joint Style: Butted with expansion space and 6-inch- (150-mm-) wide, exposed cover plate.
2. Fabricate with gravel stop scuppers spaced as indicated, to dimensions required with 4-inch- (100-mm-) wide flanges and base extending 4 inches (100 mm) beyond cant or tapered strip into field of roof. Fasten gravel guard angles to base of scupper.
3. Fabricate from the following materials:
 - a. Stainless Steel: 0.0188 inch (0.477 mm) thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, substrates, and other conditions affecting performance of the Work.
 1. Verify compliance with requirements for installation tolerances of substrates.
 2. Verify that substrate is sound, dry, smooth, clean, sloped for drainage, and securely anchored.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF SHEET METAL FLASHING AND TRIM, GENERAL

- A. Install sheet metal flashing and trim to comply with details indicated and recommendations of cited sheet metal standard that apply to installation characteristics required unless otherwise indicated on Drawings.
 1. Install fasteners, solder, protective coatings, separators, sealants, and other miscellaneous items as required to complete sheet metal flashing and trim system.
 2. Install sheet metal flashing and trim true to line, levels, and slopes. Provide uniform, neat seams with minimum exposure of solder sealant.
 3. Anchor sheet metal flashing and trim and other components of the Work securely in place, with provisions for thermal and structural movement.
 4. Install sheet metal flashing and trim to fit substrates and to result in watertight performance.
 5. Install continuous cleats with fasteners spaced not more than 12 inches (300 mm) o.c.
 6. Space individual cleats not more than 12 inches (300 mm) apart. Attach each cleat with at least two fasteners. Bend tabs over fasteners.
 7. Install exposed sheet metal flashing and trim with limited oil-canning, and free of buckling and tool marks.
 8. Do not field cut sheet metal flashing and trim by torch.
 9. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Where dissimilar metals contact each other, or where metal contacts corrosive substrates, protect against galvanic action or corrosion by painting contact surfaces with bituminous coating or by other permanent separation as recommended by sheet metal manufacturer or cited sheet metal standard.
- C. Expansion Provisions: Provide for thermal expansion of exposed flashing and trim.

1. Space movement joints at maximum of 10 ft. (3 m) with no joints within 24 inches (600 mm) of corner or intersection.
 2. Form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with sealant concealed within joints.
 3. Use lapped expansion joints only where indicated on Drawings.
- D. Fasteners: Use fastener sizes that penetrate substrate not less than recommended by fastener manufacturer to achieve maximum pull-out resistance.
- E. Conceal fasteners and expansion provisions where possible in exposed work and locate to minimize possibility of leakage. Cover and seal fasteners and anchors as required for a tight installation.
- F. Seal joints as required for watertight construction.
1. Use sealant-filled joints unless otherwise indicated.
 - a. Embed hooked flanges of joint members not less than 1 inch (25 mm) into sealant.
 - b. Form joints to completely conceal sealant.
 - c. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way.
 - d. Adjust setting proportionately for installation at higher ambient temperatures.
 - 1) Do not install sealant-type joints at temperatures below 40 deg F (4 deg C).
 2. Prepare joints and apply sealants to comply with requirements in Section 079200 "Joint Sealants."
- G. Rivets: Rivet joints in uncoated aluminum where necessary for strength.

3.3 INSTALLATION OF ROOF-DRAINAGE SHEET METAL FABRICATIONS

- A. Install sheet metal roof-drainage items to produce complete roof-drainage system in accordance with cited sheet metal standard unless otherwise indicated. Coordinate installation of roof perimeter flashing with installation of roof-drainage system.
- B. Hanging Gutters:
1. Join sections with riveted and soldered joints.
 2. Provide for thermal expansion.
 3. Attach gutters at eave or fascia to firmly anchor them in position.
 4. Provide end closures and seal watertight with sealant.
 5. Slope to downspouts.
 6. Fasten gutter spacers to front and back of gutter.
 7. Anchor and loosely lock back edge of gutter to continuous cleat.
 8. Anchor back of gutter that extends onto roof deck with cleats spaced not more than 24 inches (600 mm) apart.
 9. Anchor gutter with straps spaced not more than 24 inches (600 mm) apart to roof deck unless otherwise indicated, and loosely lock to front gutter bead.
 10. Install gutter with expansion joints at locations indicated on Drawings, but not exceeding, 50 ft. (15.2 m) apart. Install expansion-joint caps.
 11. Install continuous gutter screens on gutters with noncorrosive fasteners, removable for cleaning gutters.

C. Downspouts:

1. Join sections with 1-1/2-inch (38-mm) telescoping joints.
2. Provide hangers with fasteners designed to hold downspouts securely to substrates.
3. Locate hangers at top and bottom and at approximately 60 inches (1500 mm) o.c.
4. Connect downspouts to underground drainage system.

3.4 INSTALLATION OF SLOPED ROOF SHEET METAL FABRICATIONS

A. Install sheet metal flashing and trim to comply with performance requirements, sheet metal manufacturer's written installation instructions, and cited sheet metal standard.

1. Provide concealed fasteners where possible, and set units true to line, levels, and slopes.
2. Install work with laps, joints, and seams that are permanently watertight and weather resistant.

B. Roof Edge Flashing:

1. Install roof edge flashings in accordance with ANSI/SPRI/FM 4435/ES-1.
2. Anchor to resist uplift and outward forces in accordance with recommendations in cited sheet metal standard unless otherwise indicated. Interlock bottom edge of roof edge flashing with continuous cleat anchored to substrate at staggered 3-inch (75-mm) centers.

3.5 INSTALLATION TOLERANCES

A. Shim and align sheet metal flashing and trim within installed tolerance of 1/4 inch in 20 ft. (6 mm in 6 m) on slope and location lines indicated on Drawings and within 1/8-inch (3-mm) offset of adjoining faces and of alignment of matching profiles.

3.6 CLEANING

- A. Clean and neutralize flux materials. Clean off excess solder.
- B. Clean off excess sealants.

3.7 PROTECTION

- A. Remove temporary protective coverings and strippable films as sheet metal flashing and trim are installed unless otherwise indicated in manufacturer's written installation instructions.
- B. On completion of sheet metal flashing and trim installation, remove unused materials and clean finished surfaces as recommended in writing by sheet metal flashing and trim manufacturer.
- C. Maintain sheet metal flashing and trim in clean condition during construction.
- D. Replace sheet metal flashing and trim that have been damaged or that have deteriorated beyond successful repair by finish touchup or similar minor repair procedures, as determined by Engineer/Architect.

END OF SECTION 076200

SECTION 077129 - MANUFACTURED ROOF EXPANSION JOINTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Flanged bellows-type roof expansion joints.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wooden curbs or cants for mounting roof expansion joints.
2. Section 076200 "Sheet Metal Flashing and Trim" for flashing and other sheet metal items.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Flanged bellows-type roof expansion joints.

B. Shop Drawings: For roof expansion joints.

1. Include plans, elevations, sections, and attachment details.
2. Include details of splices, intersections, transitions, fittings, method of field assembly, and location and size of each field splice.
3. Provide isometric drawings of intersections, terminations, changes in joint direction or planes, and transition to other expansion joint systems depicting how components interconnect with each other and adjacent construction to allow movement and achieve waterproof continuity.

C. Samples: For each exposed product and for each color specified, 6 inches (150 mm) in size.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Sample Warranties: For special warranties.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Installer of roofing membrane.

1.5 WARRANTY

- A. Special Warranty: Manufacturer and Installer agree to repair or replace roof expansion joints and components that leak, deteriorate beyond normal weathering, or otherwise fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.
- B. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace roof expansion joints that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint seals, failure of connections, and other detrimental effects.
 - 1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 FLANGED BELLOWS-TYPE ROOF EXPANSION JOINTS

- A. Flanged Bellows-Type Roof Expansion Joint: Factory-fabricated, continuous, waterproof, joint cover consisting of exposed membrane bellows laminated to flexible, closed-cell support foam, and secured along each edge to 3- to 4-inch- (76- to 100-mm-) wide metal flange.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide Construction Specialties, Inc.; BRJ or a comparable product by one of the following:
 - a. Johns Manville; a Berkshire Hathaway company.
 - b. MM Systems Corporation.
 - c. Nystrom, Inc.
 - d. Watson Bowman Acme Corp.
 - 2. Source Limitations: Obtain flanged bellows-type roof expansion joints approved by roofing manufacturer and that are part of roofing membrane warranty.
 - 3. Joint Movement Capability: Plus and minus 50 percent of joint size.

4. Bellows: EPDM flexible membrane, nominal 60 mils (1.5 mm) thick.
5. Flanges: Stainless steel, 0.0188 inch (0.477 mm) thick.
6. Configuration: Flat to fit cants as indicated on Drawings.
7. Corner, Intersection, and Transition Units: Provide factory-fabricated units for corner and joint intersections and horizontal and vertical transitions including those to other building expansion joints.
8. Cover Membrane: EPDM flexible membrane, factory laminated to bellows and covering entire joint assembly and curbs.
 - a. Color: White.
9. Accessories: Provide splicing units, adhesives, and other components as recommended by roof-expansion-joint manufacturer for complete installation.

B. Materials:

1. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304.
2. EPDM Membrane: ASTM D4637/D4637M, type standard with manufacturer for application.

2.3 MISCELLANEOUS MATERIALS

- A. Adhesives: As recommended by roof-expansion-joint manufacturer.
1. Verify adhesives have a VOC content of 70 g/L or less.
- B. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to withstand design loads.
1. Exposed Fasteners: Gasketed. Use screws with hex washer heads matching color of material being fastened.
- C. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joint openings, substrates, and expansion-control joint systems that interface with roof expansion joints, for suitable conditions where roof expansion joints will be installed.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Comply with manufacturer's written instructions for handling and installing roof expansion joints.

1. Anchor roof expansion joints securely in place, with provisions for required movement. Use fasteners, protective coatings, sealants, and miscellaneous items as required to complete roof expansion joints.
 2. Install roof expansion joints true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.
 3. Provide for linear thermal expansion of roof-expansion-joint materials.
 4. Provide uniform profile of roof expansion joint throughout its length; do not stretch or squeeze membranes.
 5. Provide uniform, neat seams.
 6. Install roof expansion joints to fit substrates and to result in watertight performance.
- B. Splices: Splice roof expansion joints to provide continuous, uninterrupted, and waterproof joints.
- C. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

END OF SECTION 077129

SECTION 092400 - CEMENT PLASTERING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fiberglass lath.
2. Accessories.
3. Base-coat cement plaster.
4. Cement plaster finish coats.

B. Related Sections

1. Section 012100 "Allowances."
2. Structural documents specifying the repair of cracks in the exterior façade.

1.2 ACTION SUBMITTALS

A. Product Data:

1. For each type of product.

B. Shop Drawings: Locations and installation of joints, including plans, elevations, sections, and repair details.

C. Samples for Initial Selection: For each type of factory-prepared finish coat and for each color and finish texture specified.

D. Samples for Verification: For each type of factory-prepared finish coat and for each color and finish texture specified, 12 by 12 inches (305 by 305 mm), and prepared on rigid backing.

1.3 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover, and keep them dry and protected against damage from weather, moisture, direct sunlight, surface contamination, corrosion, construction traffic, and other causes.

1.4 FIELD CONDITIONS

A. Comply with ASTM C926 requirements.

B. Exterior Plasterwork:

1. Apply and cure plaster to prevent plaster drying out during curing period. Use procedures required by climatic conditions, including moist curing, providing coverings, and providing barriers to deflect sunlight and wind.

2. Apply plaster when ambient temperature is greater than 40 deg F (4.4 deg C).
 3. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.
- C. Factory-Prepared Finish Coats: Comply with manufacturer's written instructions for environmental conditions for applying finish coats.

PART 2 - PRODUCTS

2.1 FIBERGLASS LATH

- A. Reinforcing Mesh: Balanced, alkali-resistant, open-weave, glass-fiber mesh treated for compatibility with other EIFS materials, made from continuous multi-end strands with retained mesh tensile strength of not less than 120 lbf/in. (21 dN/cm) in accordance with ASTM E2098/E2098M and the following:
1. Detail-Reinforcing Mesh: Not less than 4.0 oz./sq. yd. (136 g/sq. m)] [As recommended by EIFS manufacturer.

2.2 ACCESSORIES

- A. General: Comply with requirements in ASTM C1063, and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Plastic Accessories: Manufactured from high-impact PVC.
1. Cornerbeads: With perforated flanges.
 2. Casing Beads: Square-edge style, with perforated flanges in depth required to suit plaster bases indicated and flange length required to suit applications indicated.
 3. Control Joints: One-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on exposed face of control joint.

2.3 BASE-COAT CEMENT PLASTER

- A. General: Comply with requirements in ASTM C926 for applications indicated.
1. Fiber Content: Add fiber to base-coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. yd. (0.6 kg of fiber/cu. m) of cementitious materials.
 2. Aggregate:
 - a. Sand: Use unless otherwise indicated.
- B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:
1. Portland Cement Mixes:

- a. Scratch Coat: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
 - b. Brown Coat: For cementitious material, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.
2. Masonry Cement Mixes:
- a. Scratch Coat: Mix 1 part masonry cement and 2-1/2 to 4 parts aggregate.
 - b. Brown Coat: Mix 1 part masonry cement and 3 to 5 parts aggregate, but not less than volume of aggregate used in scratch coat.
3. Portland and Masonry Cement Mixes:
- a. Scratch Coat: For cementitious material, mix 1 part portland cement and 1 part masonry cement. Use 2-1/2 to 4 parts aggregate per part of cementitious material.
 - b. Brown Coat: For cementitious material, mix 1 part portland cement and 1 part masonry cement. Use 3 to 5 parts aggregate per part of cementitious material, but not less than volume of aggregate used in scratch coat.

2.4 CEMENT PLASTER FINISH COATS

- A. Acrylic-Based Finish Coatings: Factory-mixed, acrylic-emulsion coating systems formulated with colorfast mineral pigments and fine aggregates; for use over cement plaster base coats. Include manufacturer's recommended primers and sealing topcoats for acrylic-based finishes.
1. Texture: As selected by Architect from manufacturer's full range.
 2. Source Limitations: Obtain acrylic-based finish coating from single source from single manufacturer.

2.5 PLASTER MATERIALS

- A. Portland Cement: ASTM C150/C150M, Type II.
1. Color for Finish Coats: Gray.
- B. Lime: ASTM C206, Type S; or ASTM C207, Type S.
- C. Sand Aggregate: ASTM C897.

2.6 MISCELLANEOUS MATERIALS

- A. Water for Mixing and Finishing Plaster: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.
- B. Fiber for Base Coat: Alkaline-resistant glass or polypropylene fibers, 1/2 inch (13 mm) long, free of contaminants, manufactured for use in cement plaster.
- C. Bonding Compound: ASTM C932.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Reject plaster materials that are wet or moisture damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
- B. Prepare smooth, solid substrates for plaster in accordance with ASTM C926.

3.3 INSTALLATION OF ACCESSORIES

- A. Install in accordance with ASTM C1063 and at locations indicated on Drawings.

3.4 APPLICATION OF BASE-COAT CEMENT PLASTER

- A. General: Comply with ASTM C926.
 - 1. Install so that finished plaster surfaces will not deviate more than plus or minus 1/4 inch in 10 ft. (6 mm in 3 m) from a true plane when measured by a 10-ft. (3-m) straightedge placed on surface.
 - 2. Install so finished plaster surfaces will be flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets.
- B. Bonding Compound: Apply on unit masonry and concrete substrates for direct application of plaster.

3.5 APPLICATION OF CEMENT PLASTER FINISH COATS

- A. General: Comply with ASTM C926.
 - 1. Do not deviate more than plus or minus 1/4 inch in 10 ft. (6 mm in 3 m) from a true plane in finished plaster surfaces when measured by a 10-ft. (3-m) straightedge placed on surface.
 - 2. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, groove finish coat at junctures with metal.

3. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

- B. Plaster Finish Coats: Apply to provide textured finish to match existing adjacent stucco surfaces.
- C. Acrylic-Based Finish Coatings: Apply coating system, including primers, finish coats, and sealing topcoats, in accordance with manufacturer's written instructions.

3.6 REPAIR

- A. Repair or replace work to eliminate cracks, dents, blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

3.7 CLEANING

- A. Remove temporary protection and enclosure of other work after plastering is complete.
- B. Promptly remove plaster from door frames, windows, and other surfaces not indicated to be plastered.
- C. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 092400

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes exterior painting of glass-mat gypsum sheathing:
 - 1. Primers.
 - 2. Finish coatings.
- B. Related Requirements:
 - 1. Section 012100 "Allowances" for painting of exterior Portland cement surfaces.
 - 2. Section 061600 "Sheathing" for gypsum board sheathing.
 - 3. Section 099600 "High-Performance Coatings" for concrete, steel and galvanized steel coatings.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include preparation requirements and application instructions.
 - 2. Indicate VOC content.
- B. Samples: For each type of topcoat product.
- C. Samples for Verification: For each color and gloss of topcoat.
 - 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.
- D. Product Schedule: Use same designations indicated on Drawings and in the Exterior Painting Schedule to cross-reference paint systems specified in this Section. Include color designations.

1.3 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint Products: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.5 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply paints in rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Subject to compliance with project requirements, provide products by the following manufacturers.
 1. Manufacturers listed in Section 099600 "High Performance Coatings" may provide exterior paint products specified in this Section.

2.2 PAINT PRODUCTS, GENERAL

- A. Material Compatibility:
 1. Provide materials for use within each paint system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer based on testing and field experience.
 2. For each coat in a paint system, provide products recommended in writing by topcoat manufacturer for use in paint system and on substrate indicated.
- B. VOC Content: For field applications, verify paints and coatings comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:
 1. Flat Paints and Coatings: 50 g/L.
 2. Nonflat Paints and Coatings: 50 g/L.
 3. Primers, Sealers, and Undercoaters: 100 g/L.
 4. Pretreatment Wash Primers: 420 g/L.
- C. Colors: White color as selected by Engineer/Architect from manufacturer's full range.

2.3 PRIMERS

- A. Water-Based Bonding Primer: Pigmented, water-based-emulsion primer formulated for exterior use and to promote adhesion of subsequent specified coatings.
 1. Subject to compliance with requirements, provide primer compatible with specified top coats, manufactured by the same manufacturer as topcoats.

2.4 FINISH COATINGS

- A. Exterior, Water-Based, Light Industrial Coating, Low Sheen: Corrosion-resistant, water-based, pigmented, emulsion coating formulated for resistance to blocking (sticking of two painted surfaces), water, alkalis, moderate abrasion, and mild chemical exposure and for use on exterior surfaces.
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Benjamin Moore & Co.
 - b. The Cloverdale Paint Company.
 - c. Sherwin-Williams Company (The).
 - d. The Pittsburgh Paints Company.
 2. Gloss and Sheen Level: Gloss of 10 to 25 units at 60 degrees and sheen of 10 to 35 units at 85 degrees when tested in accordance with ASTM D523.
 3. Master Painters Institute product number: MPI #161, Light Industrial Coating, Exterior, Water-Based (MPI Gloss Level 3).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
1. Gypsum Board: 12 percent.
- C. Exterior Gypsum Board Substrates: Verify that finishing compound is dry and sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

3.3 INSTALLATION

- A. Apply paints in accordance with manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
- B. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- C. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Engage the services of a qualified testing and inspecting agency to inspect and test paint for dry film thickness. Submit costs to Owner as reimbursable expense.
 - 1. Touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied paint does not comply with paint manufacturer's written instructions, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with paint manufacturer's written instructions.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
 - 1. Do not clean equipment with free-draining water and prevent solvents, thinners, cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.
 - 2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.
 - 3. Allow empty paint cans to dry before disposal.
 - 4. Collect waste paint by type and deliver to recycling or collection facility.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Engineer/Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.6 EXTERIOR PAINTING SCHEDULE

A. Exterior Portland Cement Plaster Substrates:

1. Allowance: Painting of Exterior Portland Cement Substrates to be performed as an allowance specified in Division 01 Section "Allowances."
2. Latex System:
 - a. Prime Coat: Exterior, alkali-resistant, water-based primer.
 - b. Intermediate Coat: Matching topcoat.
 - c. Topcoat: Exterior latex paint, low sheen.
 - 1) Match existing exterior paint sheen.

B. Exterior Gypsum Board Substrates:

1. Exterior Paint System:
 - a. Prime Coat: As recommended in writing by topcoat manufacturer.
 - b. Intermediate Coat: Matching topcoat.
 - c. Topcoat: Light Industrial Coating, Exterior, Water-Based.

END OF SECTION 099113

SECTION 099600 - HIGH-PERFORMANCE COATINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of high-performance coating systems on the following substrates:
 - 1. Exterior Substrates:
 - a. Concrete surfaces.
 - b. Steel.
 - c. Galvanized metal.
- B. Related Requirements:
 - 1. Section 051200 "Structural Steel Framing" for shop priming of structural steel with primers specified in this Section.

1.2 DEFINITIONS

- A. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Sustainable Design Submittals:
 - 1. Laboratory Test Reports: For paints and coatings, indicating compliance with requirements for low-emitting materials.
- C. Samples for Initial Selection: For each type of topcoat product indicated.
- D. Samples for Verification: For each type of coating system and each color and gloss of topcoat indicated.
 - 1. Submit Samples on rigid backing, 8 inches (200 mm) square.
 - 2. Apply coats on Samples in steps to show each coat required for system.
 - 3. Label each coat of each Sample.
 - 4. Label each Sample for location and application area.

- E. Product List: Cross-reference to coating system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Coatings: 5 percent, but not less than 1 gal. (3.8 L) of each material and color applied.

1.5 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each coating system indicated to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Engineer/Architect will select one surface to represent surfaces and conditions for application of each coating system.
 - a. Existing steel surfaces: Provide samples covering minimum 10 linear feet of steel framing, and 100 square feet of steel deck surface.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Engineer/Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F (7 deg C).
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

- A. Apply coatings only when temperature of surfaces to be coated and ambient air temperatures are between 50 and 95 deg F (10 and 35 deg C).
- B. Do not apply coatings when relative humidity exceeds 85 percent; at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.
- C. Do not apply exterior coatings in snow, rain, fog, or mist.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Benjamin Moore & Co.
 - 2. Cloverdale Paint Co.
 - 3. Sherwin-Williams Company (The).
 - 4. The Pittsburgh Paints Company.
- B. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to products listed in the Exterior High-Performance Coating Schedule or Interior High-Performance Coating Schedule for the coating category indicated.

2.2 HIGH-PERFORMANCE COATINGS, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
 - 3. Products shall be of same manufacturer for each coat in a coating system.
- C. VOC Content: For field applications, verify Zero-VOC paints and coatings defined as follows:
 - 1. Flat Paints and Coatings: maximum 5 g/L.
 - 2. Nonflat Paints and Coatings: maximum 5 g/L.
 - 3. Primers, Sealers, and Undercoaters: maximum 5 g/L.
- D. Low-Emitting Materials: For field applications that are inside the weatherproofing system, verify 90 percent of paints and coatings comply with the requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- E. Colors: As selected by Engineer/Architect from manufacturer's full range.
 - 1. Concrete: Safety Yellow.
 - 2. Steel: Light Blue color to match existing steel.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Concrete: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- D. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and coating systems indicated.
 - 1. Comply additionally with instructions and recommendations in "MPI Maintenance Repainting Manual" for coating existing surfaces.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of coatings, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce coating systems indicated.
- D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not coat surfaces if moisture content or alkalinity of surfaces to be coated exceeds that permitted in manufacturer's written instructions.
 - 1. Clean surfaces with pressurized water. Use pressure range of 4000 to 10,000 psi (27 580 to 68 950 kPa) at 6 to 12 inches (150 to 300 mm).
 - 2. Abrasive blast clean surfaces to comply with SSPC-SP 7/NACE No. 4.
- E. Steel Substrates: Remove rust, loose mill scale, and shop primer if any. Clean using methods recommended in writing by paint manufacturer but not less than the following:

1. SSPC-SP 6/NACE No. 3.

- F. Shop-Primed Steel Substrates: Clean field welds, bolted connections, and areas where shop paint is abraded. Paint exposed areas with the same material as used for shop priming to comply with SSPC-PA 1 for touching up shop-primed surfaces.
- G. Galvanized-Metal Substrates: Remove grease and oil residue from galvanized sheet metal by mechanical methods to produce clean, lightly etched surfaces that promote adhesion of subsequently applied coatings.

3.3 APPLICATION

- A. Apply high-performance coatings according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 - 1. Use applicators and techniques suited for coating and substrate indicated.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of the same material are to be applied. Tint undercoats to match color of finish coat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through final coat, apply additional coats until cured film has a uniform coating finish, color, and appearance.
- D. Apply coatings to produce surface films without cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections. Produce sharp glass lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry Film Thickness Testing: Engage the services of a qualified testing and inspecting agency to inspect and test coatings for dry film thickness.
 - 1. Touch up and restore coated surfaces damaged by testing.
 - 2. If test results show that dry film thickness of applied coating does not comply with coating manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry film thickness that complies with coating manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing coating application, clean spattered surfaces. Remove spattered coatings by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from coating operation. Correct damage to work of other trades by cleaning, repairing, replacing, and recoating, as approved by Engineer/Architect, and leave in an undamaged condition.

- D. At completion of construction activities of other trades, touch up and restore damaged or defaced coated surfaces.

3.6 EXTERIOR HIGH-PERFORMANCE COATING SCHEDULE

A. Concrete Substrates, Vertical Surfaces:

1. Pigmented Polyurethane over Epoxy System MPI EXT 3.1M:

- a. Prime Coat: Epoxy, matching intermediate coat.
- b. Intermediate Coat: Epoxy, gloss, MPI #77.
 - 1) Basis-of-Design Product: Sherwin-Williams High Performance Epoxy B67-200.
 - 2) Benjamin Moore Super Spec HP Polyamide Epoxy P36.
 - 3) Cloverdale High Performance ClovaCoat 300 Epoxy High Performance.
 - 4) Comparable epoxy paint may be submitted by Pittsburgh Paints Company.
- c. Topcoat: Polyurethane, two component, pigmented, gloss (MPI Gloss Level 6), MPI #72.
 - 1) Basis-of-Design Product: Sherwin-Williams Protective and Marine Acrolon 218 HS.
 - 2) Benjamin Moore Aliphatic Urethane HP5000.
 - 3) Cloverdale Armorshield 847 Series.
 - 4) Comparable polyurethane paint may be submitted by Pittsburgh Paints Company.

B. Steel Substrates:

1. Pigmented Polyurethane over High-Build Epoxy System MPI EXT 5.1J:

- a. Prime Coat: Primer, epoxy, anti-corrosive, for metal, MPI #101.
 - 1) Basis-of-Design Product: Sherwin Williams Protective and Marine Dura-Plate 235 MP Epoxy B67W235.
 - 2) Benjamin Moore HP Epoxy Mastic HP 4600.
 - 3) Cloverdale ClovaPrime 77 Flexible Epoxy.
 - 4) Pittsburgh Paint Co.: Amerlock 2 AL AK2-01A/AK2-01B.
- b. Intermediate Coat: Epoxy, high build, low gloss, MPI #108.
 - 1) Basis-of-Design Product: Sherwin-Williams Protective and Marine Macropoxy 646.
 - 2) Benjamin Moore Polyamide Epoxy Semi-Gloss C/HP4000
 - 3) Cloverdale Clovamastic Low Temp Cure Epoxy 83110.
 - 4) Pittsburgh Paint Co.: Protective and Marine Coatings Amerlock 600 AK600
- c. Topcoat: Polyurethane, two component, pigmented, gloss (MPI Gloss Level 6), MPI #72.

- 1) Basis-of-Design Product: Sherwin-Williams Protective and Marine Acrolon 218 HS
- 2) Benjamin Moore Aliphatic Urethane HP5000.
- 3) Cloverdale Armorshield 847 Series.
- 4) Pittsburgh Paint Co.: Protective and Marine Coatings Pitthane Ultra Gloss 95-812.

C. EGalvanized-Metal Substrates:

1. Pigmented Polyurethane over Epoxy Primer System MPI EXT 5.3L:

a. Prime Coat: Primer, epoxy, anti-corrosive, for metal, MPI #101.

- 1) Basis-of-Design Product: Sherwin-Williams Dura-Plate 235 Multi-Purpose Epoxy B67W235
- 2) Benjamin Moore Epoxy Mastic HP4600.
- 3) Cloverdale ClovaPrime 77 83077.
- 4) Pittsburgh Paint Co.: Protective and Marine Coatings Amerlock 2AL AK2-01A.

b. Intermediate Coat: Polyurethane, two component, pigmented, gloss matching topcoat.

c. Topcoat: Polyurethane, two component, pigmented, gloss (MPI Gloss Level 6), MPI #72.

- 1) Basis-of-Design Product: Sherwin-Williams Protective and Marine Acrolon 218 HS
- 2) Benjamin Moore Aliphatic Urethane HP5000.
- 3) Cloverdale Armorshield 847 Series.
- 4) Pittsburgh Paint Co.: Protective and Marine Coatings Pitthane Ultra Gloss 95-812.

END OF SECTION 099600

GENERAL NOTES:

- TO THE BEST OF MY KNOWLEDGE THE PLANS SPECIFICATIONS COMPLY WITH **FLORIDA STATUTE 553.79(7)(d)**
- THE STRUCTURE WAS DESIGNED TO BE SELF-SUPPORTING AND STABLE FOLLOWING INSTALLATION OF ALL COMPONENTS AS INDICATED ON THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE METHOD AND SEQUENCE OF ERECTION PROCEDURES (INCLUDING IMPLEMENTATION OF TEMPORARY SHORING, BRACING, ETC.) AND TO ENSURE SAFETY THROUGH THE PERIOD OF CONSTRUCTION. THE CONTRACTOR SHALL USE STRUCTURAL DRAWINGS IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS TO COORDINATE LOCATION OF DEPRESSED SLABS, SLOPES, DRAINS, OUTLETS, RECESSES, OPENINGS, REGLETS, BOLT SETTINGS, SLEEVES, DIMENSIONS, ETC. (DRAWINGS NOT TO BE SCALED.) DISCREPANCIES BETWEEN INFORMATION PRESENTED WITHIN PROJECT SPECIFICATIONS AND WITHIN STRUCTURAL NOTES ON PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BY THE CONTRACTOR PRIOR TO PRESENTING HIS OR HER BID. IF SUCH A DISCREPANCY IS DISCOVERED SUBSEQUENT TO BIDDING, THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING THE OPTION SUBSEQUENTLY SELECTED BY THE ENGINEER AT NO ADDITIONAL COST. CONTRACTORS SHALL BE RESPONSIBLE FOR FINAL VERIFICATION OF ALL DIMENSIONS, ELEVATIONS, CLEARANCES, ETC. OF THE FRAMING SHOWN ON THE STRUCTURAL DRAWINGS AGAINST INFORMATION PROVIDED BY MANUFACTURERS OF SELECTED MECHANICAL EQUIPMENT PRIOR TO PROCEEDING WITH ANY RELATED PORTION OF WORK. ITEMS REQUIRING SUCH REVIEW SHALL INCLUDE ELEVATORS (ELEVATOR PITS, BEAMS ABOVE ELEVATORS DOORS, ETC.), ESCALATORS, DUCTS, COOLING TOWERS, ETC. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY REMEDIAL WORK AND FOR ITS IMPACT ON THE WORK SCHEDULE RESULTING FROM FAILURE TO PROVIDE EARLY NOTIFICATION OF SUCH CONFLICTS TO THE DESIGN TEAM. POTENTIAL CONFLICTS, ERRORS OR OMISSIONS PRESENT WITHIN THE DRAWINGS (WHETHER WITHIN STRUCTURAL DRAWINGS OR BETWEEN STRUCTURAL, ARCHITECTURAL DRAWINGS) SHALL BE IDENTIFIED BY THE CONTRACTOR DURING HIS/HER EARLY REVIEW OF THE PROJECT DOCUMENTS. SUCH CONFLICTS, ERRORS OR OMISSIONS SHALL BE COMMUNICATED TO THE ARCHITECT IN WRITING PRIOR TO COMMENCEMENT OF WORK. IN THE EVENT OF FAILURE TO PROVIDE SUCH A NOTICE AND SUFFICIENT TIME FOR A RESPONSE, THE CONTRACTOR SHALL BECOME RESPONSIBLE FOR COST OF ALL WORK OR REMEDIAL WORK RESULTING FROM SUCH CONFLICTS, ERRORS OR OMISSION, AS WELL AS FOR ITS IMPACT ON THE PROJECT SCHEDULE. (CONTRACTOR AGREES THAT HE WILL HOLD OWNER, ARCHITECT, ENGINEER, AND/OR ANY OF THEIR EMPLOYEES OR AGENTS, HARMLESS FROM ANY AND ALL DAMAGE AND CLAIMS WHICH MAY ARISE BY A REASON OF ANY NEGLIGENCE ON THE PART OF THE CONTRACTOR, OR ANY OF HIS SUBCONTRACTORS, OR ANY MATERIAL AND EQUIPMENT SUPPLIERS, AND/OR ANY OF THEIR EMPLOYEES OR AGENTS, IN THE PERFORMANCE OF THIS CONTRACT. IN CASE ANY ACTION IS BROUGHT AGAINST THE OWNER, OR ARCHITECT, OR ENGINEER, OR ANY OF THEIR EMPLOYEES OR AGENTS, CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR DEFENSE THEREOF, TO THE FULL SATISFACTION OF THE AFOREMENTIONED PARTIES.
- CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS IN THE FIELD AND BE RESPONSIBLE FOR ACCURATE COORDINATION WHERE POSSIBLE. EXISTING FRAMING DIMENSIONS WERE TAKEN FROM EXISTING DWGS. AND SHALL BE VERIFIED ON SITE. DISCREPANCIES SHALL BE REPORTED TO ARCH. AND ENGINEER BEFORE PROCEEDING.
- TEMPORARY SHORING IS REQUIRED AT ALL LOCATIONS WHERE PARTIAL REMOVAL OF BEAMS IS REQUIRED. CONTRACTOR IS RESPONSIBLE FOR ENGINEERING AND CONTROLLED INSPECTION OF TEMPORARY SYSTEMS.
- ALL UNDERPINNING, SHEETING, SHORING OR OTHER CONSTRUCTION REQUIRED FOR THE SUPPORT OF ADJACENT PROPERTIES, BUILDINGS, SIDEWALKS, UTILITIES, ETC., SHALL BE SUBJECT TO SPECIAL INSPECTION AS REQUIRED BY THE CODE. THE CONTRACTOR SHALL RETAIN A LICENSED PROFESSIONAL ENGINEER ACCEPTABLE TO THE ENGINEER OF RECORD TO PROVIDE THE NECESSARY DESIGN AND THE REQUIRED INSPECTION. THE CONTRACTOR'S PROFESSIONAL ENGINEER SHALL PREPARE AND FILE THE REQUIRED FORMS FOR THE WORK WITH THE BUILDING DEPARTMENT.
- DEMOLITION (SHOP DRAWINGS REQUIRED)
GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR DEMOLITION, REMOVAL AND PROPER DISPOSAL OF ALL ITEMS NOTED BELOW:
A. ALL EXISTING STRUCTURES NOTED FOR DEMOLITION ON THE DRAWINGS. THIS INCLUDES, BUT IS NOT LIMITED TO, ABOVE GROUND STRUCTURES, INCLUDING FOUNDATION SYSTEM, BELOW GROUND STRUCTURES, ALL MECHANICAL AND ELECTRICAL UTILITIES SERVING THE STRUCTURES, ALL SANITARY LINES SERVING THE STRUCTURE, AND ALL ABANDONED UTILITIES ONCE CONNECTED TO THE STRUCTURES.
B. ALL EXISTING SLABS ON GRADE, PAVEMENTS AND SIDEWALKS NOT SPECIFICALLY NOTED ON ARCHITECTURAL/STRUCTURAL DRAWINGS AS TO NOT INTENDED TO BE REUSED OR OTHERWISE REUTILIZED.
C. ANY OTHER ITEMS NOTED FOR DEMOLITION ON THE DRAWINGS. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFICATION AND SURVEY OF THE LOCATION OF ALL EXISTING PILES FOUND IN THE VICINITY OF THE NEW STRUCTURE. A COPY OF THE SURVEY SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND ASSESSMENT OF POTENTIAL CONFLICTS PRIOR TO COMMENCEMENT OF DEMOLITION WORK UNLESS NOTED OTHERWISE ON THE DRAWINGS. TOP PORTIONS OF ALL EXISTING PILES INDICATED BY THE ENGINEER OF RECORD ON THE SURVEY SHALL BE REMOVED TO THE MINIMUM DEPTH OF TWO FEET BELOW THE SURFACE OF THE SURROUNDING GRADE OF BOTTOM OF NEW FOUNDATIONS (WHERE IN CONFLICT).
- SHORING (SHOP DRAWINGS REQUIRED)
SHORING DRAWINGS SHALL BE SUBMITTED FOR ALL ELEVATED STRUCTURAL COMPONENTS, INCLUDING BUT NOT LIMITED TO BEAMS AND SLABS, FOR REVIEW AND APPROVAL BY THE ARCHITECT / ENGINEER. DESIGN, ERECTION AND REMOVAL OF ALL SHORING SHALL MEET REQUIREMENTS AS SPECIFIED IN ACI STANDARDS 301 AND 347. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER. DRAWINGS SHALL CLEARLY INDICATE LOADS USED IN DESIGN AS WELL AS SEQUENCING AND TIMING RELATING TO ALL SHORING AND RE-SHORING WORK. NO ELEVATED WORK SHALL BE ALLOWED TO PROCEED WITHOUT A PRIOR APPROVAL OF THE SUBMITTAL. UNLESS NOTED OTHERWISE ON THE APPROVED DRAWINGS, FORMS SHALL NOT BE REMOVED PRIOR TO STRUCTURAL CONCRETE REPAIRS OR 3/4 (BEAMS AND SLABS) BEAMS AND SLABS SHALL BE TESTED TO 28 DAY COMPRESSIVE STRENGTH. DELEGATED SHORING ENGINEER OR AN AUTHORIZED REPRESENTATIVE SHALL BE REQUIRED TO INSPECT ERECTED SHORING TO ENSURE AS-BUILT CONDITIONS REFLECT THE DESIGN INTENT. DELEGATED ENGINEER SHALL BE REQUIRED TO PROVIDE SIGNED AND SEALED WRITTEN REPORTS PRIOR TO ALL CONCRETE POURS VERIFYING THAT THE WORK WAS OBSERVED TO BE IN COMPLIANCE WITH THE DRAWINGS.
- EXPANSION ANCHORS
THE CONTRACTOR SHALL USE ONE OF THE FOLLOWING: POWER-STUD BY "POWER / RAUL", KWIKBOLTS II BY "HILTI", TRIBOLT WEDGE BY "RAMSET / REDHEAD" OR AN ENGINEER APPROVED SUBSTITUTE. INSTALLATION OF ANCHORS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS.
- TOWER CRANE (SHOP DRAWINGS REQUIRED)
FOUNDATIONS AND BRACING FOR THE CRANE SHALL BE DESIGNED BY A FLORIDA REGISTERED PROFESSIONAL ENGINEER. SIGNED AND SEALED SET OF SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE THRESHOLD INSPECTOR FOR REVIEW PRIOR TO COMMENCEMENT OF CONSTRUCTION. LOCATION SHALL BE APPROVED BY THE ENGINEER/ARCHITECT. ADDITIONAL RE-DESIGN WORK REQUIRED AS A RESULT OF CONFLICT BETWEEN CRANE AND THE STRUCTURE SHALL BE BILLED TO THE CONTRACTOR BY THE ENGINEER OF RECORD AT AN HOURLY RATE. COST OF ADDITIONAL MATERIALS AND LABOR FOR THE STRUCTURAL REVISIONS ASSOCIATED WITH PLACEMENT OF CRANE SHALL BE COVERED BY THE CONTRACTOR.
- DELEGATED/SPECIALTY ENGINEER SUBMITTALS
SUBMITTALS SHALL BE PREPARED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE AND FLORIDA STATUTES CHAPTER 61G15. ENGINEERS NAME, LICENSE NUMBER AND BUSINESS ADDRESS SHALL BE LEGIBLY INDICATED ON ALL DOCUMENTS. SPECIALTY ENGINEER SHALL BE SOLELY RESPONSIBLE FOR DIRECT CONTACT WITH THE BUILDING DEPARTMENT WHILE OBTAINING BUILDING DEPARTMENTS APPROVAL FOR HIS/HER PORTION OF WORK (INCLUDING PROVIDING RESPONSES TO REVIEW COMMENTS, SUPPLYING ADDITIONAL CALCULATIONS AND PLANS, ATTENDING MEETINGS, ETC.).
- SHOP DRAWINGS
SHOP DRAWINGS SHALL BE REVIEWED FOR COMPLIANCE WITH CONTRACT DOCUMENTS, CONSTRUCTION METHODS, DIMENSIONING AND OTHER TRADE REQUIREMENTS BY THE CONTRACTOR PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. DRAWINGS WITHOUT CONTRACTOR'S APPROVAL STAMP SHALL BE RETURNED WITHOUT ENGINEER'S REVIEW. IN CASES OF A CONFLICT, INFORMATION PRESENTED ON STRUCTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER THAT WITHIN SHOP DRAWINGS, UNLESS SPECIFICALLY ADDRESSED BY THE ENGINEER IN WRITING. THROUGH THE PROCESS OF A CURSORY REVIEW, ENGINEER ASSUMES NO RESPONSIBILITY FOR DIMENSIONS, QUANTITIES, ERRORS OR OMISSIONS. ANY ERRORS OR OMISSIONS IRRESPECTIVE OF ENGINEER'S COMMENTS OR DURATION OF THE REVIEW SHALL BE THE RESPONSIBILITY OF AND MUST BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL SERVICE CHARGE EVEN IF SUCH WORK WAS DONE IN ACCORDANCE WITH THE SHOP DRAWINGS. THE ENGINEER RESERVES A TWO WEEK SHOP DRAWING REVIEW TIME (FROM THE DATE OF RECEIPT). IN CASES WHERE THE VOLUME OF SUBMITTED SHOP DRAWINGS IS VIEWED AS EXCESSIVE, THE ENGINEER RESERVES THE RIGHT TO NOTIFY THE OWNER, ARCHITECT AND THE CONTRACTOR OF ADDITIONAL TIME REQUIRED TO PERFORM A QUALITY REVIEW, NUMBER OF SETS WITHIN EACH INDIVIDUALS SHOP DRAWING SUBMITTAL SHALL BE LIMITED TO FIVE.
- SUPPLEMENT SKETCHES/DRAWINGS
IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO FORWARD A COPY OF ALL CORRESPONDENCE AFFECTING THE STRUCTURE TO THE PROJECT'S INSPECTOR THROUGHOUT THE DURATION OF CONSTRUCTION.
- CONTRACTOR MUST PHASE THE WORK IN SUCH A WAY AS TO MINIMIZE INTERRUPTION TO PLANT OPERATION OF THE TIPPING FLOOR

STRUCTURAL STEEL NOTES:

- STRUCTURAL STEEL HAS BEEN DESIGNED IN ACCORDANCE WITH FLORIDA BUILDING CODE 2023. ALL WIDE FLANGE STEEL SECTIONS TO BE ASTM A992. ALL OTHER STEEL TO BE ASTM A572. MINIMUM YIELD OF 50KSI U.O.N. AS LISTED BELOW OR ON DRAWINGS.
- ALL STRUCTURAL SHAPES TO BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL STRUCTURAL RECTANGULAR AND SQUARE HOLLOW STRUCTURAL SECTIONS (HSS) SHALL BE ASTM A500 GR. C (Fy=50KSI) ALL ANCHOR RODS SHALL BE ASTM F1554 GR. 36 WELDABLE (Fy=55KSI) ALL STRUCTURAL ANGLES BRACING SHALL BE ASTM A572 (Fy=50KSI) ALL OTHER STRUCTURAL ANGLES SHALL BE ASTM A36 U.O.N. ALL PLATES SHALL BE ASTM A572 GR. 50 (Fy=50KSI), UNLESS OTHERWISE NOTED.
- AISC SPECIFICATIONS FOR "LOAD AND RESISTANCE FACTOR DESIGN (LRFD) FOR STRUCTURAL STEEL IN BUILDINGS" - LATEST EDITION SHALL APPLY, EXCEPT AS MODIFIED BY THE NOTES, SCHEDULES AND DETAILS SHOWN ON THE STRUCTURAL DRAWINGS OR ANY MORE RESTRICTIVE REQUIREMENTS OF FLORIDA BUILDING CODE 2023.
- THE FRAME SHALL BE CARRIED UP TRUE AND PLUMB AND TEMPORARY BRACING SHALL BE INTRODUCED WHEREVER NECESSARY TO RESIST ALL LOADS TO WHICH THE STRUCTURE MAY BE SUBJECTED, INCLUDING EQUIPMENT AND OPERATION OF SAME. SUCH BRACING SHALL BE THE RESPONSIBILITY OF THE STEEL CONTRACTOR AND SHALL BE LEFT IN PLACE AS LONG AS REQUIRED FOR SAFETY.
- ALL CONNECTIONS SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH AISC SPECIFICATIONS.
- ALL WELDED CONNECTIONS SHALL CONFORM TO THE FLORIDA BUILDING CODE. PROVISIONS SHALL BE MADE FOR FIELD INSPECTION AND TESTING OF WELDS.
- IN ADDITION TO MOMENT CONNECTIONS, PROVIDE AISI STANDARD SHEAR CONNECTIONS FOR ALL GRAVITY AND WIND LOADS.
- ALL SHEAR CONNECTORS SHALL BE 3/4" Ø HEADED STUDS U.O.N. WITH LENGTH EQUAL TO SLAB THICKNESS MINUS 1" U.O.N. MAX LENGTH-8" PROVIDE MIN. 1 STUD PER FOOT U.O.N. ON PLAN.
- ALL ENDS OF COLUMNS AT SPLICES AND ALL OTHER BEARING CONNECTIONS SHALL BE MILLED TO COMPLETE TRUE BEARING.
- PROVISIONS SHALL BE MADE FOR CONNECTIONS OF OTHER TRADES INCLUDING CUTTING AND PUNCHING OF STRUCTURAL MEMBERS, WHERE REQUIRED BY THE DWGS. OR FOR WHICH INFORMATION IS FURNISHED PRIOR TO FABRICATION.
- THE USE OF A CUTTING TORCH IN THE FIELD WILL NOT BE PERMITTED.
- WELDING ELECTRODES SHALL CONFORM TO E70XX ELECTRODES.
- CONTRACTOR SHALL PROVIDE STIFFENERS PER CHAPTER K OF AISC SPECIFICATION (LRFD) REGARDING THE NEED FOR COLUMN STIFFENERS.
- ALL WELDERS TO BE LICENSED BY THE STATE OF FLORIDA.
- STRUCTURAL STEEL THAT WILL REMAIN EXPOSED TO VIEW SHALL BE PAINTED OR GALVANIZED AS PER THE SPECIFICATIONS.
- DESIGN OF ALL TEMPORARY STEEL COLUMN BRACING REQUIRED DURING ERECTION SHALL BE THE RESPONSIBILITY OF THE STEEL CONTRACTOR.
- ALL STEEL BEAMS AND COLUMNS SHALL BE SPRAY FIREPROOFED U.O.N ON ARCH. DWGS. AND SPECS (WITH THE EXCEPTION OF BEAMS & COLUMNS ENCASED IN CONCRETE) SEE ARCH. DRAWINGS FOR APPROPRIATE RATING.
- THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AND BE RESPONSIBLE FOR ADEQUATE COORDINATION. DISCREPANCIES SHOULD BE REPORTED TO THE ARCHITECT OR ENGINEER OF RECORD IN WRITING BEFORE PROCEEDING.
- THE CONTRACTOR MUST SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL. NO CONSTRUCTION IS TO BE STARTED UNTIL SHOP DRAWINGS ARE REVIEWED AND APPROVED BY THE ENGINEER.
- PRIOR TO INSTALLATION OF ANCHOR BOLTS OR ANY DRILLING OF EXISTING SLAB, BEAM, WALL OR COLUMN, LOCATION OF EXISTING REINFORCING SHALL BE IDENTIFIED. NO EXISTING REINFORCING IS ALLOWED TO BE CUT OR DAMAGED DURING THE COURSE OF NEW CONSTRUCTION.
- ALL BEAM SPLICES, IF REQUIRED SHALL BE DONE AT CONTRACTOR'S EXPENSE.
- ALL PIPING AND DUCT WORK TO BE HUNG FROM BEAMS ONLY.
- ALL BOLTS EXPOSED TO THE WEATHER SHALL BE GALVANIZED ASTM A325.
- FOR CLARITY, CONNECTION DETAILS MAY NOT BE SHOWN ON THE CONTRACT DOCUMENTS. NUMBER OF BOLTS SHOWN, WELD SIZE AND LENGTH ARE INDICATIVE ONLY. THE ACTUAL CONNECTIONS SHALL BE DESIGNED BY THE STRUCTURAL STEEL FABRICATOR P.E. BASED ON THE LOAD CRITERIA SHOWN ON THE CONTRACT DOCUMENTS.
- THE FOLLOWING CONNECTIONS ARE REQUIRED TO BE HIGH STRENGTH SLIP-CRITICAL: ALL COLUMN SPLICES, CONNECTIONS OF BEAMS TO COLUMNS, ALL MOMENT CONNECTIONS, CONNECTIONS WITHIN THREE FEET OF COLUMNS, CONNECTIONS OF OR TO DIAGONAL MEMBERS, POSTS, HANGERS, BEAMS AND GIRDERS SUPPORTING COLUMNS, POSTS OR HANGERS, ALL CBF AND EBF MEMBERS, ALL BEAMS CARRYING MACHINE LOADS. ALL SLIP CRITICAL CONNECTIONS SHALL USE SHEAR CAPACITY WHERE SLIP IS A STRENGTH LIMIT STATE UNLESS OTHERWISE APPROVED BY THE ENGINEER OF RECORD.
- ALL AESS MEMBERS AS IDENTIFIED ON STRUCTURAL AND ARCH. DRAWINGS SHALL BE PAINTED BASED ON SPECIFICATIONS. SEE STRUCTURAL STEEL SPECIFICATION 05120 FOR ADDITIONAL REQUIREMENTS.
- CHARPY V-NOTCH (CVN) REQUIREMENTS FOR MEMBERS:
1. FOR ROLLED SHAPES GROUP 4, 5, OR WFLANGES 1 1/2" THICK AND THICKER AND PLATES EXCEEDING 2" THICKNESS REFER TO AISC SECTION A3.1C AND A3.1D.
2. SEE ADDITIONAL REQUIREMENT IN SECTION 6.3 OF AISC 341-05.
- ALL CONNECTIONS UNLESS FULLY DETAILED ON THE DRAWINGS SHALL BE DESIGNED BY THE STRUCTURAL STEEL FABRICATOR P.E.
- WHERE STRUCTURAL STEEL MEMBER OR ANY PART OF A CONNECTION (SUCH AS, BUT NOT LIMITED, TO GUSSET PLATE) BLOCKS WALL, BEAM, SLAB OR ANY OTHER REINFORCEMENT, IT SHOULD BE CONTINUOUS BY DRILLING HOLES THROUGH THE STRUCTURAL STEEL AND ALLOW THE REBARS TO RUN CONTINUOUS OR WELD COUPLERS (SUCH AS LENTON WELDABLE COUPLERS OR APPROVED EQUAL) EACH SIDE OF THE MEMBER AND/OR STIFF. PLATES BETWEEN MEMBER FLANGES TO DEVELOP THE BARS IN TENSION. WHERE COUPLERS ARE USED, FULL HEIGHT STIFFENER PLATES ARE CORRECT.
- ALL HORIZONTAL HSS MEMBERS SHALL HAVE 1/2" Ø WEEP HOLES AT 24" O.C. AT BOTTOM FLANGE U.O.N. ALL HORIZONTAL ROLLED SECTIONS + PLATES (ONE EACH SIDE OF WEB) SHALL HAVE 2-1/2" WEEP HOLES AT 24" O.C. AT BOTTOM FLANGE U.O.N.
- ALL ERECTION STEEL AND/OR STRUCTURAL STEEL EMBEDDED IN CONCRETE WALLS SHALL HAVE MIN. 3" CLEAR CONCRETE COVER. NOTIFY EOR WHERE THIS REQUIREMENT IS NOT MET.
- ALL LOADS INDICATED ON THE DRAWINGS ARE REVERSIBLE EVEN IF NOT STATED SO.
- WHERE ANY COMPONENTS OF A CONNECTION (INCLUDING CONNECTED MEMBER) EXPERIENCES MULTI AXIAL STATE OF STRESSES, THE COMPONENT SHALL BE CHECKED FOR THOSE STRESSES USING VON MISES AND/OR MOHR'S CIRCLE ANALYSES.
- WHEN MULTIPLE LOADS ARE PROVIDED FOR THE DESIGN OF ONE CONNECTION, THE CONNECTION COMPONENTS (SUCH AS PLATES, BOLTS, WELDS ETC.) SHALL BE DESIGNED FOR THE COMBINATION THAT RESULTS IN THE HIGHEST DEMAND FOR EACH COMPONENT.
- WHERE A SHAPE SPECIFIED ON THE DRAWINGS IS NOT AVAILABLE, THE CONTRACTOR SHALL SUBSTITUTE IT FOR THE NEXT SIZE UP (THE SAME DEPTH BUT HEAVIER) OR A BUILT UP SHAPE IF RECD TO MAINTAIN ARCH CONSTRAINTS FOR NO ADDITIONAL COST TO THE OWNER AND SUBJECT TO APPROVAL OF THE EOR.
- DESIGN LIVE LOADS NOTED ON THE DRAWINGS ARE CONSIDERED TO BE POST COMPOSITE. LOADS NOTED ON THE DRAWINGS CAN BE APPLIED ONLY AFTER THE CONCRETE HAS ACHIEVED ITS DESIGN STRENGTH. SUCH EQUIPMENT OR MECHANICAL LOADS SHALL NOT BE APPLIED ON THE STRUCTURE PRIOR TO THAT WITHOUT THE EOR APPROVAL IN WRITING.
- IT IS NOT ACCEPTABLE TO RUN CONDUITS AND OTHER UTILITIES WITHIN THE CONCRETE SLABS UNLESS SPECIFICALLY APPROVED BY THE EOR IN WRITING.
- OPENINGS THROUGH STRUCTURAL MEMBERS ARE NOT ALLOWED UNLESS SPECIFICALLY SHOWN ON THE STRUCTURAL DRAWINGS OR APPROVED IN WRITING BY THE EOR.
- CONTRACTOR IS RESPONSIBLE FOR THE RE-SHORING DESIGN.
- ALL METAL SURFACES SHOWING SURFACE RUST OR RUST FLAKING SHALL BE SANDED/GRIINDED TO ORIGINAL SURFACE BY CONTRACTOR.

STEEL DECK NOTES:

- STEEL DECK SHALL CONFORM TO THE CURRENT SPECIFICATIONS FOR THE DESIGN OF LIGHT GAUGE COLD FORMED STEEL STRUCTURAL MEMBERS AS PER THE AISI LATEST EDITION AND STEEL DECK INSTITUTE SPECIFICATIONS AND STANDARDS.
- STEEL METAL DECK SHALL BE ASTM A653 S40 (Fy=40ksi) WITH GALVANIZED COATING TYPICAL.
- DECK SHALL BE ANCHORED BY WELDING THROUGH THE BOTTOM OF THE RIB TO STRUCTURAL STEEL AT MAXIMUM SPACING OF 12" WITH MINIMUM BEARING OR END LAP OF 2".
- DECK PANELS TO BE FABRICATED LONG ENOUGH TO EXTEND OVER THREE OR MORE SPANS, BUT NOT LESS THAN TWO. SPLICE ONLY OVER SUPPORT.
- ENDS OF METAL DECK PANELS SHALL HAVE WELD PATTERN 3/64 USING 3/8" PUDDLE WELDS E70XX. SIDE LAPS (STITCH CONNECTIONS) SHALL HAVE 3/8" PUDDLE WELDS E70XX AT 2'-0" O.C. MAX.
- THE METAL DECK HAS BEEN DESIGNED TO ACT AS A SHEAR DIAPHRAGM. METAL DECK PANELS ACT AS BRACING FOR THE BUILDING AND REMOVAL OF ANY OF THE PANELS IS PROHIBITED UNLESS SEPARATE BRACING IS DESIGNED AND PROVIDED.
- PRIOR TO ALL METAL DECK PANELS ON ANY FLOOR BEING FULLY CONNECTED TO THE STRUCTURE, THE STABILITY OF THE STRUCTURE IS THE SOLE RESPONSIBILITY OF THE STEEL ERECTOR P.E.

WIND LOAD DESIGN DATA:

- THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST FLORIDA BUILDING CODE 2023.
- DESIGN WIND SPEED = 195 mph
- BUILDING RISK CATEGORY = IV
- WIND EXPOSURE = C
- MEAN ROOF HEIGHT: COMACTOR BUILDING = 50'-0"
ROOF ON THE NORTH OF COMPACTOR BUILDING = 50'-0"

CODES AND TESTS:

- BUILDING CODE:
ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE FOLLOWING APPLICABLE CODES AND STANDARDS: AS MODIFIED BY THE 2023FLORIDA BUILDING CODE.

ACI	AMERICAN CONCRETE INSTITUTE BUILDING CODE AND STANDARD PRACTICE.
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION. MANUAL OF STEEL CONSTRUCTION 3RD ED. SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS AISC 360-10
AWS D1.1	AMERICAN WELDING SOCIETY D1.1, "STRUCTURAL WELDING CODE - STEEL."
AWS D1.4	AMERICAN WELDING SOCIETY D1.4, "STRUCTURAL WELDING CODE - REINFORCING STEEL."
AWS D1.8	AMERICAN WELDING SOCIETY D1.8, "STRUCTURAL WELDING CODE-SEISMIC SUPPLEMENT"
ASTM	AMERICAN SOCIETY OF TESTING AND MATERIALS.
SSPC	STEEL STRUCTURES PAINTING COUNCIL MANUAL (WHERE REQUIRED)


- THE BUILDING IS DESIGNED IN ACCORDANCE WITH FLORIDA BUILDING CODE 2023. IN ADDITION, THE DESIGN ALSO COMPLIES WITH THE REQUIREMENTS OF WIND AND SEISMIC LOADING MEMBER DESIGN AND DETAILING OF THE IBC-2003.
- ALL CONTROLLED CONCRETE SHALL COMPLY WITH THE A.C.I. 318 BUILDING CODE AND THE FLORIDA BUILDING CODE. A SPECIAL AMENDMENT FORM FOR CONTROLLED CONCRETE WITH CONCRETE TESTS AND CURVES OF TESTS FOR THE PRELIMINARY DESIGN MIX PREPARED BY AN APPROVED LABORATORY MUST BE SUBMITTED TO THE ENGINEER FOR FILING WITH THE BUILDING DEPARTMENT. NO CONCRETE SHALL BE PLACED WITHOUT THE DESIGN MIX BEING APPROVED BY THE BUILDING DEPARTMENT.
- DESIGN AND CONSTRUCTION OF FORMWORK IS TO COMPLY WITH THE A.C.I. 318 BUILDING CODE AND NEW FLORIDA BUILDING CODE AS AMENDED.
- STABILITY AND INTEGRITY, CONTROLLED INSPECTIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ENGINEER HIRED BY THE OWNER AS PER FLORIDA BUILDING CODE AND REGULATIONS.
- TRANSPORTING, PLACING, CURING AND DEPOSITING OF CONCRETE SHALL COMPLY WITH THE ACI BUILDING CODE.
- ALL REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO "SPECIFICATION FOR DEFORMED BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT" A.S.T.M. A615 GRADE 60 OR GRADE 75 AS NOTED. THE STEEL SUPPLIER SHALL PROVIDE THE ENGINEER WITH AN AFFIDAVIT OF THE CERTIFYING THAT THE STEEL MEETS THE REQUIREMENTS OF THE A.S.T.M.

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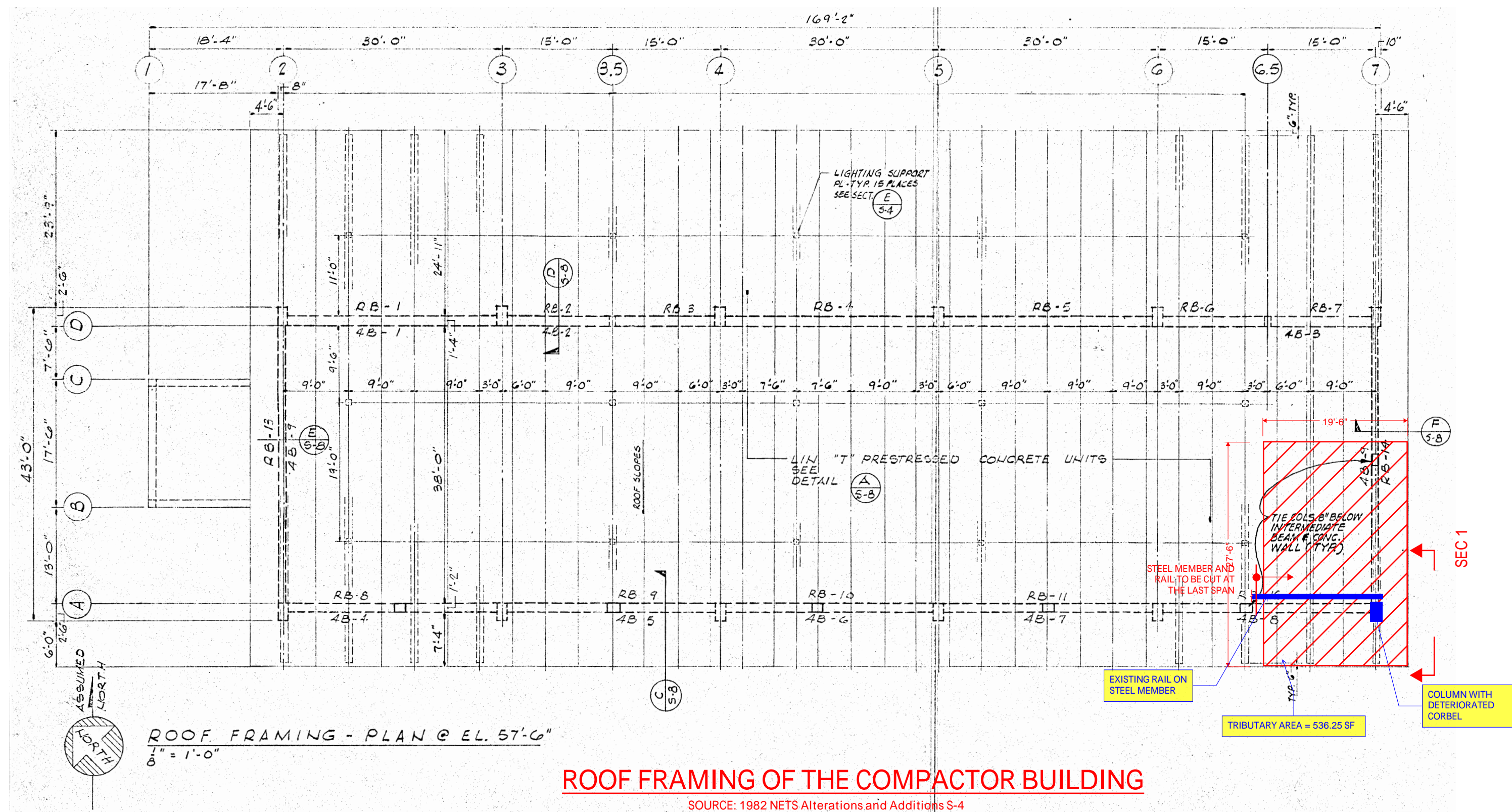
ARCHITECT: WSP

PROJECT: NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE: GENERAL NOTES

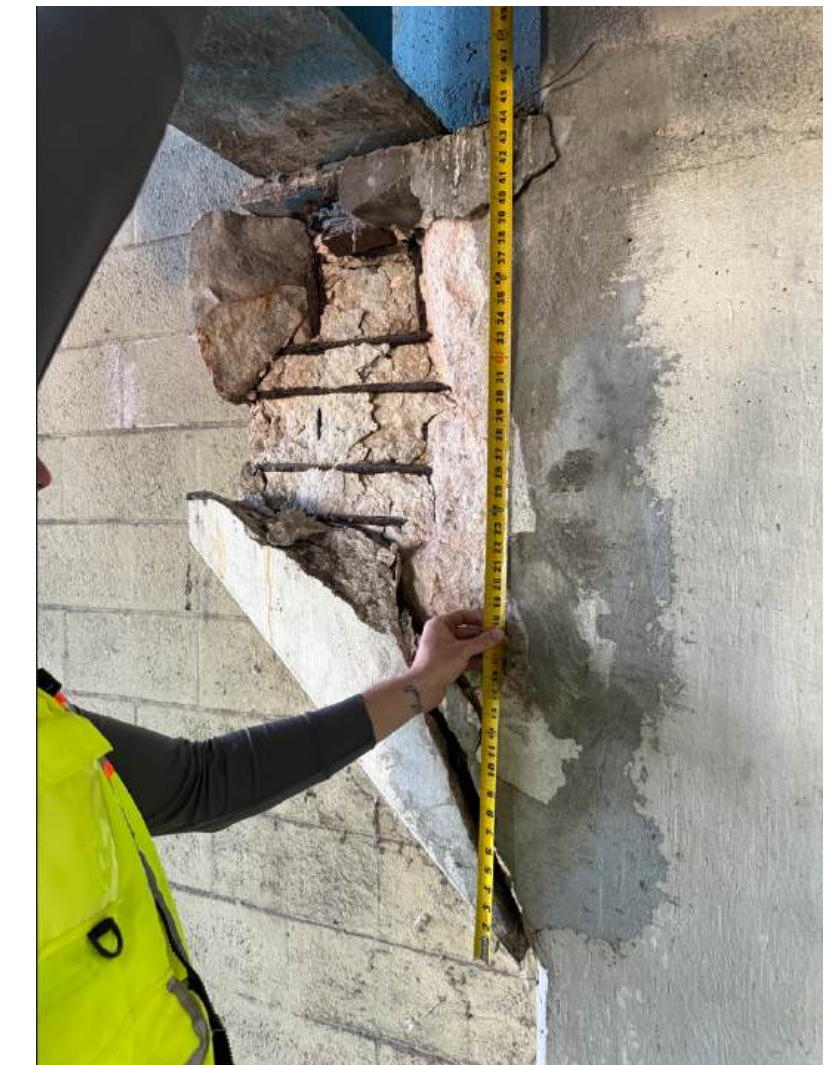
SEAL

DESIGN BY:	WT	CHECKED BY:	SV
DRAWN BY:	WT	DATE:	11/10/2025
SCALE:	N.T.S.	DRAWING No:	S-002
PROJECT No:	EDPPSA2024.2760	SHEET	2 OF 20



ROOF FRAMING OF THE COMPACTOR BUILDING

SOURCE: 1982 NETS Alterations and Additions S-4



SITE PHOTO

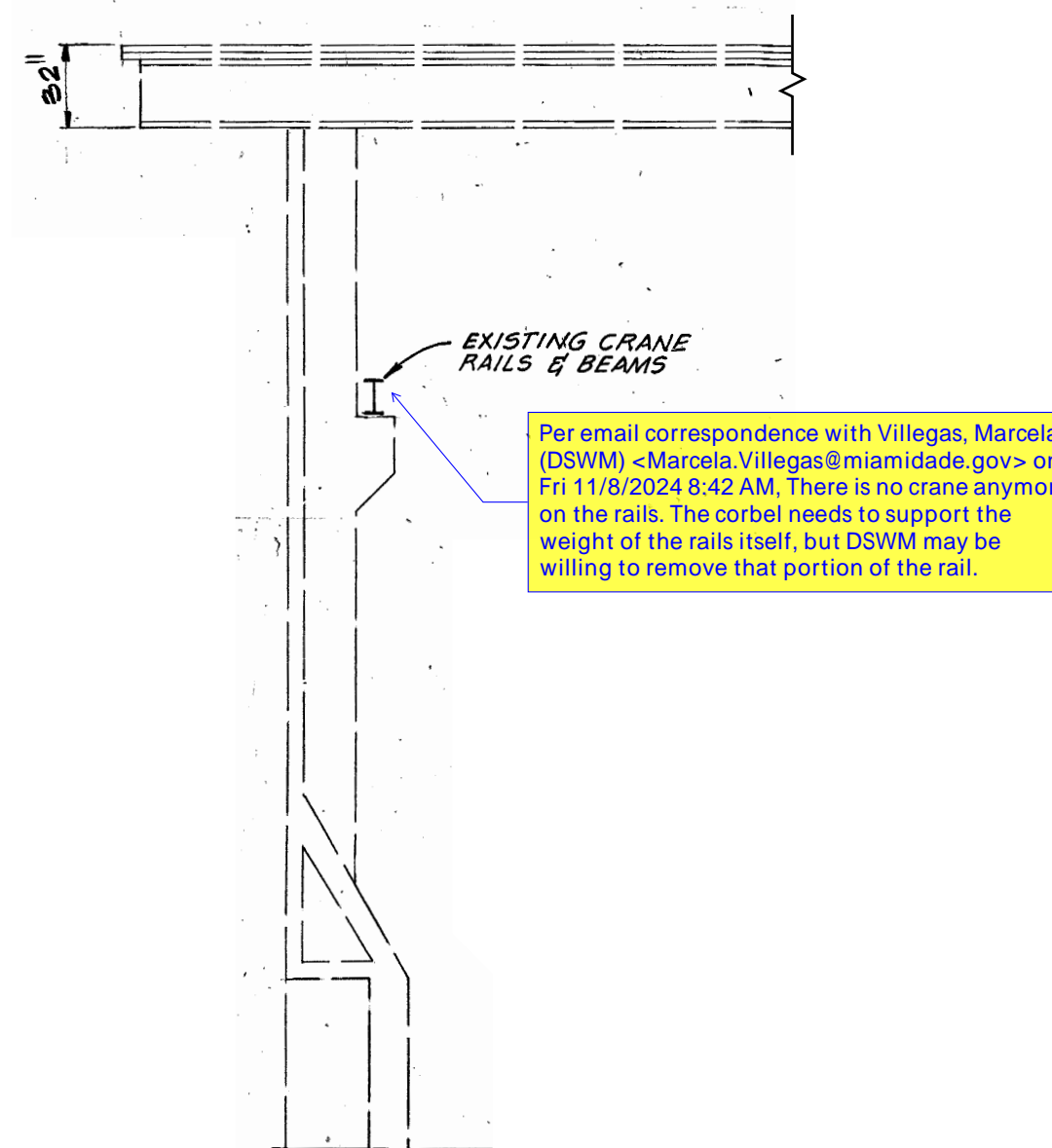
COLUMN SCHEDULE	A-2	A-3	A-4 A-5	A-7	B-1 C-1	B-2 C-2	D-2	D-3	D-4 D-5 D-6	D-7	D-3.5 D-6.5
TOP OF COL. EL.	57'-0"	57'-0"	57'-0"	57'-0"	4'-0"+2"	4'-0"+2"	57'-6"	57'-6"	57'-6"	57'-6"	54'-6"
SIZE	1'-4" x 2'-6"	1'-4" x 2'-6"	1'-4" x 2'-6"	1'-6" x 2'-6"	1'-0" x 1'-0"	1'-0" x 1'-0"	1'-4" x 2'-6"	1'-4" x 2'-6"	1'-4" x 2'-6"	1'-6" x 2'-6"	1'-0" x 1'-4"
VERTICAL REINFORCING	10-#8	8-#8	8-#8	8-#8	4-#6	4-#6	10-#8	10-#8	10-#8	10-#8	4-#8
TIPPING FL. EL. 31'-0"											
VERTICAL REINFORCING											
PIT FL. EL. 14'-0"											
VERTICAL REINFORCING											
STAIR WELL FL. EL. 4'-0"											
VERTICAL REINFORCING											
LOADING LEVEL EL. 2'-0"											
VERTICAL REINFORCING											
FOOTING											
DOWELS	10-#8	8-#8	8-#8	8-#8	4-#6	4-#6	10-#8	10-#8	10-#8	10-#8	*
EL. TOP OF FOOTING	-2'-0"	4'-9"	6'-8"	6'-8"	2'-4"	-2'-0"	-2'-0"	-2'-0"	6'-8"	6'-8"	
REINFORCING											
REMARKS											* DOWEL 4-#8 VERT. OUT OF FDP OF WALL @ EL. 30'-3"

COLUMN NOTES:
 1. COLUMN & FOOTING SIZES ARE SHOWN WITH THE EAST TOWEST FIRST & THE NORTH TO SOUTH DIMENSION LAST.
 2. ALL COLUMN TIES TO BE IN ACCORDANCE WITH A.C.I. MANUAL OF STANDARD PRACTICE 315, (LATEST EDITION)
 3. ALL VERTICAL REINF. TO HAVE #5 TIES @ 12".

3. ALLOWABLE UNIT STRESSES
 CONCRETE (DESIGN PER CURRENT EDITION A.C.I.)
 PRECAST SLABS (LIGHTWEIGHT) & L'N TEE PRESTRESSED UNITS ----- f_c = 5000 PSI
 PEA GRAVEL GROUT ----- f_c = 3000 PSI
 CONCRETE WORKING SLAB ----- f_c = 2500 PSI
 ALL OTHER ----- f_c = 4000 PSI

COLUMN SCHEDULE OF COMPACTOR BUILDING

SOURCE: 1982 NETS Alterations and Additions S-5



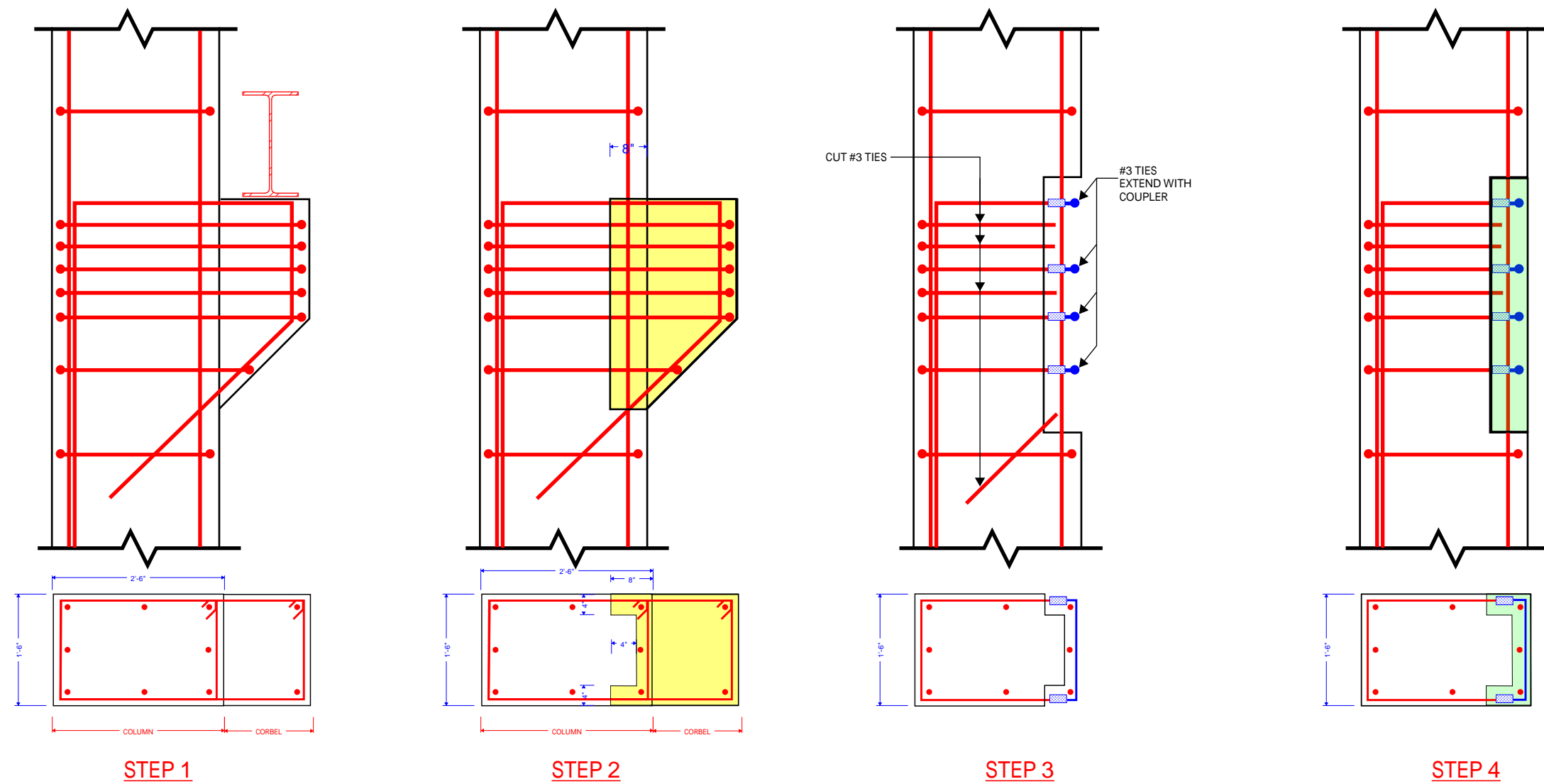
SECTION 1 (UPPER PART)

SOURCE: 1995 NETS Improvements to Northeast Solid Waste Transfer Station S-9

REV	DATE	BY	DESCRIPTION	CHK	APD
REF. DWGS					
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			One Penn Plaza 250 West 34th st New York, NY 10119 (212) 687-9888 www.wsp.com/usa		
CLIENT: MIAMI-DADE COUNTY FLORIDA DEPARTMENT OF SOLID WASTE TREATMENT					
ARCHITECT: WSP					
PROJECT: NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2					
TITLE: DETERIORATED CORBEL REPAIR - 1					
SEAL					
DESIGN BY: WT			CHECKED BY: SV		
DRAWN BY: WT			DATE: 11/10/2025		
SCALE: N.T.S.			DRAWING No: S-003		
PROJECT No: EDPPSA2024.2760			SHEET 3 OF 20		



SCANNED RESULTS



DETERIORATED CORBEL REPAIR PROCEDURE

STEP 1: RESHORE THE TRIBUTARY AREA SUPPORTED BY THE COLUMN WITH DETERIORATED CORBEL. RESHORES MUST BE ENGINEERED TO SUPPORT THE ENTIRE MEMBER AND THE LOADS SUPPORTED BY IT. IT IS RECOMMENDED FOR THESE RESHORES TO BE BROUGHT DOWN TO FOUNDATION.

STEP 2: RESHORE, CUT, AND REMOVE THE STEEL BEAM AND RAIL. (RESHORE AND CUTTING PROCEDURE IS MEANS AND METHODS BY CONTRACTOR). FOR EXTENT OF REMOVAL, SEE S-003. CHIP AWAY THE CORBEL CONCRETE. FOR EXTEND OF CHIPPING, SEE ILLUSTRATION IN STEP 2. CLEAR LOOSE CONCRETE FROM CHIPPED SURFACE. THE ROUGHNESS AT THE SURFACE SHALL BE 1/4" FOR BONDING.

STEP 3: WIRE BRUSH ANY RUST FROM EXPOSED REINFORCEMENT. EXTEND THE 4 #3 TIES WITH COUPLERS AS SHOWN. CUT THE OTHER TIES. SEE ILLUSTRATION IN STEP 3. DO NOT CUT ANY VERTICAL REINFORCEMENT. BEFORE POURING CONCRETE, THE EXISTING REBAR TO BE INSPECTED TO HAVE NO LOST SECTION DUE TO CORROSION. EXISTING REBAR TO REMAIN SHALL NOT BE CORRODED, AND HAS NO LOST SECTION DUE TO CORROSION. IF MORE THAN 5% OF REBAR SECTION IS LOST, EOR SHALL BE NOTIFIED, AND FURTHER REMEDIAL WORK WILL BE REQUIRED.

STEP 4: APPLY BONDING AGENT AT CONCRETE SURFACE, AND POUR BACK SELF-CONSOLIDATED NONSHRINKABLE CONCRETE (FC=5000 PSI) AS SHOWN. SEE ILLUSTRATION IN STEP 4.

LEGEND:

- EXISTING REINFORCEMENT
- PORTION OF CONCRETE TO BE CHIPPED AWAY
- COUPLER
- NEW REINFORCEMENT
- NEW SELF-CONSOLIDATED NONSHRINKABLE CONCRETE FC=5000 PSI

NOTE:

1. CONCRETE SHALL BE:
 - A. DCI (CALCIUM NITRITE) CORROSION INHIBITOR, (4.0 GAL/YD3)
 - B. WATER/CEMENT RATIO NOT TO EXCEED 0.40.
 - C. USE OF SUPERPLASTICIZER TO ACHIEVE THE W/C RATIO.
 - D. CONCRETE TO CONTAIN SILICA FUME (5% OF TOTAL CEMENT) OR SLAG (40%)
 - E. 1.5 LBS/YD3 FIBER MESH.
 - F. ENTRAINED AIR AT 6% ± 1
2. THE CURING SHALL BE ONLY MOIST TYPE. NO CURING COMPOUND ACCEPTABLE.

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ARCHITECT: WSP

PROJECT: NORTHEAST TRANSFER STATION
FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE: DETERIORATED CORBEL REPAIR - 2

SEAL

DESIGN BY: WT	CHECKED BY: SV
DRAWN BY: WT	DATE: 11/10/2025
SCALE: N.T.S.	DRAWING No: S-004
PROJECT No: EDPPSA2024.2760	
CAD FILE:	SHEET 4 OF 20



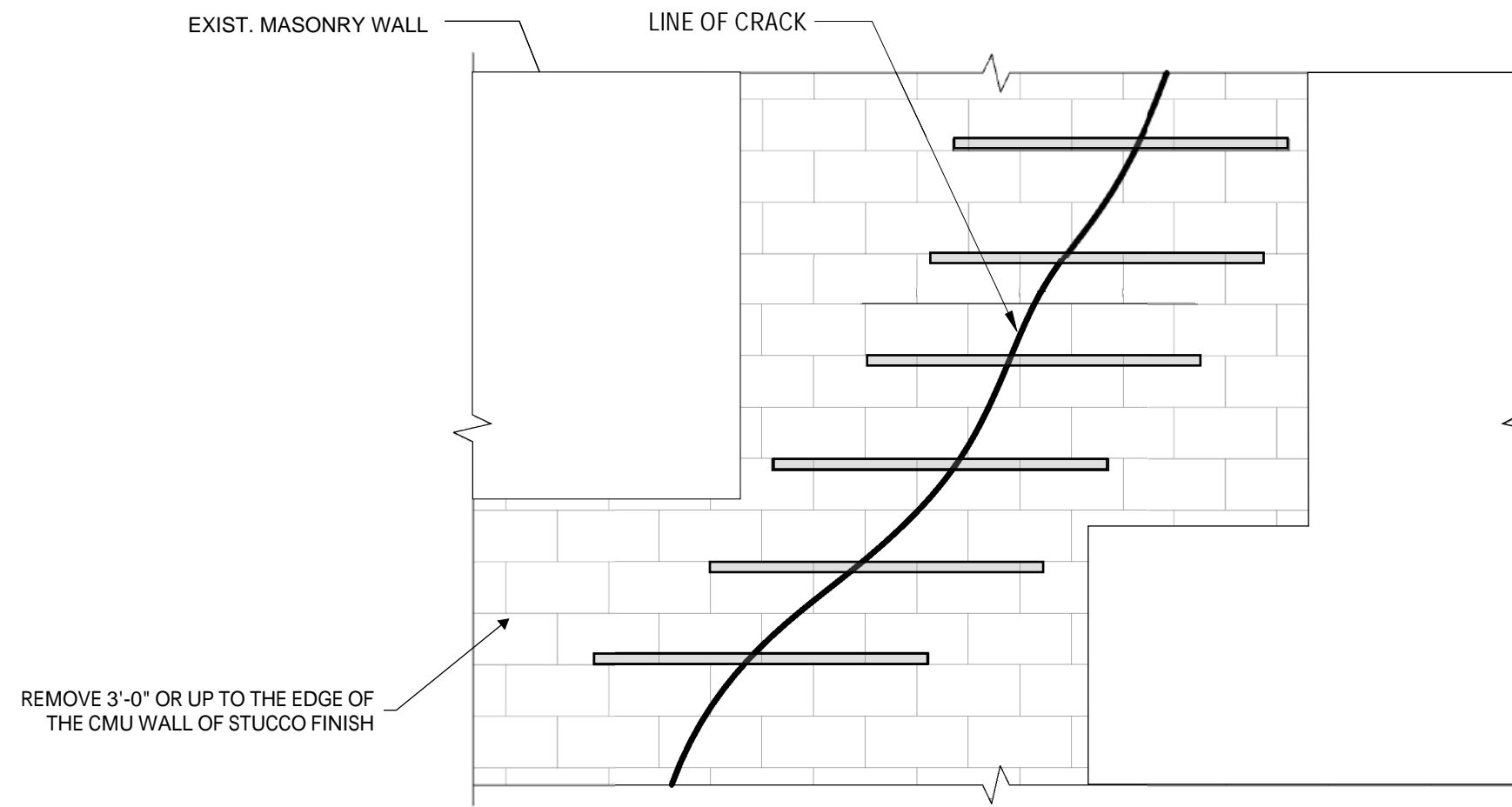
SITE PHOTO 1

MASONRY WALL CRACKS AT SOUTHEAST CORNER OF COMPACTOR BUILDING



SITE PHOTO 2

MASONRY WALL CRACKS AT SOUTHWEST CORNER OF COMPACTOR BUILDING



TYPICAL MASONRY WALL CRACK REMEDIATION DETAIL

NOTES:

1. CUT SLOTS ALONG HORIZ. JOINTS TO INSTALL HELIFIX BARS (TOTAL LENGTH TO BE 3'-0" CENTERED ON CRACK) 1 1/2" MIN DEPTH AT EVERY 4TH BRICK.

2. FILL CRACK WITH POLYMER MODIFIED MORTAR USING LOW PRESSURE INJECTION.
PROCEDURE:

- STEP 1:** FIRST THOROUGHLY CLEAN AND WIDEN THE DAMPEN THE AREA.
- STEP 2:** APPLY THE POLYMER MORTAR WITH A LOW PRESSURE INJECTION, ENSURING GOOD ADHESION TO THE EXISTING MATERIAL, AND SMOOTH OUT THE PATCH TO MATCH THE WALL SURFACE.
- STEP 3:** ALLOW PROPER CURING TIME BASED ON THE MANUFACTURER'S INSTRUCTIONS.

3. REPAIR THE STUCCO TO MATCH THICKNESS AND TEXTURE OF EXISTING.

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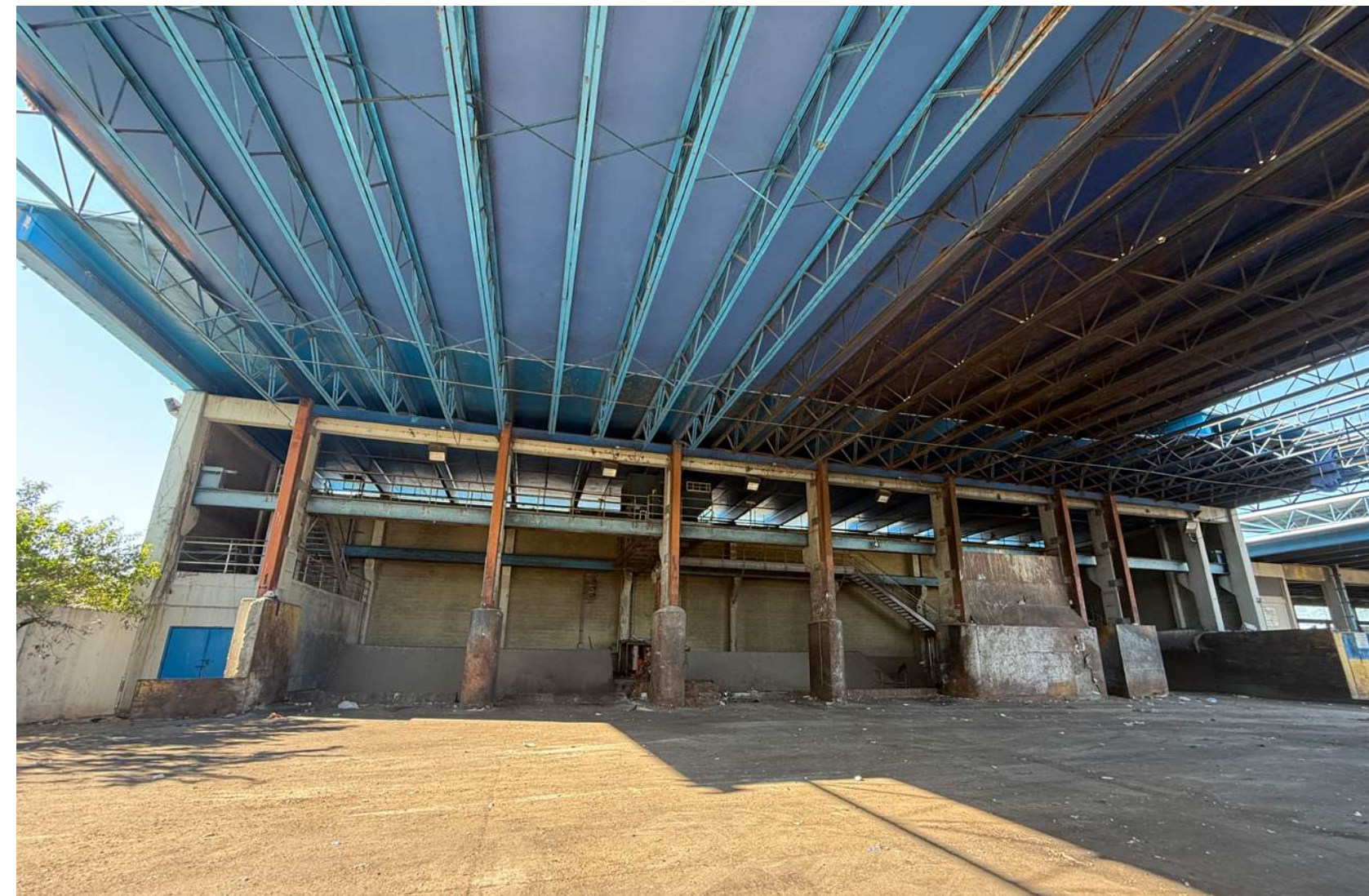
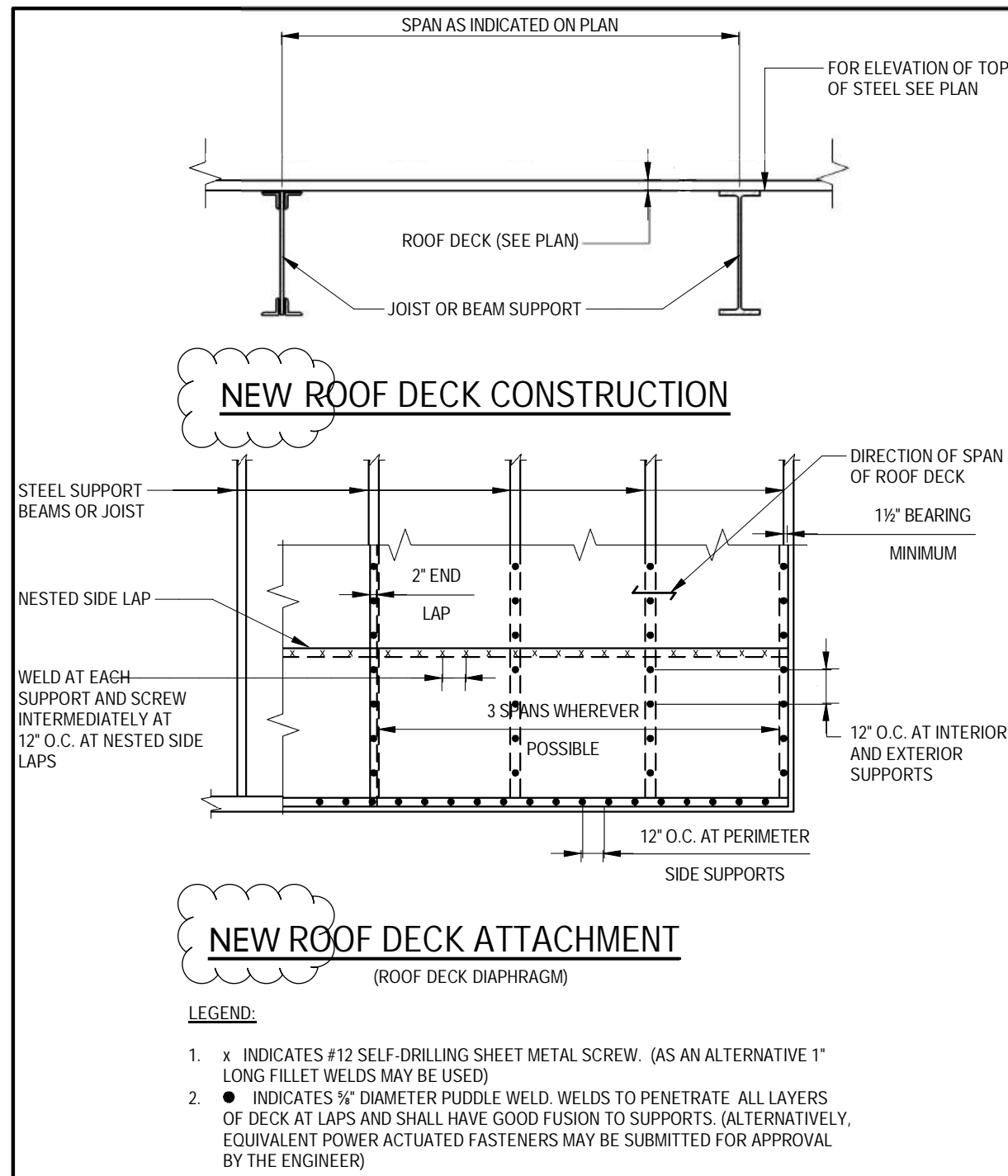
ARCHITECT: WSP

PROJECT: NORTHEAST TRANSFER STATION
FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE: SOUTH FAÇADE CRACK SEALING

SEAL

DESIGN BY: WT	CHECKED BY: SV
DRAWN BY: WT	DATE: 11/10/2025
SCALE: N.T.S.	DRAWING No: S-005
PROJECT No: EDPPSA2024.2760	
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SITE PHOTO

SOUTH SIDE OF THE COMPACTOR TIPPING AREA ROOF

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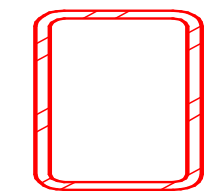
ARCHITECT: WSP

PROJECT: NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE: COMPACTOR NORTH ROOF IMPROVEMENT - 2

SEAL

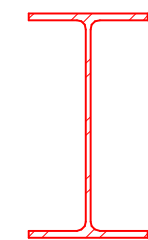
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SCALE: N.T.S.	DRAWING No: S-007
PROJECT No: EDPPSA2024.2760	SHEET 7 OF 20



HSS 12"x12"x1/2"

EXISTING COLUMNS AT SOUTH SIDE OF THE COMPACTOR TIPPING AREA

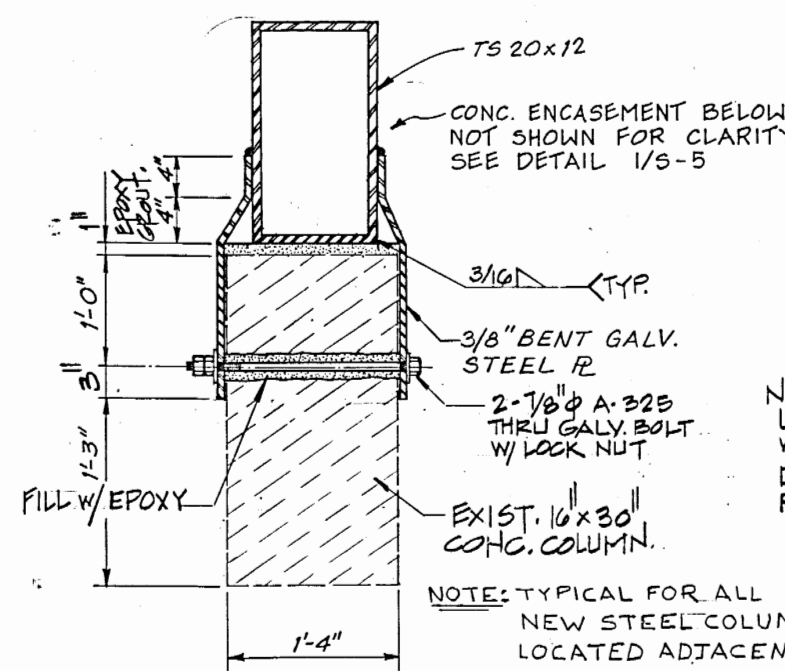
NOTE: SIZE PER SITE MEASUREMENT



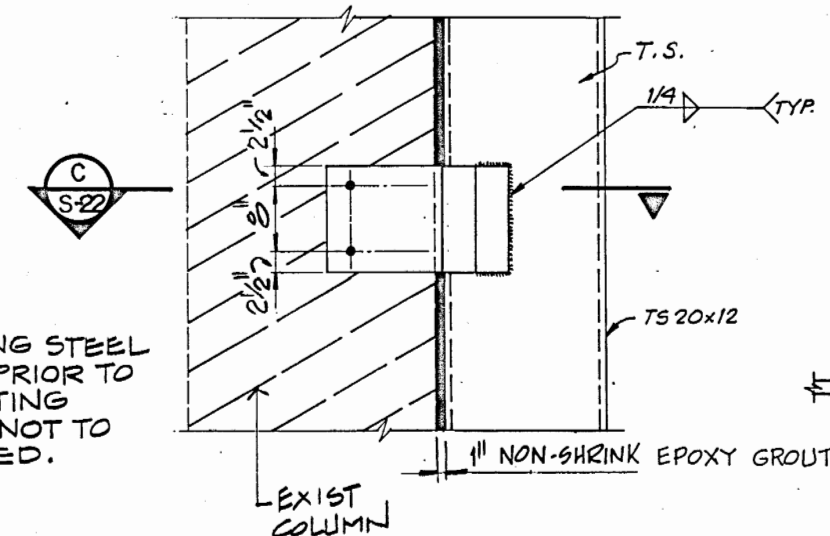
FLANGE WIDTH = 6"
FLANGE THICKNESS = 1/2"
TOTAL HEIGHT = 15"
WEB THICKNESS = 3/8"

EXISTING ROOF GIRDER SUPPORTING STEEL JOIST

NOTE: SIZE PER SITE MEASUREMENT

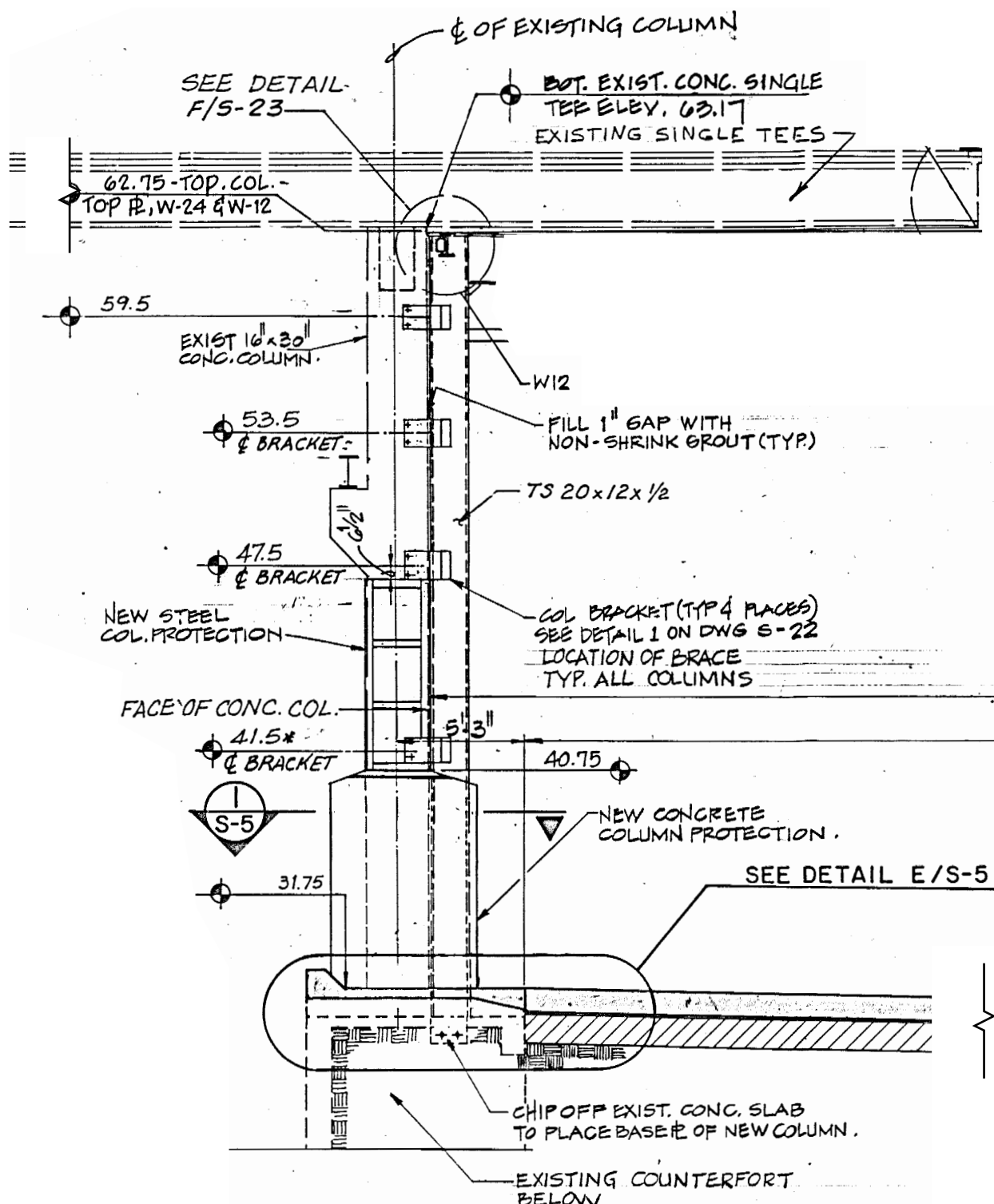


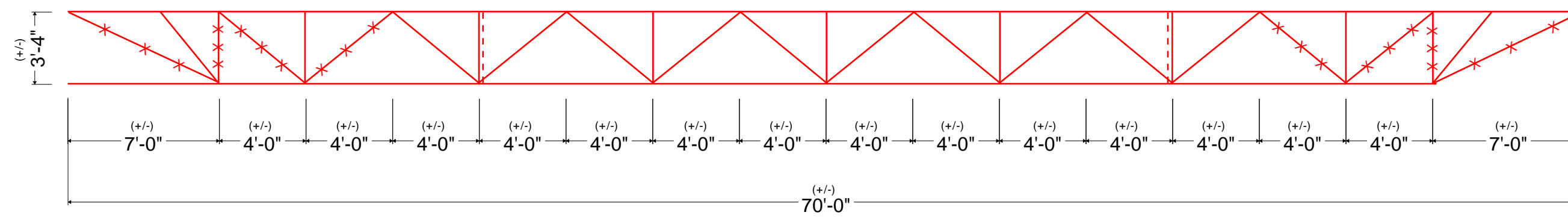
NOTE: LOCATE EXISTING STEEL W/ PACHOMETER PRIOR TO DRILLING. EXISTING REINF. STEEL NOT TO BE DAMAGED.



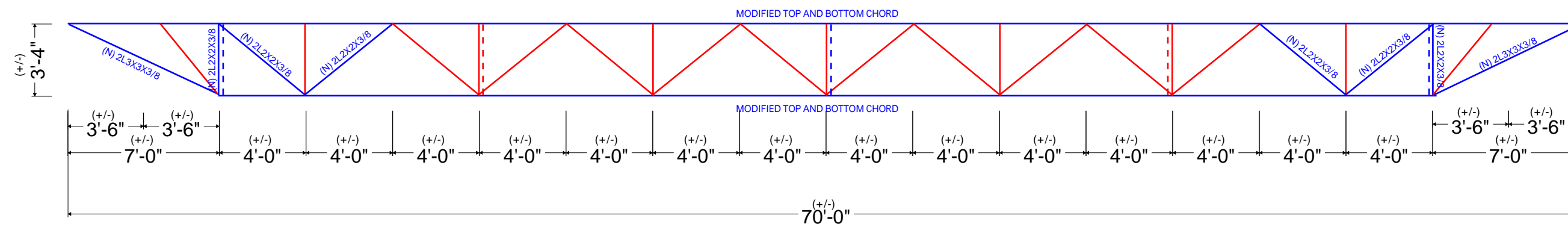
EXISTING COLUMNS AT NORTH SIDE OF THE COMPACTOR TIPPING AREA

SOURCE: 1991 NETS Improvements to Northeast Solid Waste Transfer Station S-2, S-22





EXISTING STEEL JOIST



MODIFIED STEEL JOIST

NOTE:
 1. ROOF METAL DECK SHALL BE GALVANIZED. A HIGH PERFORMANCE COATING/PAINT SHALL BE APPLIED FOR ALL EXISTING AND NEW STEEL ELEMENTS. SEE ARCHITECTURAL DRAWINGS FOR SPECIFICATION.
 2. ALL DIMENSIONS SHOWN ARE FIELD MEASURED, AND ARE APPROXIMATE. THE CONNECTION OF STEEL BRACINGS ARE INTENDED TO BE AT STEEL JOIST NODES.
 3. ALL STRUCTURAL STEEL MEMBER SIZES TO BE CONFIRMED BY THE STEEL CONTRACTOR AND SUBMITTED TO WSP PRIOR TO FABRICATION.
 4. CONTRACTOR SHALL PROVIDE TEMPORARY SHORING FOR STEEL JOIST PRIOR TO REMOVAL/REPLACEMENT OF ANY STEEL ELEMENTS PER STRUCTURAL DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR ENGINEERING AND CONTROLLED INSPECTION OF TEMPORARY SYSTEMS.
 5. CONTRACTOR TO PERFORM A VISUAL INSPECTION FOR CORROSION. ANY SECTION AREA LOSS OF MORE THAN 5% SHALL BE REPORTED TO WSP FOR FURTHER ANALYSIS.

PROCEDURE:
STEP 1: PERFORM OBSERVATION TO DETERMINE STEEL ELEMENT CORROSION DAMAGE. WIRE BRUSH THE CROSS SECTION, AND MEASURE THE REMAINING STEEL SECTION AREA. IF THE LOST SECTION AREA IS MORE THAN 5% OF THE TOTAL AREA, THEN THAT STEEL ELEMENT IS CONSIDERED AS COMPROMISED.

STEP 2: THE COMPROMISED STEEL ELEMENT SHALL BE REPORTED TO EOR FOR FURTHER REVIEW AND APPROVAL PRIOR TO PROCEEDING.

STEP 3: EOR TO ANALYZE THE STEEL JOIST CONSIDERING THE COMPROMISED STEEL ELEMENT.

- A. IF THE PERCENTAGE OF AREA LOSS IS LESS THAN 5%, NO MODIFICATION IS NEEDED.
- B. IF THE PERCENTAGE OF AREA LOSS IS MORE THAN 5% BUT LESS THAN 50%, SPLICE A NEW ELEMENT OF THE SAME SIZE AND SAME GRADE (ASTM A36) WITH 6" LONG 1/8" FILLET WELD ON BOTH ENDS BOTH LEG. SEE TYPICAL DETAIL BELOW FOR STEEL ANGLE SPLICE.
- C. IF THE PERCENTAGE OF AREA LOSS IS MORE THAN 50%:
 OPTION 1: THE ENTIRE COMPROMISED STEEL ELEMENT SHALL BE REPLACED WITH A NEW ELEMENT OF THE SAME SIZE AND SAME GRADE (ASTM A36).
 OPTION 2: THE COMPROMISED STEEL ELEMENT SHALL BE CUT AND PARTIALLY REMOVED, AND THEN SPLICED USING CJP WELD WITH A NEW ELEMENT OF THE SAME SIZE AND SAME GRADE (ASTM A36). SEE TYPICAL DETAIL BELOW FOR STEEL ANGLE CJP WELD.

ALL REPAIRS AND WELDING TO BE PERFORMED ON SITE AT CURRENT MEMBER LOCATION.

STEP 4: ANY DEVIATION FROM THE CURRENT PROCEDURE SHALL BE SUBMITTED TO EOR FOR REVIEW AND APPROVAL PRIOR TO PROCEEDING.

STEP 5: PAINT ALL EXISTING AND NEW STEEL MEMBER WITH THE PAINT SPECIFIED IN SPEC 09 9600 HIGH PERFORMANCE COATING, PART 3 SECTION B AND C.

LEGEND:

- (E) EXISTING ELEMENTS
- (N) NEW ELEMENTS
- (E) STEEL MEMBER OF JOIST
- (E) JOIST LATERAL BRACING
- (E) STEEL MEMBER OF JOIST TO BE REMOVED
- NEW STEEL MEMBER OF JOIST
- NEW JOIST LATERAL BRACING

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: 100% CONSTRUCTION DOCUMENTS

CLIENT: MIAMI-DADE COUNTY FLORIDA DEPARTMENT OF SOLID WASTE TREATMENT

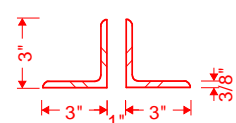
ARCHITECT: WSP

PROJECT: NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

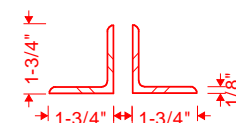
TITLE: COMPACTOR NORTH ROOF IMPROVEMENT - 3

SEAL

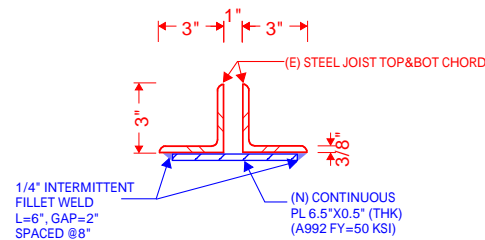
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DRAWN BY: WT	DATE: 11/10/2025
SCALE: N.T.S.	DRAWING No: S-008
PROJECT No: EDPPSA2024.2760	CAD FILE:
	SHEET 8 OF 20



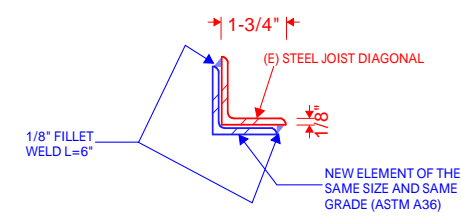
EXISTING TOP AND BOTTOM CHORD



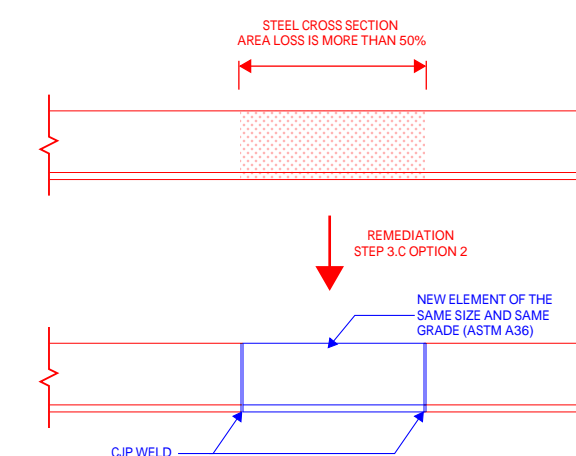
EXISTING DIAGONAL CHORD



MODIFIED TOP AND BOTTOM CHORD



STEEL ANGLE SPLICE TYP DETAIL



STEEL ANGLE CJP CONNECTION TYP DETAIL

KEYNOTES - DEMO

D1 REMOVE AND DISPOSE OF EXISTING FABRIC/NYLON ROOFING SYSTEM

DEMOLITION NOTES

1. DEMOLITION NOTES ARE FOR GUIDANCE ONLY AND ARE GENERAL IN NATURE. IT IS NOT THE INTENT TO POINT TO EACH AND EVERY ITEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL ELEMENTS OF EACH ITEM NOTED AND/OR SHOWN AS REQUIRED TO COMPLY WITH THE DESIGN INTENT IN ACCORDANCE WITH ALL CONTRACT DOCUMENTS-INCLUDING CONSTRUCTION DOCUMENTS.
2. ALL AREAS AFFECTED BY DEMOLITION OF EXISTING CONSTRUCTION TO BE PATCHED TO MATCH EXISTING CONSTRUCTION, AND/OR PROVIDE SUBSTRATE TO SUPPORT NEW FINISH. COORDINATE WITH NEW FINISHES TO BE APPLIED AT AREAS AFFECTED BY DEMOLITION WORK.
3. ALL EXISTING AREAS TO REMAIN THAT ARE ADJACENT TO CONSTRUCTION ACTIVITIES ARE TO BE FULLY PROTECTED FROM DAMAGE AND DEBRIS.

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: **NOT FOR CONSTRUCTION**

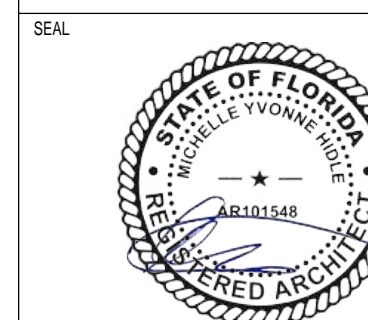


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
 2525 SW 62nd STREET, 5th FLOOR
 MIAMI, FL 33147

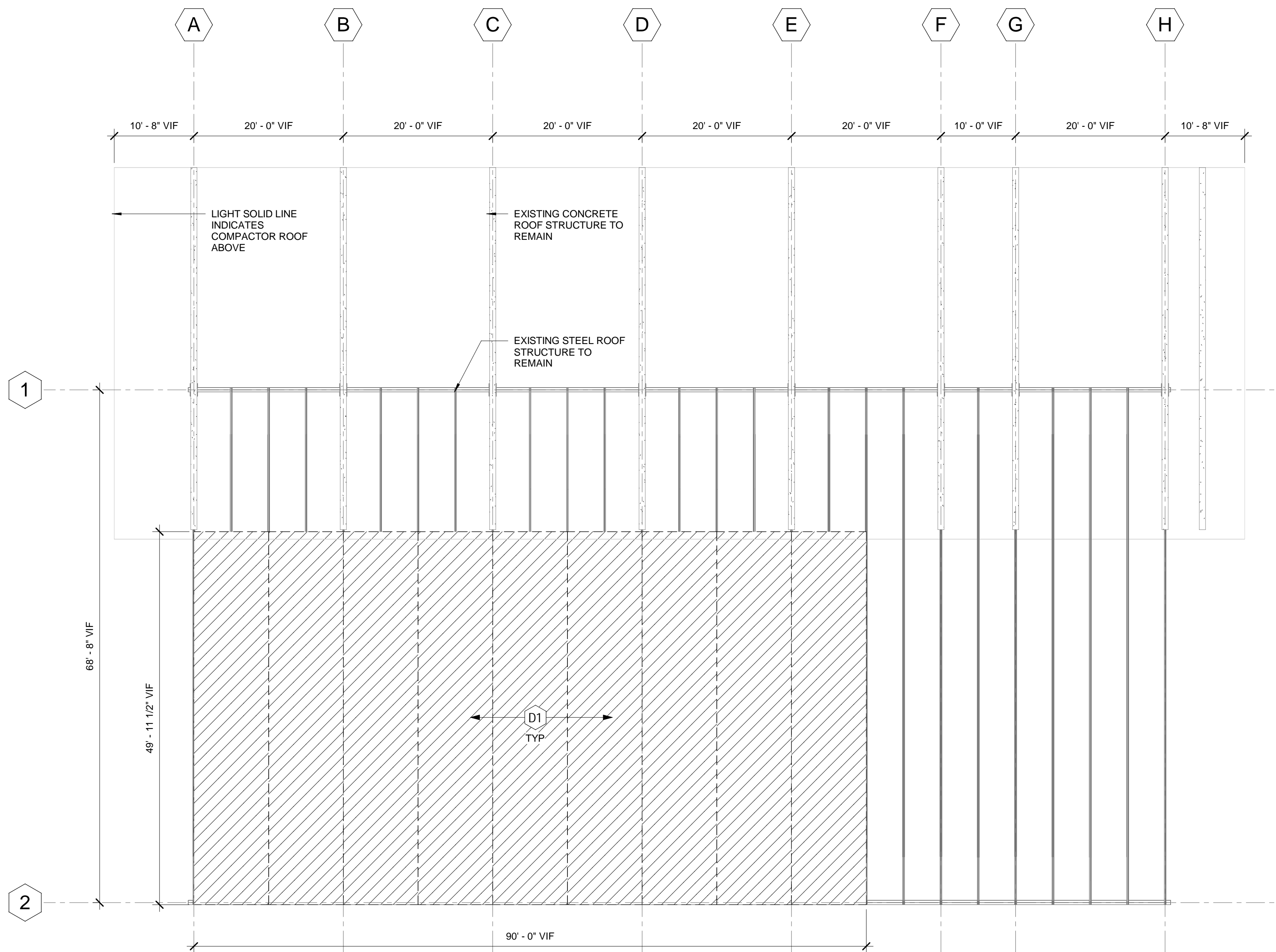
DESIGN ARCHITECT:
WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
ROOF PLAN - DEMOLITION

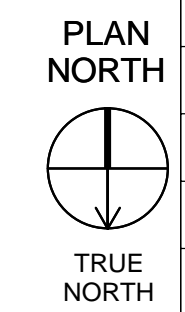
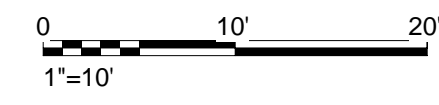


DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: AD101
PROJECT No: US-EI-EDPPSA2024.2760	CAD FILE: AD101.dwg
SHEET: 11 OF 20	



1 ROOF PLAN - DEMOLITION
 REF: A-300

SCALE: 1" = 10'-0"



EXTERIOR PAINT SCHEDULE

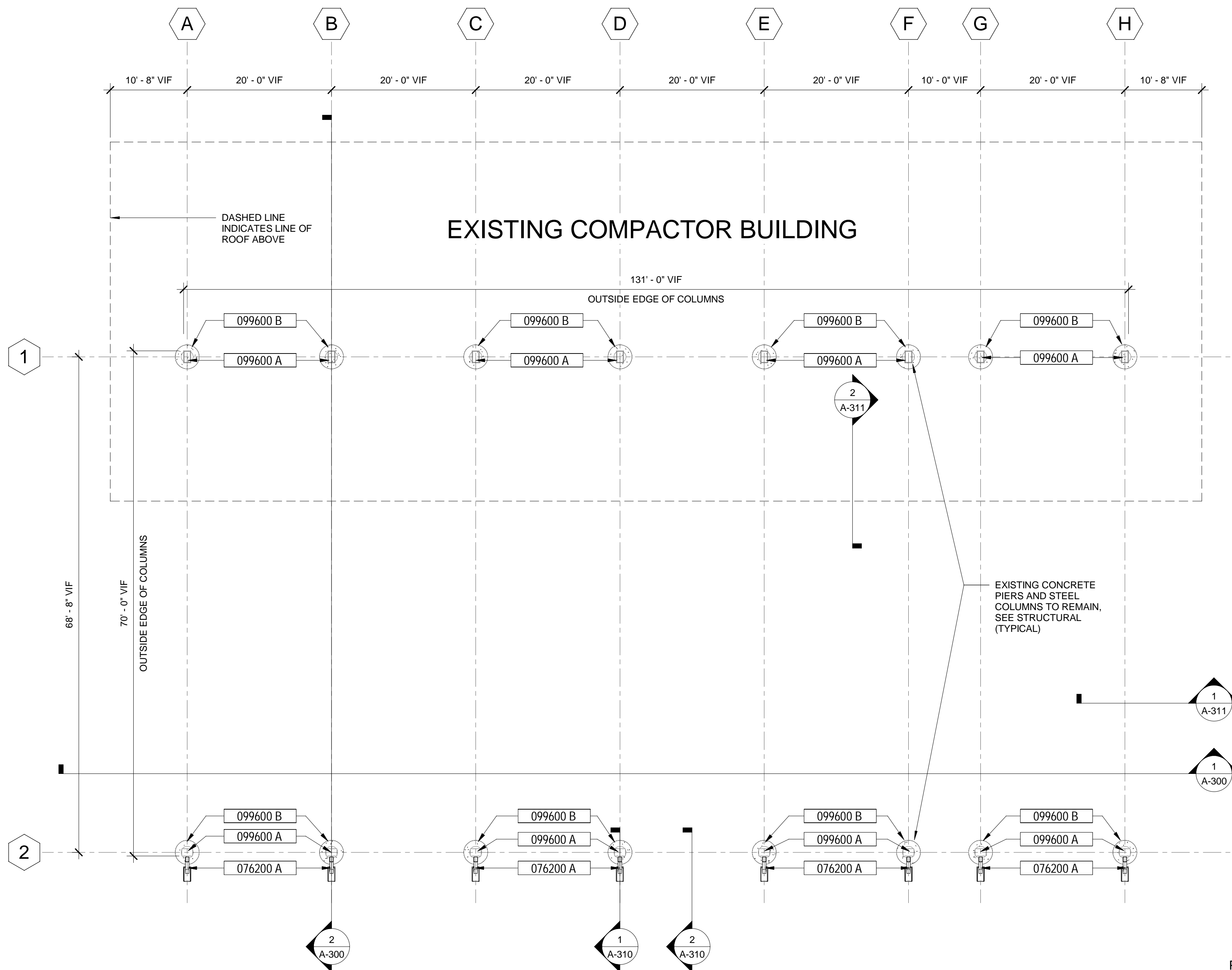
MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLOIN 218 HS	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C

KEYNOTES

- 076200 A METAL DOWNSPOUT, SEE SPECIFICATIONS FOR GAUGE, COLOR, AND FINISH. DISCHARGE ONTO CONCRETE SPLASH BLOCK
- 099600 A PAINT EXISTING STEEL COLUMN WITH HIGH PERFORMANCE COATING (PT-2), SEE SPECIFICATIONS
- 099600 B PAINT EXISTING CONCRETE PIER WITH HIGH PERFORMANCE COATING (PT-1), SEE SPECIFICATIONS

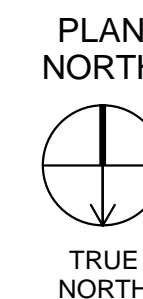
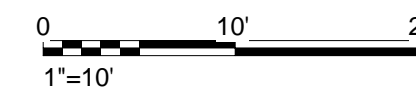
PLAN & BUILDING SECTION NOTES

1. EXISTING STRUCTURE IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO REFER TO EXISTING STRUCTURAL DRAWINGS AND VERIFY ALL DIMENSIONS IN FIELD.
2. EXISTING COMPACTOR BUILDING IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO VERIFY CONDITIONS IN FIELD.



1 GROUND FLOOR PLAN
REF: A-300

SCALE: 1" = 10'-0"



REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: **NOT FOR CONSTRUCTION**

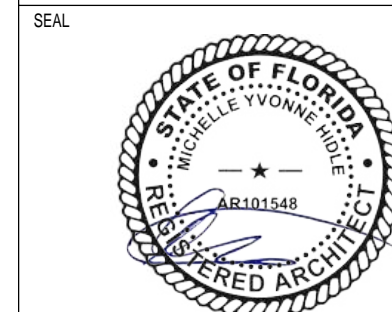


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
2525 SW 62nd STREET, 5th FLOOR
MIAMI, FL 33147

DESIGN ARCHITECT:
WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
GROUND FLOOR PLAN



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-101
PROJECT No: US-EI-EDPPSA2024.2760	SHEET: 12 OF 20
CAD FILE: A-101.dwg	

KEYNOTES

076200 B METAL GUTTER, SEE SPECIFICATIONS FOR GAUGE, COLOR, AND FINISH

PLAN & BUILDING SECTION NOTES

- EXISTING STRUCTURE IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO REFER TO EXISTING STRUCTURAL DRAWINGS AND VERIFY ALL DIMENSIONS IN FIELD.
- EXISTING COMPACTOR BUILDING IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO VERIFY CONDITIONS IN FIELD.

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: NOT FOR CONSTRUCTION

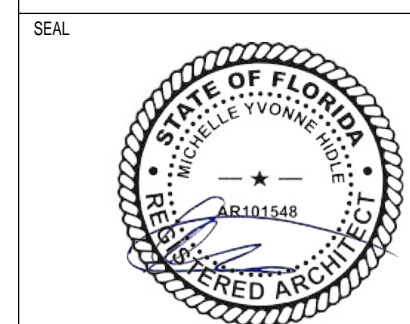


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
 2525 SW 62nd STREET, 5th FLOOR
 MIAMI, FL 33147

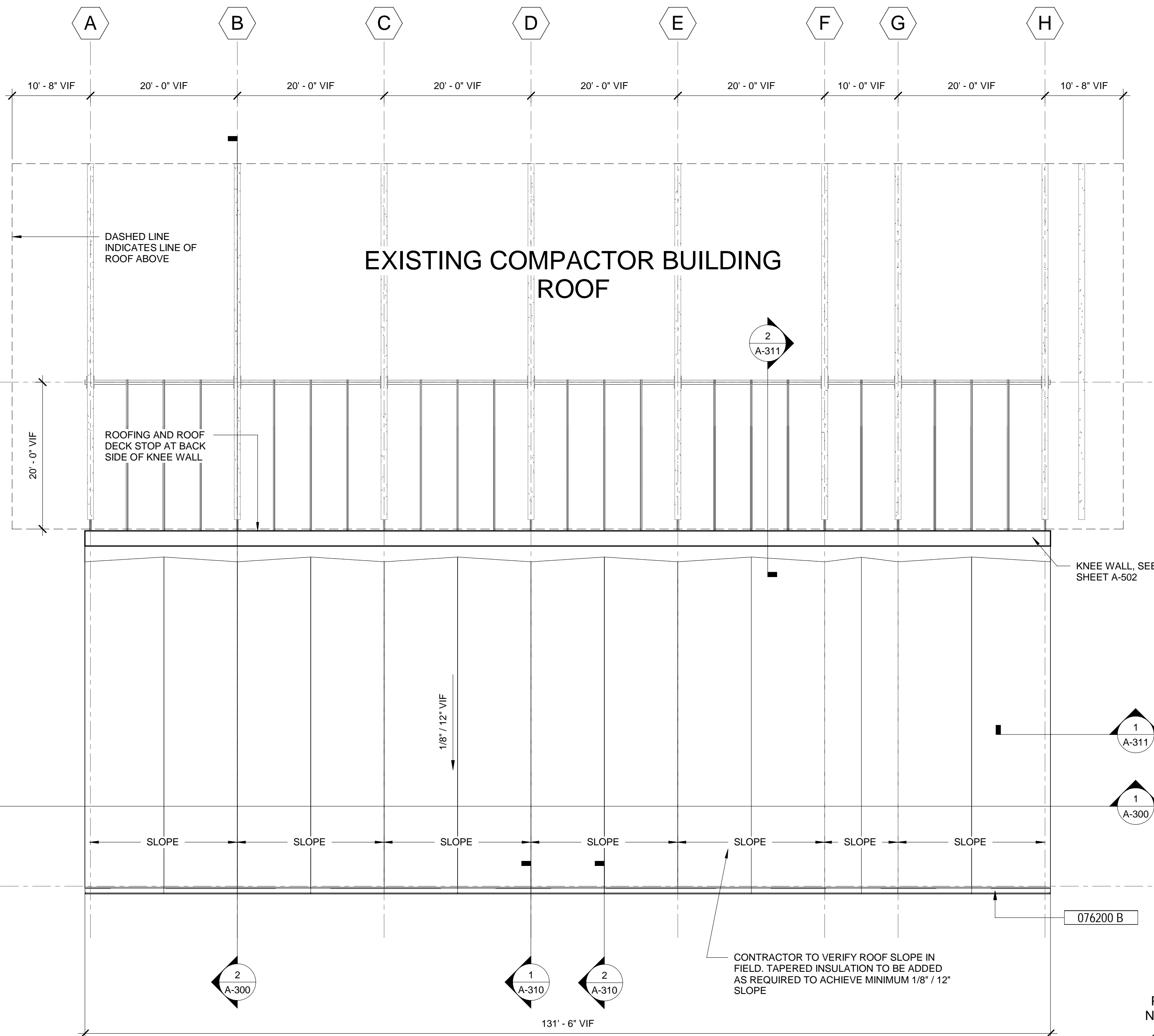
DESIGN ARCHITECT:
 WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
ROOF PLAN



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-102
PROJECT No: US-EI-EDPPSA2024.2760	SHEET: 13 OF 20
CAD FILE: A-102.dwg	



1 ROOF PLAN
 REF: A-300

SCALE: 1" = 10'-0"

EXTERIOR PAINT SCHEDULE

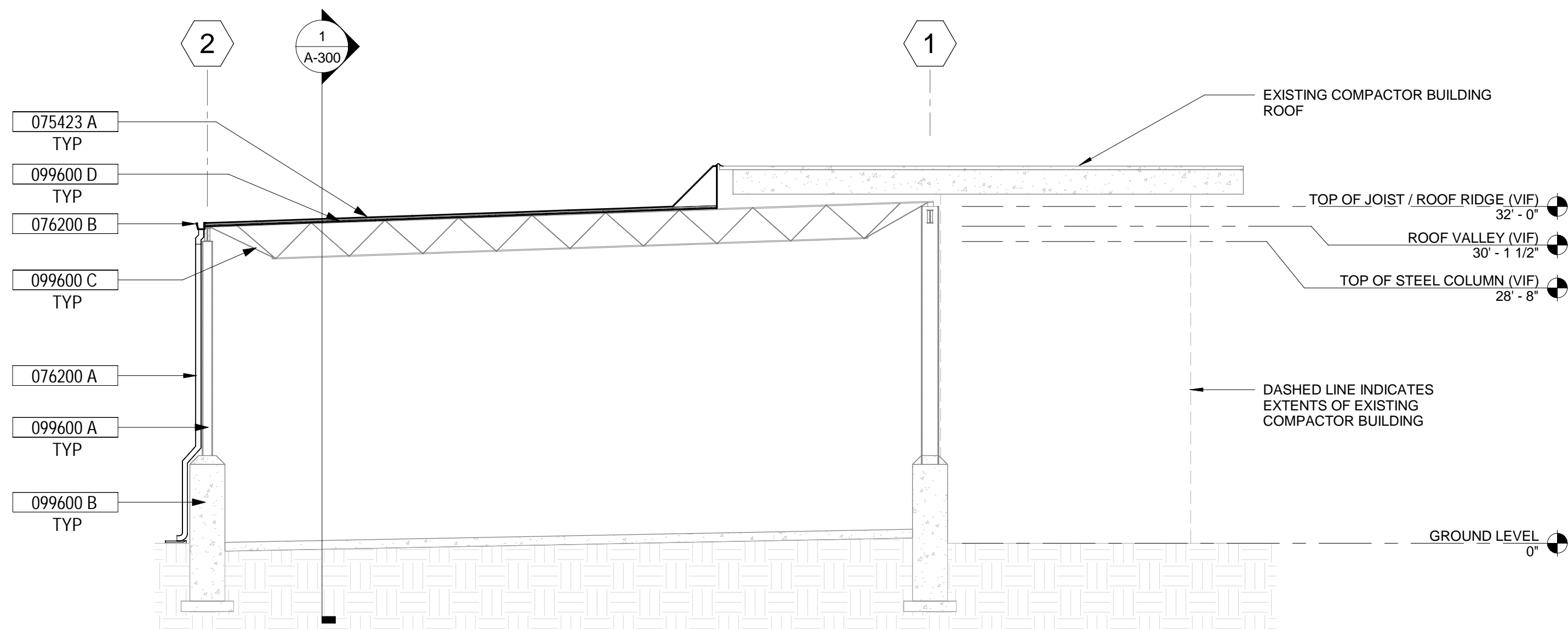
MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLOIN 218 HS	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C

KEYNOTES

075423 A	WHITE 80 MIL TPO ROOFING. SEE SPECIFICATIONS
076200 A	METAL DOWNSPOUT, SEE SPECIFICATIONS FOR GAUGE, COLOR, AND FINISH. DISCHARGE ONTO CONCRETE SPLASH BLOCK
076200 B	METAL GUTTER, SEE SPECIFICATIONS FOR GAUGE, COLOR, AND FINISH
099600 A	PAINT EXISTING STEEL COLUMN WITH HIGH PERFORMANCE COATING (PT-2), SEE SPECIFICATIONS
099600 B	PAINT EXISTING CONCRETE PIER WITH HIGH PERFORMANCE COATING (PT-1), SEE SPECIFICATIONS
099600 C	PAINT EXISTING STEEL JOIST WITH HIGH PERFORMANCE COATING (PT-2), SEE SPECIFICATIONS
099600 D	PAINT STEEL ROOF DECK WITH HIGH PERFORMANCE COATING (PT-3), SEE SPECIFICATIONS

PLAN & BUILDING SECTION NOTES

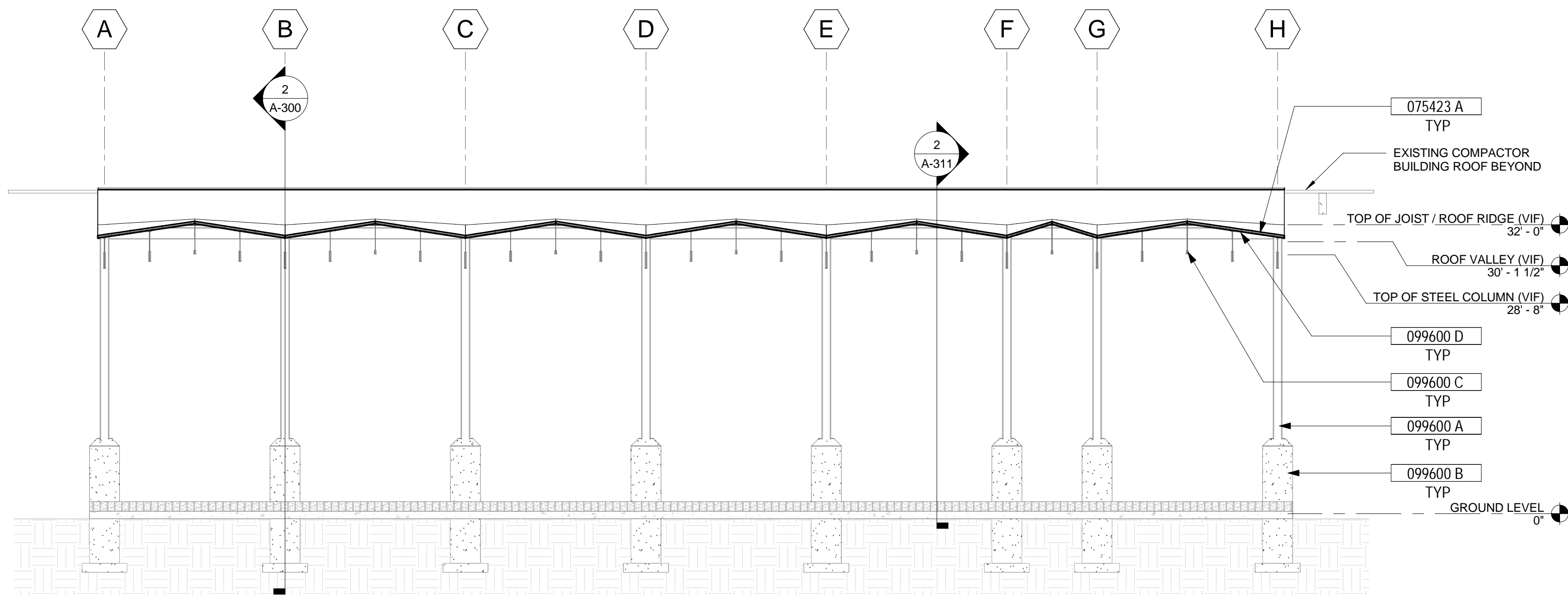
- EXISTING STRUCTURE IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO REFER TO EXISTING STRUCTURAL DRAWINGS AND VERIFY ALL DIMENSIONS IN FIELD.
- EXISTING COMPACTOR BUILDING IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO VERIFY CONDITIONS IN FIELD.



2 BUILDING SECTION - TRANSVERSE

REF: A-101

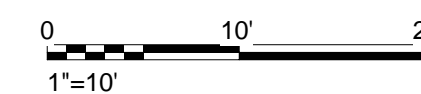
SCALE: 1" = 10'-0"



1 BUILDING SECTION - LONGITUDINAL

REF: A-101

SCALE: 1" = 10'-0"

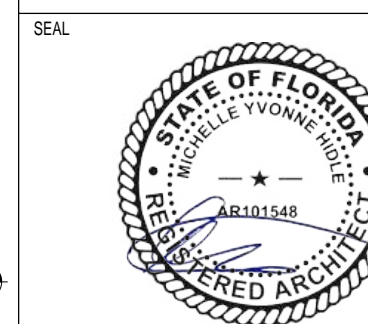


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
2525 SW 62nd STREET, 5th FLOOR
MIAMI, FL 33147

DESIGN ARCHITECT:
WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION
FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
BUILDING SECTIONS



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-300
PROJECT No: US-EI-EDPPSA2024.2760	
CAD FILE: A-300.dwg	SHEET: 14 OF 20

EXTERIOR PAINT SCHEDULE

MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLOIN 218 HS	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C

WALL SECTION & DETAIL NOTES

- EXISTING STRUCTURE IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO REFER TO EXISTING STRUCTURAL DRAWINGS AND VERIFY ALL DIMENSIONS IN FIELD.
- EXISTING COMPACTOR BUILDING IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO VERIFY CONDITIONS IN FIELD.
- GUTTERS, DOWNSPOUTS, AND GRAVEL STOP ARE DELEGATED DESIGN, SEE SPECIFICATIONS.

GUTTER & DOWNSPOUT SIZING

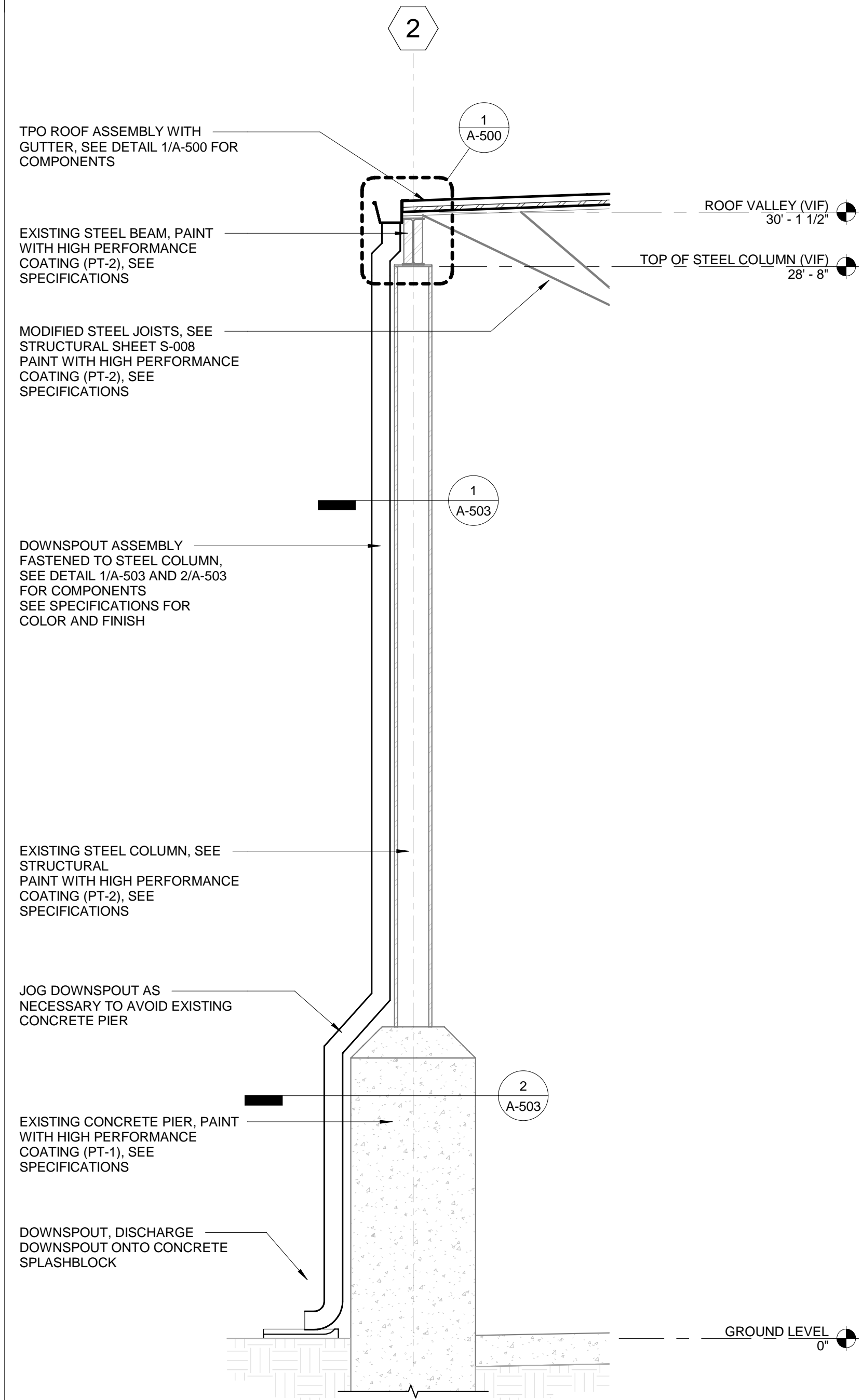
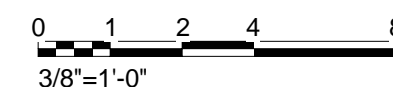
RAINFALL INTENSITY (IN/HR): 9.8
 BASED ON RAINFALL AVERAGES IN MIAMI, FLORIDA (100 YEARS)

ROOF RAINFALL DESIGN AREA
 TIPPING ROOF: ~6,170 SQ FT
 COMPACTOR ROOF: ~7,540 SQ FT

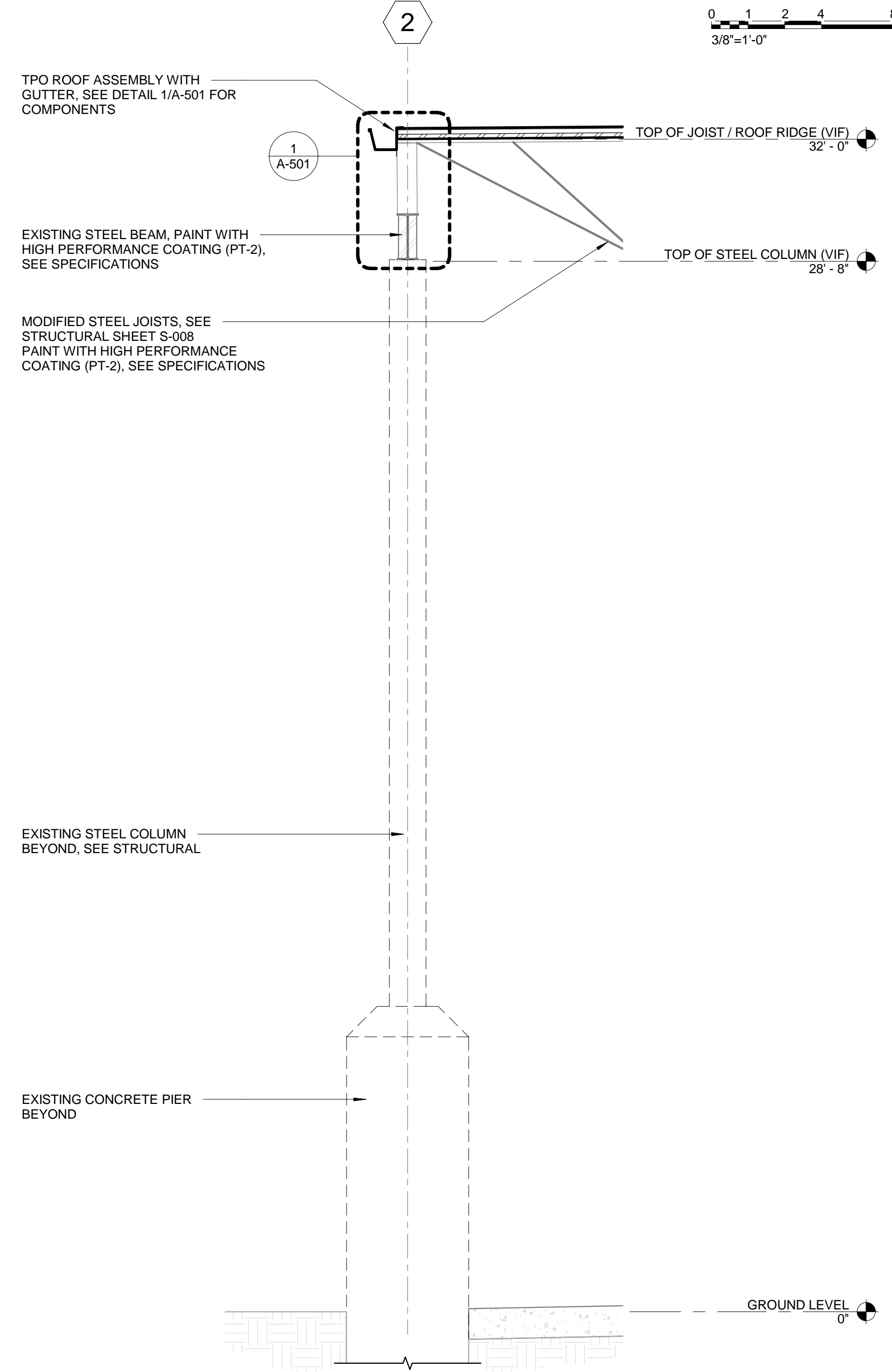
DOWNSPOUT COUNT: 8
 GUTTER LENGTH: ~132 FEET
 GUTTER LENGTH SERVING SINGLE DOWNSPOUT: VARIES (10 - 20 FEET)

MINIMUM GUTTER WIDTH: 7 INCHES
 MINIMUM GUTTER DEPTH: 5.5 INCHES
 ASSUMING LEVEL RECTANGULAR GUTTER WITH RATIO OF 0.75

MINIMUM AREA PER DOWNSPOUT: ~14.27 SQ IN
 MINIMUM DOWNSPOUT SIZE: 5 INCHES
 ASSUMING ROUND DOWNSPOUT



1 WALL SECTION - TYPICAL @ DOWNSPOUT (ROOF LOW POINT)
 REF: A-101 SCALE: 3/8" = 1'-0"



2 WALL SECTION - TYPICAL @ RIDGE (ROOF HIGH POINT)
 REF: A-101 SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: **NOT FOR CONSTRUCTION**

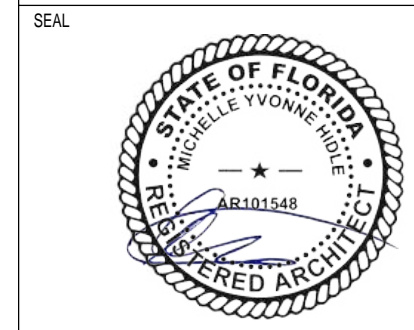


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
 2525 SW 62nd STREET, 5th FLOOR
 MIAMI, FL 33147

DESIGN ARCHITECT:
WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
WALL SECTIONS



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-310
PROJECT No: US-EI-EDPPSA2024.2760	SHEET: 15 OF 20
CAD FILE: A-310.dwg	

EXTERIOR PAINT SCHEDULE

MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLOIN 218 HS	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C

WALL SECTION & DETAIL NOTES

- EXISTING STRUCTURE IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO REFER TO EXISTING STRUCTURAL DRAWINGS AND VERIFY ALL DIMENSIONS IN FIELD.
- EXISTING COMPACTOR BUILDING IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO VERIFY CONDITIONS IN FIELD.
- GUTTERS, DOWNSPOUTS, AND GRAVEL STOP ARE DELEGATED DESIGN, SEE SPECIFICATIONS.

GUTTER & DOWNSPOUT SIZING

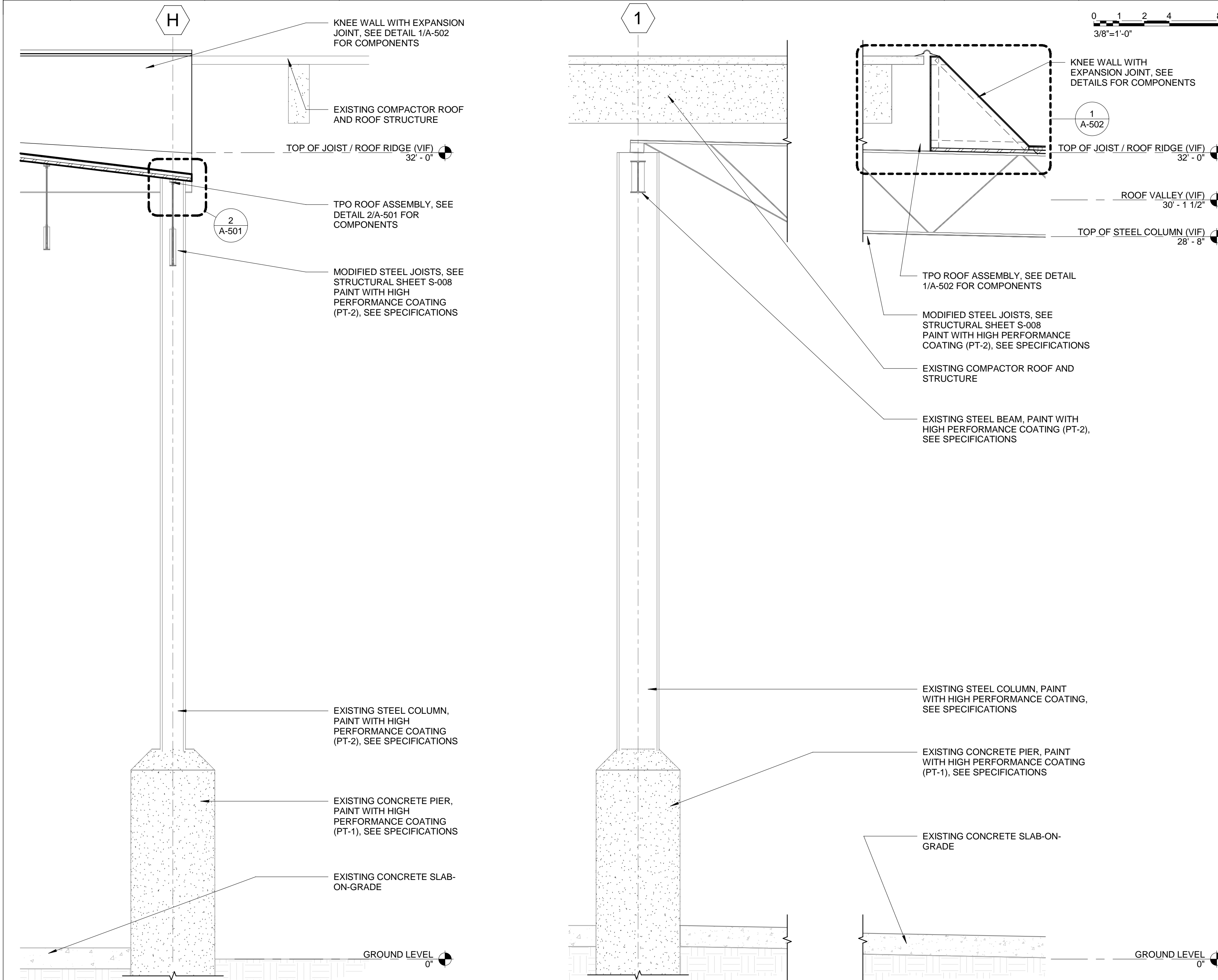
RAINFALL INTENSITY (IN/HR): 9.8
 BASED ON RAINFALL AVERAGES IN MIAMI, FLORIDA (100 YEARS)

ROOF RAINFALL DESIGN AREA
 TIPPING ROOF: ~6,170 SQ FT
 COMPACTOR ROOF: ~7,540 SQ FT

DOWNSPOUT COUNT: 8
 GUTTER LENGTH: ~132 FEET
 GUTTER LENGTH SERVING SINGLE DOWNSPOUT: VARIES (10 - 20 FEET)

MINIMUM GUTTER WIDTH: 7 INCHES
 MINIMUM GUTTER DEPTH: 5.5 INCHES
 ASSUMING LEVEL RECTANGULAR GUTTER WITH RATIO OF 0.75

MINIMUM AREA PER DOWNSPOUT: ~14.27 SQ IN
 MINIMUM DOWNSPOUT SIZE: 5 INCHES
 ASSUMING ROUND DOWNSPOUT



1 WALL SECTION - TYPICAL @ SIDE EAVE
 REF: A-101 SCALE: 3/8" = 1'-0"

2 WALL SECTION - TYPICAL @ ROOF JOINT
 REF: A-101 SCALE: 3/8" = 1'-0"

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: **NOT FOR CONSTRUCTION**

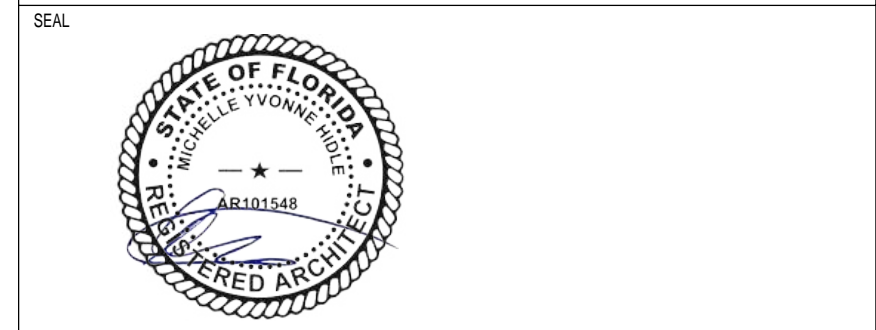


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
 2525 SW 62nd STREET, 5th FLOOR
 MIAMI, FL 33147

DESIGN ARCHITECT:
WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
WALL SECTIONS



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-311
PROJECT No: US-EI-EDPPSA2024.2760	SHEET: 16 OF 20
CAD FILE: A-311.dwg	

EXTERIOR PAINT SCHEDULE

MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLON 218 HS	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C



WALL SECTION & DETAIL NOTES

- EXISTING STRUCTURE IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO REFER TO EXISTING STRUCTURAL DRAWINGS AND VERIFY ALL DIMENSIONS IN FIELD.
- EXISTING COMPACTOR BUILDING IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO VERIFY CONDITIONS IN FIELD.
- GUTTERS, DOWNSPOUTS, AND GRAVEL STOP ARE DELEGATED DESIGN, SEE SPECIFICATIONS.

GUTTER & DOWNSPOUT SIZING

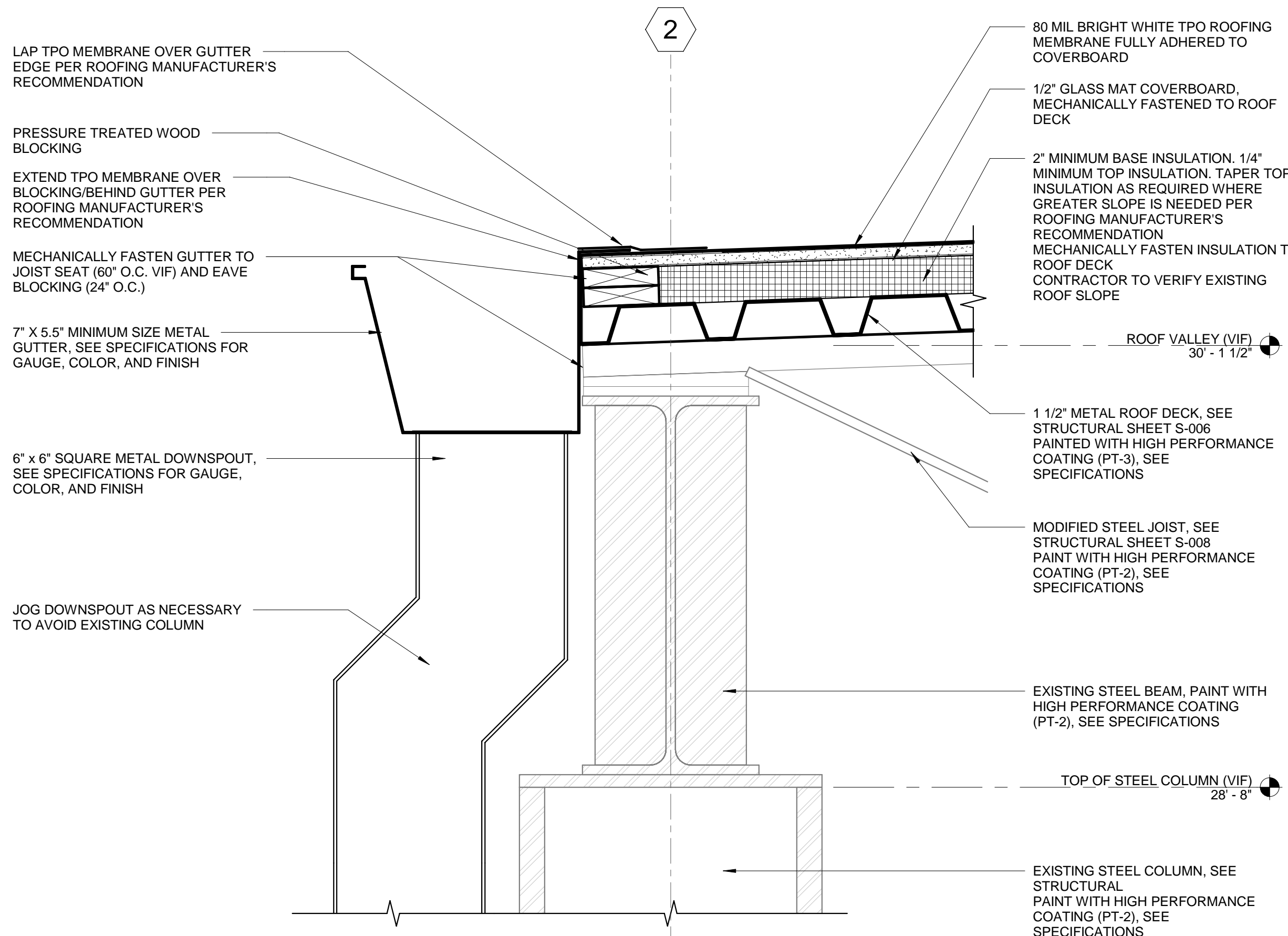
RAINFALL INTENSITY (IN/HR): 9.8
 BASED ON RAINFALL AVERAGES IN MIAMI, FLORIDA (100 YEARS)

ROOF RAINFALL DESIGN AREA
 TIPPING ROOF: ~6,170 SQ FT
 COMPACTOR ROOF: ~7,540 SQ FT

DOWNSPOUT COUNT: 8
 GUTTER LENGTH: ~132 FEET
 GUTTER LENGTH SERVING SINGLE DOWNSPOUT: VARIES (10 - 20 FEET)

MINIMUM GUTTER WIDTH: 7 INCHES
 MINIMUM GUTTER DEPTH: 5.5 INCHES
 ASSUMING LEVEL RECTANGULAR GUTTER WITH RATIO OF 0.75

MINIMUM AREA PER DOWNSPOUT: ~14.27 SQ IN
 MINIMUM DOWNSPOUT SIZE: 5 INCHES
 ASSUMING ROUND DOWNSPOUT



1 ROOF DETAIL - GUTTER AND DOWNSPOUT
 REF: A-310 SCALE: 3" = 1'-0"

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: **NOT FOR CONSTRUCTION**

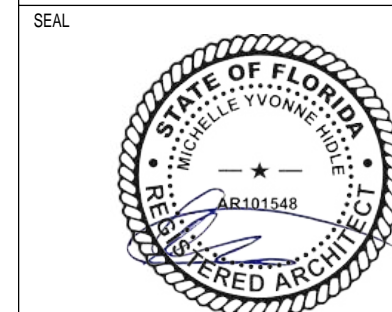


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
 2525 SW 62nd STREET, 5th FLOOR
 MIAMI, FL 33147

DESIGN ARCHITECT:
WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
ROOF DETAILS



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-500
PROJECT No: US-EI-EDPPSA2024.2760	SHEET: 17 OF 20
CAD FILE: A-500.dwg	

EXTERIOR PAINT SCHEDULE

MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLON 218 HS	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C

WALL SECTION & DETAIL NOTES

- EXISTING STRUCTURE IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO REFER TO EXISTING STRUCTURAL DRAWINGS AND VERIFY ALL DIMENSIONS IN FIELD.
- EXISTING COMPACTOR BUILDING IS SHOWN FOR GRAPHIC REFERENCE ONLY. CONTRACTOR TO VERIFY CONDITIONS IN FIELD.
- GUTTERS, DOWNSPOUTS, AND GRAVEL STOP ARE DELEGATED DESIGN, SEE SPECIFICATIONS.

GUTTER & DOWNSPOUT SIZING

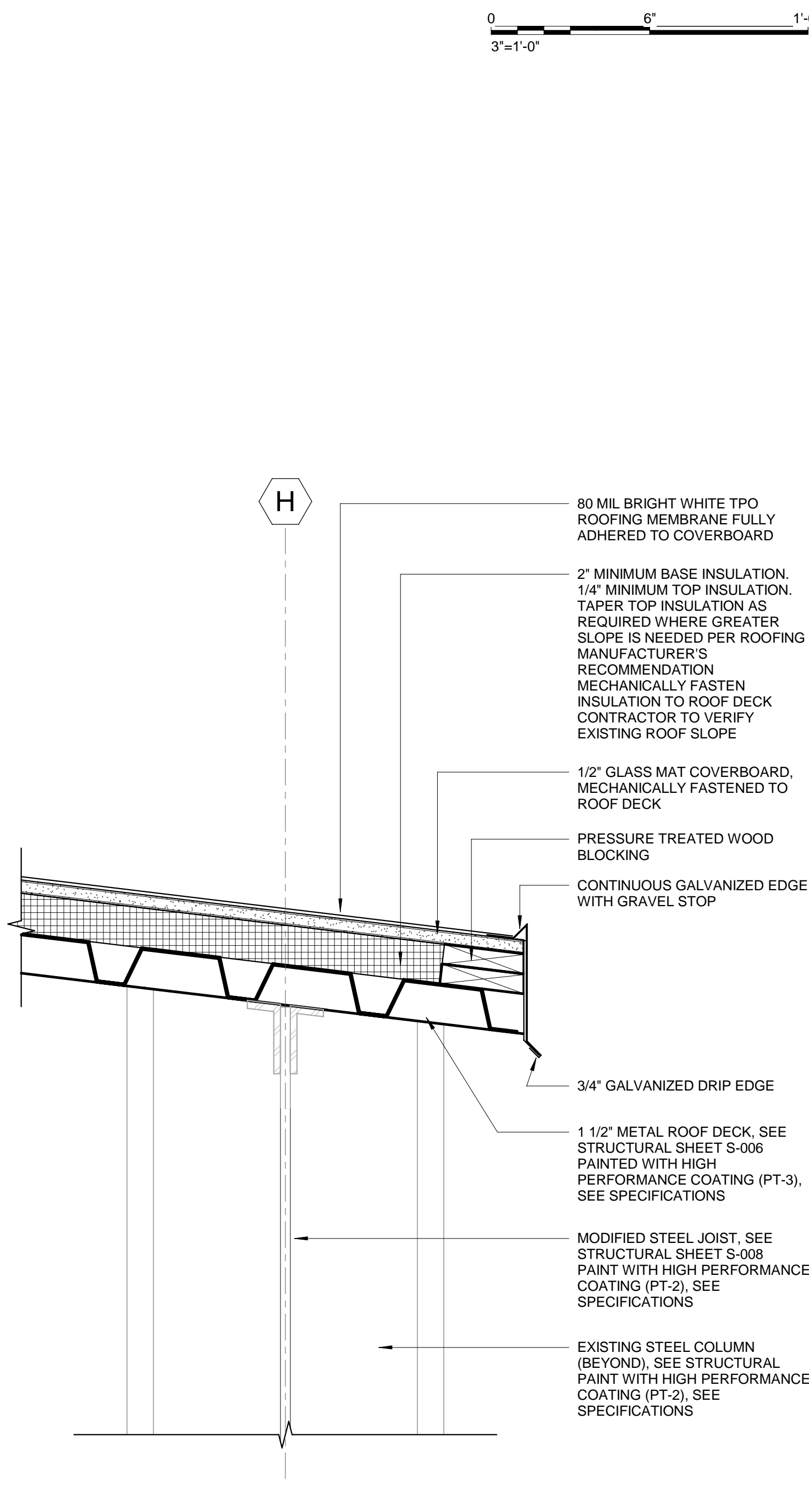
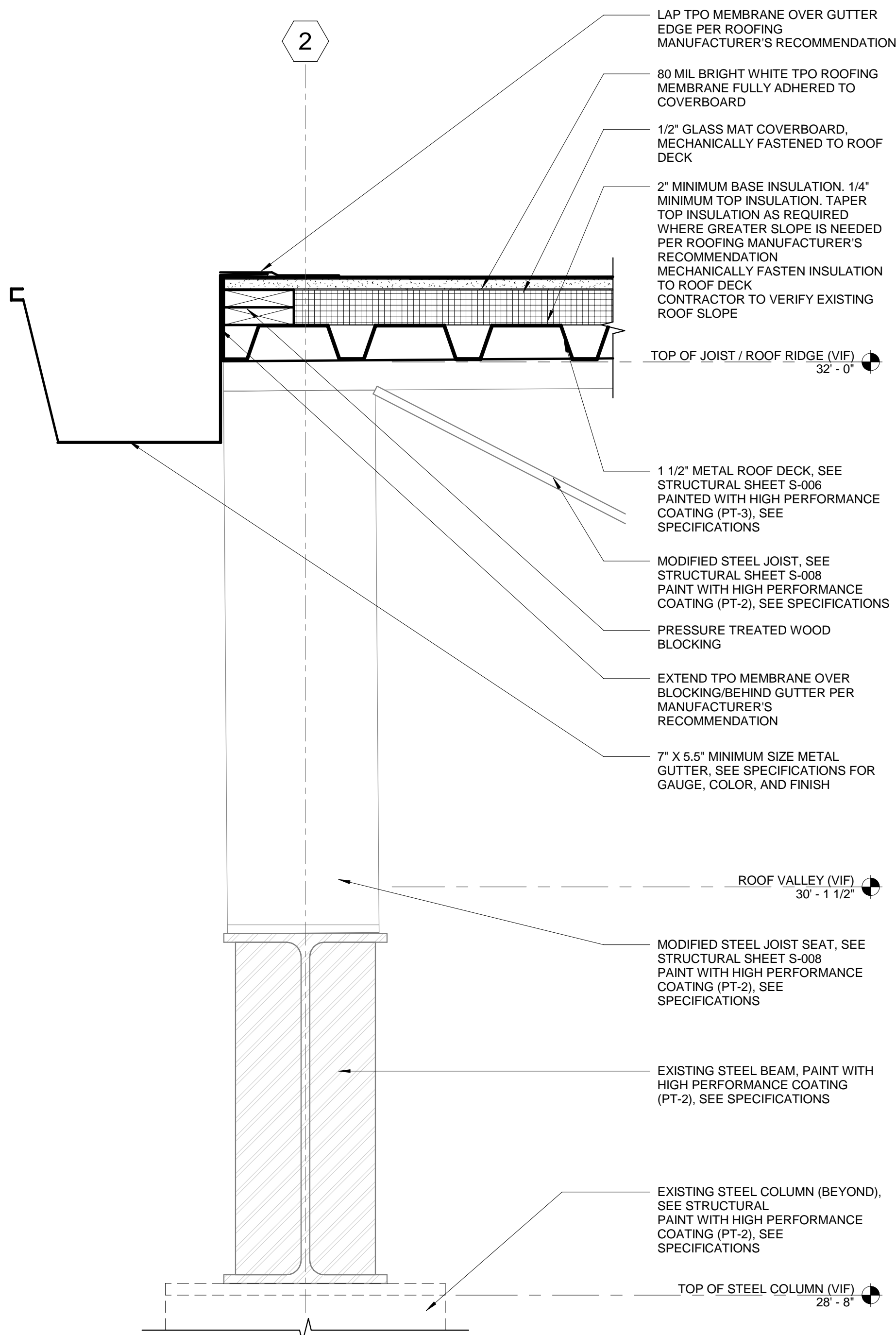
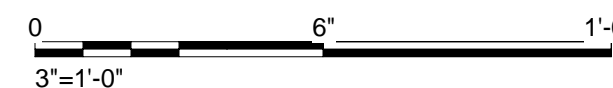
RAINFALL INTENSITY (IN/HR): 9.8
 BASED ON RAINFALL AVERAGES IN MIAMI, FLORIDA (100 YEARS)

ROOF RAINFALL DESIGN AREA
 TIPPING ROOF: ~6,170 SQ FT
 COMPACTOR ROOF: ~7,540 SQ FT

DOWNSPOUT COUNT: 8
 GUTTER LENGTH: ~132 FEET
 GUTTER LENGTH SERVING SINGLE DOWNSPOUT: VARIES (10 - 20 FEET)

MINIMUM GUTTER WIDTH: 7 INCHES
 MINIMUM GUTTER DEPTH: 5.5 INCHES
 ASSUMING LEVEL RECTANGULAR GUTTER WITH RATIO OF 0.75

MINIMUM AREA PER DOWNSPOUT: ~14.27 SQ IN
 MINIMUM DOWNSPOUT SIZE: 5 INCHES
 ASSUMING ROUND DOWNSPOUT



1 ROOF DETAIL - ROOF HIGH POINT
 REF: A-310 SCALE: 3" = 1'-0"

2 ROOF DETAIL - EAVE WITH GRAVEL STOP
 REF: A-311 SCALE: 3" = 1'-0"

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: **NOT FOR CONSTRUCTION**

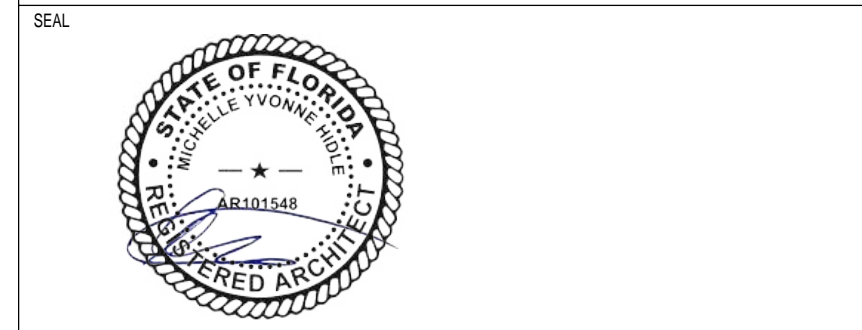


CLIENT:
MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
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 MIAMI, FL 33147

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PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
ROOF DETAILS



DESIGN BY: MYH CHECKED BY: MYH

DRAWN BY: MYH DATE: 11/10/2025

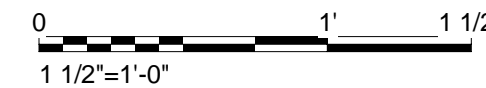
SCALE: As indicated DRAWING No: A-501

PROJECT No: US-EI-EDPPSA2024.2760

CAD FILE: A-501.dwg SHEET: 18 OF 20

EXTERIOR PAINT SCHEDULE

MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLON 218 HS	PROTECTIVE AND MARINE ACROLON 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C



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GUTTER & DOWNSPOUT SIZING

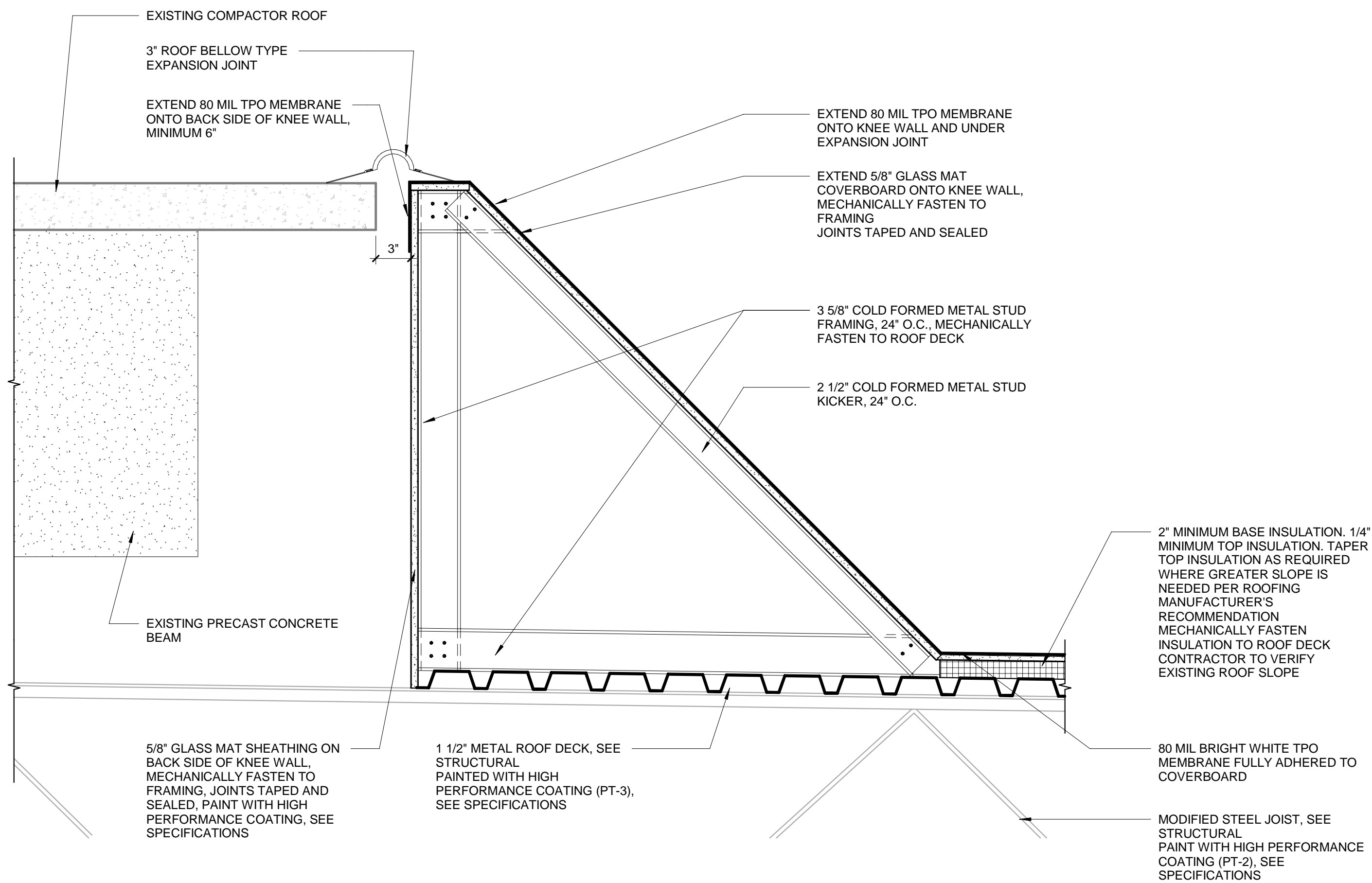
RAINFALL INTENSITY (IN/HR): 9.8
 BASED ON RAINFALL AVERAGES IN MIAMI, FLORIDA (100 YEARS)

ROOF RAINFALL DESIGN AREA
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MINIMUM AREA PER DOWNSPOUT: ~14.27 SQ IN
 MINIMUM DOWNSPOUT SIZE: 5 INCHES
 ASSUMING ROUND DOWNSPOUT



REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: **NOT FOR CONSTRUCTION**

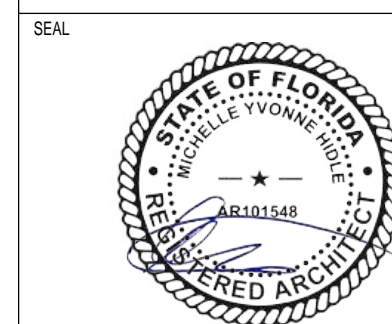


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MIAMI-DADE COUNTY DEPARTMENT OF SOLID WASTE MANAGEMENT
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 MIAMI, FL 33147

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WSP USA INC.

PROJECT:
NORTHEAST TRANSFER STATION FACILITY IMPROVEMENTS 2022 - PHASE 2

TITLE:
ROOF DETAILS



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-502
PROJECT No: US-EI-EDPPSA2024.2760	SHEET: 19 OF 20
CAD FILE: A-502.dwg	

ROOF DETAIL - ROOF JOINT @ COMPACTOR ROOF

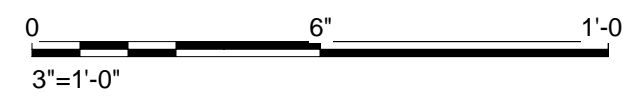
1

REF: A-311

SCALE: 1 1/2" = 1'-0"

EXTERIOR PAINT SCHEDULE

MARK	LOCATION	MANUFACTURER (BASIS OF DESIGN)	PRIME COAT (BASIS OF DESIGN)	INTERMEDIATE COAT (BASIS OF DESIGN)	TOP COAT (BASIS OF DESIGN)	COLOR	SPECIFICATION
PT-1	CONCRETE COLUMNS	SHERWIN-WILLIAMS	HIGH PERFORMANCE EPOXY B67-200	HIGH PERFORMANCE EPOXY B67-200	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION A
PT-2	STEEL JOISTS; STEEL COLUMNS	SHERWIN-WILLIAMS	PROTECTIVE AND MARINE DURA-PLATE 235 MP EPOXY B67W235	PROTECTIVE AND MARINE MACROPOXY 646	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH EXISTING	099600, SECTION 3.6, SUBSECTION B
PT-3	STEEL ROOF DECK	SHERWIN-WILLIAMS	DURA-PLATE 235 MULTI-PURPOSE EPOXY B67W235	PROTECTIVE AND MARINE ACROLOIN 218 HS	PROTECTIVE AND MARINE ACROLOIN 218 HS	MATCH STEEL JOISTS	099600, SECTION 3.6, SUBSECTION C



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GUTTER & DOWNSPOUT SIZING

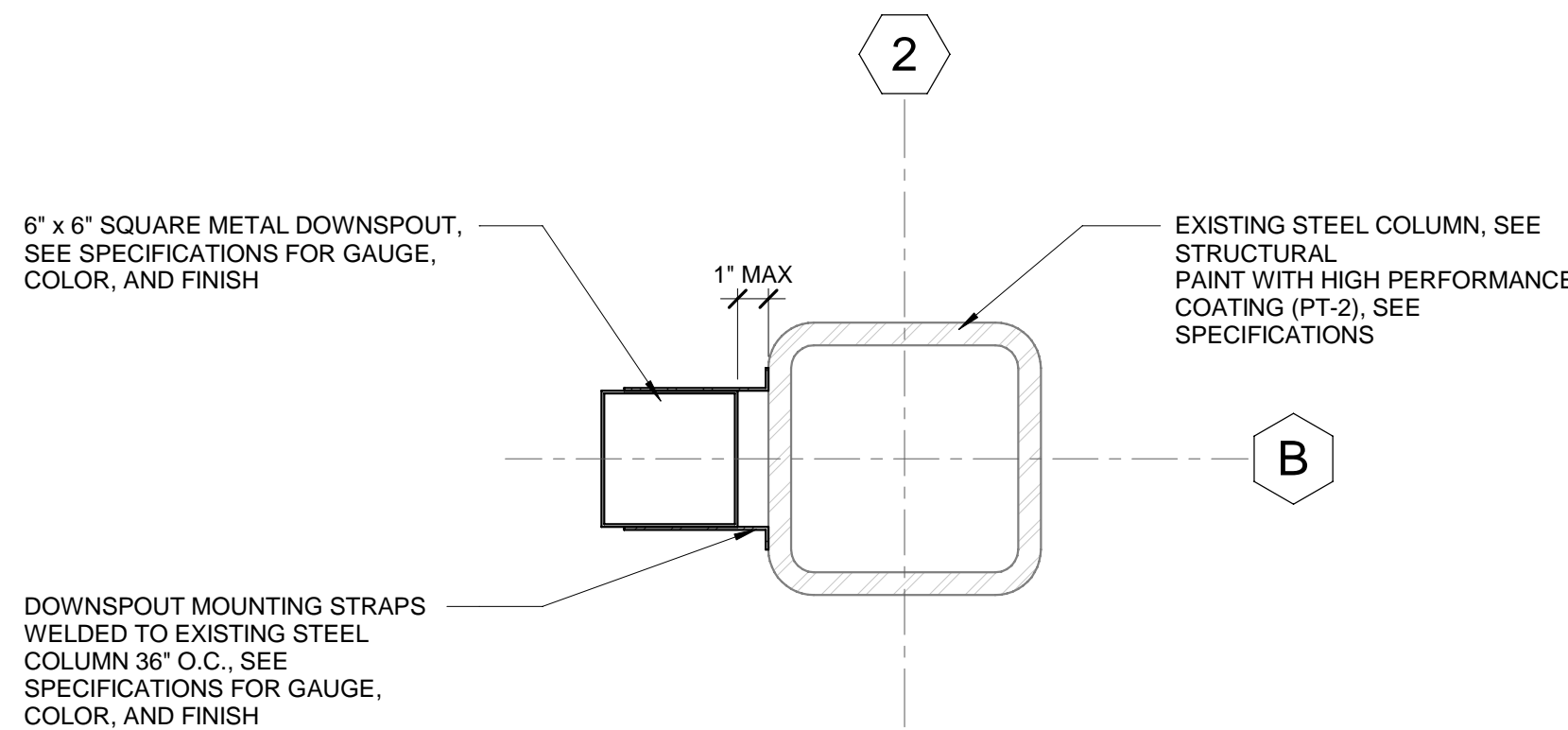
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ROOF RAINFALL DESIGN AREA
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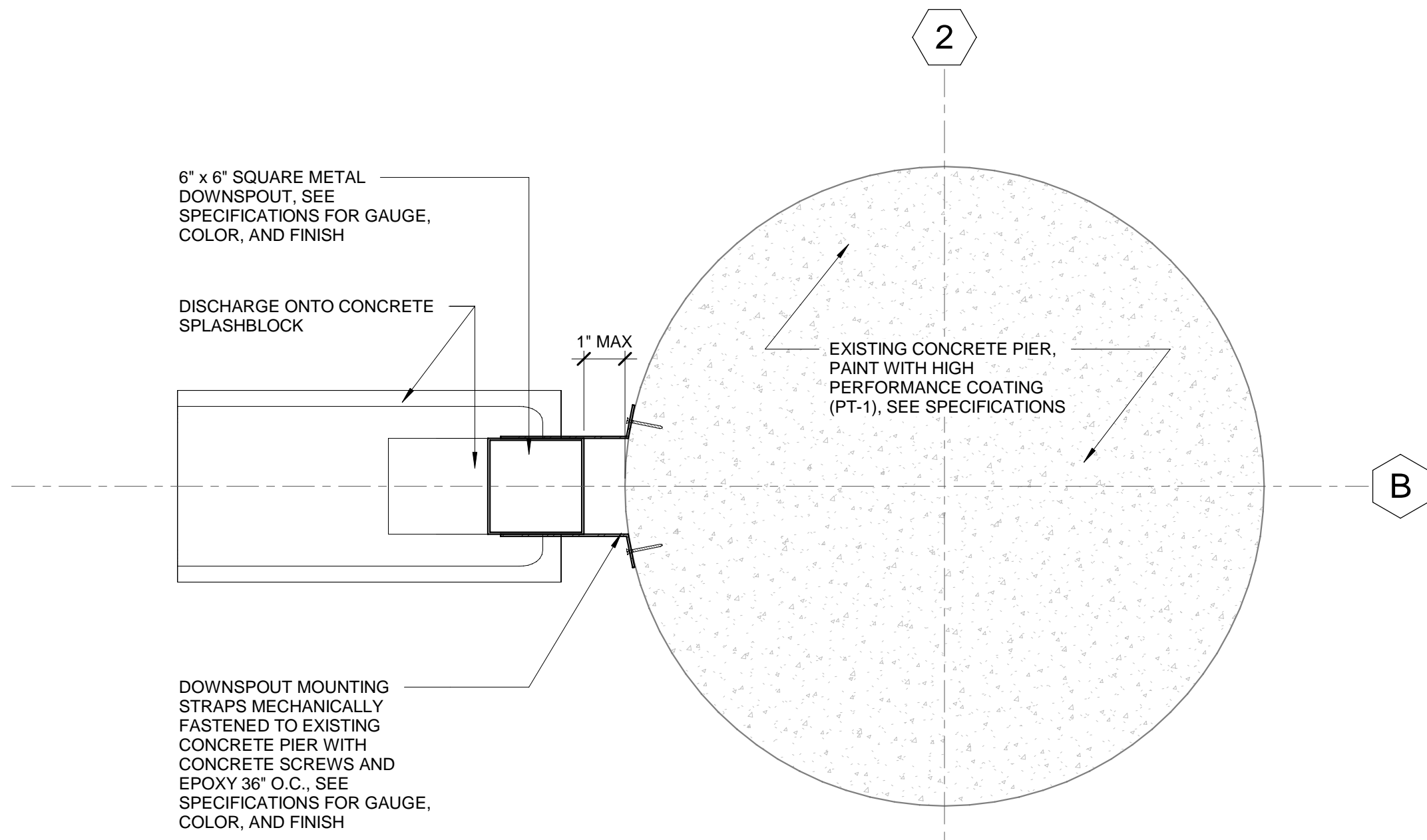
MINIMUM GUTTER WIDTH: 7 INCHES
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MINIMUM AREA PER DOWNSPOUT: ~14.27 SQ IN
 MINIMUM DOWNSPOUT SIZE: 5 INCHES
 ASSUMING ROUND DOWNSPOUT



1 DOWNSPOUT DETAIL - CONNECTION TO COLUMN

REF: A-310 SCALE: 1 1/2" = 1'-0"



2 DOWNSPOUT DETAIL - CONNECTION TO CONCRETE PIER

REF: A-310 SCALE: 1 1/2" = 1'-0"

REV	DATE	BY	DESCRIPTION	CHK	APD

REF. DWGS

DRAWING STATUS: NOT FOR CONSTRUCTION

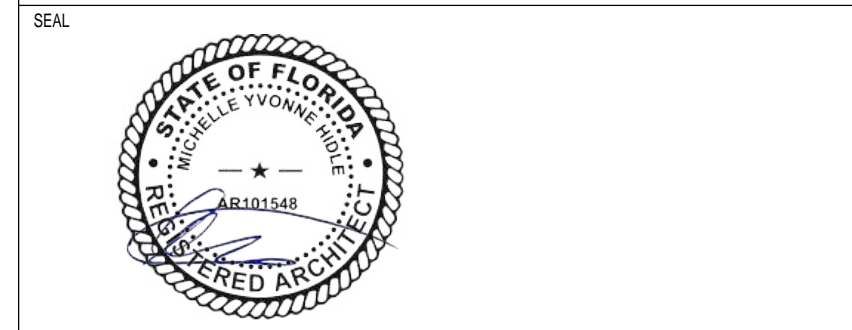


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 WSP USA INC.

PROJECT:
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TITLE:
 DOWNSPOUT DETAILS



DESIGN BY: MYH	CHECKED BY: MYH
DRAWN BY: MYH	DATE: 11/10/2025
SCALE: As indicated	DRAWING No: A-503
PROJECT No: US-EI-EDPPSA2024.2760	SHEET: 20 OF 20
CAD FILE: A-503.dwg	