Polk Building Renovations, Phase 1

Invitation for Bids # PSPW-24-05

General Information		
Project Cost Estimate	$750,000	See Section 1.4
Project Timeline	180 calendar days from NTP with an estimated start date of August 1, 2024	See Section 1.4
Evaluation of Proposals	Staff	See Section 1.7
Non-Mandatory Pre-Bid Meeting	10:00 a.m. on May 7, 2024, at the Public Services Building Large Conference Room, 8300 S. Palm Drive, Pembroke Pines, FL 33025	See Section 1.8
Question Due Date	May 14, 2024	See Section 1.8
Proposals will be accepted until	2:00 p.m. on May 28, 2024	See Section 1.8
Proposal Security / Bid Bond	☐ Not required. ✓ Required only for bidders that have a total cumulative base proposal amount that exceeds $200,000. Proposal Security shall be in the amount of 5% of the total cumulative base amount proposed. ☐ Required for every bidder, regardless of proposal amount. Proposal Security shall be in the amount of 5% of the total cumulative base amount proposed. ☐ Required for every bidder, regardless of proposal amount. Proposal Security shall be in the amount of $10,000 or 5% of the total cumulative base amount proposed, whichever is less.	See Section 4.1
100% Payment and Performance Bonds	☐ Not required. ☐ Required, regardless of the awarded contract amount. ✓ Required in the event that the awarded contract exceeds $200,000.	See Section 4.2
Grant or Federal Funding Information	State Appropriated Funds	See Section 1.2

THE CITY OF PEMBROKE PINES
PROCUREMENT DEPARTMENT
8300 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA 33025
(954) 518-9020

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SECTION 1 - INSTRUCTIONS

1.1 NOTICE

Notice is hereby given that the City Commission of the City of Pembroke Pines is seeking sealed proposals for:

IFB # PSPW-24-05
Polk Building Renovations, Phase 1

Solicitations may be obtained from the City of Pembroke Pines website at http://www.ppines.com/index.aspx?NID=667 and on the https://ppines.bonfirehub.com/ website.

If you have any problems downloading the solicitation, please contact the Bonfire Support at Support@GoBonfire.com.

If additional information help is needed with downloading the solicitation package please contact the Procurement Department at (954) 518-9020 or by email at purchasing@ppines.com. The Procurement Department hours are between 7:00 a.m. - 6:00 p.m. on Monday through Thursday and is located at 8300 South Palm Drive, Pembroke Pines, Florida 33025.

The City requires all questions relating to the solicitation be entered through the "Messages" section for the specific project on the https://ppines.bonfirehub.com/ website. Under the "Messages" section, vendors will find the "Opportunity Q&A" tab in which they can ask their specific question(s). Responses to the questions will be provided online at https://ppines.bonfirehub.com. Such request must be received by the "Question Due Date" stated in the solicitation. The issuance of a response via Bonfire is considered an Addendum and shall be the only official method whereby such an interpretation or clarification will be made.

Proposals will be accepted until 2:00 p.m., Tuesday, May 28, 2024. Proposals must be **submitted electronically at https://ppines.bonfirehub.com/**. The sealed electronic proposals will be publicly opened at 2:30 p.m. by the City Clerk's Office, in the City Hall Administration Building, 4th Floor Conference Room located at 601 City Center Way, Pembroke Pines, Florida, 33025.

1.1.1 VIRTUAL BID OPENING

The bid opening for this project will be held in the **City Clerk's Office Conference Room** located on the 4th Floor in the Charles F. Dodge City Center/City Hall Administration Building at 601 City Center Way, Pembroke Pines, Florida, 33025 at **2:30 PM on the bid due date.**

In light of public health concerns and to ensure accessibility for all, the City encourages interested parties, vendors, and the public to participate virtually via live streaming instead of attending the meeting in person. To virtually attend the bid opening, please use the Cisco Webex Meetings platform.

Virtual Meeting Details:

- WebEx Meeting Link: https://ppines.webex.com/meet/purchasing
- Cisco Webex Meeting Number: 717 019 586
- Join by Phone Number: +1-408-418-9388

The public may download the **Cisco Webex Meetings app** from https://www.webex.com/downloads.html/

To ensure an efficient meeting process, participants are requested to mute their audio and camera during the meeting. While the public is welcome to attend the virtual bid opening, **please note that active participation and commenting will not be allowed during the proceedings.**

For further information about the bid opening or assistance in accessing the virtual meeting, please contact:

Danny Benedit, Procurement Department
City of Pembroke Pines
8300 South Palm Drive,
Pembroke Pines, FL 33025
954-518-9022 or 954-518-9020
purchasing@ppines.com

1.2 PURPOSE

The City of Pembroke Pines is seeking proposals from qualified firms, hereinafter referred to as the Contractor, to provide construction services at the Polk Building, located at 8200 South Palm Drive, Pembroke Pines, FL 33025, in accordance with the terms, conditions, and specifications contained in this solicitation.

The City anticipates utilizing State Appropriated funds for this project; thus, this project will follow federal guidelines, including Davis-Bacon Act Wage Determinations. In addition, this project may also receive federal funds.

1.3 SCOPE OF WORK

The Polk Building is a single-story building upwards of 24,000 square feet. The Contractor shall be responsible for renovating selected portions of the building per design documents.

The Contractor shall be responsible for obtaining all permits. Costs for permits and Building Department Fees shall be paid by the City, excluding fees for failed inspections and/or fines. See Section 1.4 “Project Cost Estimate & Timeline” for more information.

The allotted time for substantial completion from the date of Notice to Proceed shall be no more than 180 days. See Section 1.8 “Tentative Schedule of Events” for more information.
Phase 1 shall include the following:

a) Remaining demolition.
b) All structural improvements and repairs.
c) All exterior impact doors and windows.
d) Exterior stucco and paint finishes.
e) Sanitary sewer and domestic water rough. No connection to City mains.
f) Interior concrete slab restoration.

1.3.1 GENERAL INFORMATION

a) The City is to provide Contractor with permit ready plans. All other documents, submittals and NOA's required to obtain a permit are to be provided by the Contractor.
b) Contractor is responsible for acquiring permits and calling in all necessary inspections.
c) City to provide site access and working hour restrictions/expectations. The work must be performed Monday through Friday or as approved by the Project Manager.
d) Contractor will be required to schedule all work with the City's Project Manager.
e) Contractor shall provide weekly schedule/progress updates.
f) Contractor shall provide all materials, labor, equipment and any other necessary items required for complete installation.
g) The minimum experience required as a licensed Building or General Contractor is five (5) years for this project.
h) Contractor shall provide all testing, manufacturer warranties, contractor warranties and certifications.
i) The Contractor shall employ a competent English-speaking superintendent who shall be in attendance at the project site during the progress of the work. The superintendent shall be the primary representative for the Contractor and all communications given to and all decisions made by the superintendent shall be binding to the Contractor.

j) Contractor shall be responsible for all debris removal and restoration to any existing areas damaged by the contractor once the project is completed. Site shall be made safe, broom swept and clean of debris at the end of each workday. All left over debris must be removed and disposed of by legal means. See Section 4.6 "Solid Waste Construction and Demolition Debris Collection and Disposal Requirements."

k) All precautions need to be taken for life safety and protection of people, vehicles, and all other structures on the site.

1.3.2 USE OF PREMISES

a) Contractor shall limit their use on the premises for work and storage, to allow for:

- Owner's Occupancy
- Public use

b) Contractor shall coordinate use of premises under direction of owner representative, assume full responsibility for protection and safe keeping of products under this contract stored on site, and move any stored products under Contractor's control which interfere with operations of the Owners or separate Contractor.

1.3.3 WARRANTIES

a) The awarded contractor must provide a workmanship warranty of no less than one (1) year for renovation work and general construction.

b) The awarded contractor must provide a workmanship warranty of no less than ten (10) years for roofing labor.

c) The awarded contractor must provide a manufacturer's warranty of no less than twenty (20) years for roofing materials.

d) All warranties shall be No Dollar Amount Limit.

e) Copies of all warranties must be provided upon project completion.

1.4 PROJECT COST ESTIMATE & TIMELINE

Staff estimates this project to cost approximately $750,000, which does not include permit costs.

Please note that the City will waive all City related permit, license, impact or inspection fees (including the Building Department and Engineering Department Permit Fees) related to this

project. Any related State or County fees, for the aforementioned permits, will be paid by the City.

In addition, the City shall cover the cost for any other permit fees related to external entities through the City's Owner's Contingency for this project**, therefore proposers should not include permit costs in their total proposal price.**

The work shall be completed within 180 days from issuance of CITY's Notice to Proceed, with an estimated start date of August 1, 2024.

In addition, please note the city's average time for a contractor to apply for and receive an approved permit is 30 days; delays in this timeline caused by the contractor's failure to actively monitor the permit process and submit all required documentation in a timely manner, will count against the project's contractual completion period.

1.4.1 PERMIT, LICENSE, IMPACT OR INSPECTION FEES

With the exception of the City related permit, license, impact or inspection fees (including the Building Department and Engineering Department Permit Fees), which will be waived for this project, the City anticipates this project to require the following permits which will be covered by the City's Owner's Contingency:

Permit	Agency	Cost (or related method of calculation)
Drainage	South Broward Drainage District	$500

For any of the permit, license, impact or inspection fees listed above, the costs shall be covered by the City through the City's "Owner's Contingency" for this project. The Contractor shall obtain all required permits to complete the work, however the City shall utilize the Owner's Contingency to reimburse the contractor for the related permit, license, impact or inspection fees. Payments will be made to the contractor based on the actual cost of permits upon submission of paid permit receipts. The City shall not pay for other costs related to obtaining or securing permits.

The City shall determine the amount of the Owner's Contingency at time of award. The Owner's Contingency may be based on a specified percent of the proposed project amount and shall be established for the specific project being performed under the contract. This dollar amount shall be shown on the specific project purchase order as a distinct item from the vendor's overall offer to determine the total potential dollar value of the contract. Any Owner's Contingency funds that have not been utilized at the end of the project will remain with the City, if the permit fees exceed the Owner's Contingency indicated, the City will reimburse the contractor the actual amount of the permit fees required for project completion.

1.5 PROPOSAL REQUIREMENTS

The https://ppines.bonfirehub.com website allows for vendors to complete, scan and upload their documents as part of the proposer's submittal on the website.

Prospective proposers interested in responding to this solicitation are requested to provide all of the information listed in this section. Submittals that do not respond completely to all of requirements specified herein may be considered non-responsive and eliminated from the process. Brevity and clarity are encouraged.

The Bonfire system utilizes "Questionnaires" to request the following information from prospective proposers.

1.5.1 Pricing Sheet / Bid Tables

1. **Bid Table:** The vendor must provide their pricing through the designated lines items listed on the Excel Sheet that is available for download on the Bonfire website under the **"Pricing Sheet / Bid Table"** section. Please follow the instructions given in this package and on the Excel Sheet to complete and upload the information back onto the Bonfire website.

2. **Responses:** This tab of the Bid Table includes a **"Vendor Notes"** column for any additional comments regarding the requested line item(s). A comment is required in the **"Vendor Notes"** column. If the vendor does not need to submit any comments, please enter N/A or similar.

   a. Below are sample images of the "**Responses"** tab of the Bid Table:

Responses

Success: All data is valid!

				Numeric	Text	
Status	Bid/No Bid Decision	#	Item	Unit Price	Vendor Notes	Total Cost
General Conditions						
Success: All values provided	Bid	#1-1	Insurance	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#1-2	Bonding	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#1-3	Mobilization	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#1-4	Project Management	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#1-5	General Supervision	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#1-6	As-Built Drawings	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#1-7	Profit and Overhead	$ 50,000.00	N/A	$ 50,000.00
Basket Total						$ 350,000.00

Construction						
Success: All values provided	Bid	#2-1	Demolition	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#2-2	Structural	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#2-3	Rough Plumbing	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#2-4	Concrete Floors	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#2-5	Windows and Doors	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#2-6	Storefront	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#2-7	Stucco	$ 50,000.00	N/A	$ 50,000.00
Success: All values provided	Bid	#2-8	Paint	$ 50,000.00	N/A	$ 50,000.00
Basket Total						$ 400,000.00
Grand Total				$ 750,000.00		$ 750,000.00

1.5.2 Questionnaires

1. Contact Information Form

2. Proposer's Background Information

3. Vendor Registration Checklist

4. **References Form:** Provide specific examples of similar contracts delivered by the proposed team members. Provide details on related projects (preferably where the team was the same). A minimum of 3 references should be from the last five years and should be capable of explaining and confirming your firm's capacity to successfully complete the scope of work outlined herein. As part of the proposal evaluation process, the City may conduct an investigation of references, including a record check or consumer affairs complaints. Proposers' submission of a proposal constitutes acknowledgment of the process and consent to investigate. The City is the sole judge in determining Proposers qualifications. In this section you will have the ability to enter information for 5 different references including the Reference Contact Information and the specific Project Information.

   In addition, **do not provide City of Pembroke Pines projects as any of your references and do not utilize any current City of Pembroke Pines employees as reference contacts.**

A) References Contact Information
   a. Name of Firm, City, County or Agency
   b. Address
   c. Contact Name
   d. Contact Title
   e. Contact E-mail Address
   f. Contact Telephone #

B) Project Information
   a. Name of Contractor Performing the work
   b. Name and location of the project
   c. Nature of the firm's responsibility on the project
   d. Project duration
   e. Completion (Anticipated) Date
   f. Size of project
   g. Cost of project
   h. Work for which staff was responsible

1.5.3 Other Completed Documents

1. Attachment A: Non-Collusive Affidavit

2. Proposal Security (Bid Bond Form or Cashier's Check)

   a. Each Proposal should be accompanied by a certified or cashier's check or by a Bid Bond made payable to the City of Pembroke Pines on an approved form, duly executed by the Proposer as principal and having as surety thereon a surety company acceptable to CITY and authorized to write such Bond under the laws of the State of Florida, in an amount not less than five percent (5%) of the amount of the base Proposal price.

   b. Contingency is not to be counted in the total amount the proposal security is based on.

   c. Proposers must submit a scanned copy of their bid security (bid bond form or cashier's check) with their bid submittal through Bonfire.

   d. Proposers should also submit their original bid security (bid bond form or cashier's check) at time of the bid due date, or they may be deemed as non-responsive.

   e. The original Bid Bond or Cashier's Check should be in a sealed envelope, plainly marked "**BID SECURITY - IFB # PSPW-24-05 "Polk Building Renovations, Phase 1"** and sent to the City of Pembroke Pines, City Clerk's Office, 4th Floor, 601 City Center Way, Pembroke Pines, Florida, 33025.

f. Please see SECTION 4 - SPECIAL TERMS & CONDITIONS of this document for additional information.

1.5.4 Optional Documentation

1. Trade Secrets:

a. The Proposer's response to this solicitation is a public record pursuant to Florida law, which is subject to disclosure by the City under the State of Florida Public Records Law, Florida Statutes Chapter 119.07 ("Public Records Law"). The City shall permit public access to all documents, papers, letters or other material submitted in connection with this solicitation and the Contract to be executed for this solicitation, subject to the provisions of Chapter 119.07 of the Florida Statutes.

b. Any language contained in the Proposer's response to the solicitation purporting to require confidentiality of any portion of the Proposer's response to the solicitation, except to the extent that certain information is in the City's opinion a Trade Secret pursuant to Florida law, shall be void. If a Proposer submits any documents or other information to the City which the Proposer claims is Trade Secret information and exempt from Florida Statutes Chapter 119.07 ("Public Records Laws"), the Proposer shall clearly designate that it is a Trade Secret and that it is asserting that the document or information is exempt. The Proposer must specifically identify the exemption being claimed under Florida Statutes 119.07. The City shall be the final arbiter of whether any information contained in the Proposer's response to the solicitation constitutes a Trade Secret.

c. EXCEPT FOR CLEARLY MARKED PORTIONS THAT ARE BONA FIDE TRADE SECRETS PURSUANT TO FLORIDA LAW, DO NOT MARK YOUR RESPONSE TO THE SOLICITATION AS PROPRIETARY OR CONFIDENTIAL. DO NOT MARK YOUR RESPONSE TO THE SOLICITATION OR ANY PART THEREOF AS COPYRIGHTED. ALL DOCUMENTS THAT THE FIRM PURPORTS TO BE CONFIDENTIAL, PROPRIETARY OR A TRADE SECRET SHALL BE UPLOADED TO THE BONFIRE WEBSITE AS A SEPARATE ATTACHMENT, IN THIS SECTION, CLEARLY IDENTIFYING THE EXEMPTION BEING CLAIMED UNDER FLORIDA STATUTES 119.07.

d. The city's determination of whether an exemption applies shall be final, and the proposer agrees to defend, indemnify, and hold harmless the city and the city's officers, employees, and agent, against any loss or damages incurred by any person or entity as a result of the city's treatment of records as public records.

2. Financial Statements:

a. The City is **not** requesting the vendor to submit any financial statements for this project and prefers if the vendor does not submit financial statements. In addition, if the City needs a copy of the vendor's financial statements, the City can contact the vendor after the bid due date to request those documents. However, if the vendor does submit the financial statements, they should be uploaded in this section.

b. Any claim of confidentiality on financial statements must be asserted at the time of submittal. The firm must identify the specific statute that authorizes the exemption from the Public Records Law. Please note that the financial statement exemption provided for in Section 119.071(1)c, Florida Statutes only applies to submittals in response to a solicitation for a "public works" project.

3. Additional Information:

a. Please provide any additional information that you deem necessary to complete your proposal in this section, if it has not been requested in another section.

1.6 VENDOR REGISTRATION DOCUMENTS

The **https://ppines.bonfirehub.com/** website will allow vendors to update their information and documents on an as-needed basis. This process is intended to make the bidding process easier for vendors that bid on multiple City projects. This process will allow vendors to complete and submit the following standard forms and documents at any time prior to bidding on a project. In addition, the vendors will be able to utilize these same forms without the need to re-fill and re-submit the forms each time they bid on a City project. In the event that the City does not have one of the forms or documents listed below for your company, the City may reach out to your company after the bid has closed to obtain the document(s).

Furthermore, please make sure to update this information on an as-needed basis so that all pertinent information is accurate, such as local business tax receipts, and any other relevant information.

The following documents can be completed prior to the bidding process through the **https://ppines.bonfirehub.com/** website and do not need to be attached to your submittal as the Bonfire website will automatically include it.

1.6.1 Vendor Information Form

1.6.2 Form W-9 (Rev. October 2018)

a. Previously dated versions of this form will delay the processing of any payments to the selected vendor.

1.6.3 Company Profile Form

1.6.4 Sworn Statement on Public Entity Crimes Form

1.6.5 Equal Benefits Certification Form

1.6.6 Vendor Drug-Free Workplace Certification Form

1.6.7 Scrutinized Company Certification

1.6.8 E-Verify System Certification Statement

a. Effective January 1, 2021, pursuant to Section 448.095. Florida Statues, the City may not enter into a contract with a vendor/contractor/subcontractor unless that vendor/contractor/subcontractor is registered with and uses the E-Verify system administered by the U.S. Department of Homeland Security ("DHS").

b. Contractor shall also require all subcontractors to provide an affidavit attesting that the subcontractor does not employ, contract with, or subcontract with, an unauthorized alien. The Contractor shall maintain a copy of such affidavit for the duration of the contract.

1.6.9 Veteran Owned Small Business Preference Certification

a. If claiming Veteran Owned Small Business Preference Certification, business must attach the "Determination Letter" from the United States Department of Veteran Affairs Center for Verification and Evaluation notifying the business that they have been approved as a Veteran Owned Small Business (VOSB).

b. The Veteran Owned Small Business Preference Certification form must be completed by/for the proposer; the proposer WILL NOT qualify for Veteran Owned Small Business Preference based on their sub-contractors' qualifications.

1.6.10 Local Business Tax Receipts

1.6.11 Certification Regarding Lobbying; Debarment, Suspension and Other Responsibility Matters for Expenditure of Federal Funds

a. Lobbying:

i. As required by 7 CFR Part 3018, for persons entering into a contract, grant or cooperative agreement over **$100,000** involving the expenditure of

Federal funds, the Contractor must complete the **Certification Regarding Lobbying.**

ii. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress, in connection with this Federal contract, grant, loan, or cooperative agreement, the Contractor shall also complete and submit the **Standard Form - LLL, "Disclosure Form to Report Lobbying,"** in accordance with its instructions.

b. Debarment, Suspension and Other Responsibility Matters:

i. Where the Contractor is unable to certify to any of the statements in the certification for **Debarment, Suspension and Other Responsibility Matters,** he or she shall **provide an explanation.**

1.6.12 Minority-Owned Business Enterprise

1.6.13 Woman-Owned Business Enterprise

1.6.14 HUBZone-Certified Small Businesses / Labor Surplus Area Firms

1.7 EVALUATION OF PROPOSALS & PROCESS OF SELECTION

A. Staff will evaluate all responsive proposals received from proposers who meet or exceed the bid requirements contained in the solicitation. Evaluations shall be based upon the information contained in the proposals as submitted.

B. Staff will make a recommendation to the City Commission for award of contract.

1.8 TENTATIVE SCHEDULE OF EVENTS

Event	Time &/or Date
Issuance of Solicitation (Posting Date)	**April 23, 2024**
Non-Mandatory Pre-Bid Meeting	**10:00 a.m. on May 7, 2024**
Question Due Date	**May 14, 2024**
Anticipated Date of Issuance for the Addenda with Questions and Answers	**May 20, 2024**
Proposals will be accepted until	**2:00 p.m. on May 28, 2024**
Proposals will be opened at	**2:30 p.m. on May 28, 2024**
Evaluation of Proposals by Staff	**May 28, 2024 – June 10, 2024**
Recommendation of Contractor to City Commission award	**June 19, 2024**

Issuance of Notice to Proceed	**July 2024**
Project Commencement	**Not later than 10 days after NTP. Estimated start date of August 1, 2024.**
Project Completion	**180 days after NTP**

1.8.1 NON-MANDATORY PRE-BID MEETING

There will be a non-mandatory scheduled pre-bid meeting on **May 7, 2024 at 10:00 a.m.** Meeting location will be at the Public Services Building, Large Conference Room, located at 8300 S. Palm Drive, Pembroke Pines, FL 33025.

In the event that a contractor cannot attend the scheduled pre-bid meeting, or if a contractor would like a follow up visit to the site, they may request a site visit by contacting Irene Munarriz, Procurement Specialist, at imunarriz@ppines.com. We urge all contractors to attend the scheduled meeting, as a separate or follow-up meeting may not be afforded to the requester due to scheduling and availability of staff to assist with any additional meetings. In addition, if making a request for a separate or follow-up meeting, contractors are urged to make these requests as early as possible. **Contractors may be required to sign in at any of the meetings to show proof of attendance. It is the vendor's responsibility to make sure that they sign in at the meeting.**

1.9 SUBMISSION REQUIREMENTS

Bids/proposals **must be submitted electronically** at **https://ppines.bonfirehub.com/ on or before 2:00 p.m. on May 28, 2024.**

Please note vendors should be registered on Bonfire under the name of the organization that they are operating as and it should match the organization name on the documents that they are submitting and utilizing when responding to the solicitation.

In addition, the vendor must complete any questionnaires on the **https://ppines.bonfirehub.com/** website and provide any additional information requested throughout this solicitation. Any additional information requested in the solicitation should be scanned and uploaded.

The City recommends for proposers to submit their proposals as soon as they are ready to do so. Please allow ample time to submit your proposals on the **https://ppines.bonfirehub.com/** website. Proposals may be modified or withdrawn prior to the deadline for submitting Proposals. Bonfire Support is happy to help you with submitting your proposal and to ensure that you are submitting your proposals correctly, but we ask that you contact Support@GoBonfire.com with ample time before the bid closing date and time.

PLEASE DO NOT SUBMIT ANY PROPOSALS VIA MAIL, E-MAIL OR FAX.

Attachment E

"General Decision Number: FL20240197 03/15/2024

Superseded General Decision Number: FL20230197

State: Florida

Construction Type: Building

County: Broward County in Florida.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(1).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:	. Executive Order 14026 generally applies to the contract. . The contractor must pay all covered workers at least $17.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2024.
If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:	. Executive Order 13658 generally applies to the contract. . The contractor must pay all covered workers at least $12.90 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2024.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at http://www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/05/2024
1	01/12/2024

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2 02/02/2024
3 03/15/2024

ASBE0060-001 09/01/2023

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR	$ 37.78	17.37

CARP1809-001 06/01/2015

	Rates	Fringes
CARPENTER (Includes Acoustical Ceiling Installation, Drywall Finishing/Taping, Drywall Hanging, Form Work, Metal Stud Installation)	$ 25.95	8.65

CARP1809-002 08/01/2016

	Rates	Fringes
CARPENTER: PILEDRIVERMAN	$ 25.20	10.36

ELEC0728-008 09/04/2023

	Rates	Fringes
ELECTRICIAN (Including Low Voltage Wiring)	$ 37.40	14.27

ELEV0071-002 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC	$ 51.26	37.335+a+b

FOOTNOTE:

a: Employer contributes 8% basic hourly rate for 5 years or more of service or 6% basic hourly rate for 6 months to 5 years of service as Vacation Pay Credit;

b. Paid Holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day; plus the Friday after Thanksgiving; and Christmas Day.

ENGI0487-019 07/01/2023

	Rates	Fringes
OPERATOR: Backhoe/Excavator/Trackhoe	$ 27.00	14.90

ENGI0487-020 07/01/2023

	Rates	Fringes
OPERATOR: Concrete Pump	$ 32.75	14.90

ENGI0487-023 07/01/2023

Attachment E

	Rates	Fringes
OPERATOR: Crane		
All Cranes 75 Tons and below	$ 37.07	14.90
All Cranes Over 300 Ton, Electric Tower, Luffing Boom Cranes	$ 40.40	14.90
Cranes 130-300 Ton	$ 39.38	14.90
Cranes 76 ton to 129 Ton	$ 37.57	14.90

ENGI0487-029 07/01/2023

	Rates	Fringes
OPERATOR: Forklift	$ 26.75	14.90
OPERATOR: Mechanic	$ 37.07	14.90
OPERATOR: Oiler	$ 27.53	14.90

IRON0272-001 10/01/2023

	Rates	Fringes
IRONWORKER, STRUCTURAL	$ 27.75	15.27

IRON0402-001 10/01/2023

	Rates	Fringes
IRONWORKER, ORNAMENTAL	$ 27.75	15.27

PLUM0719-002 09/01/2022

	Rates	Fringes
PLUMBER	$ 31.80	13.05

PAID HOLIDAYS: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day providing the employee works the scheduled work day preceding and after the holiday.

PLUM0725-001 07/16/2023

	Rates	Fringes
PIPEFITTER (Includes HVAC Pipe, Unit and Temperature Controls Installations)	$ 42.08	16.25

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* SFFL0821-004 01/01/2024

	Rates	Fringes
SPRINKLER FITTER (Fire Sprinklers)	$ 32.03	23.01

SHEE0032-001 08/12/2023

	Rates	Fringes
SHEET METAL WORKER, Includes HVAC Duct Installation	$ 29.10	14.68

Attachment E

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* SUFL2014-005 08/16/2016

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER	$ 13.06 **	0.70
IRONWORKER, REINFORCING	$ 17.72	0.00
LABORER: Common or General, Including Cement Mason Tending	$ 12.79 **	0.00
LABORER: Pipelayer	$ 13.56 **	1.34
OPERATOR: Bulldozer	$ 15.40 **	1.90
OPERATOR: Grader/Blade	$ 18.97	0.00
OPERATOR: Loader	$ 16.00 **	2.82
OPERATOR: Roller	$ 14.43 **	4.78
PAINTER: Brush, Roller and Spray	$ 16.00 **	3.48
ROOFER	$ 19.98	4.77
TILE SETTER	$ 18.01	0.00
TRUCK DRIVER: Dump Truck	$ 13.22 **	2.12
TRUCK DRIVER: Lowboy Truck	$ 14.24 **	0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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** Workers in this classification may be entitled to a higher minimum wage under Executive Order 14026 ($17.20) or 13658 ($12.90). Please see the Note at the top of the wage determination for more information. Please also note that the minimum wage requirements of Executive Order 14026 are not currently being enforced as to any contract or subcontract to which the states of Texas, Louisiana, or Mississippi, including their agencies, are a party.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at

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https://www.dol.dol.gov/agencies/whd/government-contracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the

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classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment E

200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

DRAFT DOCUMENT FOR COMMISSION REVIEW

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES

8200 SOUTH PALM DRIVE
PEMBROKE PINES, FL 33025
DESIGN DEVELOPMENT SUBMITTAL

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

CITY COMMISION

FRANK C. ORTIS, MAYOR

THOMAS GOOD JR., COMMISSIONER

JAY D. SCHWARTZ, COMMISSIONER

ANGELO CASTILLO, COMMISSIONER

IRIS A. SIPLE, VICE MAYOR

CHARLES F. DODGE, CITY MANAGER

PROJECT TEAM

ARCHITECT:
SALTZ MICHELSON ARCHITECTS
3501 GRIFFIN ROAD
FT. LAUDERDALE, FLORIDA, 33312
TELEPHONE: (954) 266-2700

MEP ENGINEER:
KAMM CONSULTING
1407 W. NEWPORT CENTER DRIVE
DEERFIELD BEACH, FLORIDA 33442
TELEPHONE: (954) 949-2200

STRUCTURE:
JOHNSON STRUCTURAL GROUP, INC.
160 WEST CAMINO REAL SUITE 1000
BOCA RATON, FLORIDA 33432
TELEPHONE: (954) 982-8999

CIVIL:
HOLLAND ENGINEERING INC.
301 SW 7th STREET
FT. LAUDERDALE, FLORIDA, 33315
TELEPHONE: (954) 367-0371

LANDSCAPE ARCHITECT:
ANDRES MONTERO LANDSCAPE ARCHITECTURE
2208 NE 26th STREET UNIT 1 FORT LAUDERDALE, FL 33305
TELEPHONE: (954)

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LEGAL DESCRIPTION:

PEMBROKE PINES HEALTH PARK-PARCEL 3

A PARCEL OF LAND BEING A PORTION OF PARCEL A, PEMBROKE PINES HEALTH PARK, AS RECORDED IN PLAT BOOK 174, PAGES 179-184 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SAID PARCEL A;
THENCE ON A PLAT BEARING OF N87°48'14"E ALONG THE SOUTH LINE OF SAID PARCEL A, A DISTANCE OF 76.22 FEET;
THENCE N01°52'57"W A DISTANCE OF 254.00 FEET;
THENCE N88°00'30"E A DISTANCE OF 359.95 FEET TO A POINT OF CURVATURE OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
THENCE EASTERLY, NORTHEASTERLY AND NORTHERLY ALONG THE ARC OF SAID CURVE TO THE LEFT, HAVING A CENTRAL ANGLE OF 92°19'39" AND A RADIUS OF 56.00 FEET FOR AN ARC DISTANCE OF 90.24 FEET TO A POINT ON A NON-TANGENT LINE;
THENCE N87°43'39"E A DISTANCE OF 17.56 FEET;
THENCE N01°43'30"W A DISTANCE OF 18.08 FEET;
THENCE N88°05'06"E A DISTANCE OF 571.40 FEET;
THENCE N01°54'54"W A DISTANCE OF 105.31 FEET TO THE POINT OF BEGINNING;
THENCE CONTINUE N01°54'54"W A DISTANCE OF 565.79 FEET;
THENCE N88°52'44"E A DISTANCE OF 86.29 FEET;
THENCE N87°55'50"E A DISTANCE OF 222.02 FEET;
THENCE S01°54'54"E A DISTANCE OF 565.19 FEET;
THENCE S88°05'06"W A DISTANCE OF 308.30 FEET TO THE POINT OF BEGINNING;

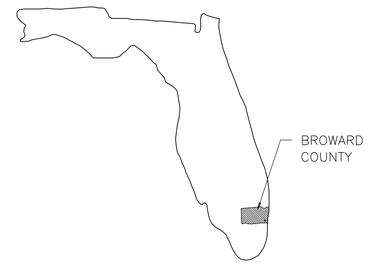
SAID PARCEL OF LAND SITUATE IN THE CITY OF PEMBROKE PINES, BROWARD COUNTY, FLORIDA, CONTAINING 4.00 ACRES MORE OR LESS.

SCOPE OF WORK

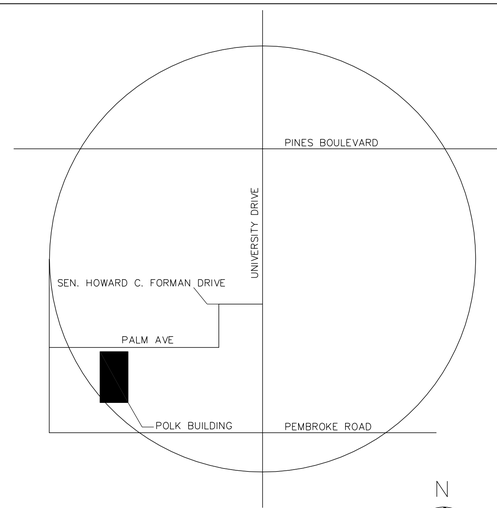
INTERIOR COMPLETION OF EXISTING 1-STORY BUILDING INCLUDING NEW SITE WORK LANDSCAPE AND IRRIGATION.

ANY WORK AFFECTING THE ROOFING, SUCH AS INSTALLING NEW PLUMBING VENTS, SHALL BE COMPLETED BY THE SAME COMPANY THAT INSTALLED THE ROOFING ABOUT 4 YEARS AGO IN ORDER TO MAINTAIN THE EXISTING ROOFING WARRANTY. COORDINATE ANY ROOFING WORK WITH THE OWNER'S REPRESENTATIVE.

LOCATION MAP



COUNTY LOCATION MAP



BUILDING LOCATION MAP
N.T.S.
ADDRESS:
8200 SOUTH PALM DRIVE
PEMBROKE PINES, FL 33025

SALTZ MICHELSON ARCHITECTS
3501 Griffin Road
Ft. Lauderdale, FL 33312
(954) 266-2700 Fx: (954) 266-2701
sma@saltzmichelson.com

AR-0009976

STATE OF FLORIDA
SHEFF L. DEVIER III
REGISTERED ARCHITECT
AR0007699

Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 IDS\03 Interior Comp\2022-133_MOU_COVER PAGE .dft.dwg Plotted by: eduglley Plotted on: Nov 29, 2023 - 1:23pm

T1

DRAFT DOCUMENT FOR COMMISSION REVIEW

MATCH LINE – SEE SHEET 4 OF 4

REPORT OF BOUNDARY & TOPOGRAPHIC SURVEY

1. Calvin, Giordano & Associates. did not research title for this property and the plats, rights-of-way, and easements as shown hereon are per a diligent search of the Public Records of Broward County, Florida via the Broward County Property Appraiser's and Clerk of the Court's web sites.
2. The purpose of this Map Survey is to prepare a Boundary and Topographic Survey of a portion of Pembroke Pines Health Park, P.B. 174, Pgs. 179-184, B.C.R. and to create legal descriptions and the parcel boundaries as shown hereon per the City of Pembroke's direction.
3. Not valid without the signature and original raised seal of a Florida Professional Surveyor & Mapper.
4. Underground improvements and/or encroachments were not located as part of this survey task.
5. Unless otherwise noted hereon, record and measured values are in substantial agreement.
6. The horizontal features shown hereon are plotted to within 1/20 of the map scale.
7. Horizontal and vertical data shown hereon was obtained utilizing a "TOPCON ES-105" Total Station and "TDS-NOMAD" Data Collection System.
8. Bearings shown hereon are assumed and referenced to the South line of Parcel A, PEMBROKE PINES HEALTH PARK, as recorded in Plat Book 174, Pages 179-184, B.C.R., have a bearing of S 87°48'14" W.
9. Horizontal feature location is to the center of the symbol and may be enlarged for clarity.
10. The elevations shown hereon are based on the North American Vertical Datum of 1988 (NAVD88) and referenced to Broward County Bench Mark #1158, Elevation 4.21 (NAVD88) (published as 5.82' National Geodetic Vertical Datum of 1929 (NGVD29)) and being a nail & tab in the centerline of asphalt of Utopia Dr. and 90 ft South of the centerline of Ramona Street, Miramar.

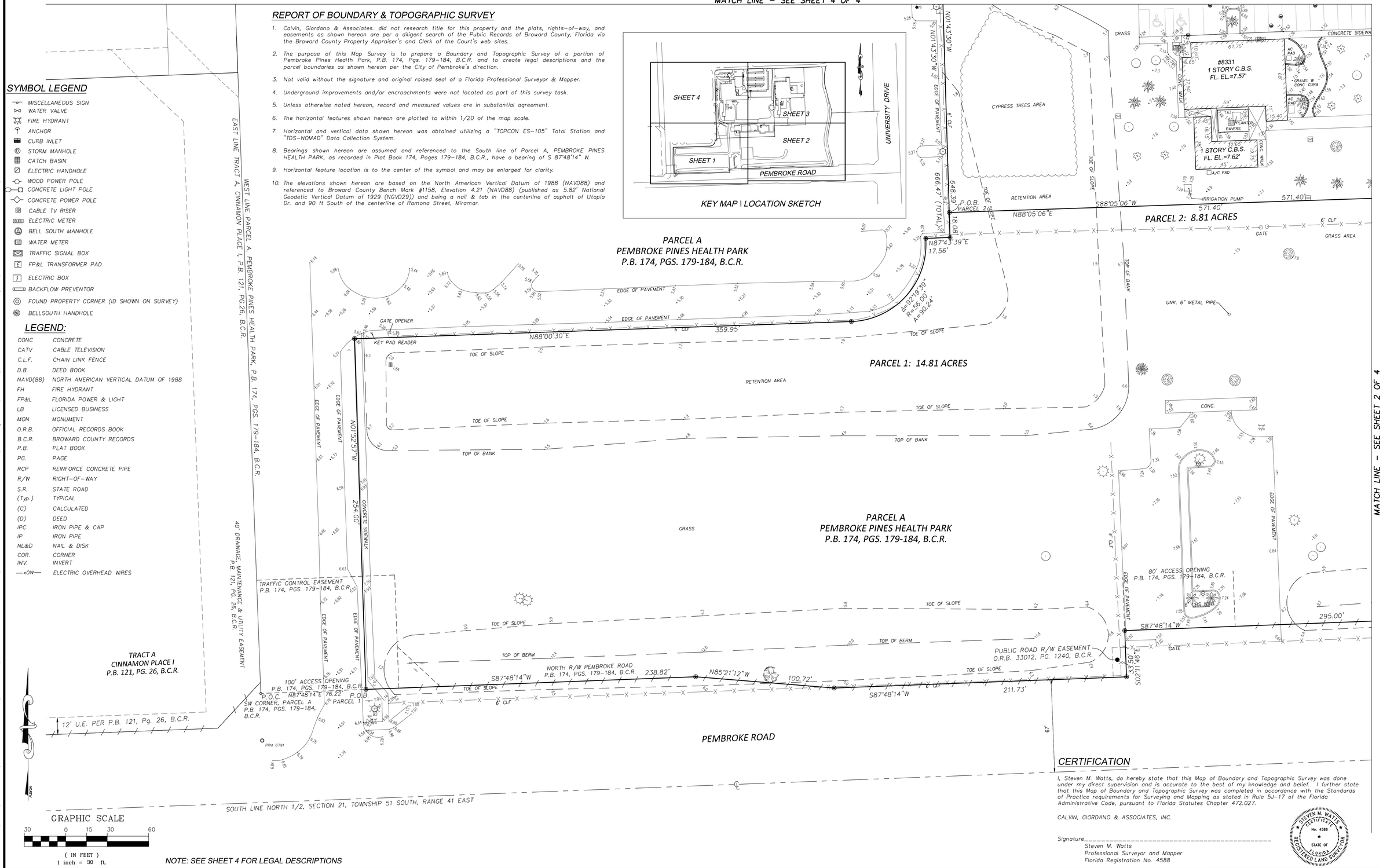
KEY MAP \ LOCATION SKETCH

SYMBOL LEGEND

- MISCELLANEOUS SIGN
- WATER VALVE
- FIRE HYDRANT
- ANCHOR
- CURB INLET
- STORM MANHOLE
- CATCH BASIN
- ELECTRIC HANDHOLE
- WOOD POWER POLE
- CONCRETE LIGHT POLE
- CONCRETE POWER POLE
- CABLE TV RISER
- ELECTRIC METER
- BELL SOUTH MANHOLE
- WATER METER
- TRAFFIC SIGNAL BOX
- FP&L TRANSFORMER PAD
- ELECTRIC BOX
- BACKFLOW PREVENTOR
- FOUND PROPERTY CORNER (ID SHOWN ON SURVEY)
- BELLSOUTH HANDHOLE

LEGEND:

CONC	CONCRETE
CATV	CABLE TELEVISION
C.L.F.	CHAIN LINK FENCE
D.B.	DEED BOOK
NAVD(88)	NORTH AMERICAN VERTICAL DATUM OF 1988
FH	FIRE HYDRANT
FP&L	FLORIDA POWER & LIGHT
LB	LICENSED BUSINESS
MON	MONUMENT
O.R.B.	OFFICIAL RECORDS BOOK
B.C.R.	BROWARD COUNTY RECORDS
P.B.	PLAT BOOK
PG.	PAGE
RCP	REINFORCE CONCRETE PIPE
R/W	RIGHT-OF-WAY
S.R.	STATE ROAD
(Typ.)	TYPICAL
(C)	CALCULATED
(D)	DEED
IPC	IRON PIPE & CAP
IP	IRON PIPE
NL&D	NAIL & DISK
COR.	CORNER
INV.	INVERT
—xow—	ELECTRIC OVERHEAD WIRES



GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

NOTE: SEE SHEET 4 FOR LEGAL DESCRIPTIONS

CERTIFICATION

I, Steven M. Watts, do hereby state that this Map of Boundary and Topographic Survey was done under my direct supervision and is accurate to the best of my knowledge and belief. I further state that this Map of Boundary and Topographic Survey was completed in accordance with the Standards of Practice requirements for Surveying and Mapping as stated in Rule 5J-17 of the Florida Administrative Code, pursuant to Florida Statutes Chapter 472.027.

CALVIN, GIORDANO & ASSOCIATES, INC.

Signature_____
Steven M. Watts
Professional Surveyor and Mapper
Florida Registration No. 4588

STEVEN M. WATTS CERTIFICATE No. 4588 STATE OF FLORIDA REGISTERED LAND SURVEYOR

MATCH LINE – SEE SHEET 2 OF 4

NO	DATE	REVISION	BY

NO	DATE	REVISION	BY

FIELD SURVEY DATE 9/22/2022
DRAWN BY SMW DATE 9/23/2022
CHECKED BY SMW DATE 9/26/2022

Calvin, Giordano & Associates, Inc.
EXCEPTIONAL SOLUTIONS
1800 Eller Drive, Suite 600, Fort Lauderdale, Florida 33316
Phone: 954.921.7781 • Fax: 954.921.8807
Certificate of Authorization 6791

LEASE PARCEL LAYOUT
PEMBROKE PINES HEALTH PARK
CITY OF PEMBROKE PINES, FLORIDA

BOUNDARY & TOPOGRAPHIC SURVEY
PORTION OF PARCEL A
PEMBROKE PINES HEALTH PARK
P.B. 174, PGS. 179-184, B.C.R.

SEAL
NOT VALID WITHOUT THE SIGNATURE AND THE SEAL OF A FLORIDA LICENSED SURVEYOR & MAPPER
STEVEN M. WATTS
PSM NO. 4588

SCALE 1" = 30'
PROJECT No 91-0134.6
SHEET 1 OF 4

File Name: C:\Users\swatts.NTBC\OneDrive - SAFEbuilt\Documents\Pembroke Pines Health Park\91-0134.6-V-TS-Health Park-2022 Update.dwg - (Plotted by: Steve Watts on Monday, September 26, 2022 8:03:05 AM)

DRAFT DOCUMENT FOR COMMISSION REVIEW

MATCH LINE – SEE SHEET 3 OF 4

ASPHALT PARKING

CONCRETE SIDEWALK

GRASS

#8271
1 STORY CBS
FL. EL.= 7.62'

UNK. VAULT

COV. CONCRETE SIDEWALK

CONCRETE SIDEWALK

P.O.B. PARCEL 3

EDGE OF PAVEMENT

PARCEL 3: 4.00 ACRES

N88°05'06"E 308.30'

S88°05'06"W 308.30'

N01°54'54"W 565.79'

6" CLF

WOOD POST W WATER SPIGOT

PARCEL 2: 8.81 ACRES

S88°05'06"W 571.40'

N88°05'06"E 571.40'

S01°54'54"E 671.10' (TOTAL)

105.31'

PARCEL A
PEMBROKE PINES HEALTH PARK
P.B. 174, PGS. 179-184, B.C.R.

PARCEL 1: 14.81 ACRES

STATE OF FLORIDA
DEPARTMENT OF HIGHWAY SAFETY & MOTOR VEHICLES
LEASE AGGREEMENT NO. 2842
(UNRECORDED)

ACREAGE

EAST LINE PARCEL A
S11°24'53"W 104.86'

EDGE OF PAVEMENT

18' ASPHALT PAVEMENT

S03°38'39"W 90.28'

PRM 6791

S11°14'17"E 100.06'

S16°50'26"E 95.00'

S07°14'42"E 50.72'

GATE

SE CORNER, PARCEL A
P.B. 174, PGS. 179-184,
B.C.R.

MATCH LINE – SEE SHEET 1 OF 4

TOP OF BERM

TOE OF SLOPE

GRASS AREA

50' ACCESS OPENING
P.B. 174, PGS. 179-184.

S87°48'14"W 295.00'

N85°21'12"W 100.72'

S02°11'50"E 12.00'

S87°48'14"W 3.43'

S87°48'14"W 217.00'

N85°21'27"W 100.78'

S87°48'14"W 304.08'

NORTH R/W PEMBROKE ROAD
P.B. 174, PGS. 179-184, B.C.R.

PEMBROKE ROAD

SOUTH LINE NORTH 1/2, SECTION 21, TOWNSHIP 51 SOUTH, RANGE 41 EAST

LEGEND:

CONC	CONCRETE
CATV	CABLE TELEVISION
C.L.F.	CHAIN LINK FENCE
D.B.	DEED BOOK
NAVD(88)	NORTH AMERICAN VERTICAL DATUM OF 1988
FH	FIRE HYDRANT
FP&L	FLORIDA POWER & LIGHT
LB	LICENSED BUSINESS
MON	MONUMENT
O.R.B.	OFFICIAL RECORDS BOOK
B.C.R.	BROWARD COUNTY RECORDS
P.B.	PLAT BOOK
PG.	PAGE
RCP	REINFORCE CONCRETE PIPE
R/W	RIGHT-OF-WAY
S.R.	STATE ROAD
(Typ.)	TYPICAL
(C)	CALCULATED
(D)	DEED
IPC	IRON PIPE & CAP
IP	IRON PIPE
NL&D	NAIL & DISK
COR.	CORNER
INV.	INVERT
—xOW—	ELECTRIC OVERHEAD WIRES

SYMBOL LEGEND

- MISCELLANEOUS SIGN
- WATER VALVE
- FIRE HYDRANT
- ANCHOR
- CURB INLET
- STORM MANHOLE
- CATCH BASIN
- ELECTRIC HANDHOLE
- WOOD POWER POLE
- CONCRETE LIGHT POLE
- CONCRETE POWER POLE
- CABLE TV RISER
- ELECTRIC METER
- BELL SOUTH MANHOLE
- WATER METER
- TRAFFIC SIGNAL BOX
- FP&L TRANSFORMER PAD
- ELECTRIC BOX
- BACKFLOW PREVENTOR
- FOUND PROPERTY CORNER (ID SHOWN ON SURVEY)
- BELLSOUTH HANDHOLE

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.

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STEVEN M. WATTS CERTIFICATE No. 4588 STATE OF FLORIDA REGISTERED LAND SURVEYOR

SCALE 1" = 30'
PROJECT No 91-0134.6
SHEET 2 OF 4

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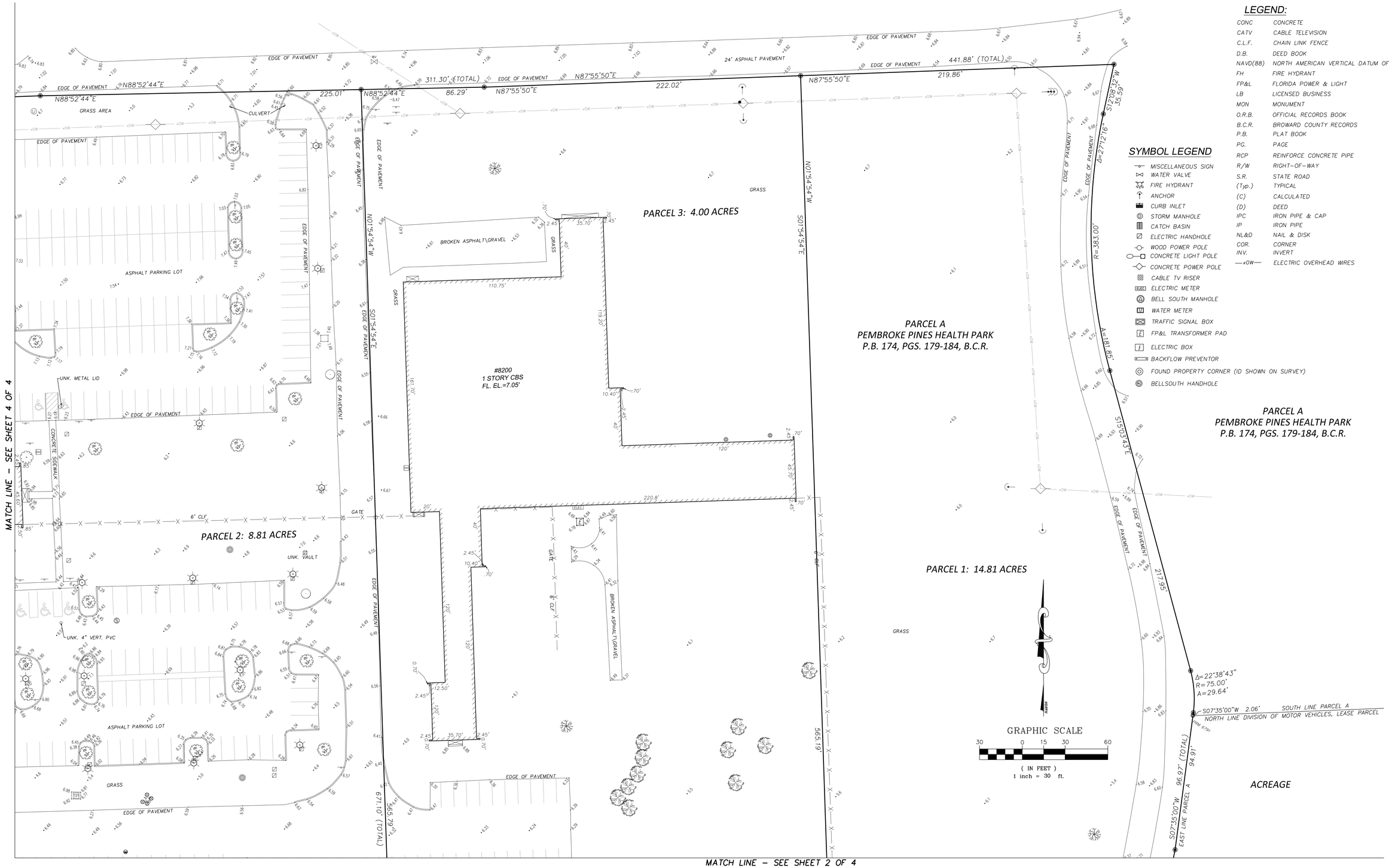

LEGEND:

CONC	CONCRETE
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PEMBROKE PINES HEALTH PARK
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BOUNDARY & TOPOGRAPHIC SURVEY
PORTION OF PARCEL A
PEMBROKE PINES HEALTH PARK
P.B. 174, PGS. 179-184, B.C.R.

STEVEN M. WATTS CERTIFICATE No. 4588 STATE OF FLORIDA REGISTERED LAND SURVEYOR

SCALE 1" = 30'
PROJECT No 91-0134.6
SHEET 3 OF 4

DRAFT DOCUMENT FOR COMMISSION REVIEW

LEGAL DESCRIPTIONS

PEMBROKE PINES HEALTH PARK-PARCEL 1

A PARCEL OF LAND BEING A PORTION OF PARCEL A, PEMBROKE PINES HEALTH PARK, AS RECORDED IN PLAT BOOK 174, PAGES 179–184 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SAID PARCEL A;
THENCE ON A PLAT BEARING OF N87°48'14"E ALONG THE SOUTH LINE OF SAID PARCEL A, A DISTANCE OF 76.22 FEET TO THE POINT OF BEGINNING;
THENCE N01°52'57"W A DISTANCE OF 254.00 FEET;
THENCE N88°00'30"E A DISTANCE OF 359.95 FEET TO A POINT OF CURVATURE OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
THENCE EASTERLY, NORTHEASTERLY AND NORTHERLY ALONG THE ARC OF SAID CURVE TO THE LEFT, HAVING A CENTRAL ANGLE OF 92°19'39" AND A RADIUS OF 56.00 FEET FOR AN ARC DISTANCE OF 90.24 FEET TO A POINT ON A NON–TANGENT LINE;
THENCE N87°43'39"E A DISTANCE OF 17.56 FEET;
THENCE N01°43'30"W A DISTANCE OF 18.08 FEET;
THENCE N88°05'06"E A DISTANCE OF 571.40 FEET;
THENCE N01°54'54"W A DISTANCE OF 105.31 FEET;
THENCE N88°05'06"E A DISTANCE OF 308.30 FEET;
THENCE N01°54'54"W A DISTANCE OF 565.19 FEET;
THENCE N87°55'50"E A DISTANCE OF 219.86 FEET;
THENCE S12°08'33"W A DISTANCE OF 35.59 FEET TO A POINT OF CURVATURE OF A TANGENT CURVE CONCAVE TO THE EAST;
THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE TO THE LEFT, HAVING A CENTRAL ANGLE OF 27°12'16" AND A RADIUS OF 383.00 FEET FOR AN ARC DISTANCE OF 181.85 FEET TO A POINT OF TANGENCY;
THENCE S15°03'43"E A DISTANCE OF 217.95 FEET TO A POINT OF CURVATURE OF A TANGENT CURVE CONCAVE TO THE WEST;
THENCE SOUTHERLY ALONG THE ARC OF SAID CURVE TO THE RIGHT, HAVING A CENTRAL ANGLE OF 22°38'43" AND A RADIUS OF 75.00 FEET FOR AN ARC DISTANCE OF 29.64 FEET TO A POINT OF TANGENCY;
THENCE S07°35'00"W A DISTANCE OF 2.06 FEET TO THE NORTHWEST CORNER OF DIVISION OF MOTOR VEHICLES LEASE PARCEL PER SAID PEMBROKE PINES HEALTH PARK, SAID POINT ALSO BEING ON THE EAST LINE OF SAID PARCEL A;
THE FOLLOWING SIX (6) COURSES ARE ALONG THE EAST LINE OF SAID PARCEL A;
THENCE CONTINUE S07°35'00"W A DISTANCE OF 94.91 FEET;
THENCE S11°24'53"W A DISTANCE OF 104.86 FEET;
THENCE S03°38'39"W A DISTANCE OF 90.28 FEET;
THENCE S11°14'17"E A DISTANCE OF 100.06 FEET;
THENCE S16°50'26"E A DISTANCE OF 95.00 FEET;
THENCE S07°14'42"E A DISTANCE OF 50.72 FEET TO THE SOUTHEAST CORNER OF SAID PARCEL A;
THE FOLLOWING ELEVEN (11) COURSES ARE ALONG THE SOUTH LINE OF SAID PARCEL A AND THE NORTH RIGHT–OF–WAY LINE OF SAID PEMBROKE ROAD;
THENCE S87°48'14"W A DISTANCE OF 304.08 FEET;
THENCE N85°21'27"W A DISTANCE OF 100.78 FEET;
THENCE S87°48'14"W A DISTANCE OF 217.00 FEET;
THENCE S02°11'50"E A DISTANCE OF 12.00 FEET;
THENCE S87°48'14"W A DISTANCE OF 3.43 FEET;
THENCE N85°21'12"W A DISTANCE OF 100.72 FEET;
THENCE S87°48'14"W A DISTANCE OF 295.00 FEET;
THENCE S02°11'46"E A DISTANCE OF 33.50 FEET;
THENCE S87°48'14"W A DISTANCE OF 211.73 FEET;
THENCE N85°21'12"W A DISTANCE OF 100.72 FEET;
THENCE S87°48'14"W A DISTANCE OF 238.82 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND SITUATE IN THE CITY OF PEMBROKE PINES, BROWARD COUNTY, FLORIDA, CONTAINING 14.81 ACRES MORE OR LESS.

PEMBROKE PINES HEALTH PARK-PARCEL 2

A PARCEL OF LAND BEING A PORTION OF PARCEL A, PEMBROKE PINES HEALTH PARK, AS RECORDED IN PLAT BOOK 174, PAGES 179–184 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE SOUTHWEST CORNER OF SAID PARCEL A;
THENCE ON A PLAT BEARING OF N87°48'14"E ALONG THE SOUTH LINE OF SAID PARCEL A, A DISTANCE OF 76.22 FEET;
THENCE N01°52'57"W A DISTANCE OF 254.00 FEET;
THENCE N88°00'30"E A DISTANCE OF 359.95 FEET TO A POINT OF CURVATURE OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
THENCE EASTERLY, NORTHEASTERLY AND NORTHERLY ALONG THE ARC OF SAID CURVE TO THE LEFT, HAVING A CENTRAL ANGLE OF 92°19'39" AND A RADIUS OF 56.00 FEET FOR AN ARC DISTANCE OF 90.24 FEET TO A POINT ON A NON–TANGENT LINE;
THENCE N87°43'39"E A DISTANCE OF 17.56 FEET;
THENCE N01°43'30"W A DISTANCE OF 18.08 FEET TO THE POINT OF BEGINNING;
THENCE CONTINUE N01°43'30"W A DISTANCE OF 648.39 FEET TO A POINT OF CURVATURE OF A TANGENT CURVE CONCAVE TO THE SOUTHEAST;
THENCE NORTHERLY, NORTHEASTERLY AND EASTERLY ALONG THE ARC OF SAID CURVE TO THE RIGHT, HAVING A CENTRAL ANGLE OF 89°38'47" AND A RADIUS OF 25.00 FEET FOR AN ARC DISTANCE OF 39.12 FEET TO A POINT OF TANGENCY;
THENCE N87°55'17"E A DISTANCE OF 319.33 FEET;
THENCE N88°52'44"E A DISTANCE OF 225.01 FEET;
THENCE S01°54'54"E A DISTANCE OF 671.10 FEET;
THENCE S88°05'06"W A DISTANCE OF 571.40 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND SITUATE IN THE CITY OF PEMBROKE PINES, BROWARD COUNTY, FLORIDA, CONTAINING 8.81 ACRES MORE OR LESS.

PEMBROKE PINES HEALTH PARK-PARCEL 3

A PARCEL OF LAND BEING A PORTION OF PARCEL A, PEMBROKE PINES HEALTH PARK, AS RECORDED IN PLAT BOOK 174, PAGES 179–184 OF THE PUBLIC RECORDS OF BROWARD COUNTY, FLORIDA, SAID PARCEL BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

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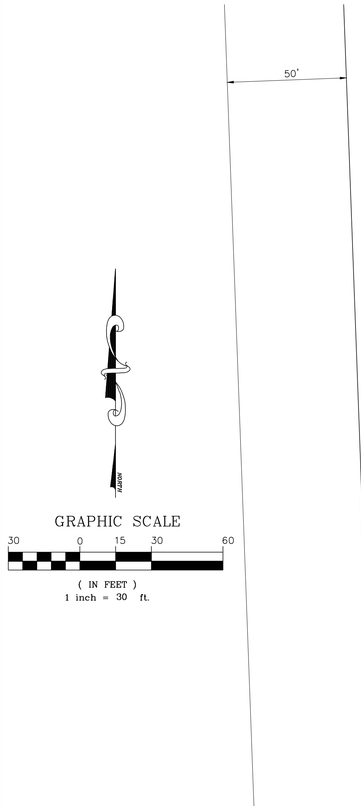
THENCE N01°52'57"W A DISTANCE OF 254.00 FEET;
THENCE N88°00'30"E A DISTANCE OF 359.95 FEET TO A POINT OF CURVATURE OF A TANGENT CURVE CONCAVE TO THE NORTHWEST;
THENCE EASTERLY, NORTHEASTERLY AND NORTHERLY ALONG THE ARC OF SAID CURVE TO THE LEFT, HAVING A CENTRAL ANGLE OF 92°19'39" AND A RADIUS OF 56.00 FEET FOR AN ARC DISTANCE OF 90.24 FEET TO A POINT ON A NON–TANGENT LINE;
THENCE N87°43'39"E A DISTANCE OF 17.56 FEET;
THENCE N01°43'30"W A DISTANCE OF 18.08 FEET;
THENCE N88°05'06"E A DISTANCE OF 571.40 FEET;
THENCE N01°54'54"W A DISTANCE OF 105.31 FEET TO THE POINT OF BEGINNING;
THENCE CONTINUE N01°54'54"W A DISTANCE OF 565.79 FEET;
THENCE N88°52'44"E A DISTANCE OF 86.29 FEET;
THENCE N87°55'50"E A DISTANCE OF 222.02 FEET;
THENCE S01°54'54"E A DISTANCE OF 565.19 FEET;
THENCE S88°05'06"W A DISTANCE OF 308.30 FEET TO THE POINT OF BEGINNING;

SAID PARCEL OF LAND SITUATE IN THE CITY OF PEMBROKE PINES, BROWARD COUNTY, FLORIDA, CONTAINING 4.00 ACRES MORE OR LESS.



LEGEND:

CONC	CONCRETE
CATV	CABLE TELEVISION
C.L.F.	CHAIN LINK FENCE
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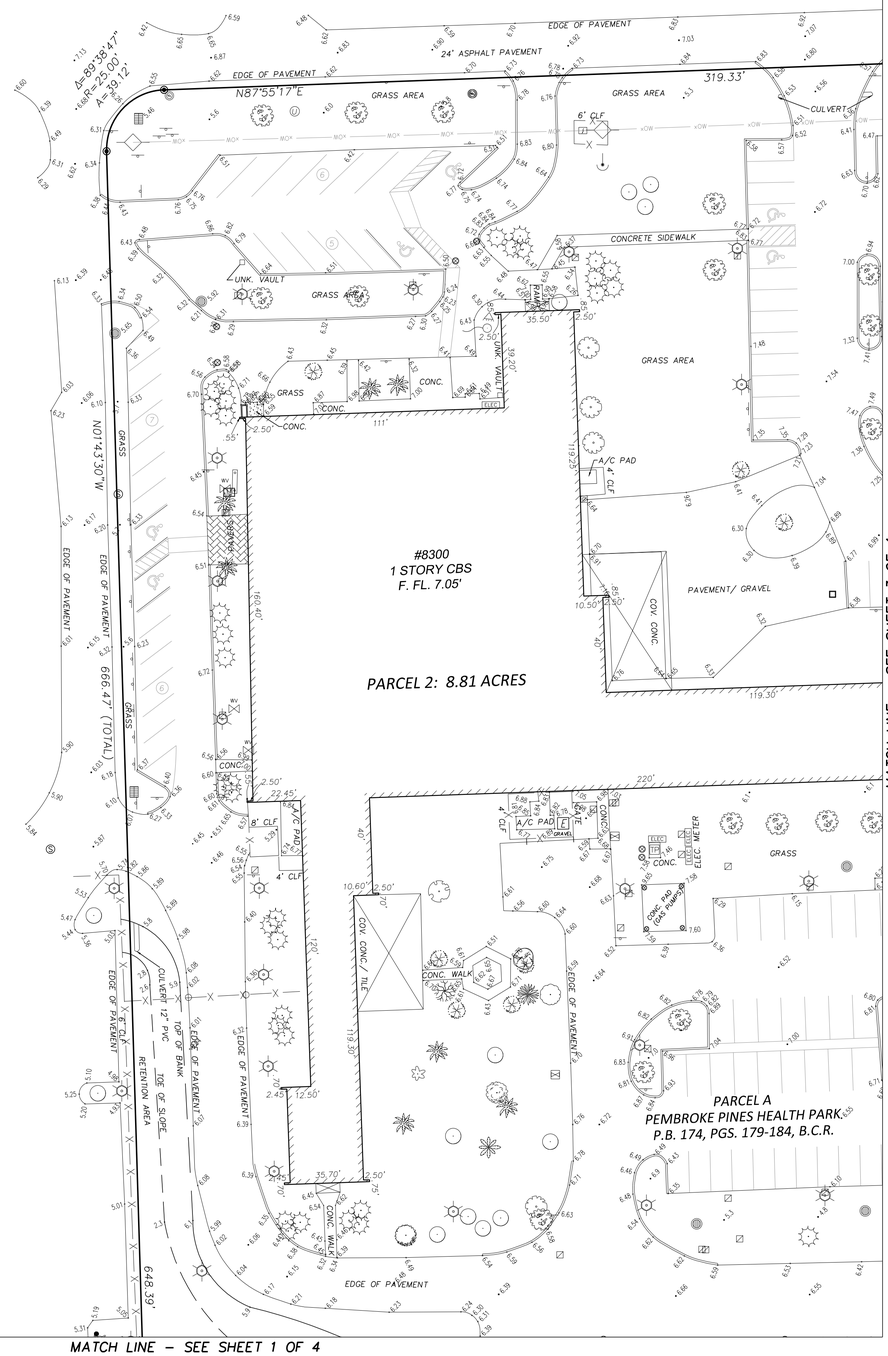
PARCEL A
PEMBROKE PINES HEALTH PARK
P.B. 174, PGS. 179-184, B.C.R.



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NO	DATE	REVISION	BY

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PEMBROKE PINES HEALTH PARK
CITY OF PEMBROKE PINES, FLORIDA

BOUNDARY & TOPOGRAPHIC SURVEY
PORTION OF PARCEL A
PEMBROKE PINES HEALTH PARK
P.B. 174, PGS. 179-184, B.C.R.

STEVEN M. MATTS — REGISTERED LAND SURVEYOR — No. 4588 — STATE OF FLORIDA

SCALE 1" = 30'
PROJECT No. 91-0134.6
SHEET 4 OF 4

File Name: C:\Users\swatts.NTBC\OneDrive - SAFEbuilt\Documents\Pembroke Pines Health Park\91-0134.6-V-TS-Health Park-2022 Update.dwg - (Plotted by: Steve Watts on Monday, September 26, 2022 8:05:13 AM)

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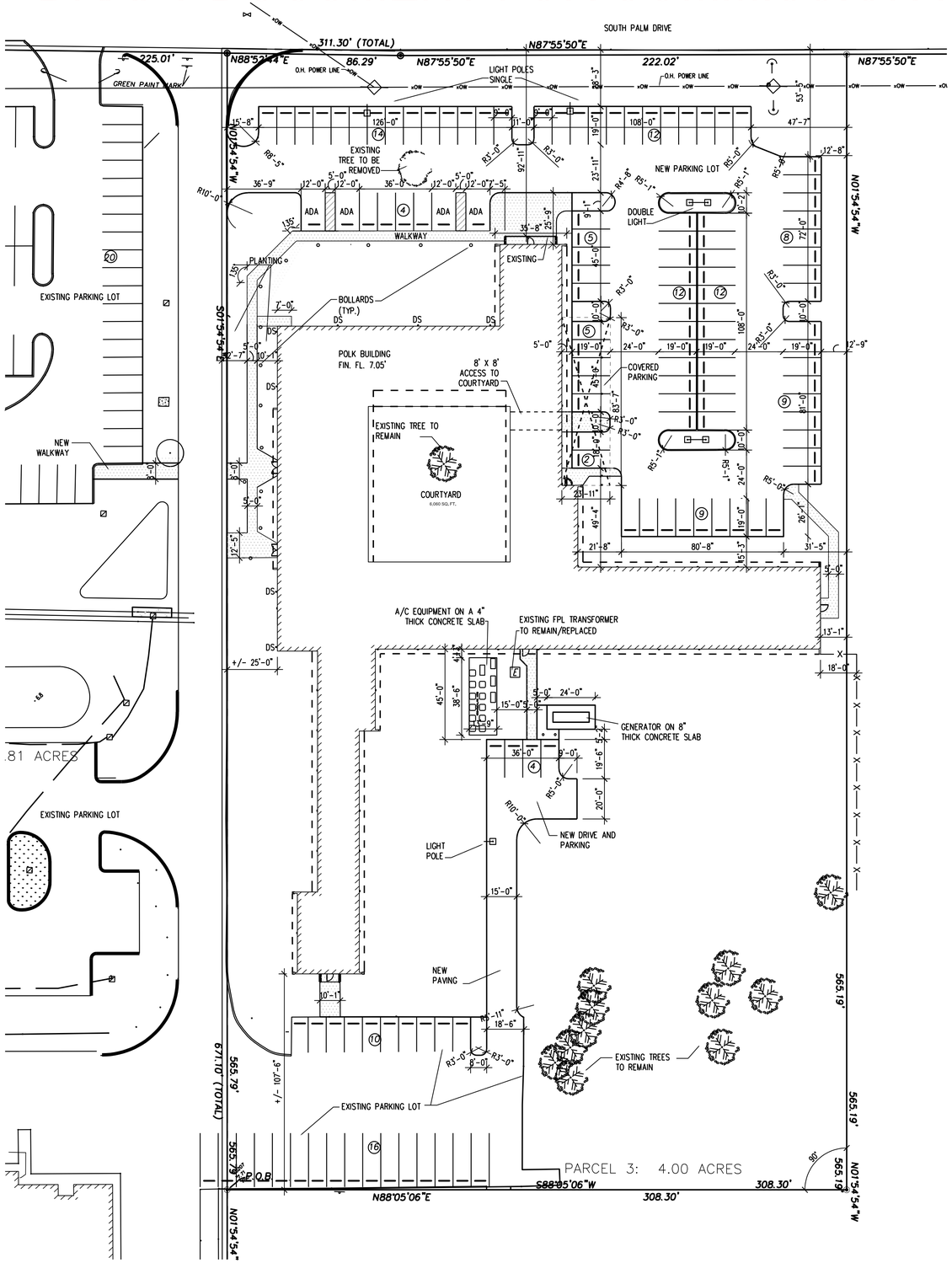


1 SP1.0 SITE PLAN

SCALE: 1" = 30'-0"

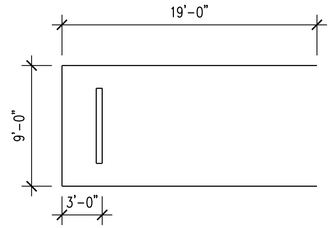
N

ZONING CF. COMMUNITY FACILITY PARKING REQUIRED	
BUILDING INTERIOR AREA	= 25,828 SF.
3.5 SPACES PER 1,000SF. REQUIRED	= 91
PROVIDED	= 92 - 9' X 19'
HANDICAPPED REQUIRED	= 4 - 12' X 19'
TOTAL SPACES	= 96
BICYCLE PARKING REQUIRED 1/10,000 SF.	= 3

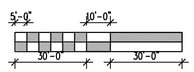
SET BACKS

	REQUIRED	PROVIDED
FRONT - NORTH	= 25'	= 92'-11"
SIDE	= 15'	= E18'-0" / W25'-0"
REAR - SOUTH	= 20'	= 107'-5"

WHEEL STOP



SITE INFORMATION
TOTAL AREA PARCELS - 4 ACRES (174,240 SF)
IMPERVIOUS AREA
BUILDING FOOTPRINT - 33,714 SF
ASPHALT PAVING
EXISTING - 15,290SF
NEW - 33,464SF +
WALKS - 1,860SF
TOTAL IMPERVIOUS - 50,614SF
PERVIOUS AREA
COURT / AND SITE - 94,699.251 SF



PROGRESS 9/22/2023

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES

8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

SALTZ MICHELSON ARCHITECTS
3501 Griffin Road
Ft. Lauderdale, FL 33312
(954) 266-2700 Fx: (954) 266-2701
sma@saltzmichelson.com

AR-0009976

STATE OF FLORIDA
SHEFF L. DEVIER III
AR0007699
REGISTERED ARCHITECT

Sheff L. Devier III AR0007699

Project No.:
2022-133
Drawn By:
EQ
Checked By:
SD
Date:
11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133_SITE PLAN-sheff 9-21-23.dwg Layout Name: Layout2 Plotted by: equigley Plotted on: Nov 28, 2023 - 12:27pm

SP1.0

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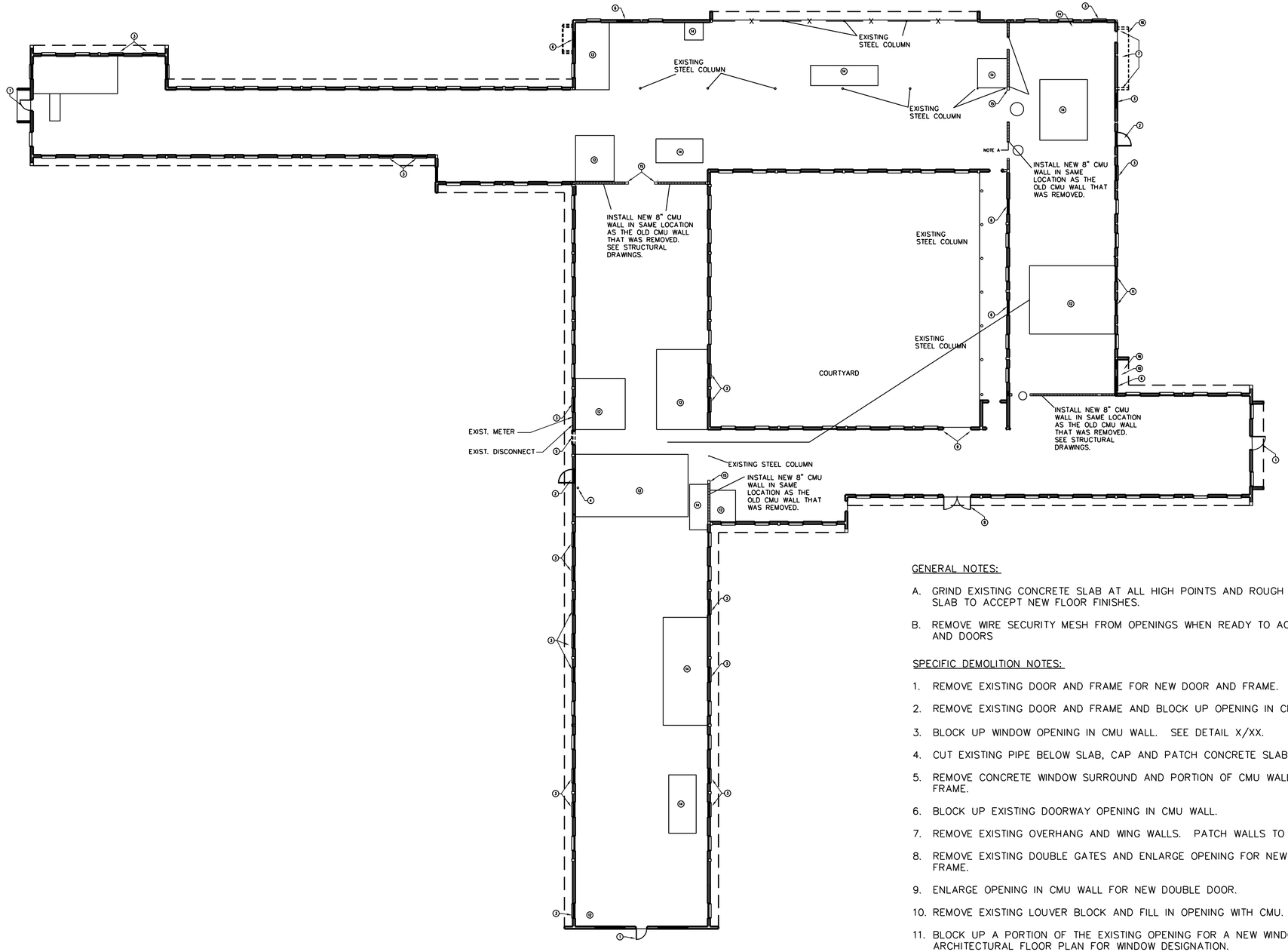

1 / D1.0 DEMOLITION PLAN
SCALE: 1/16" = 1'-0"

GENERAL NOTES:

A. GRIND EXISTING CONCRETE SLAB AT ALL HIGH POINTS AND ROUGH AREA TO PREPARE SLAB TO ACCEPT NEW FLOOR FINISHES.

B. REMOVE WIRE SECURITY MESH FROM OPENINGS WHEN READY TO ACCEPT NEW WINDOWS AND DOORS

SPECIFIC DEMOLITION NOTES:

1. REMOVE EXISTING DOOR AND FRAME FOR NEW DOOR AND FRAME.
2. REMOVE EXISTING DOOR AND FRAME AND BLOCK UP OPENING IN CMU WALL.
3. BLOCK UP WINDOW OPENING IN CMU WALL. SEE DETAIL X/XX.
4. CUT EXISTING PIPE BELOW SLAB, CAP AND PATCH CONCRETE SLAB.
5. REMOVE CONCRETE WINDOW SURROUND AND PORTION OF CMU WALL FOR NEW DOOR AND FRAME.
6. BLOCK UP EXISTING DOORWAY OPENING IN CMU WALL.
7. REMOVE EXISTING OVERHANG AND WING WALLS. PATCH WALLS TO MATCH EXISTING.
8. REMOVE EXISTING DOUBLE GATES AND ENLARGE OPENING FOR NEW DOUBLE DOORS AND FRAME.
9. ENLARGE OPENING IN CMU WALL FOR NEW DOUBLE DOOR.
10. REMOVE EXISTING LOUVER BLOCK AND FILL IN OPENING WITH CMU.
11. BLOCK UP A PORTION OF THE EXISTING OPENING FOR A NEW WINDOW. REFER TO ARCHITECTURAL FLOOR PLAN FOR WINDOW DESIGNATION.
12. REMOVE PORTION OF EXISTING CONCRETE SLAB TO INSTALL NEW PLUMBING AND OTHER UTILITIES.. PATCH FLOOR WITH 4" THICK REINFORCED CONCRETE SLAB ON 10 MIL VAPOR BARRIER.
13. REMOVE EXISTING FENCING FOR NEW STOREFRONT. PATCH SURFACES TO MATCH EXISTING.
14. REPAIR EXISTING CONCRETE SLAB WITH NEW 4" THICK REINFORCED CONCRETE SLAB ON 10 MIL VAPOR BARRIER. REFER TO STRUCTURAL DRAWINGS FOR DETAIL.VERIFY SIZE AND EXTENT OF REPAIR.
15. EXISTING CONCRETE COLUMN TO REMAIN.
16. REMOVE SLAB ON GRADE.

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
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STATE OF FLORIDA
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Sheff L. Devier III AR0007699

Project No.:
2022-133
Drawn By:
EQ
Checked By:
SD
Date:
11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133_D1.0.dwg Layout Name: D1.0 Plotted by: equigley Plotted on: Nov 29, 2023 - 12:27pm

D1.0

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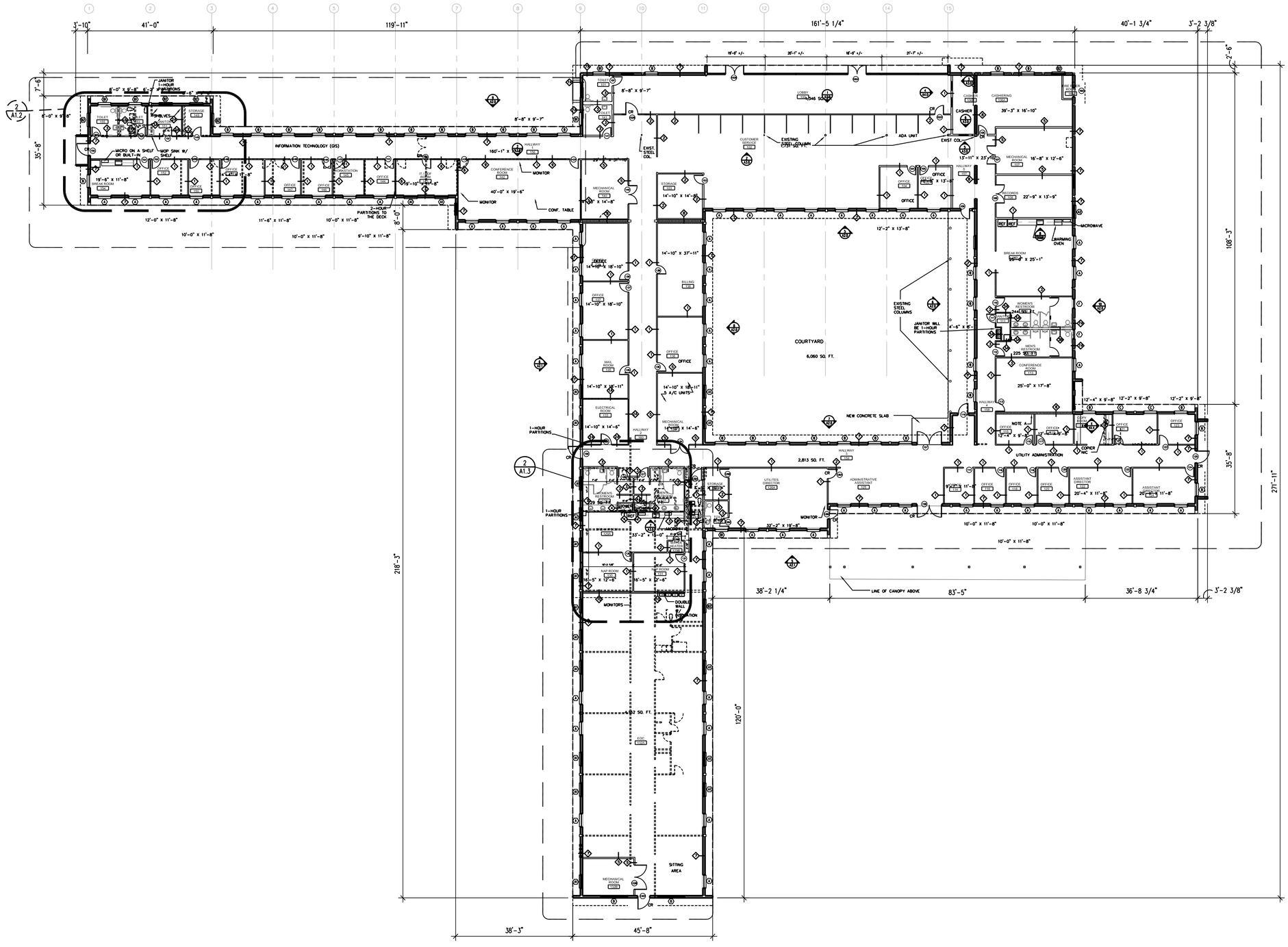
Attachment F



1 A1.0 OVERALL FLOOR PLAN
SCALE: 1/16" = 1'-0"

N

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Project No.:
2022-133
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Drawing name: S:\Projects\2022\2022-133\Drawings\01 CDs\03 Interior Comp\2022-133_A1.0.dwg Layout Name: A1.0 Plotted by: eqrigby Plotted on: Nov 29, 2023 - 12:28pm

A1.0

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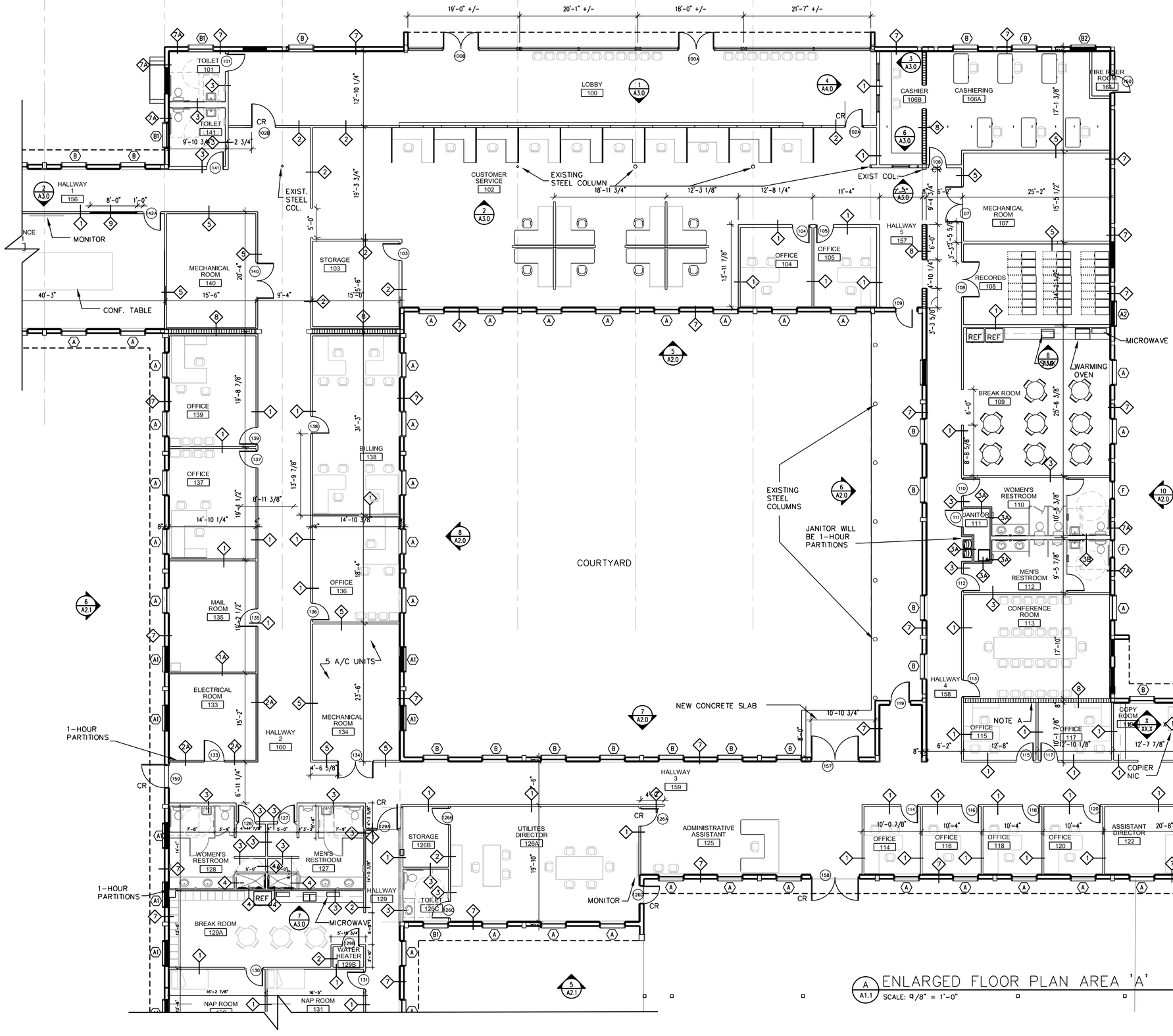

A A1.1 ENLARGED FLOOR PLAN AREA 'A'
SCALE: 3/8" = 1'-0"

N

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Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133_A1.0.dwg Layout Name: A1.1 Plotted by: eqrigby Plotted on: Nov 29, 2023 - 12:39pm

A1.1

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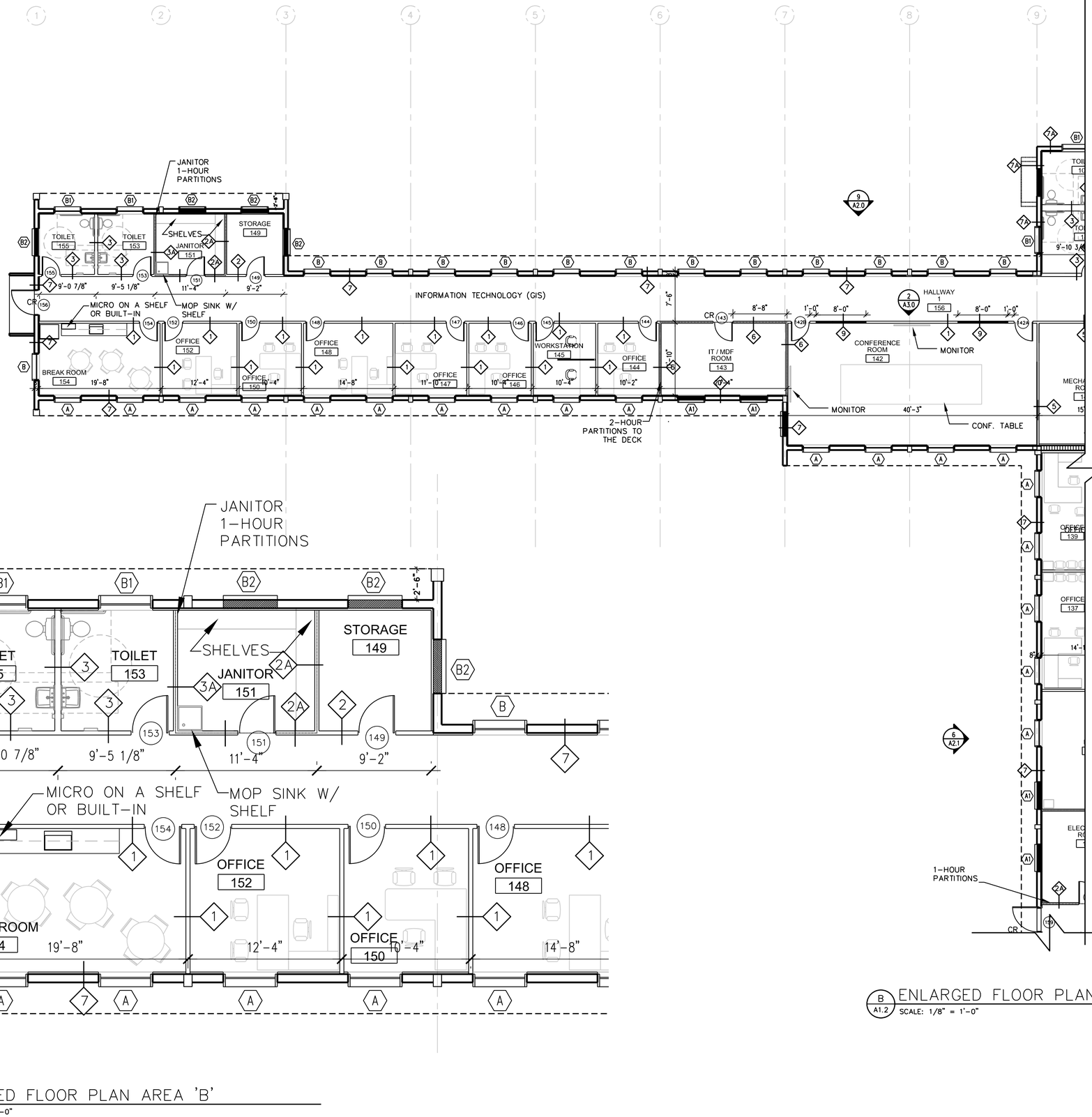

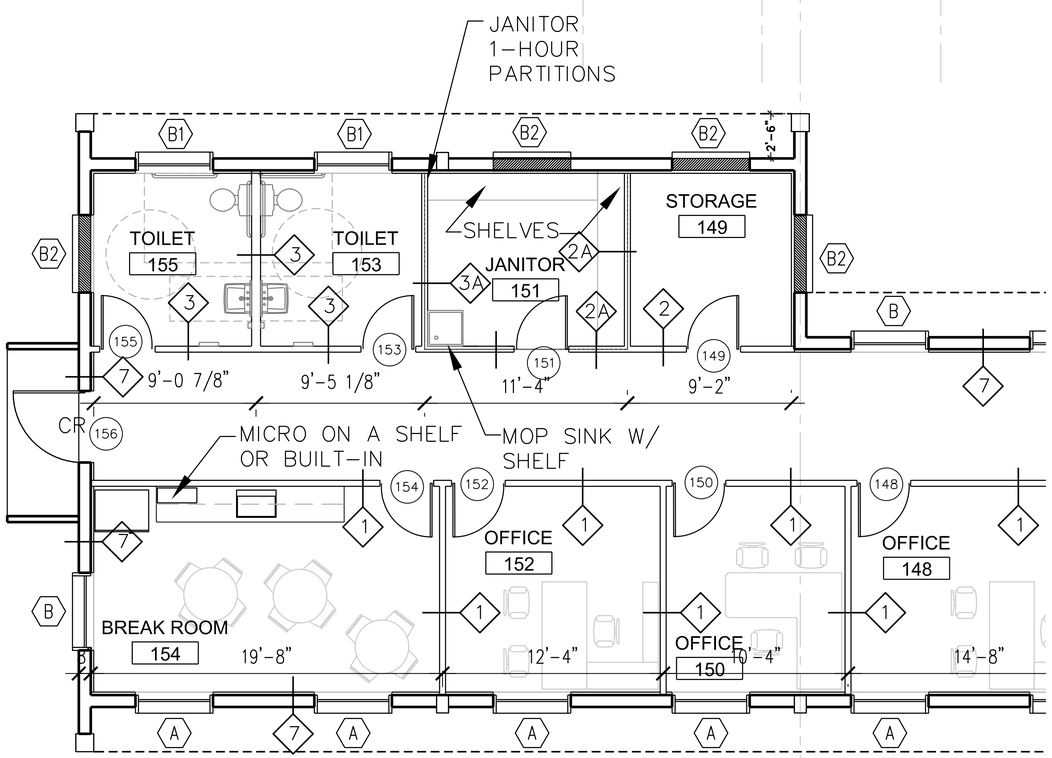

2 A1.2 ENLARGED FLOOR PLAN AREA 'B'
SCALE: 1/4" = 1'-0"

B A1.2 ENLARGED FLOOR PLAN AREA 'B'
SCALE: 1/8" = 1'-0"

N

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11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133_A1.0.dwg Layout Name: A1.2 Plotted by: equigley Plotted on: Nov 28, 2023 - 12:28pm

A1.2

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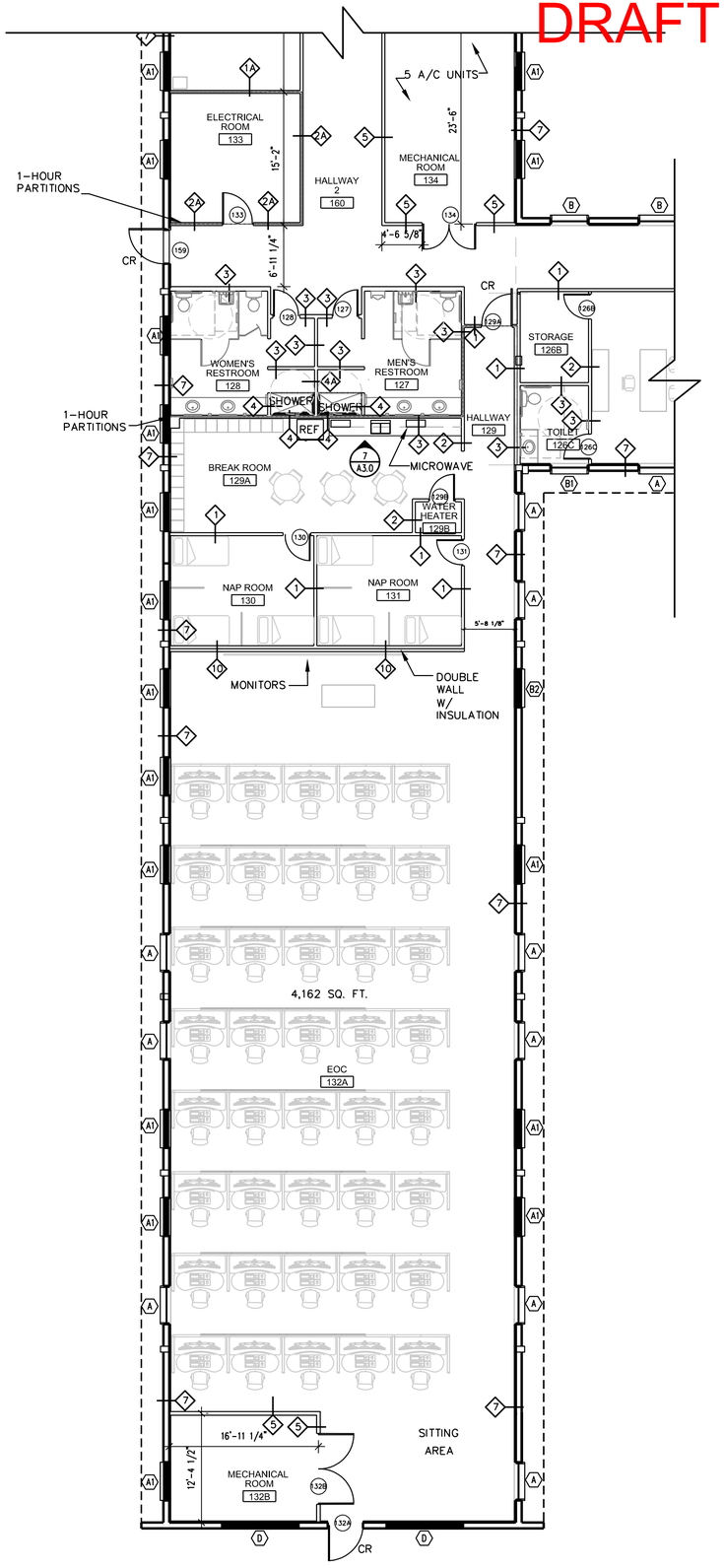
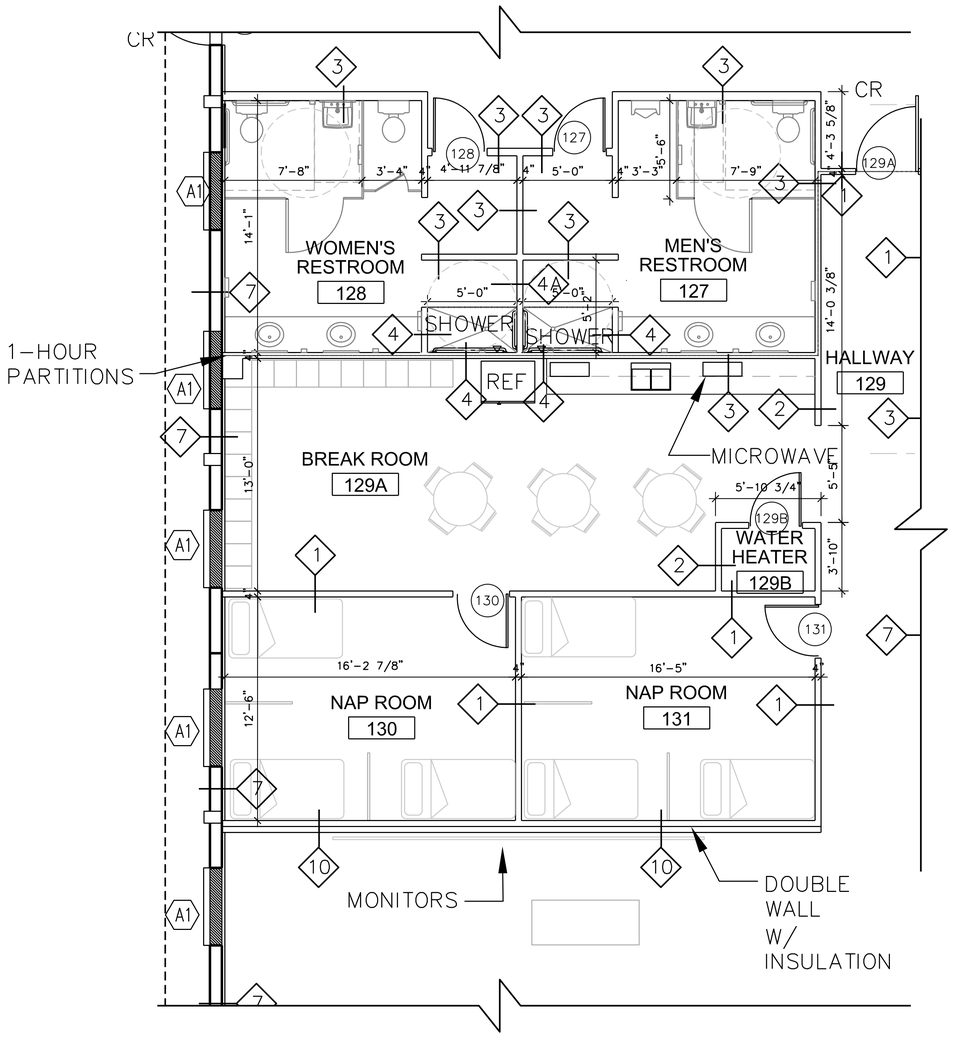
Attachment F



C A1.3 ENLARGED FLOOR PLAN AREA 'C'

SCALE: 1/8" = 1'-0"



2 A1.3 ENLARGED FLOOR PLAN AREA 'C'

SCALE: 1/4" = 1'-0"

N

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Checked By:
SD
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11/17/2023

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Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133_A1.3.dwg Layout Name: A1.3 Plotted by: equigley Plotted on: Nov 29, 2023 - 12:28pm

A1.3

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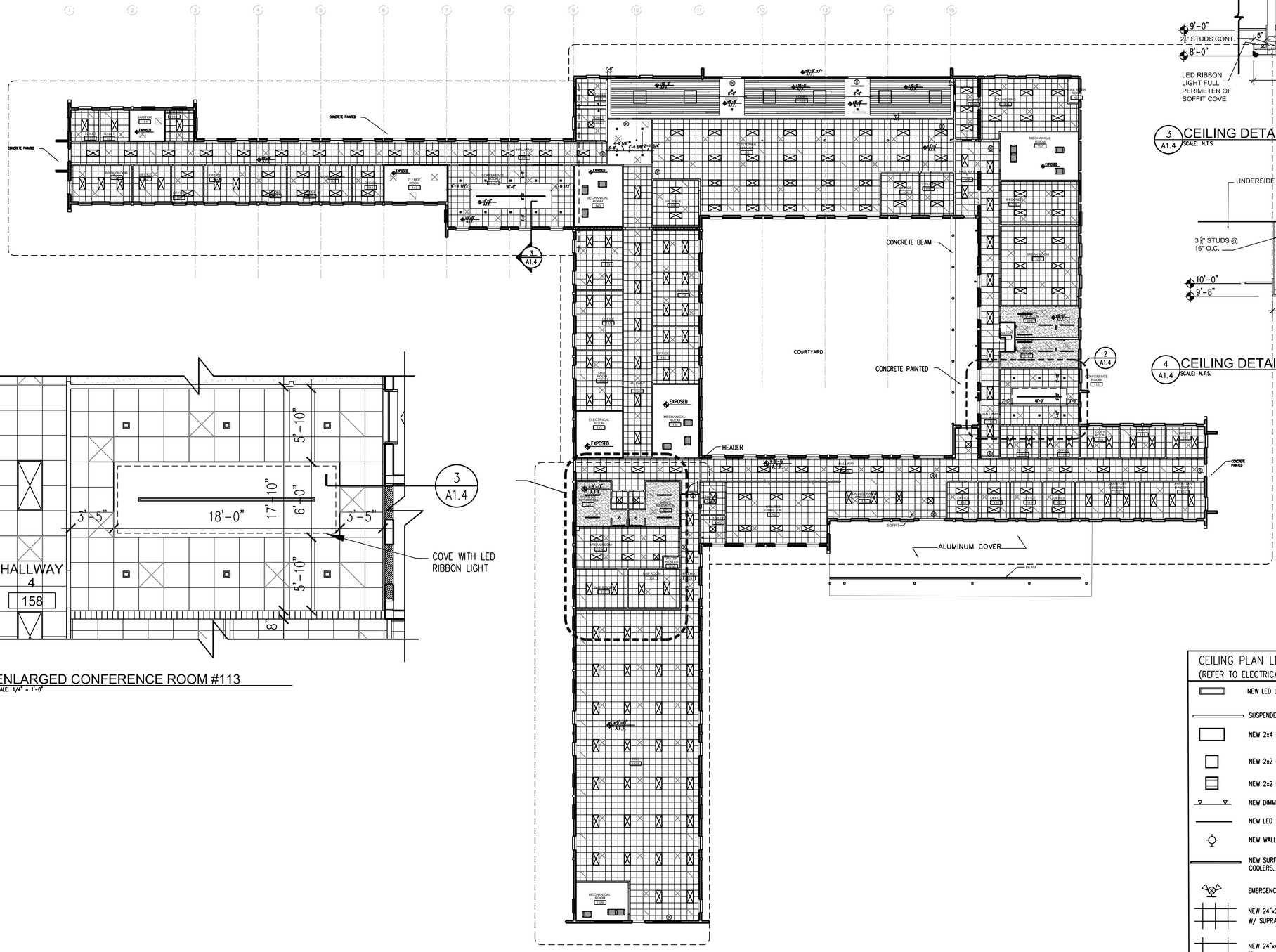
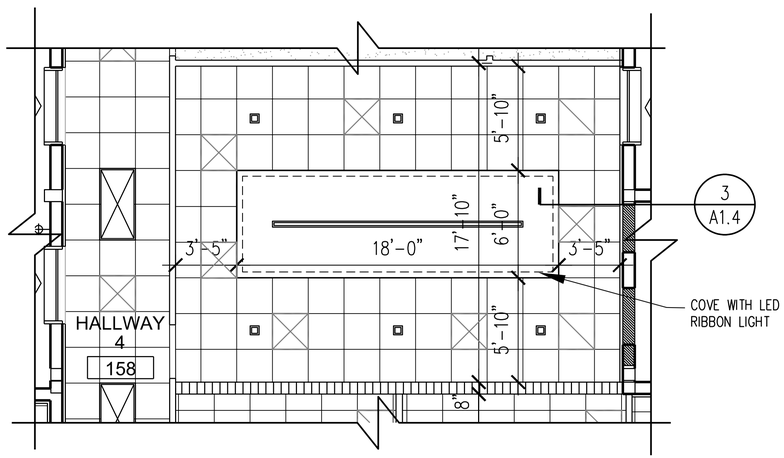
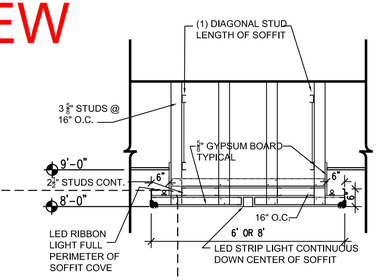
Attachment F

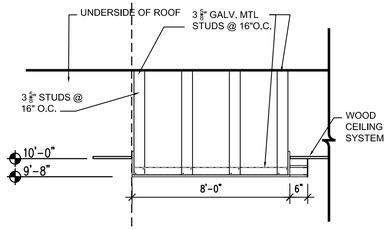




2 A1.4 ENLARGED CONFERENCE ROOM #113
SCALE: 1/4" = 1'-0"



3 A1.4 CEILING DETAIL - CONFERENCE ROOMS
SCALE: N.T.S.



4 A1.4 CEILING DETAIL - CONFERENCE ROOMS
SCALE: N.T.S.

1 A1.4 REFLECTED CEILING PLAN
SCALE: 1/16" = 1'-0"

N

NOTE:
1. ALL CEILINGS 8'-6" U. O. N.

CEILING PLAN LEGEND
(REFER TO ELECTRICAL DWGS FOR LIGHTING SPECIFICATIONS)

- NEW LED LINEAR LIGHT FIXTURE. B.O. FIXTURE @20'-0" AFF (U.N.O.)
- SUSPENDED LINEAR LIGHT FIXTURE
- NEW 2x4 LED LAY-IN LIGHT FIXTURE
- NEW 2x2 LED LAY-IN LIGHT FIXTURE
- NEW 2x2 LED LAY-IN DIRECT/INDIRECT LIGHT FIXTURE
- NEW DIMMABLE TRACK LIGHT FIXTURE
- NEW LED FLEXIBLE TAPE LIGHT FIXTURE
- NEW WALL MOUNTED LIGHT FIXTURE
- NEW SURFACE MOUNTED LED STRIP LIGHT FIXTURE @ COOLERS, FREEZERS, AND B.O.H. CORRIDORS
- EMERGENCY LIGHT/ EXIT SIGN FIXTURE
- NEW 24"x24" ARMSTRONG "DUNE" LAY-IN TEGULAR CEILING ACOUSTICAL TILE W/ SUPRAFINE 15/16" GRID
- NEW 24"x48" ARMSTRONG LAY-IN TEGULAR CEILING ACOUSTICAL TILE W/ 15/16" GRID

POLK BUILDING RENOVATION
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STATE OF FLORIDA
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Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 IDs\03 Interior Comp\2022-133_IDP - 05-22-2023.dwg Layout Name: A1.4 Plotted by: dpulphy Plotted on: Nov 28, 2023 - 12:28pm

A1.4

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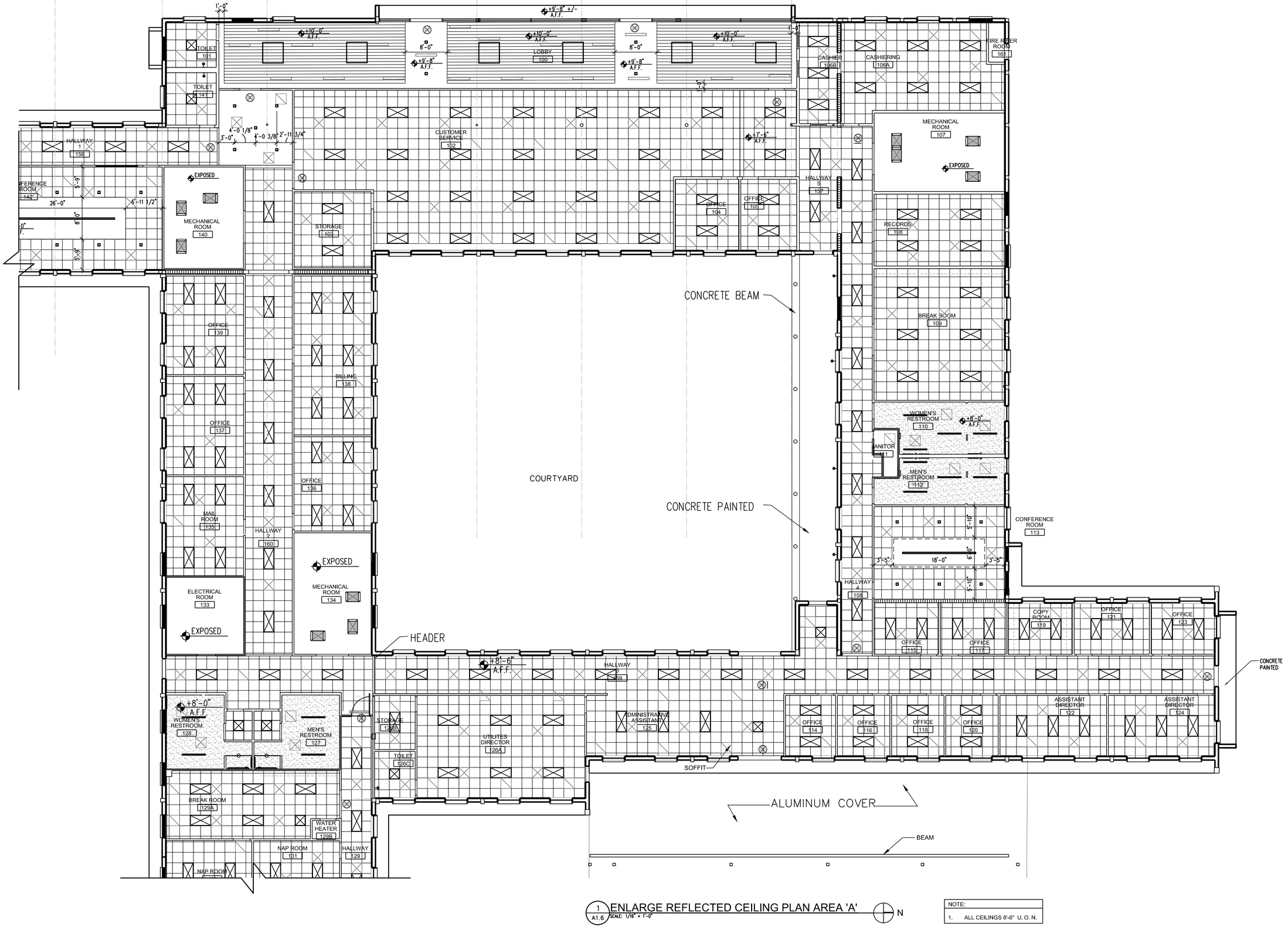

1 / A1.6 ENLARGE REFLECTED CEILING PLAN AREA 'A'

SCALE: 1/16" = 1'-0"

N

NOTE:

1. ALL CEILINGS 8'-6" U. O. N.

POLK BUILDING RENOVATION
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STATE OF FLORIDA
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Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\drawings\07 CDs\03 Interior Comp\2022-133_BOP - 05-22-2023.dwg Layout Name: A1.5 Plotted by: dsipley Plotted on: Nov 29, 2023 - 12:28pm

A1.5

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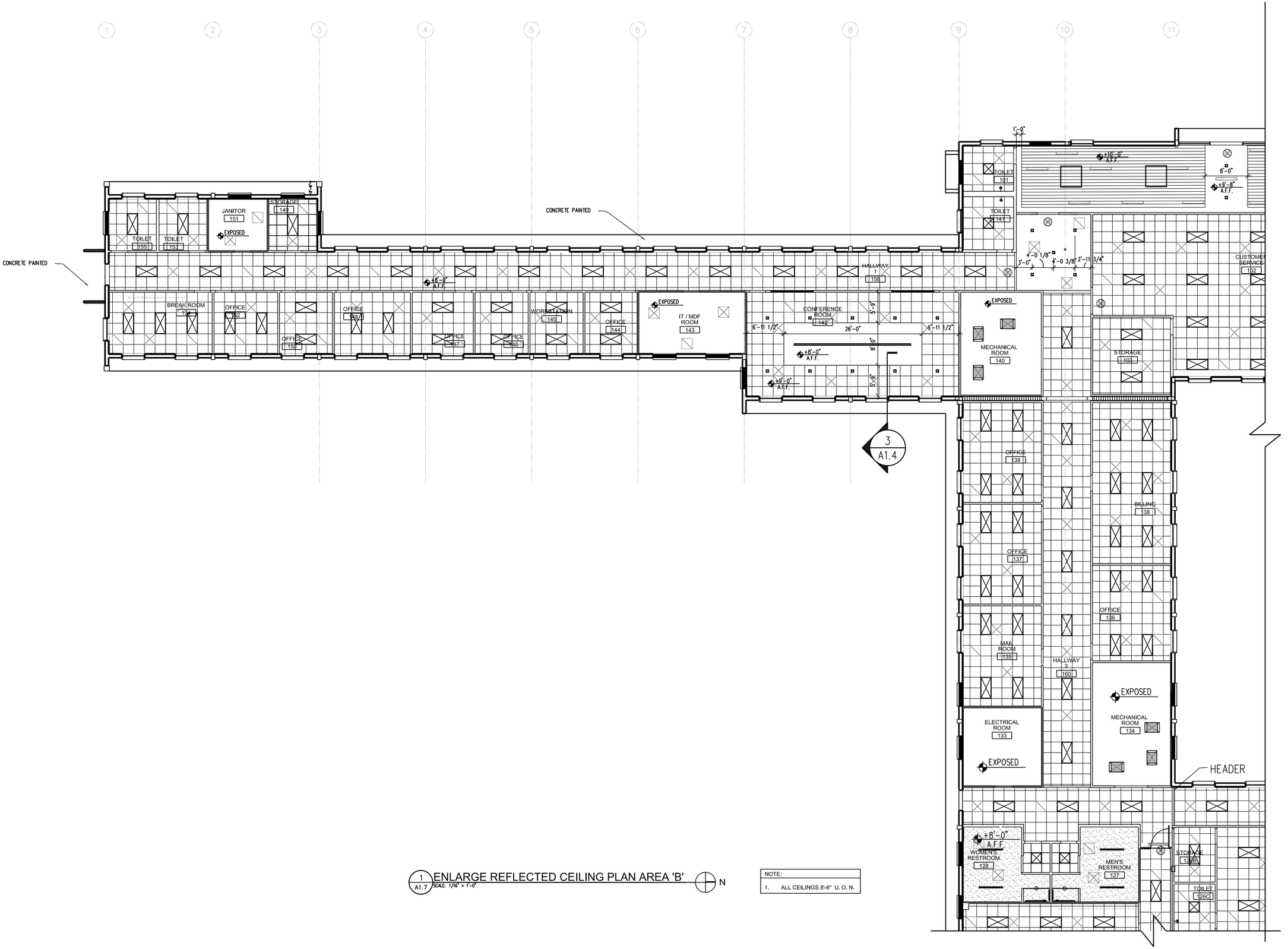

1 / A1.7 ENLARGE REFLECTED CEILING PLAN AREA 'B'
SCALE: 1/16" = 1'-0"

N

NOTE:
1. ALL CEILINGS 8'-6" U. O. N.

POLK BUILDING RENOVATION
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8200 SOUTH PALM DRIVE
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STATE OF FLORIDA
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REGISTERED ARCHITECT

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Project No.:
2022-133
Drawn By:
EQ
Checked By:
SD
Date:
11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\drawing\07 CDs\03 Interior Comm\2022-133_BOP -05-22-2023.dwg Layout Name: A1.6 Plotted by: dsplaley Plotted on: Nov 29, 2023 - 12:28pm

A1.6

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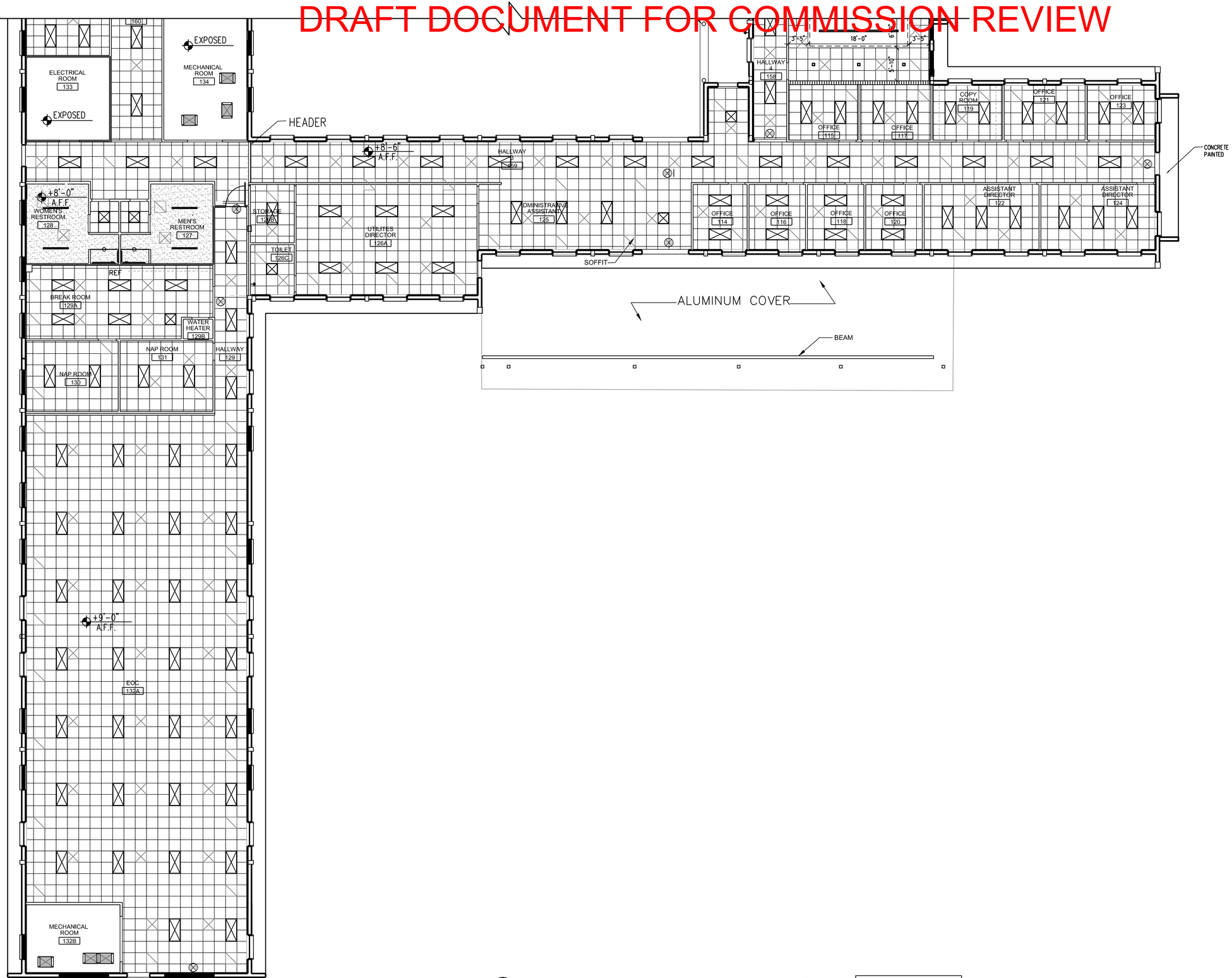

1 / A1.8 ENLARGE REFLECTED CEILING PLAN AREA 'C'
SCALE: 1/16" = 1'-0"

N

NOTE:
1. ALL CEILINGS 8'-6" U. O. N.

POLK BUILDING RENOVATION
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Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133_RFP -05-22-2023.dwg Layout Name: A1.7 Plotted by: eqodgers Plotted on: Nov 29, 2023 - 12:28pm

A1.7

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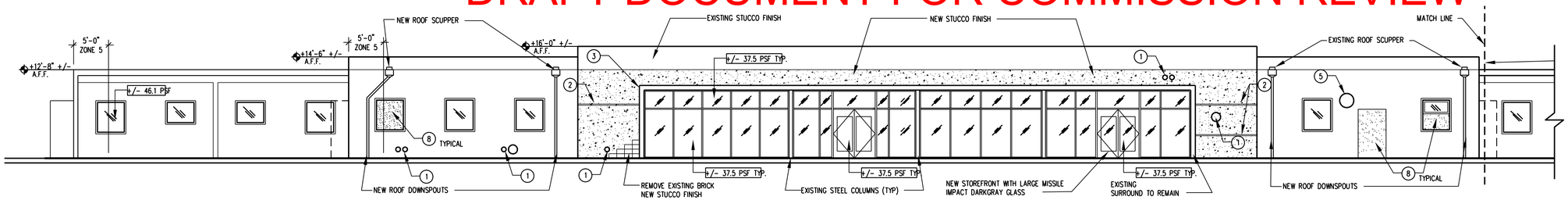
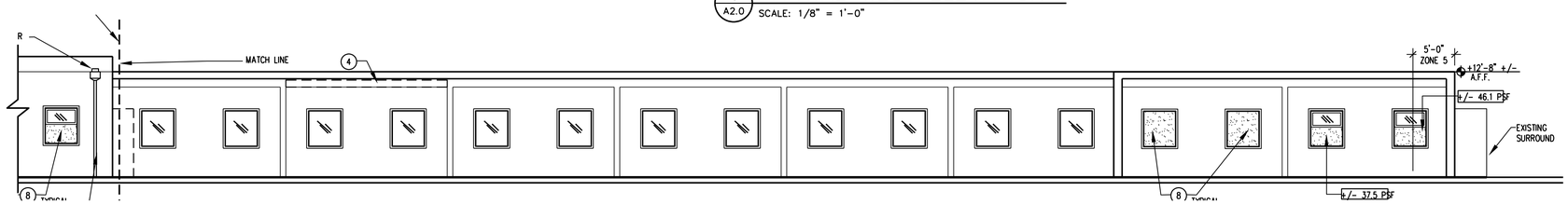


1 A2.0 PARTIAL WEST ELEVATION
SCALE: 1/8" = 1'-0"



2 A2.0 PARTIAL WEST ELEVATION
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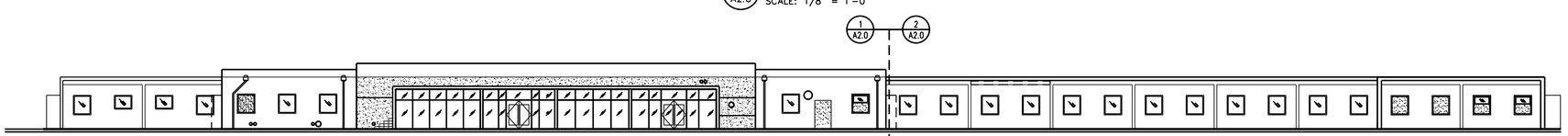
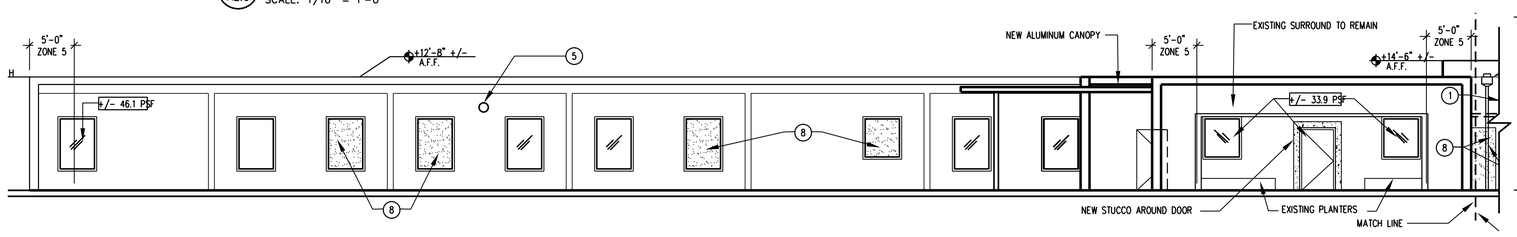
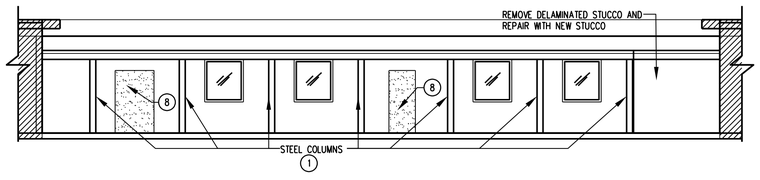


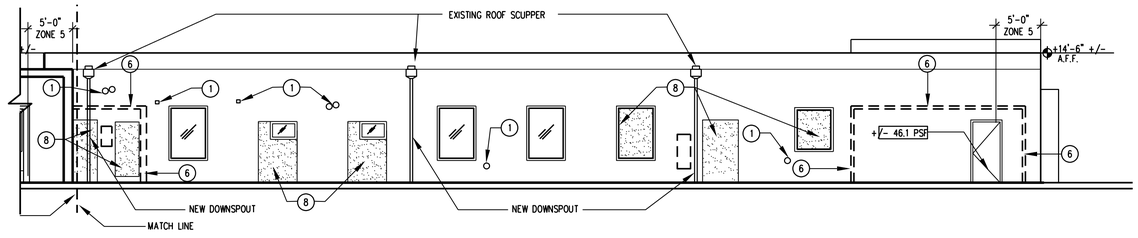
3 A2.0 WEST ELEVATION
SCALE: 1/16" = 1'-0"

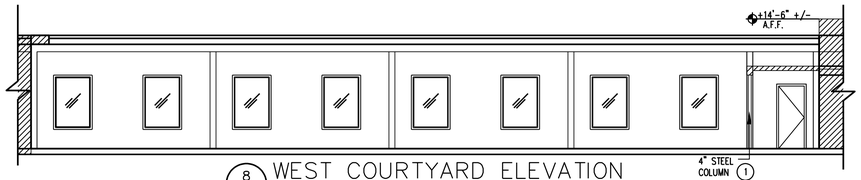




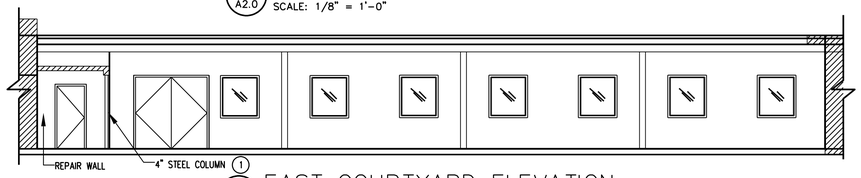
7 A2.0 NORTH COURTYARD ELEVATION
SCALE: 1/8" = 1'-0"

4 A2.0 PARTIAL NORTH ELEVATION
SCALE: 1/8" = 1'-0"



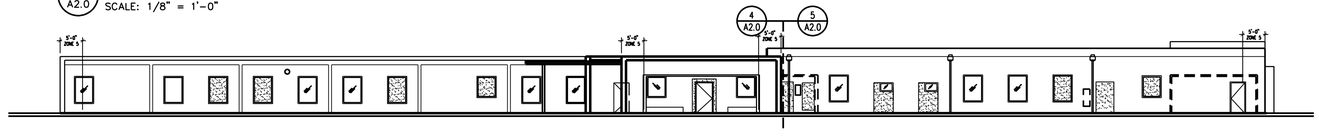


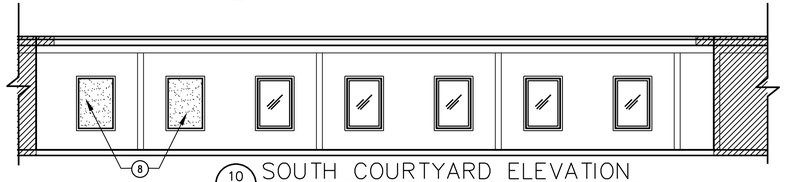
8 A2.0 WEST COURTYARD ELEVATION
SCALE: 1/8" = 1'-0"



9 A2.0 EAST COURTYARD ELEVATION
SCALE: 1/8" = 1'-0"

5 A2.0 PARTIAL NORTH ELEVATION
SCALE: 1/8" = 1'-0"





10 A2.0 SOUTH COURTYARD ELEVATION
SCALE: 1/8" = 1'-0"

6 A2.0 NORTH ELEVATION
SCALE: 1/16" = 1'-0"

NOTE: WIND PRESSURES ON ALL OPENINGS NOT IN ZONE 5 AREAS ARE +/-37.5 PSF. UNLESS OTHERWISE NOTED

SPECIFIC NOTES

1. PATCH EXISTING HOLE IN CMU WALL WITH FILLED CELL CONCRETE MIX, SEE STRUCTURAL DRAWINGS.
2. REMOVE EXCESS MORTAR FROM WALL AND CLEAN EXPOSED CMU TO INSTALL NEW STUCCO FINISH
3. REMOVE EXPOSED BOLTS, ETC., CLEAN SURFACE AND APPLY STUCCO ON CONCRETE SURROUND
4. REMOVE WOOD HEADER FROM WALL, PATCH AND REPAIR WALL BEHIND THE WOOD
5. REMOVE OLD FAN AND FILL OPENING WITH CMU AND TYPE "S" MORTAR, OR CONCRETE, PATCH STUCCO
6. REMOVE EXISTING CONCRETE SURROUND, PATCH WALL TO MATCH EXISTING, INCLUDING STUCCO
7. STEEL COLUMNS- REMOVE RUST BY WIRE BRUSHING AND SANDING. PAINT WITH STEEL PRIMER AND MINIMUM TWO TOP COATS OF PAINT. REPORT ANY AREAS OF FULLY CORRODED STEEL TO ARCHITECT AND OWNER PRIOR TO RESTORING THE AREA
8. EXISTING WINDOW OR DOOR OPENING FILLED WITH CMU PER STRUCTURAL DETAIL, FINISH EXTERIOR WITH STUCCO.

GENERAL NOTES

- (A) REPAIR ALL CRACKS IN EXISTING STUCCO
- (B) REMOVE ALL ITEMS, INSTALLED ON EXISTING WALLS NOT SCHEDULED OR NOTED TO REMAIN, INCLUDING BUT NOT NECESSARILY LIMITED TO CONDUITS, JUNCTION BOXS, SCREWS, BOLTS PIPES, ELECTRIC FIXTURES, ETC.

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES

8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

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sma@saltzmichelson.com

AR-0009976

STATE OF FLORIDA
SHEFF L. DEVIER III
AR0007699
REGISTERED ARCHITECT

Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\01 CD\03 Interior Comp\2022-133_A1-0_EXTERIOR ELEVATIONS - 25-22-2023b.dwg Layout Name: A2.0 Plotted by: ebayliss Plotted on: Nov 29, 2023 - 12:29pm

A2.0

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment F

SPECIFIC NOTES

1. PATCH EXISTING HOLE IN CMU WALL WITH FILLED CELL CONCRETE MIX, SEE STRUCTURAL DRAWNGS.
2. REMOVE EXCESS MORTAR FROM WALL AND CLEAN EXPOSED CMU TO INSTALL NEW STUCCO FINISH
3. REMOVE EXPOSED BOLTS, ETC., CLEAN SURFACE AND APPLY STUCCO ON CONCRETE SURROUND
4. REMOVE WOOD HEADER FROM WALL, PATCH AND REPAIR WALL BEHIND THE WOOD
5. REMOVE OLD FAN AND FILL OPENING WITH CMU AND TYPE "S" MORTAR, OR CONCRETE, PATCH STUCCO
6. REMOVE EXISTING CONCRETE SURROUND, PATCH WALL TO MATCH EXISTING, INCLUDING STUCCO
7. STEEL COLUMNS- REMOVE RUST BY WIRE BRUSHING AND SANDING. PAINT WITH STEEL PRIMER AND MINIMUM TWO TOP COATS OF PAINT. REPORT ANY AREAS OF FULLY CORRODED STEEL TO ARCHITECT AND OWNER PRIOR TO RESTORING THE AREA
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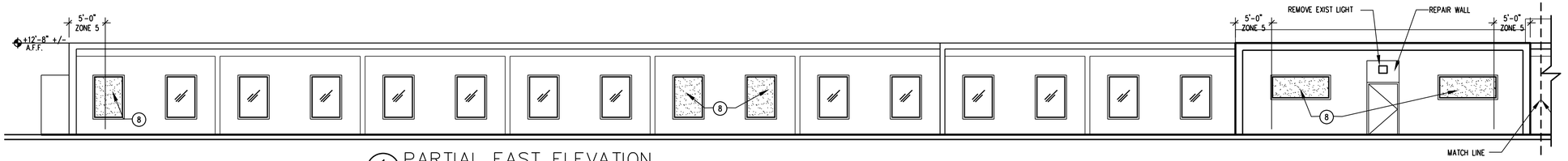
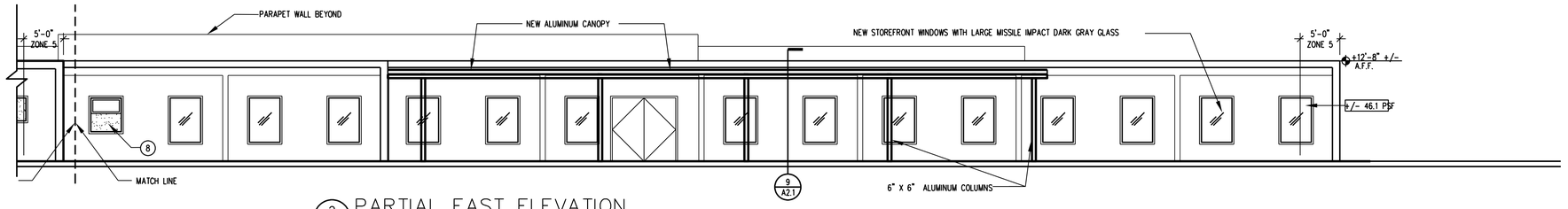
- A. REPAIR ALL CRACKS IN EXISTING STUCCO
- B. REMOVE ALL ITEMS, INSTALLED ON EXISTING WALLS NOT SCHEDULED OR NOTED TO REMAIN, INCLUDING BUT NOT NECESSARILY LIMITED TO CONDUITS, JUNCTION BOXS, SCREWS, BOLTS PIPES, ELECTRIC FIXTURES, ETC.



1 A2.1 PARTIAL EAST ELEVATION
SCALE: 1/8" = 1'-0"



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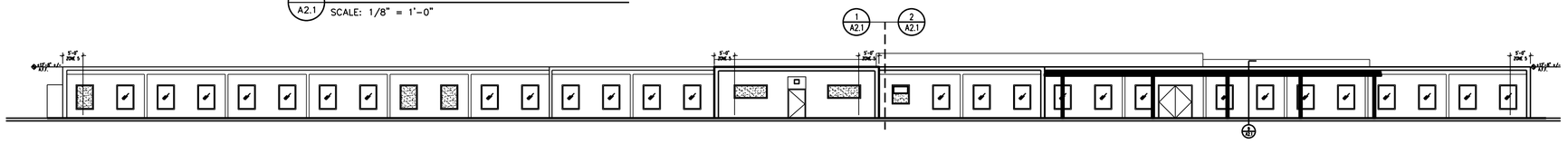

3 A2.1 EAST ELEVATION
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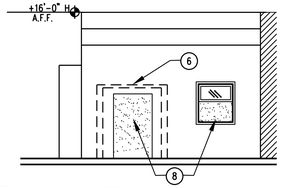

7 A2.1 PARTIAL SOUTH ELEVATION
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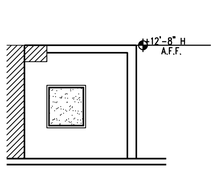

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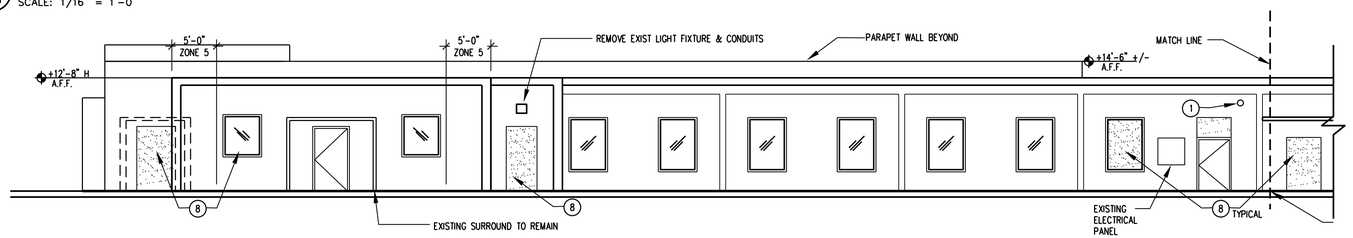

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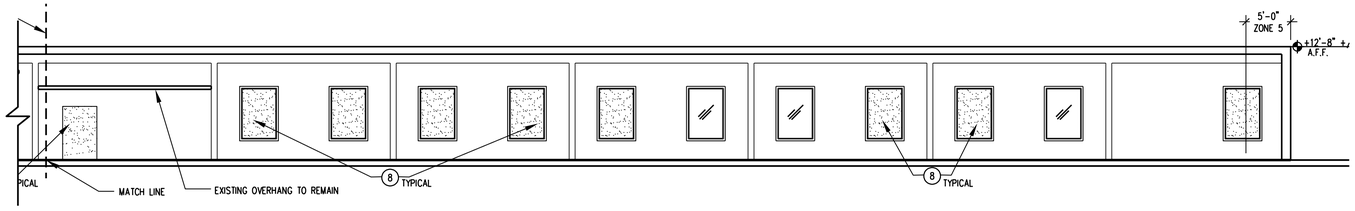

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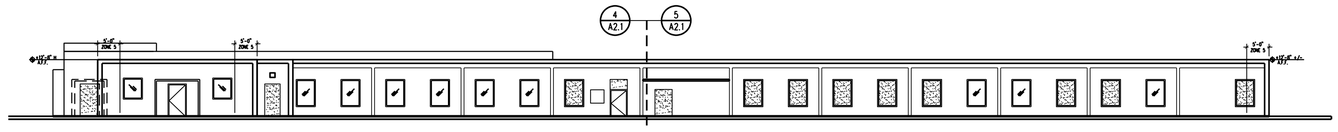

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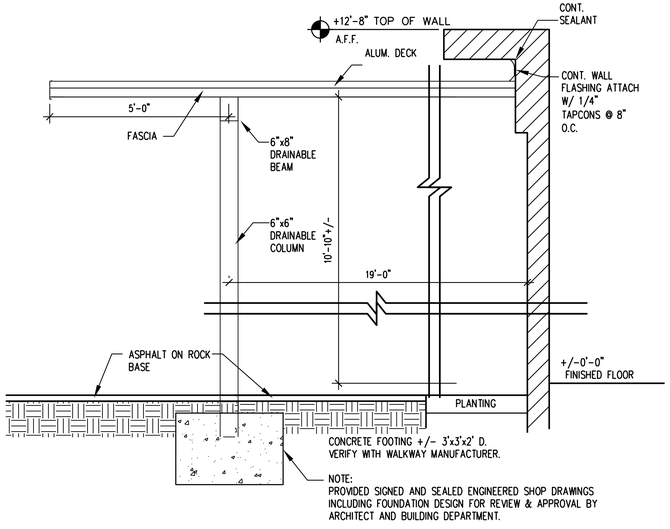

9 A2.1 ALUMINUM CANOY SECTION
SCALE: 1/2" = 1'-0"

NOTE: WIND PRESSURES ON ALL OPENINGS NOT IN ZONE 5 AREAS ARE +/-37.5 PSF. UNLESS OTHERWISE NOTED

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STATE OF FLORIDA
SHEFF L. DEVIER III
AR0007699
REGISTERED ARCHITECT

Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CD\A2.1 exterior Dwng.dwg, 11/17/2023 12:26:09 pm, Nov 29, 2023 - 12:26pm, Plotted by: dagley, Layout: Name: A2.1, Xrefs: A-0-0_EXTERIOR ELEVATIONS - 05-22-2023.dwg

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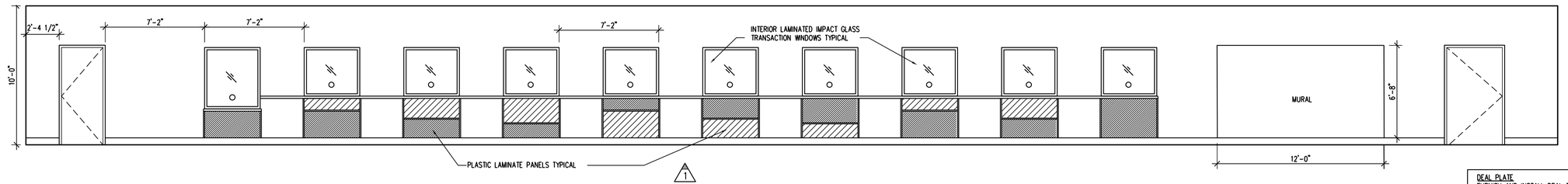
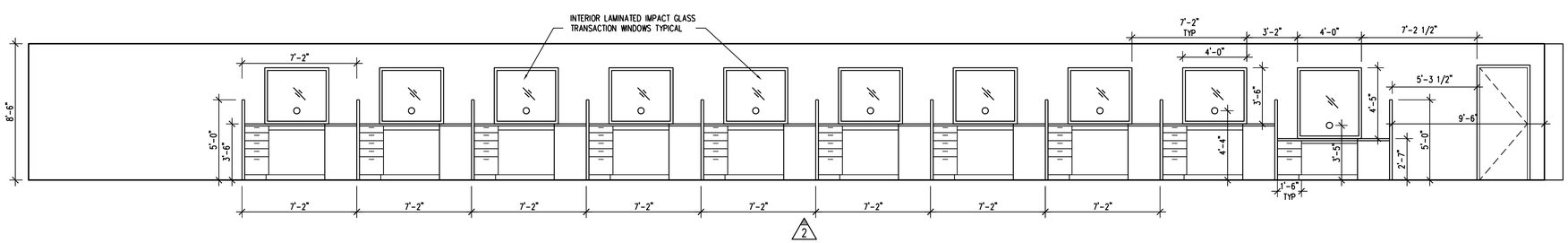
DRAFT DOCUMENT FOR COMMISSION REVIEW



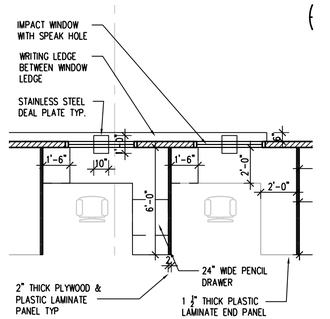
1
CUSTOMER SERVICE

DEAL PLATE
FURNISH AND INSTALL DEAL TRAYS EQUAL TO 'APWONE' DROP-IN DEAL TRAY, 304 STAINLESS STEEL TRAY.
SIZE: 12 INCHES LONG X 10 INCHES WIDE AND 1.6 INCHES DEEP.
QUANTITY: 13 REQUIRED
INSTALL IN COUNTER TOPS AT ALL TRANSACTION WINDOWS.

SPEAK THRU
EQUAL TO 'QUICKSERV BST5-1087' HEAVY DUTY ROUND STAINLESS STEEL SPEAK THRU NON-BULLET RESISTANT 5' DIAMETER.
QUANTITY: 13 REQUIRED.
INSTALL IN TRANSACTION WINDOWS.

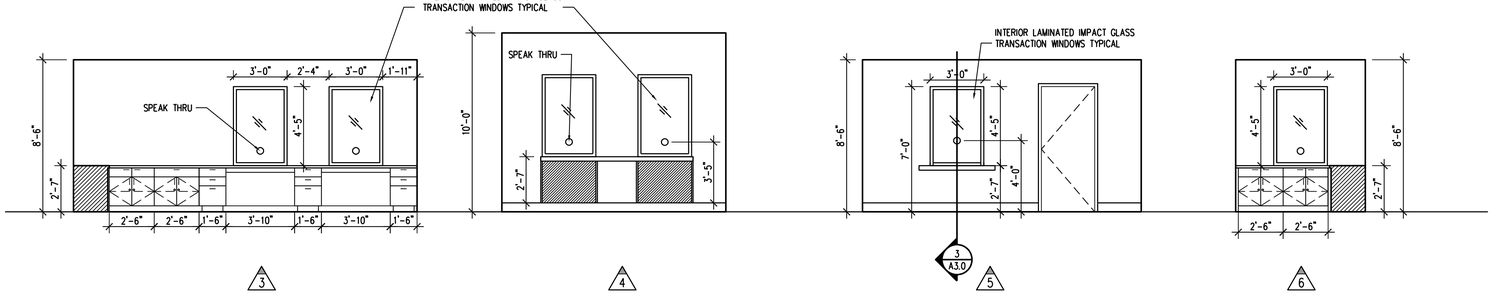


2
CUSTOMER SERVICE



TYP. DESK / HANDICAP DESK PLAN

SCALE: 1/4" = 1'-0"



3
CASHIER

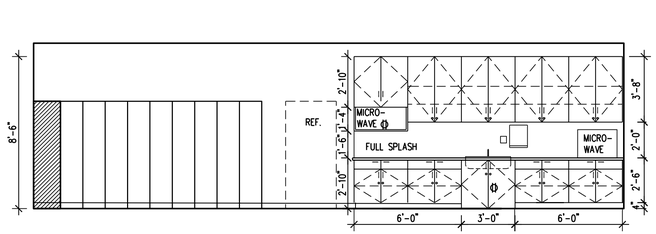
4
LOBBY

3
A3.0
5
HALLWAY 5

6
CASHIER

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0"



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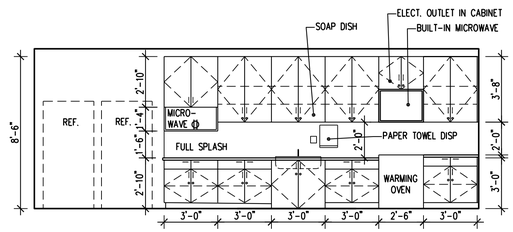
BREAK ROOM #129A



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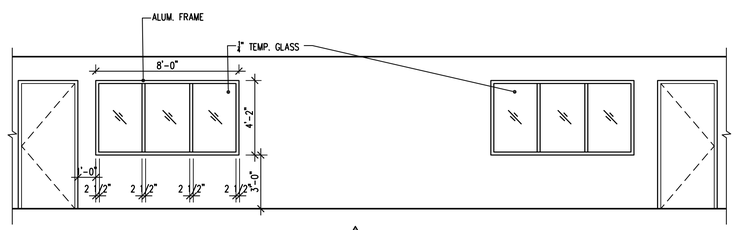
BREAK ROOM #109



9
CONFERENCE ROOM

INTERIOR LAMINATED IMPACT GLASS

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STATE OF FLORIDA
SHEFF L. DEVIER III
REGISTERED ARCHITECT
AR0007699

Sheff L. Devier III AR0007699

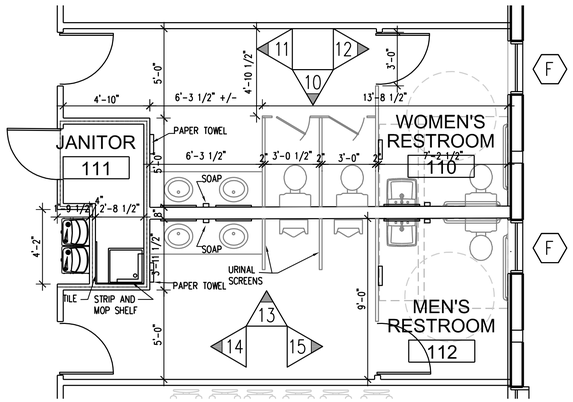
Project No.:
2022-133
Drawn By:
EQ
Checked By:
SD
Date:
11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133 A3.0-A3.1 INTERIOR ELEVATIONS.dwg Layout Name: A3.0 Plotted by: equigley Plotted on: Nov 29, 2023 - 12:29pm

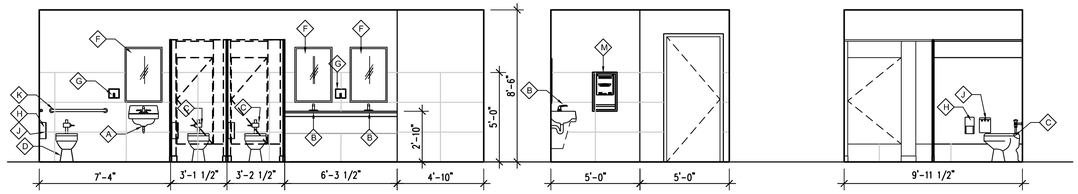
A3.0

DRAFT DOCUMENT FOR COMMISSION REVIEW



1 A3.1 ENLARGED RESTROOMS

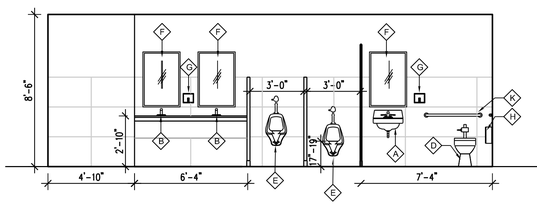
SCALE: 1/4" = 1'-0"



10 WOMEN'S RESTROOM #112

11 WOMEN'S RESTROOM #110

12 WOMEN'S RESTROOM #110



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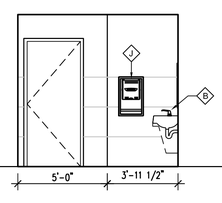

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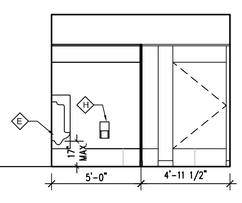

15 MEN'S RESTROOM #112

FIXTURE AND ACCESSORY SPECIFICATIONS

MARK	MANUFACTURER	MODEL #	DESCRIPTION	REMARKS
A	WALL HUNG LAV		SEE PLUMBING DRAWINGS	
B	COUNTER MOUNTED LAV		SEE PLUMBING DRAWINGS	
C	WATER CLOSET		SEE PLUMBING DRAWINGS	
D	ADA WATER CLOSET		ADA COMPLIANT FAUCET - SEE PLUMBING DRAWINGS	
E	URINAL		SEE PLUMBING DRAWINGS	
F	BOBRICK	B-165 2436	24"x36" MIRROR W/ STAINLESS STEEL FRAME	NO EXPOSED FASTENERS
G	BOBRICK	B-2012	AUTOMATIC SOAP DISPENSER (SURFACE MOUNTED)	SURFACE MOUNT @ ADA HEIGHT
H	BOBRICK	B-4288	TOILET PAPER DISPENSER	
J	BOBRICK	B-270	SANITARY NAPKIN DISPOSAL	SURFACE MOUNT @ ADA HEIGHT
K	BOBRICK	B-5806x36	36" LONG X 1 1/2" DIA., S.S. GRAB BAR, CONCEALED MOUNTING	MOUNT @ 36" A.F.F. ALONG REAR WALL (PROVIDE ¾" WOOD BACKING AS REQUIRED)
L	BOBRICK	B-5806x42	42" LONG X 1½" DIA., S.S. GRAB BAR, CONCEALED MOUNTING	MOUNT @ 36" A.F.F. ALONG SIDE WALL (PROVIDE ¾" WOOD BACKING AS REQUIRED)
M	MOP SINK		24"x24" MOP SINK W/ FAUCET	
N	BOBRICK	B-4369	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE	RECESSED MOUNT @ 42" A.F.F. TO PAPER DISPENSER

GENERAL NOTES:
1. RESTROOMS SHALL MEET THE REQUIREMENTS OF FLA. STATUTE 553 FOR ADA ACCESSIBILITY AND 7TH EDITION (2020) FLA. ACCESSIBILITY CODE (FAC).
2. PROVIDE 20 GAUGE METAL STUDS @16" O.C. IN ALL WALLS WHERE WALL TILE AND WALL MOUNTED FIXTURES AND ACCESSORIES ARE LOCATED.
3. REFER TO SHEET A7.0 FOR WALL TYPES, PARTITION DETAIL SHEET.
4. REFER TO SHEET A8.0 FOR DOOR SCHEDULE
5. FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET
6. THE FOLLOWING ITEMS SHALL BE IMPLEMENTED TO ALLEVIATE REST ROOM NOISE TRANSMISSION:
   A. BANDS OR COLLARS OF RESILIENT MATERIAL (RUBBER, FELT, MINERAL WOOL, NEOPRENE) SHALL BE PLACED AROUND TOILET PIPES AT POINTS OF SUPPORT AND SLAB PENETRATION.
   B. ISOLATE HIGH PRESSURE WATER SUPPLY LINES FROM STUD AND FLOOR SLABS WITH RUBBER CLAMPS
   C. ISOLATE THE JUNCTION BOX BETWEEN THE TOILETS HIGH PRESSURE WATER SUPPLY PIPE AND THE WALL (AT LEASE ½" NEOPRENE CAULK AND NO RIGID JUNCTION).
   D. INSERT A PRESSURE RELIEF SYSTEM IN THE TOILET'S HIGH PRESSURE WATER SUPPLY LINE.

RESTROOM ADA NOTES:
1. ALL PUBLIC SPACES TO COMPLY WITH FBC AND ADA GUIDELINES
2. THE STRUCTURAL STRENGTH OF GRAB BARS, FASTENERS AND MOUNTING DEVICES, SHALL COMPLY WITH FBC ADA GUIDELINES.
3. FLOOR SLOPES IN PUBLIC/ ACCESSIBLE AREAS NOT TO EXCEED 1:50 OR 2%

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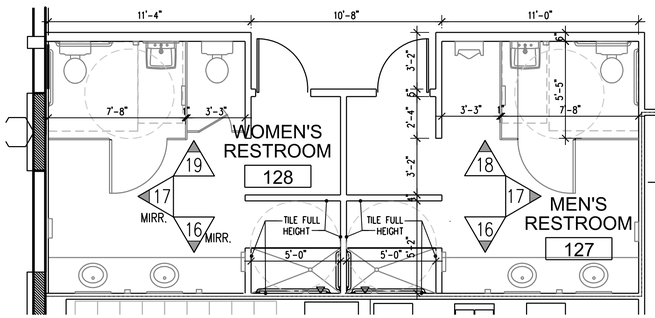
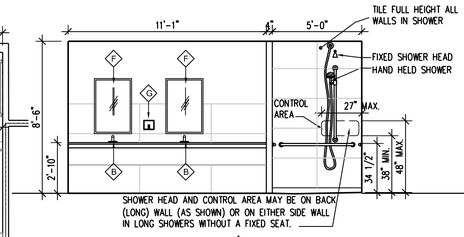
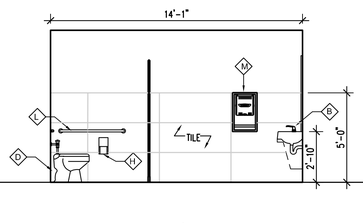




16 RESTROOM #127 & 128(MIRR.)



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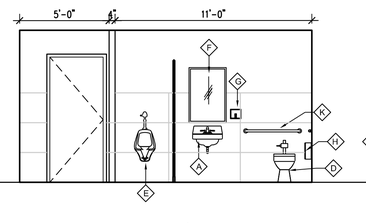
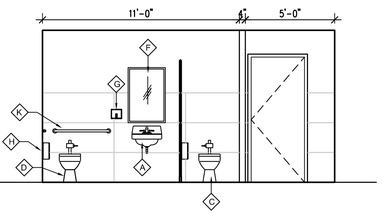


18 MEN'S RESTROOM #127



19 WOMEN'S RESTROOM #128

2 A3.1 ENLARGED RESTROOMS

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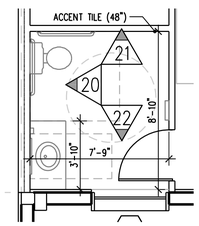
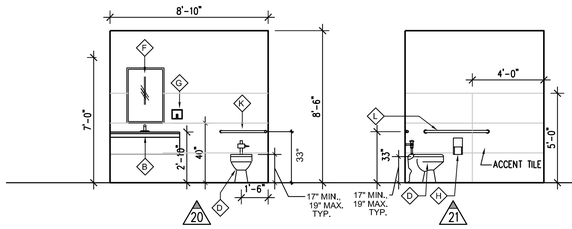


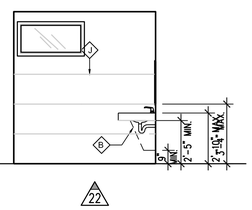
3 A3.1 DIRECTOR'S OFFICE BATHROOM

SCALE: 1/4" = 1'-0"



TOILET #126C

TOILET #126C

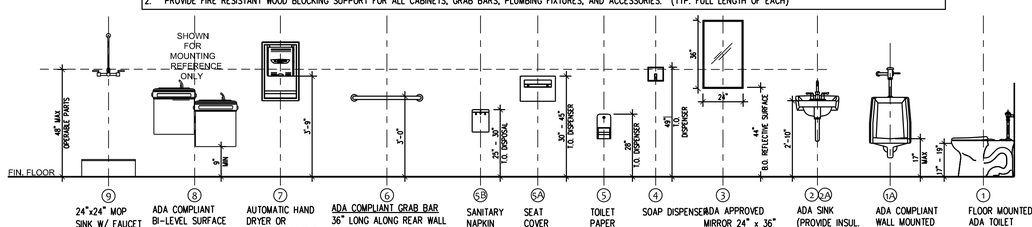


22 TOILET #126C

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0"

NOTE:
1. RESTROOM ACCESSORIES SHALL BE MOUNTED W/ THEIR "OPERABLE PARTS" (I.E. DISPENSING MECHANISMS, START BUTTONS, COIN SLOTS, DISPENSER OPENINGS, ETC) @ 48" AFF MAX
2. PROVIDE FIRE RESISTANT WOOD BLOCKING SUPPORT FOR ALL CABINETS, GRAB BARS, PLUMBING FIXTURES, AND ACCESSORIES. (TYP. FULL LENGTH OF EACH)



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AR0007699
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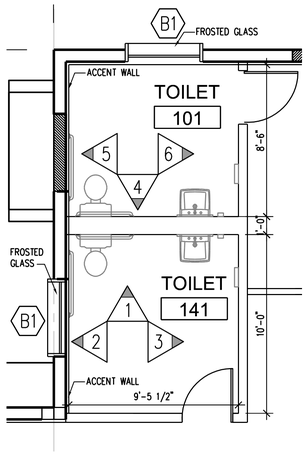
Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133 A3.0-A3.1 INTERIOR ELEVATIONS.dwg Layout Name: A3.1 Plotted by: equigley Plotted on: Nov 28, 2023 - 12:29pm

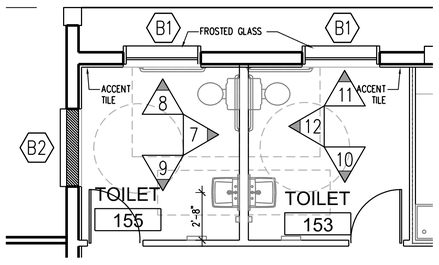
A3.1

DRAFT DOCUMENT FOR COMMISSION REVIEW



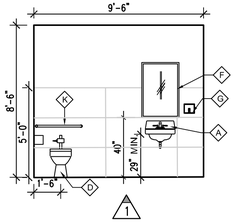
1 / A3.2 ENLARGED RESTROOMS

SCALE: 1/4" = 1'-0"

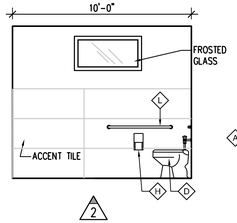


2 / A3.2 ENLARGED RESTROOMS

SCALE: 1/4" = 1'-0"



1 TOILET #141



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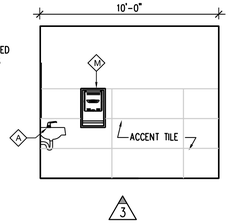

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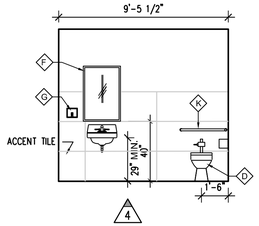

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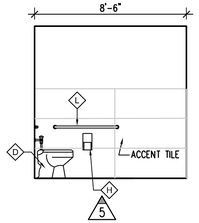

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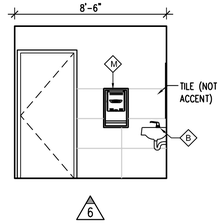

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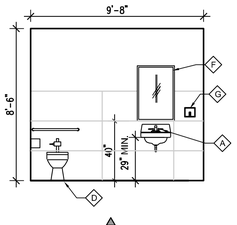

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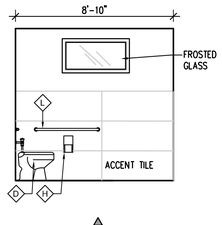

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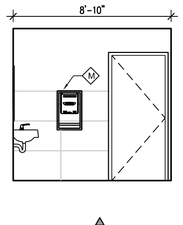

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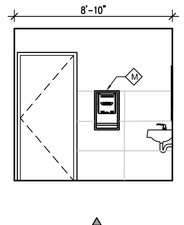

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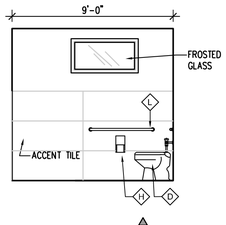

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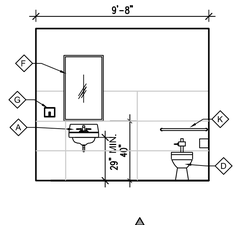


12 TOILET #153

INTERIOR ELEVATIONS

SCALE: 1/4" = 1'-0"

FIXTURE AND ACCESSORY SPECIFICATIONS

MARK	MANUFACTURER	MODEL #	DESCRIPTION	REMARKS
A	WALL HUNG LAV		SEE PLUMBING DRAWINGS	
B	COUNTER MOUNTED LAV		SEE PLUMBING DRAWINGS	
C	WATER CLOSET		SEE PLUMBING DRAWINGS	
D	ADA WATER CLOSET		ADA COMPLIANT FAUCET – SEE PLUMBING DRAWINGS	
E	URINAL		SEE PLUMBING DRAWINGS	
F	BOBRICK	B-165 2436	24"x36" MIRROR W/ STAINLESS STEEL FRAME	NO EXPOSED FASTENERS
G	BOBRICK	B-2012	AUTOMATIC SOAP DISPENSER (SURFACE MOUNTED)	SURFACE MOUNT @ ADA HEIGHT
H	BOBRICK	B-4288	TOILET PAPER DISPENSER	
J	BOBRICK	B-270	SANITARY NAPKIN DISPOSAL	SURFACE MOUNT @ ADA HEIGHT
K	BOBRICK	B-5806x36	36" LONG X 1 1/2" DIA., S.S. GRAB BAR, CONCEALED MOUNTING	MOUNT @ 36" A.F.F. ALONG REAR WALL (PROVIDE ¾" WOOD BACKING AS REQUIRED)
L	BOBRICK	B-5806x42	42" LONG X 1½" DIA., S.S. GRAB BAR, CONCEALED MOUNTING	MOUNT @ 36" A.F.F. ALONG SIDE WALL (PROVIDE ¾" WOOD BACKING AS REQUIRED)
M	MOP SINK		24"x24" MOP SINK W/ FAUCET	
N	BOBRICK	B-4369	PAPER TOWEL DISPENSER AND WASTE RECEPTACLE	RECESSED MOUNT @ 42" A.F.F. TO PAPER DISPENSER

GENERAL NOTES:

1. RESTROOMS SHALL MEET THE REQUIREMENTS OF FLA. STATUTE 553 FOR ADA ACCESSIBILITY AND 7TH EDITION (2020) FLA. ACCESSIBILITY CODE (FAC).
2. PROVIDE 20 GAUGE METAL STUDS @16" O.C. IN ALL WALLS WHERE WALL TILE AND WALL MOUNTED FIXTURES AND ACCESSORIES ARE LOCATED.
3. REFER TO SHEET A7.0 FOR WALL TYPES, PARTITION DETAIL SHEET.
4. REFER TO SHEET A8.0 FOR DOOR SCHEDULE
5. FLUSH CONTROLS SHALL BE LOCATED ON THE OPEN SIDE OF THE WATER CLOSET
6. THE FOLLOWING ITEMS SHALL BE IMPLEMENTED TO ALLEVIATE REST ROOM NOISE TRANSMISSION:
   A. BANDS OR COLLARS OF RESILIENT MATERIAL (RUBBER, FELT, MINERAL WOOL, NEOPRENE) SHALL BE PLACED AROUND TOILET PIPES AT POINTS OF SUPPORT AND SLAB PENETRATION.
   B. ISOLATE HIGH PRESSURE WATER SUPPLY LINES FROM STUD AND FLOOR SLABS WITH RUBBER CLAMPS
   C. ISOLATE THE JUNCTION BOX BETWEEN THE TOILETS HIGH PRESSURE WATER SUPPLY PIPE AND THE WALL (AT LEASE ½" NEOPRENE CAULK AND NO RIGID JUNCTION).
   D. INSERT A PRESSURE RELIEF SYSTEM IN THE TOILET'S HIGH PRESSURE WATER SUPPLY LINE.

RESTROOM ADA NOTES:

1. ALL PUBLIC SPACES TO COMPLY WITH FBC AND ADA GUIDELINES
2. THE STRUCTURAL STRENGTH OF GRAB BARS, FASTENERS AND MOUNTING DEVICES, SHALL COMPLY WITH FBC ADA GUIDELINES.
3. FLOOR SLOPES IN PUBLIC/ ACCESSIBLE AREAS NOT TO EXCEED 1:50 OR 2%

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

SALTZ MICHELSON ARCHITECTS
3501 Griffin Road
Ft. Lauderdale, FL 33312
(954) 266-2700 Fx: (954) 266-2701
sma@saltzmichelson.com

AR-0009976

STATE OF FLORIDA
SHEFF L. DEVIER III
AR0007699
REGISTERED ARCHITECT
Sheff L. Devier III AR0007699

Project No.:
2022-133
Drawn By:
EQ
Checked By:
SD
Date:
11/17/2023

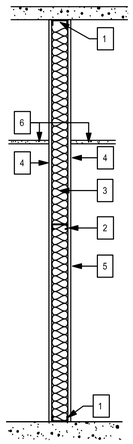
REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133 A3.2-A3.1 INTERIOR ELEVATIONS.dwg Layout Name: A3.2 Plotted by: equigley Plotted on: Nov 29, 2023 - 12:39pm

A3.2

DRAFT DOCUMENT FOR COMMISSION REVIEW

WALL TYPE	TYPICAL PARTITION UL#U419	FIRE RATING
1 1A		1A 1 HR



1. **FLOOR AND CEILING RUNNERS-** CHANNEL SHAPED RUNNERS, 3-5/8" INCH DEEP (MIN), 1-1/4 INCH LEGS, MIN No 25 MSG GALVANIZED STEEL, ATTACHED TO FLOOR AND CONCRETE ABOVE WITH FASTENERS SPACED 16 INCHES O.C.

2. **STEEL STUDS-** CHANNEL SHAPED,3-5/8" INCH DEEP (MIN), 20 GA MSG GALVANIZED STEEL AT 16 INCH O.C. MAX. STUDS TO BE CUT 3/4 INCH LESS THAN ASSEMBLY HEIGHT. WIDER STUDS @ 16" O.C. AS REQUIRED

3. **BATTS AND BLANKETS-** GLASS FIBER BATTS PARTIALLY OR COMPLETELY FILLING STUD CAVITY.

4. **SHEETROCK FIRECODE X-(1)** LAYER OF 5/8" THICK, 4FT WIDE, ATTACHED TO STEEL STUDS AND FLOORS AND CEILING TRACK WITH 1" LONG TYPE S-12 SCREWS 8" O.C ON EDGES & 12" O.C FIELD
JOINTS ORIENTED VERTICALLY AND STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY. USE ABUSE RESISTANT GYPSUM BOARD WHERE SCHEDULED, EXTEND TO FLOOR OR ROOF DECK.

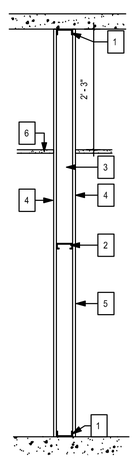
5. **JOINT AND TAPE COMPOUND-** VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEAD;PAPER TAPE, 2 INCH WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

6. CEILING AS SCHEDULE

1A 1 HOUR RATED

STC RATING: 45

WALL TYPE	UL # U419 - 2A ONLY	FIRE RATING
2 2A		2A 1 HR



1. **FLOOR AND CEILING RUNNERS-** CHANNEL SHAPED RUNNERS, 3 5/8" INCH DEEP (MIN), 1-1/4 INCH LEGS, MIN No 25 MSG GALVANIZED STEEL, ATTACHED TO FLOOR AND DECK ABOVE WITH FASTENERS SPACED 16 INCHES O.C.

2. **STEEL STUDS-** CHANNEL SHAPED,3 5/8" INCH DEEP (MIN), FORMED FROM No 20 GA(STRUCTURAL) MSG GALVANIZED STEEL SPACED AT 16 INCH O.C. MAX

3. **BATTS AND BLANKETS-** 3" GLASS FIBER BATTS@ WALL TYPE 1A ONLY.

4. **SHEETROCK 5/8" THICK.** LAYER OF 5/8" THICK, 4FT WIDE, ATTACHED TO STEEL STUDS 1 INCH LONG TYPE S STEEL SCREWS SPACED 8 INCH O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD. USE ABUSE RESISTANT GYPSUM BOARD WHERE SCHEDULED

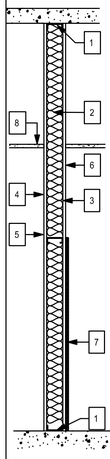
5. **JOINT AND TAPE COMPOUND-** VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEAD;PAPER TAPE, 2 INCH WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

6. **CEILING-** AS PER SCHEDULE

2A 1 HOUR FIRE RATED

STC RATING;
TEST HSA. 870717 49

WALL TYPE	TOILET GENERAL 3A&3C (ONLY) UL# U419	FIRE RATING
3 3A 3B		3A 1 HR.



1. **FLOOR AND CEILING RUNNERS-** CHANNEL SHAPED RUNNERS, 3-5/8" INCH DEEP (MIN), 1-1/4 INCH LEGS, FORMED FROM MIN No 25 MSG GALVANIZED STEEL, ATTACHED TO FLOOR AND 6" ABOVE CEILING WITH FASTENERS SPACED 24 INCHES O.C.

2. **STEEL STUDS-** CHANNEL SHAPED, 3 3-5/8" or 4 6" INCH DEEP (MIN), FORMED FROM No 20 GA STEEL SPACED AT 16 INCH O.C. MAX. STUDS TO BE CUT 3/4 INCH LESS THAN ASSEMBLY HEIGHT. WIDER STUDS SHOWN ON PLANS. 6" STUDS AT PLUMBING WALLS

3. **BATTS AND BLANKETS-** 3" GLASS FIBER BATTS.

4. **SHEETROCK-5/8" THICK,** ATTACHED TO STEEL STUDS AND FLOORS AND CEILING TRACK WITH 1 INCH LONG TYPE S STEEL SCREWS SPACES 8 INCH O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD. USE ABUSE RESISTANT GYPSUM BOARD WHERE SCHEDULED TO SLAB ABOVE, FLOOR OR ROOF.

5. **JOINT AND TAPE COMPOUND-** VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEAD;PAPER TAPE, 2 INCH WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

6. **SHEETROCK MOLD TOUGH AR TYPE-(1)** LAYER OF 5/8" THICK, 4FT WIDE, ATTACHED TO STEEL STUDS AND FLOORS WITH 1 INCH LONG TYPE S STEEL SCREWS SPACES 8 INCH O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD. JOINTS ORIENTED VERTICALLY AND STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY TO SLAB ABOVE.

7. **CERAMIC TILE** FINISH ON TILE BACKER BOARD 5/8" THICK . SEE INTERIOR ELEVATIONS FOR HEIGHT.

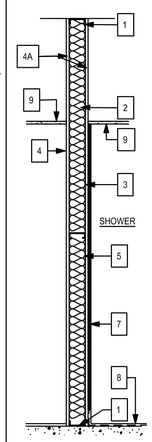
8. **CEILING-** AS SCHEDULED

3A 1 HR. FIRE RATED WITH CERAMIC TILE WAINSCOT ON ONE SIDE

3B CERAMIC TILE ON BOTH SIDES.

SEAL ALL JOINTS TOP, BOTTOM & PENETRATIONS

WALL TYPE	SHOWER PARTITION	FIRE RATING
4		NR



1. **FLOOR AND CEILING RUNNERS-** CHANNEL SHAPED RUNNERS, 3-5/8" INCH DEEP (MIN), 1-1/4 INCH LEGS, FORMED FROM MIN No 20 MSG GALVANIZED STEEL, ATTACHED TO FLOOR AND CONCRETE ABOVE WITH FASTENERS SPACED 16 INCHES O.C.

2. **STEEL STUDS-** CHANNEL SHAPED,3-5/8" INCH DEEP (MIN), FORMED FROM No 20 GA STEEL SPACED AT 16 INCH O.C. MAX. STUDS TO BE CUT 3/4 INCH LESS THAN ASSEMBLY HEIGHT. WIDER STUDS SHOWN.

3. **BATTS AND BLANKETS-** 3" GLASS FIBER BATTS.
2 LAYER GYPSUM

4. **SHEETROCK-5/8" THICK, GYPSUM BOARD ATTACHED** TO STEEL STUDS AND FLOORS AND CEILING TRACK WITH 1 INCH LONG TYPE S STEEL SCREWS SPACES 8 INCH O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD.

4A. **GYPSUM BOARD** 5/8" REGULAR ABOVE CEILING TO FLOOR OR ROOF ABOVE.

5. **CEMENT BOARD-** 1/2" THICK, FULL HEIGHT OF TILE

6. **NOT USED**

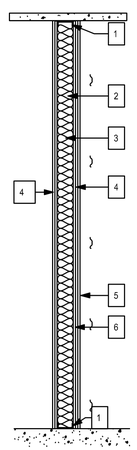
7. **NOT IN USE**

8. **NOT IN USE**

9. **CEILING -**1/2" M.R. GYPSUM BOARD CEILING ON 7/8" METAL FURRING @ 16" O.C ON 1 1/2" CARRYING CHANNELS @ 48" OC. MAX.

10. **TILE** AS SCHEDULED

WALL TYPE	MECHANICAL ROOMS UL #U407	FIRE RATING
5 5A		5A - 1HR.



1. **FLOOR AND CEILING RUNNERS-** CHANNEL SHAPED RUNNERS, 3-5/8" INCH DEEP (MIN), 1-1/4 INCH LEGS, FORMED FROM MIN No 20 MSG GALVANIZED STEEL, ATTACHED TO FLOOR AND CONCRETE ABOVE WITH FASTENERS SPACED 16 INCHES O.C.

2. **STEEL STUDS-** CHANNEL, 3-5/8" INCH DEEP (MIN), FORMED FROM No 20 GA MSG GALVANIZED STEEL SPACED AT 16 INCH O.C. MAX. STUDS TO BE CUT 3/4 INCH LESS THAN ASSEMBLY HEIGHT.

3. **BATTS AND BLANKETS -** 3" GLASS FIBER BATTS

4. **SHEETROCK** (2) LAYERS GYP. BOARD 1/2" THICK, 4FT WIDE, BOTH SIDES
ATTACHED TO STEEL STUDS AND FLOORS AND CEILING TRACK WITH 1 1/2" INCH LONG TYPE S-12 STEEL SCREWS SPACES 8 INCH O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD. JOINTS STAGGERED BETWEEN LAYERS, USE ABUSE RESISTANT GYPSUM BOARD WHERE SCHEDULED. EXTEND TO FLOOR OR ROOF DECK.

5. **JOINT AND TAPE COMPOUND-** VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEAD;PAPER TAPE, 2 INCH WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

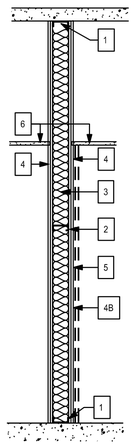
6. **RESILIENT CHANNEL** 1/2", AT 16" O.C VERTICALLY ON MECHANICAL ROOM SIDE.

SEAL ALL JOINTS TOP, BOTTOM & PENETRATIONS

5A 1HR. FIRE RATED

STC RATING: 52
TEST # RAL-TL.11.080

WALL TYPE	UL # 419	FIRE RATING
6		2 HR



1. **FLOOR AND CEILING RUNNERS-** CHANNEL SHAPED RUNNERS, 3-5/8" INCH DEEP (MIN), 1-1/4 INCH LEGS. MIN No 25 MSG GALVANIZED STEEL, ATTACHED TO FLOOR AND CONCRETE ABOVE WITH FASTENERS SPACED 16 INCHES O.C.

2. **STEEL STUDS-** CHANNEL SHAPED,3-5/8" INCH DEEP (MIN), 20 GA MSG GALVANIZED STEEL AT 16 INCH O.C. MAX. STUDS TO BE CUT 3/4 INCH LESS THAN ASSEMBLY HEIGHT. WIDER STUDS @ 16" O.C. AS REQUIRED

3. **BATTS AND BLANKETS-** GLASS FIBER BATTS PARTIALLY OR COMPLETELY FILLING STUD CAVITY.

4. **SHEETROCK FIRECODE X-(2)** LAYER OF 1/2" THICK, 4FT WIDE, ATTACHED TO STEEL STUDS AND FLOORS AND CEILING TRACK WITH 1" LONG TYPE S-12 SCREWS 8" O.C ON EDGES & 12" O.C FIELD
JOINTS ORIENTED VERTICALLY AND STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY. USE ABUSE RESISTANT GYPSUM BOARD WHERE SCHEDULED. EXTEND TO FLOOR OR ROOF DECK.

4B. TILE FINISH ON 1/2" TYPE"X" TILE BACKER BOARD WHERE SCHEDULE

5. **JOINT AND TAPE COMPOUND-** VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEAD;PAPER TAPE, 2 INCH WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

6. CEILING AS SCHEDULE

SEAL ALL JOINTS TOP, BOTTOM & PENETRATIONS

WALL TYPE	CMU @ EXTERIOR	FIRE RATING
7A 7B 7C		NR.

1. **8" CMU WALL**

2. **INSULATION-** 2" MINERAL WOOL R8.6 TO UNDERSIDE OF FLOOR OR ROOF DECK ABOVE

3. **STEEL STUDS-** 20GA 1 5/8"@ 16 INCH. O.C. EXTEND STUDS TO FLOOR OR ROOF DECK ABOVE LARGE STUDS WHERE REQUIRED FOR PLUMBING

4. **GYPSUM BOARD** 5/8" THICK, 1 LAYER, MR.

4A. **GYPSUM BOARD** 5/8" REGULAR ABOVE CEILING TO FLOOR OR ROOF ABOVE.

5. **STUCCO** EXIST. REPAIR WHERE SHOWN.

6. **CEILING -** AS SCHEDULED

7. **2" GALV. METAL STRAP BRACE** AT 40" O.C VERTICALLY AND 48" HORIZONTALLY

AT SHOWER USE 1/2" THICK CEMENT BOARD FULL HEIGHT OF TILE & SEE

INTERIOR

7A CERAMIC TILE ONE SIDE AS SCHEDULE

7B NO INSULATION

7C EXPOSED CMU BOTH SIDES

WALL TYPE	CMU FURRED BOTH SIDES	FIRE RATING
8A		

1. **8" CMU WALL**

2. **STEEL STUDS-** CHANNEL SHAPED, 1-5/8" INCH DEEP (MIN), FORMED FROM No 20 GA STEEL SPACED AT 16 INCH O.C. MAX. STUDS TO BE CUT 3/4 INCH LESS THAN ASSEMBLY HEIGHT. WIDER STUDS WHERE SHOWN ON PLANS. 6" STUDS AT PLUMBING WALLS

3. **BATTS AND BLANKETS-** N/A.

4. **SHEETROCK-5/8" THICK.** ATTACHED TO STEEL STUDS AND FLOORS AND CEILING TRACK WITH 1 INCH LONG TYPE S STEEL SCREWS SPACES 8 INCH O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD. USE ABUSE RESISTANT GYPSUM BOARD WHERE SCHEDULED TO SLAB ABOVE, FLOOR OR ROOF.

5. **JOINT AND TAPE COMPOUND-** VINYL, DRY OR PREMIXED JOINT COMPOUND, APPLIED IN TWO COATS TO JOINTS AND SCREW HEAD;PAPER TAPE, 2 INCH WIDE, EMBEDDED IN FIRST LAYER OF COMPOUND OVER ALL JOINTS.

6. **SHEETROCK MOLD TOUGH AR TYPE-(1)** LAYER OF 5/8" THICK, 4FT WIDE, ATTACHED TO STEEL STUDS AND FLOORS WITH 1 INCH LONG TYPE S STEEL SCREWS SPACES 8 INCH O.C. ALONG EDGES OF BOARD AND 12 INCHES O.C. IN THE FIELD OF THE BOARD. JOINTS ORIENTED VERTICALLY AND STAGGERED ON OPPOSITE SIDES OF THE ASSEMBLY TO SLAB ABOVE.

7. **CERAMIC TILE** FINISH ON TILE BACKER BOARD 5/8" THICK WHERE SCHEDULED

8. **CEILING-** AS SCHEDULED

8A CERAMIC TILE ON ONE SIDE.

SEAL ALL JOINTS TOP, BOTTOM & PENETRATIONS

WALL TYPE	OFFICE ROOM WALL	FIRE RATING
9		NR

1. **SEE WALL TYPE #1**

2. **BATTS AND BLANKETS-** 3" GLASS FIBER BATTS.

3. **TEMP. GLASS** 1/2" INCH WITH BUTT GLAZED JOINTS BETWEEN GLASS PANELS.

4. **ALUMINUM STOREFRONT FRAMING**

5. **3 5/8" STUD BRACES** @ 48" O.C TO DECK ABOVE WHERE WINDOWS OCCUR IN PARTITION

WALL TYPE	UL #U493	FIRE RATING
10		1-HOUR

1. **TWO LAYERS [" [15.9MM] SHEETROCK GYPSUM PANEL (UL TYPE SCX)**

2. **3-5/8" [92MM] STEEL STUDS, EQ25 (0.015M). STAGGERED, 16" [406MM] O.C.**

3. **3-1/2" [89MM] FIBERGLASS INSULATION**

4. **1" [25MM] AIR SPACE**

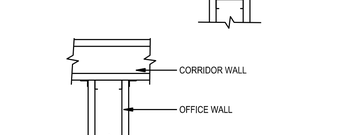
5. **3-5/8" [92MM] STEEL STUDS, EQ25 0.015M). STAGGERED, 16" [406MM] O.C.**

6. **3-1/2" [89MM] FIBERGLASS INSULATION**

7. **ONE LAYER ⅝" [15.9MM] SHEETROCK GYPSUM PANEL (UL TYPE SCX)**

STC RATING: 64
USG TEST: 160915

HEAD OF WALL JOINT	UL SYSTEM	FIRE RATING
FLOOR-ROOF	HW--D-0016	1 HR.



1. **FLOOR OR ROOF ASSEMBLY.** MAXIMUM 3" DEEP FLUTED DECK WITH MINIMUM 2-1/2" CONCRETE FLOOR OR MAXIMUM 1-1/2" DEEP FLUTED ROOF DECK PER UL DESIGN.

1A . 4-1/2" THICK REINFORCED LIGHTWEIGHT OR NORMAL WEIGHT STRUCTURAL CONCRETE.

2. **GYPSUM WALLBOARD/STUD WALL ASSEMBLY**

3. **JOINT TREATMENT SYSTEM:**

A FORMING MATERIAL: TYPE FC OR RFC

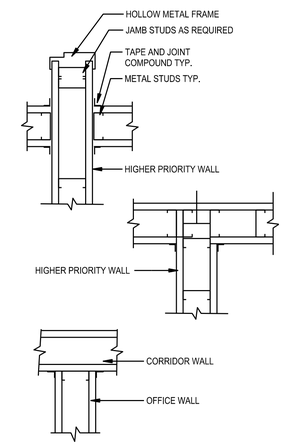
MINIMUM 1-1/2" OF MINERAL WOOL INSULATION (MINIMUM 4.0 PCF) FIRMLY PACKED INTO THE THE FLUTES OF THE STEEL DECK AS A PERMANENT FORM.

B FILL MATERIAL:

MINIMUM 1/2" THICKNESS COMPOUND IS APPLIED WITHIN THE RECESS OF EACH FLOOR UNIT FLUTE.

C RESTRAINING ANGLES:

MINIMUM2-1/2" BY 2-1/2" ANGLED FORMED FROM MINIMUM 25 GA. TEEL, WITH NE LEG LINED WITH A 2-1/2" WIDE PIECE OF THE SAME GYPSUM WALLBOARD SED FOR THE WALL



1 / A7.0 **WALL PRIORITY DETAIL1**
1" = 1'-0"

PARTITIONS GENERAL NOTES

INTERIOR METAL STUD ALLOWABLE PARTITION HEIGHTS:

STUD WIDTH	STUD SPACING	PARTITION HEIGHT	MINIMUM GAUGE
1 5/8"	16"	UP TO 6'-0"	22 GA.
		UP TO 10'-0"	20 GA.
3 5/8"	16"	UP TO 14'-0"	20 GA.
		UP TO 15'-0"	20 GA.
6"	16"	UP TO 18'-0"	20 GA.
		UP TO 19'-0"	20 GA.

METAL STUD SIZES =
AS INDICATED ON ALL FLOOR / DIMENSION PLANS SHALL BE AS FOLLOWS:

NOMINAL SIZE	ACTUAL SIZE
2"	1 5/8" STUD
4"	3 5/8" STUD
6"	6" STUD

NOTES :

1. PARTITION TYPE DESCRIPTIONS ARE NOT TO BE INTERPRETED AS COMPLETE ASSEMBLY INSTRUCTIONS. CONTRACTOR SHALL CONSTRUCT PARTITIONS ACCORDING TO THE COMPLETE ASSEMBLY REQUIREMENTS AS LISTED IN THE REFERENCED TESTING LABORATORY MANUALS.

2. ALL PENETRATIONS IN FIRE RATED WALL OR PARTITION ASSEMBLIES, SHALL MAINTAIN THE INTEGRITY OF THE FIRE RATING.

3. CONTRACTOR SHALL INSTALL THESE ASSEMBLIES IN ACCORDANCE WITH THE GYPSUM ASSOCIATION, AND PROVIDE FOR A LATERAL LIVE LOAD OF 5 LB PER SQUARE FOOT AND A DEFLECTION OF L/240.

4. PARTITION STEEL STUD FRAMING COMPLY WITH ASTM C645 FOR NONLOAD-BEARING PARTITIONS & C955 FOR LOAD-BEARING PARTITIONS.

PARTITION NOTES:

A. PARTITIONS ARE TYPE '2' UNLESS NOTED OTHERWISE.

POLK BUILDING RENOVATION
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AR-0009976

STATE OF FLORIDA
SHEFF L. DEVIER III
REGISTERED ARCHITECT
AR0007699

Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comb\2022-133_A7-00 - PARTITION TYPES AND DETAILS.dwg Layout Name: Layout1 Plotted by: mcginley Plotted on: Nov 29, 2023 - 12:28pm

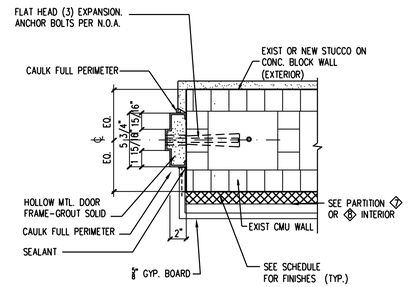
PARTITION TYPES AND DETAILS

A7.0

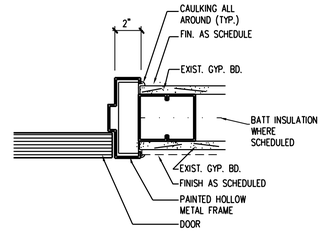
DRAFT DOCUMENT FOR COMMISSION REVIEW

DOOR SCHEDULE

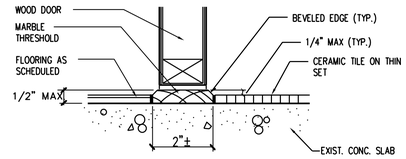
NO.	ROOM NAME	TYPE	DOOR W	DOOR H	DOOR T	DOOR MATERIAL	DOOR FINISH	JAMB	FRAME MATERIAL	FRAME FINISH	FIRE RATING	GLASS	THRESHOLD	REMARKS
100A	LOBBY	B	(2) 3'-0"	7'-0"	1 3/4"	AL. / GL	-		ALUM	-		IMPACT	4/7.0	
100B	LOBBY	B	(2) 3'-0"	7'-0"	1 3/4"	AL. / GL	-		ALUM	-		IMPACT	4/7.0	
101	TOILET	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT			MARBLE	
102A	CUSTOMER SERVICE	C	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				CARD READER
102B	HALLWAY 1	C	4'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				CARD READER
103	STORAGE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
104	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
105	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
106	CASHIERING	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				PEEP HOLE / CARD READER
107	MECHANICAL ROOM	D	(2) 3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
108	RECORDS	D	(2) 3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				CARD READER
109	HALLWAY 5	E	3'-0"	6'-8"*	1 3/4"	HM	PAINT		HM	PAINT				*VERIFY SIZE
110	WOMEN'S RESTROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
111	JANITOR	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT	45 MIN			
112	MEN'S RESTROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
113	CONFERENCE ROOM	C	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
114	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
115	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
116	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
117	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
118	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
119	COURTYARD	C	3'-6"	6'-8"*	1 3/4"	HM	PAINT		HM	PAINT				*VERIFY SIZE
120	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
121	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
122	ASSISTANT DIRECTOR	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
123	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
124	ASSISTANT DIRECTOR	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
125	HALLWAY 3	C	4'-0"	6'-8"*	1 3/4"	HM	PAINT		HM	PAINT				CARD READER -*VERIFY SIZE
126A	UTILITIES DIRECTOR	A	3'-0"	6'-8"*	1 3/4"	SOLID CORE	S & V		HM	PAINT				CARD READER -*VERIFY SIZE
126B	STORAGE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
126C	TOILET	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
126D	UTILITIES DIRECTOR	A	3'-0"	7'-0"	1 3/4"	HM	PAINT		HM	PAINT				CARD READER
127	MEN'S RESTROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
128	WOMEN'S RESTROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
129A	EOC	C	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT	45 MIN			CARD READER
129B	WATER HEATER	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
130	NAP ROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
131	NAP ROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
132A	EOC - SITTING AREA	A	4'-0"	6'-8"*	1 3/4"	HM	PAINT		HM	PAINT				*VERIFY SIZE - EXIT ONLY
132B	MECHANICAL ROOM	D	(2) 3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				CARD READER
133	ELECTRICAL ROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT	45 MIN			
134	MECHANICAL ROOM	D	(2) 3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
135	MAIL ROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
136	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
137	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
138	BILLING	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
139	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
140	MECHANICAL ROOM	D	(2) 3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
141	TOILET	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
142A	CONFERENCE ROOM	C	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
142B	CONFERENCE ROOM	C	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
143	IT / MDF ROOM	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT	90 MIN			CARD READER
144	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
145	WORKSTATION	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
146	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
147	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
148	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
149	STORAGE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
150	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
151	JANITOR	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT	45 MIN			
152	OFFICE	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
153	TOILET	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
154	BREAK ROOM	C	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
155	TOILET	A	3'-0"	7'-0"	1 3/4"	SOLID CORE	S & V		HM	PAINT				
156	HALLWAY 1	C	4'-0"	6'-8"*	1 3/4"	HM	PAINT		HM	PAINT				CARD READER-*VERIFY SIZE
157	COURTYARD	D	(2) 4'-0"	8'-0"	1 3/4"	HM	PAINT		HM	PAINT				
158	ADMIN. ASSISTANT	E	(2) 4'-0"	8'-0"	1 3/4"	HM	PAINT		HM	PAINT				CARD READER
159	HALLWAY 3	C	3'-6"	7'-0"	1 3/4"	HM	PAINT		HM	PAINT				CARD READER
160	FIRE RISER	C	3'-0"	7'-0"	1 3/4"	HM	PAINT		HM	PAINT				CARD READER



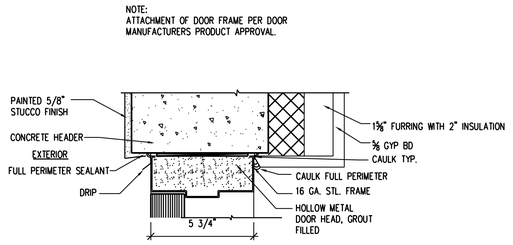
2 / A7.0 DOOR JAMB DETAIL @ MASONRY
SCALE 1 1/2" = 1'-0" EXTERIOR



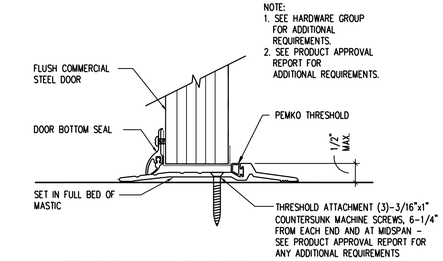
5 / A7.0 METAL DOOR JAMB DETAIL
N.T.S.



6 / A7.0 MARBLE THRESHOLD
N.T.S.

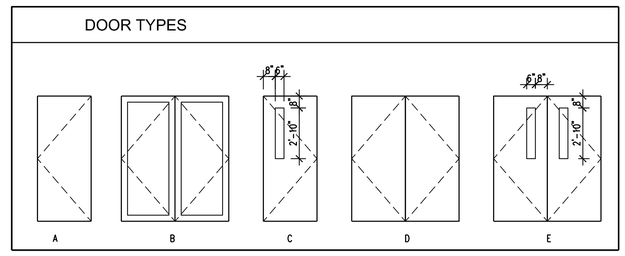


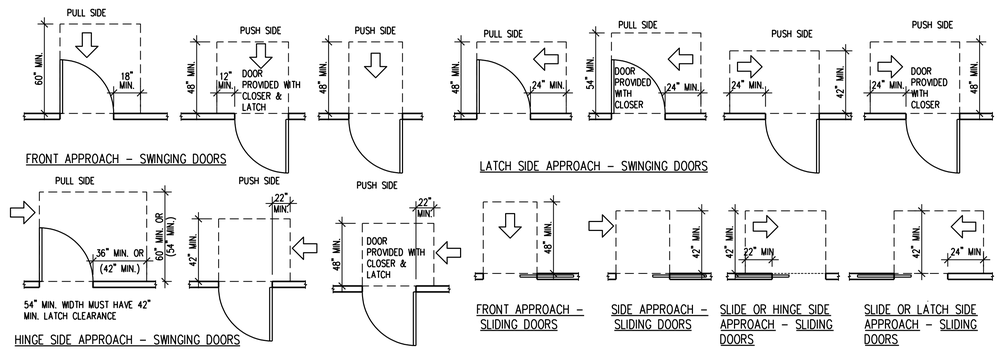
HOLLOW METAL DOOR HEAD DETAIL AT CMU WALLS - EXTERIOR
3 / A7.0 SCALE: N.T.S. ❷ INTERIOR CMU WALL



4 / A3 THRESHOLD DETAIL
N.T.S. AT EXTERIOR H.M. DOOR

1. ALL HARDWARE TO BE LEVERED, AND ADA ACCESSIBLE AS PER FLORIDA ACCESSIBILITY CODE 2020 EDITION.
2. DOORS AND HARDWARE SHALL COMPLY WITH LIFE SAFETY NFPA 101 38.2.2.2 FBC. 1020.
3. COORDINATE KEYING OF DOORS WITH OWNER.





1 / A7.0 H.C. MANEUVERING CLEARANCES AT DOORS
N.T.S.

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES

8200 SOUTH PALM DRIVE
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AR-0009976

STATE OF FLORIDA · SHEFF L. DEVIER III · REGISTERED ARCHITECT · AR0007699

Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\A8.0 Door_Schedule.dwg Layout Name: A8.0 Plotted by: dquigley Plotted on: Nov 29, 2023 - 12:29pm

A8.0

DRAFT DOCUMENT FOR COMMISSION REVIEW

WINDOW SCHEDULE

TYPE	WINDOW SIZE W	WINDOW SIZE H	GLAZING	FRAME	REMARKS
A	3'-11"	5'-8"	MIAMI DADE PRODUCT APPROVED, IMPACT RESISTANT GLASS	ALUM.	
A1	3'-11"	5'-8"		–	BLOCKED UP
B	3'-11"	4'-4"	MIAMI DADE PRODUCT APPROVED, IMPACT RESISTANT GLASS	ALUM.	
B1	4'-4"	2'-0"		ALUM.	BLOCKED UP A PORTION
B2	4'-4"			–	BLOCKED UP
C	3'-11"	2'-11"	MIAMI DADE PRODUCT APPROVED, IMPACT RESISTANT GLASS	ALUM.	
D	7'-10"	2'-11"		–	BLOCKED UP
F	3'-0"	2'-0"	MIAMI DADE PRODUCT		

WINDOW GENERAL NOTES:

1. ALL DIMENSIONS INDICATED ON WINDOW TYPES REQUIRE FIELD MEASUREMENT TO CONFIRM EXACT OPENING.
2. ALL GLASS SHALL BE LARGE MISSILE IMPACT GLASS

FINISH NOTES

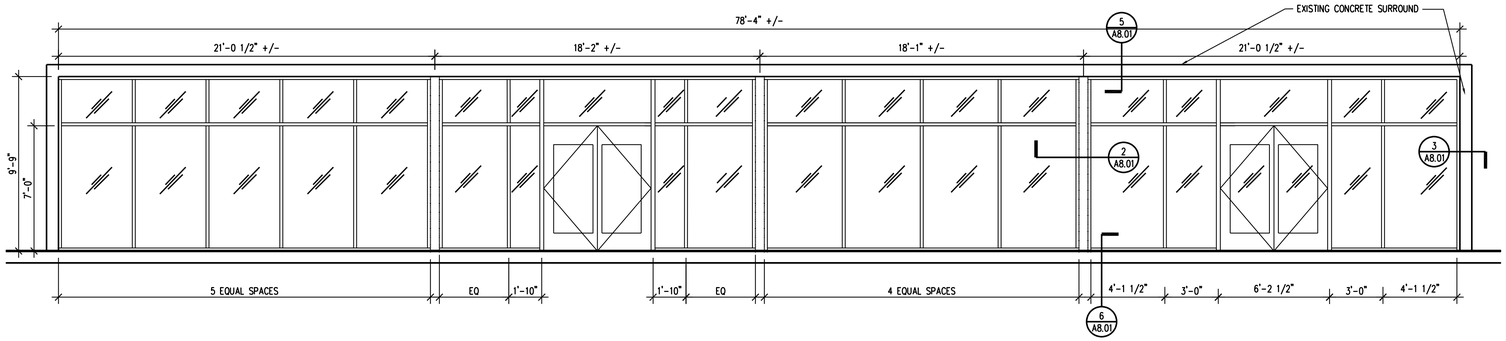
1. FINISHES SHALL MEET THE REQUIREMENT OF NFPA 101-10 AND 101-38.3.3 OF THE 2020 EDITION, FLORIDA FIRE PREVENTION CODE.
2. BEFORE FINISH MATERIALS ARE PURCHASED, SUBMIT SAMPLES FOR APPROVAL TO ARCHITECT
3. ALL FINISHES INDICATED IN THE FINISH SCHEDULE ARE NEW UNLESS OTHERWISE NOTED.
4. ALL INTERIOR FINISH TO BE CLASS "B" MINIMUM
5. ALL FLOOR TILE SHALL HAVE A NONSLIP FINISH TO MEET ADA REQUIREMENTS.
6. TEST SLABS FOR MOISTURE CONTENT PRIOR TO INSTALLATION OF NEW FLOOR FINISHES. PREPARE FLOORS FOR NEW FINISHES AS REQUIRED TO MEET FLOORING MANUFACTURERS REQUIREMENTS.

NOTES:

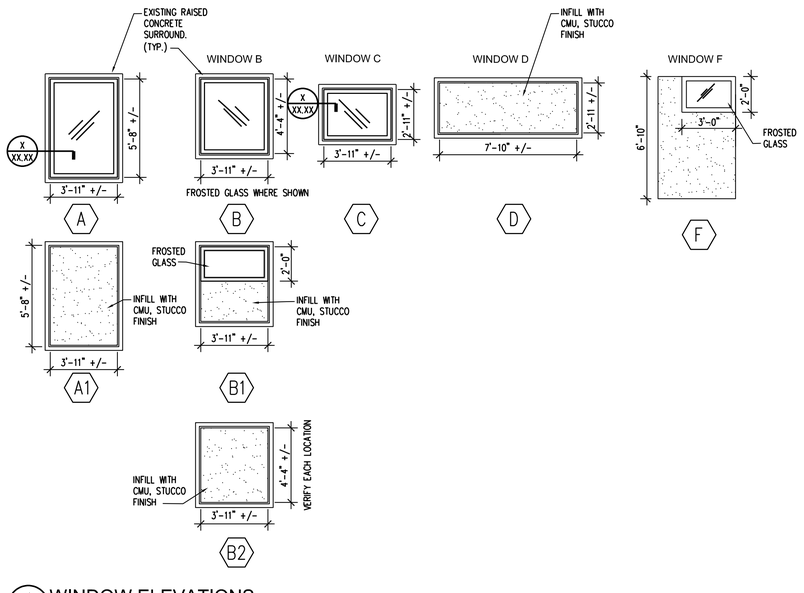
1. CONTRACTOR TO PROVIDE CERTIFICATION AND DATA REGARDING FLAME SPREAD, SMOKE DEVELOPED, ETC. FOR ALL FINISH MATERIALS PRIOR TO C.O. (CARPET, VINYL, PAINT, ACOUSTIC)
2. ALL WALLS SHOWN AS PAINTED ARE TO BE PAINTED FULL HEIGHT.

ROOM FINISH SCHEDULE

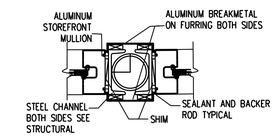
NO.	AREA NAME	WALLS	FLOOR	BASE	CEILING MATERIAL	CEILING HGT.	REMARKS
100	LOBBY	PAINT, TILE	TILE	TILE	WOOD, GYP.	VARIES	
101	TOILET	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
102	CUSTOMER SERVICE	PAINT	CARPET	VINYL	ACT	8'-6"	
103	STORAGE	PAINT	LVT	VINYL	ACT	8'-6"	
104	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
105	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
106A	CASHIERING	PAINT	CARPET	VINYL	ACT	8'-6"	
106B	CASHIER	PAINT	CARPET	VINYL	ACT	8'-6"	
107	MECHANICAL ROOM	PAINT	CONCRETE	VINYL	EXPOSED CEILING PAINT		
108	RECORDS	PAINT	CARPET	VINYL	ACT	8'-6"	
109	BREAKROOM	PAINT	TILE	TILE	ACT	8'-6"	
110	WOMEN'S RESTROOM	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
111	JANITOR	PAINT, TILE	TILE	VINYL	EXPOSED CEILING PAINT		5'-0" AROUND MOPSINK
112	MEN'S RESTROOM	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
113	CONFERENCE ROOM	PAINT	CARPET	VINYL	ACT	8'-6"	
114	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
115	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
116	OFFICE	PAINT	CARPET	TILE	ACT	8'-6"	
117	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
118	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
119	COPY ROOM	PAINT	CARPET	VINYL	ACT	8'-6"	
120	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
121	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
122	ASSISTANT DIRECTOR	PAINT	CARPET	VINYL	ACT	8'-6"	
123	OFFICE	PAINT	CARPET	TILE	ACT	8'-6"	
124	ASSISTANT DIRECTOR	PAINT	CARPET	TILE	ACT	8'-6"	
125	ADMINISTRATIVE ASSISTANT	PAINT	CARPET	VINYL	ACT	8'-6"	
126A	UTILITIES DIRECTOR	PAINT	CARPET	VINYL	ACT	8'-6"	
126B	STORAGE	PAINT	CARPET	VINYL	ACT	8'-6"	
126C	TOILET	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
127	MEN'S RESTROOM	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
128	WOMEN'S RESTROOM	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
129A	BREAK ROOM	PAINT	TILE	VINYL	ACT	8'-6"	
129B	WATER HEATER	PAINT	LVT	VINYL	ACT	8'-6"	
130	NAP ROOM	PAINT	CARPET	VINYL	ACT	8'-6"	
131	NAP ROOM	PAINT	CARPET	VINYL	ACT	8'-6"	
132A	EOC	PAINT	CARPET	VINYL	ACT	8'-6"	
132B	MECHANICAL ROOM	PAINT	CONCRETE	VINYL	EXPOSED CEILING PAINT		
133	ELECTRICAL ROOM	PAINT	CONCRETE	VINYL	EXPOSED CEILING PAINT		
134	MECHANICAL ROOM	PAINT	CONCRETE	VINYL	EXPOSED CEILING PAINT		
135	MAIL ROOM	PAINT	CARPET	VINYL	ACT	8'-6"	
136	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
137	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
138	BILLING	PAINT	CARPET	VINYL	ACT	8'-6"	
139	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
140	MECHANICAL ROOM	PAINT	CONCRETE	VINYL	EXPOSED CEILING PAINT	8'-6"	
141	TOILET	PAINT, TILE	TILE	VINYL	ACT	8'-6"	WAINSCOT 5'-0"
142	CONFERENCE ROOM	PAINT	CARPET	VINYL	ACT	8'-6"	
143	IT / MDF ROOM	PAINT	LVT	VINYL	EXPOSED CEILING PAINT		
144	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
145	WORKSTATION	PAINT	CARPET	VINYL	ACT	8'-6"	
146	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
147	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
148	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
149	STORAGE	PAINT	LVT	VINYL	ACT	8'-6"	
150	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
151	JANITOR	PAINT, TILE	TILE	VINYL	EXPOSED CEILING PAINT		5'-0" AROUND MOPSINK
152	OFFICE	PAINT	CARPET	VINYL	ACT	8'-6"	
153	TOILET	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
154	BREAK ROOM	PAINT	TILE	TILE	ACT	8'-6"	
155	TOILET	PAINT, TILE	TILE	TILE	GYP. BOARD CEILING	8'-6"	WAINSCOT 5'-0"
156	HALLWAY 1	PAINT	LVT	VINYL	ACT	8'-0"	
157	HALLWAY 5	PAINT	LVT	VINYL	ACT	8'-0"	
158	HALLWAY 4	PAINT	LVT	VINYL	ACT	8'-0"	
159	HALLWAY 3	PAINT	LVT	VINYL	ACT	8'-0"	
160	HALLWAY 2	PAINT	LVT	VINYL	ACT	8'-0"	
161	FIRE RISER ROOM	PAINT	CONCRETE	VINYL	EXPOSED CEILING PAINT		
162	HALLWAY 6	PAINT	LVT	VINYL	ACT	8'-0"	



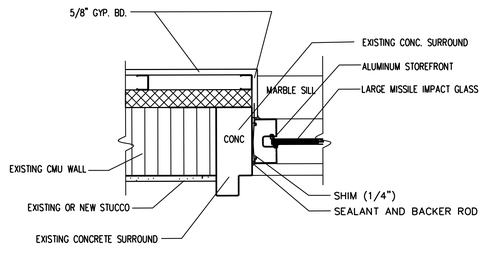
4 A8.01 WEST ENTRANCE ELEVATION
SCALE: 1/4" = 1'-0"



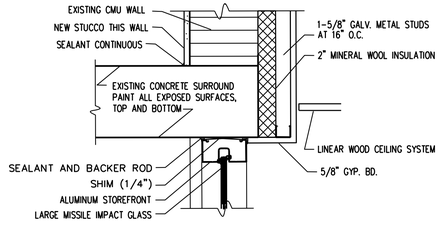
1 A8.01 WINDOW ELEVATIONS
SCALE: 1/4" = 1'-0"



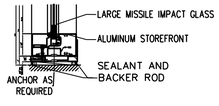
2 A8.01 STOREFRONT MULLION AT COLUMN
1-1/2"=1'-0"



3 A8.01 TYPICAL WINDOW JAMB
1-1/2"=1'-0".



5 A8.01 ENTRANCE STOREFRONT HEAD
1-1/2"=1'-0".



6 A8.01 STOREFRONT BASE
1-1/2"=1'-0".

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

SALTZ MICHELSON ARCHITECTS
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AR-0009976

STATE OF FLORIDA
SHEFF L. DEVIER III
AR0007699
REGISTERED ARCHITECT
Sheff L. Devier III AR0007699

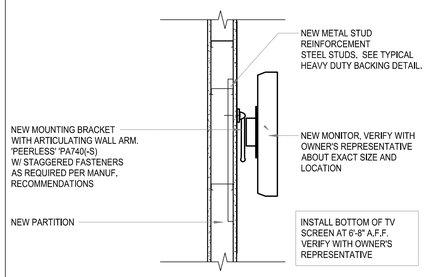
Project No.:
2022-133
Drawn By:
EQ
Checked By:
SD
Date:
11/17/2023

REVISIONS

Drawing name: S:\Projects\2022\2022-133\Drawing\07 CDs\03 Interior Comm\A8.01_Finish & Window Schedules.dwg Layout Name: A8.01 Plotted by: ehoffpy Plotted on: Nov 28, 2023 - 12:30pm

A8.1

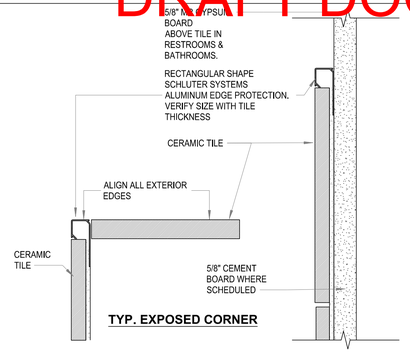
DRAFT DOCUMENT FOR COMMISSION REVIEW



PLAN VIEW

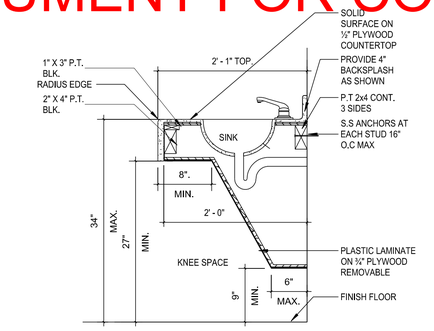
NOTES:
CONTRACTOR TO FIELD VERIFY MONITORS LOCATION AND NOTIFY ARCHITECT OF ANY CONFLICTS PRIOR TO CONSTRUCTION.
CUT AND PATCH EXISTING FINISHES AS REQUIRED TO INSTALL NEW BACKING -MATCH EXISTING FINISHES.

12 A8.06 WALL MOUNTED TV BRACKET
1" = 1'-0"

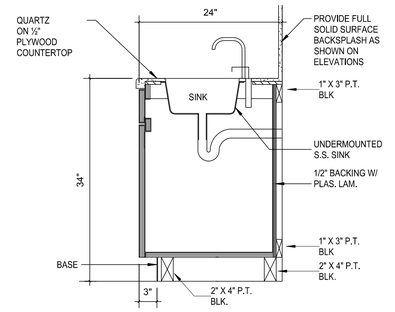


TYP. EXPOSED CORNER

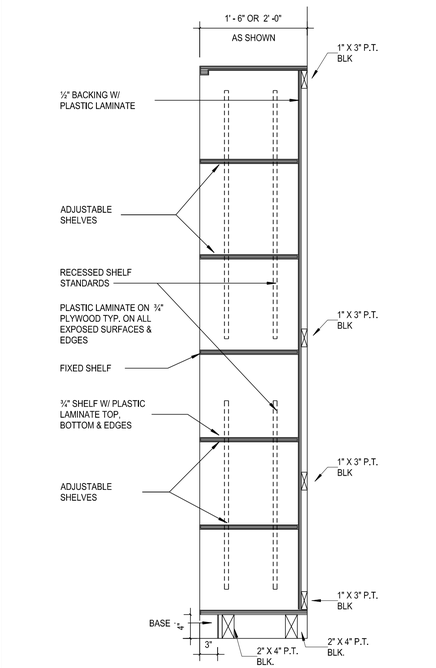
13 A8.06 ALUMINUM TRIM TILE DETAIL
6" = 1'-0"



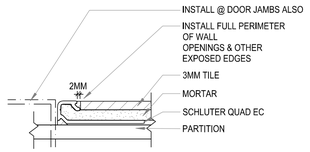
2 A8.06 VANITY DETAIL SOLID SURFACE W/ LAVATORY ADA
N.T.S.



1 A8.06 BASE CABINET WITH SINK DETAIL
N.T.S.



3 A8.06 ADJ. SHELVES OPEN UNIT DETAIL @ STORAGE ROOMS (TYP.)
N.T.S.



GENERAL NOTE:

PROFILE ON THE WALL BETWEEN PANELS *COORDINATE IN FIELD*

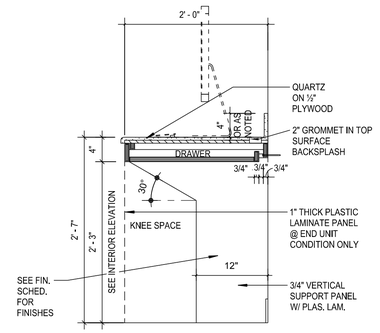
TILE NOTE:

1. MOCK UP FOR ALL SCHLUTER JOINTS REQUIRED PRIOR TO START OF INSTALLATION. USE OF OUTSIDE & INSIDE ACCESSORIES ARE REQUIRED AT ALL JOINTS BETWEEN SCHLUTER PROFILES WHERE THERE IS A CHANGE IN DIRECTION, I.E. VERTICAL TO HORIZONTAL.

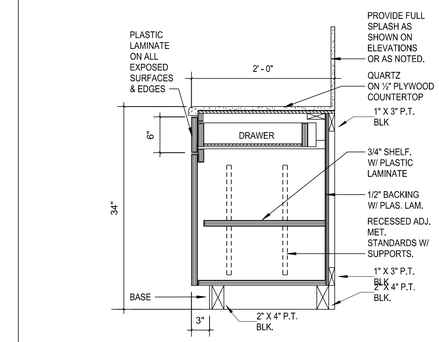
2. USE OF MURIATIC ACID IS NOT ALLOWED.

3. USE LATICRETE GROUT, SCHLUTER SETTING SYSTEM, CAULK, ETC. IN ORDER TO OBTAIN A 20 YEAR WARRANTY OF THE SCHLUTER PROFILES FROM LATICRETE.

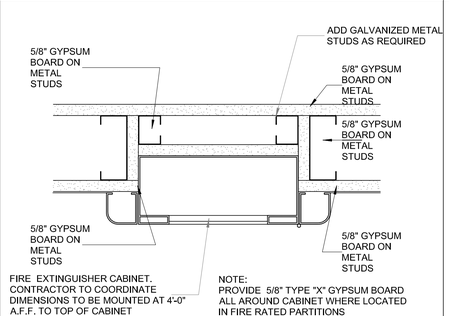
11 A8.06 TYP. EXPOSED EDGE OF TILE DETAIL
3/4" = 1'-0"



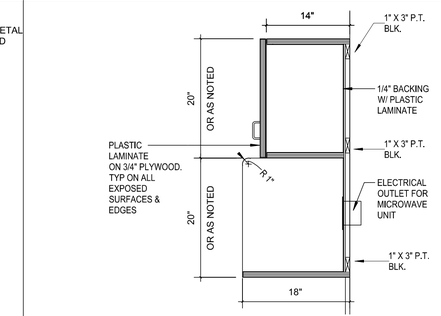
5 A8.06 COMPUTER/ PENCIL DRAWER
N.T.S.



4 A8.06 BASE CABINET DETAIL W/ DRAWER AND DOOR (TYP.)
N.T.S.



8 A8.06 FIRE EXTINGUISHER CABINET
3" = 1'-0"



7 A8.06 MICROWAVE CABINET DETAIL
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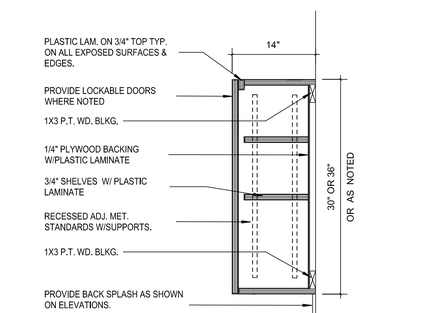
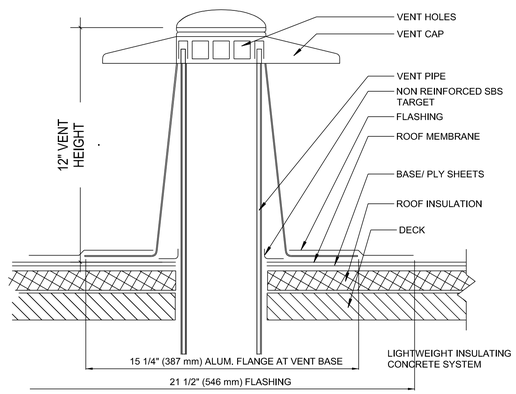


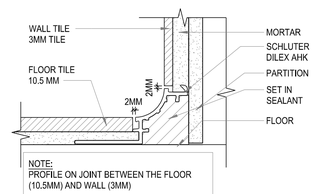
6 A8.06 UPPER SHELF DETAIL
N.T.S.



NOTES:

1.) NOT FOR USE OVER ACTIVE PIPES THAT EMIT STEAM OR EXCESSIVE MOISTURE VAPOR; CONDENSATION MAY OCCUR. NOT FOR USE OVER BOILER OR HEATER/FURNACE PIPES.
2.) VENTS ARE PACKAGED WITH 3 SELF TAPPING SCREWS, USED TO SECURE CAP.

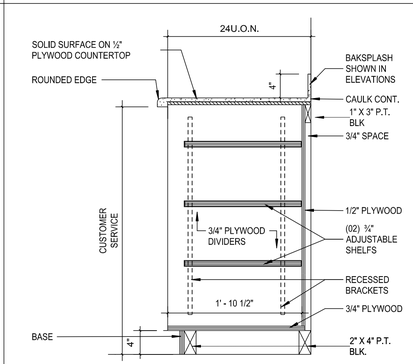
14 A8.06 M-VENT FLASHING DETAIL
N.T.S.



10 A8.06 TILE WALL TO TILE FLOOR CORNER DETAIL
3/4" = 1'-0"

CABINETRY NOTES:

1. THE CABINET MANUFACTURER SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO MANUFACTURING. ANY DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT.
2. ALL MILLWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH "PREMIUM GRADE" STANDARDS AS ESTABLISHED BY THE LATEST EDITION OF THE " ARCHITECTURAL WOODWORK INSTITUTE".
3. THE CABINET MANUFACTURER SHALL PROVIDE COMPLETE SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW AND APPROVAL.
4. CONTRACTOR SHALL PROVIDE WOOD BLOCKING AS REQUIRED FOR ALL UPPER AND LOWER CABINETRY. COORDINATE HEIGHTS AND LOCATIONS IN THE FIELD.
5. PROVIDE MICA ON ALL EXPOSED SURFACES. CAULK JOINTS AND SPLASHES AS REQUIRED.
6. ALL SHELVES, INTERIOR FACES OF THE CABINETS, AND DRAWER INTERIORS TO BE FINISHED WITH PLASTIC LAMINATE.
7. ALL DOOR HINGES TO BE CONCEALED. EUROPEAN HINGES.
8. ALL DRAWERS TO BE ON HEAVY DUTY. COMMERCIAL GRADE GALVANIZED METAL TRACKS AND GLIDES.
9. ALL CABINET CONTRUCTION SHALL BE PLYWOOD
10. CABINET STYLE SHALL BE FLUSH OVERLAY.
11. ALL CABINETS SEAMS AT WALLS AND FLOOR SHALL BE SEALED.
12. PROVIDE GROMMETS IN COUNTERTOPS AT COMPUTER/FAX/PRINTER LOCATIONS, COORDINATE LOCATIONS WITH USER.
13. COORDINATE LOCATION OF OUTLETS WITH OPEN KNEE UNDER THE CABINETRY.
14. PROVIDE LOCKS FOR UPPER CABINET DOORS AND LOWER CABINET DRAWERS THROUGHOUT, CONTRACTOR TO COORDINATE LOCKING OF CABINETS WITH OWNER'S REPRESENTATIVE.
15. LOCKS SHALL BE SHALL BE MASTERKEYED PER OWNER'S INSTRUCTIONS



9 A8.06 CUSTOMER SERVICE
N.T.S.

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

SALTZ MICHELSON ARCHITECTS
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sma@saltzmichelson.com

AR-0009976

STATE OF FLORIDA · SHEFF L. DEVIER III · REGISTERED ARCHITECT · AR0007699

Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

CASEWORK, ROOF & MISCELLANEOUS DETAILS

A8.06

Drawing name: S:\Projects\2022\2022-133\Drawings\07 CDs\03 Interior Comp\2022-133_A8-06_CASEWORK DETAILS.dwg Layout Name: Layout1 Plotted by: equigley Plotted on: Nov 29, 2023 - 11:53am

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment G

GENERAL STRUCTURAL NOTES

DESIGN CRITERIA

D1 ALL WORK SHALL CONFORM TO AT LEAST THE MINIMUM STANDARDS OF THE FLORIDA BUILDING CODE, 2020 SEVENTH EDITION.

D2 DESIGN LOADS PER FLORIDA BLDG. CODE.

WIND DESIGN PER ASCE 7-16

V(ult.)=170 MPH	V(ASD)=132 MPH
qh(ult.)=43.4 PSF	qh(all.)=32.0 PSF
RISK CATEGORY= II	EXPOSURE C
Kd=0.85	ENCLOSED BUILDING

D3 FOUNDATION DESIGN VALUES: 2500 PSF (ASSUMED)

D4 TO THE BEST OF THE ENGINEER'S KNOWLEDGE. THE STRUCTURAL PLANS AND SPECIFICATIONS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE LATEST EDITION.

GENERAL

G1 THE GENERAL CONTRACTOR SHALL REVIEW AND DETERMINE THAT DIMENSIONS ARE COORDINATED BETWEEN ARCHITECTURAL AND STRUCTURAL DRAWINGS PRIOR TO FABRICATION OR START OF CONSTRUCTION.

G2 THE GENERAL CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, THE WORK PERSONS, AND OTHER PEOPLE DURING CONSTRUCTION. HE SHALL SUPERVISE AND DIRECT THE WORK AND BE RESPONSIBLE FOR ALL CONSTRUCTION.

G3 NO STRUCTURAL MEMBER SHALL BE CUT, NOTCHED OR OTHERWISE REDUCED IN STRENGTH.

G4 THE GENERAL CONTRACTOR SHALL COORDINATE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ANCHORED, EMBEDDED, SUPPORTED ITEMS WHICH AFFECT THE STRUCTURAL DRAWINGS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.

G6 NO PAPER SHOP DRAWINGS WILL BE REVIEWED BY THIS OFFICE. ALL SUBMITTALS MUST BE IN ELECTRONIC FORM. SIGNED AND SEALED PAPER SHOP DRAWINGS WILL BE STAMPED BY THIS OFFICE AFTER ALL COMMENTS HAVE BEEN INCORPORATED INTO THE DRAWINGS AND CALCULATIONS.

CONCRETE AND REINFORCING

C1 CONCRETE WORK SHALL CONFORM TO ACI CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318-14)

C2 ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY STRENGTH & PROPERTIES AS FOLLOWS:

		SLUMP	MAX. WATER/CMT
CONCRETE BEAMS, COLS	4000 PSI	5±1"	0.52
FILLED CELLS	3000 PSI	9±1"	0.60

C3 CONCRETE MIX DESIGN SUBMITTALS MUST INCLUDE THE AREA IN WHICH THE CONCRETE IS TO BE PLACED (e.g. FOUNDATIONS, SLAB-ON-GRADE, FILLED CELLS, COLUMNS, etc.). FAILURE TO DO SO WILL CAUSE DELAY AND/OR REJECTION OF SUBMITTALS.

C4 REBARS SHALL CONFORM TO ASTM-615 GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.

C5 MIMIMUM COVER FOR REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED.

FOOTINGS	3"
SLABS ON GRADE	1 1/2" FROM TOP
BEAMS	1 1/2" (ON TIES)
COLUMNS	1 1/2" (ON TIES)

C6 SPLICES AND ANCHORAGE OF REINFORCING SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED.

WELDED WIRE FABRIC	6"
ALL OTHER	36 DIA. (12" MIN)

C7 REINFORCEMENT IN WALLS, FOOTINGS AND BEAMS SHALL BE CONTINUOUS AND LAPPED 36 BAR DIA AT SPLICE UNLESS OTHERWISE NOTED. HOOK AND LAP ALL CORNER AND INTERSECTING BARS. (SEE TYPICAL DETAILS)

C8 TERMINATE ALL DISCONTINUED ELEVATED SLAB TOP BARS WITH A 180 DEGREE STANDARD HOOK UNLESS OTHERWISE NOTED.

C9 CONTINUOUS TOP BARS SHALL BE SPLICED AT MIDSPAN. CONTINUOUS BOTTOM BARS SHALL BE SPLICED AT CENTER-LINE OF SUPPORTS (OR AS SHOWN ON TYPICAL DETAILS).

C10 AT CHANGES IN DIRECTION OF CONCRETE WALLS AND STRIP FOOTINGS, PROVIDE CORNER BARS AT SAME SIZE AND SPACING AS HORTIZONTAL BARS. (REFER TO B/S4.0)

STRUCTURAL STEEL

S1 GENERAL CONTRACTOR SHALL ENGAGE A CERTIFIED TESTING AGENCY TO PERFORM INDUSTRY STANDARD INSPECTIONS TO ENSURE CONFORMANCE WITH PLANS AND SPECIFICATIONS (IF PROVIDED). SUBMIT REPORTS TO ARCHITECT AND ENGINEER.

S2 STEEL WORK SHALL CONFORM TO THE AISC "SPECIFICATIONS" FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL BUILDINGS", LATEST EDITION.

S3 STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B.

S4 STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL BE TO ASTM A572, GRADE 50, UNO. ALL OTHER SHAPED TO BE GRADE A36. ALL STRUCTURAL STEEL SHALL BE DOMESTICALLY PRODUCED.

S5 BRACE AND MAINTAIN ALL STEEL IN ALIGNMENT UNTIL OTHER PARTS OF CONSTRUCTION NECESSARY FOR PERMANENT SUPPORT ARE COMPLETED. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TEMPORARY SHORING AS REQUIRED FOR THE STABILITY OF THE STEEL FRAME UNTIL ALL STRUCTURAL ELEMENTS HAVE BEEN COMPLETED AND BUILDING IS ENCLOSED.

S6 ALL WELDING SHALL CONFORM TO THE REQUIREMENTS OF "THE STANDARD CODE FOR WELDING IN BUILDING CONSTRUCTION" OF THE AMERICAN WELDING SOCIETY. WELDING ELECTRODES SHALL BE E70XX-LOW HYDROGEN FOR SHIELD AND METAL ARC WELDING.

S7 GROUT FOR COLUMN BASE PLATES AND PRESET BEARING PLATES SHALL BE NON-SHRINK, NON-METALLIC GROUT. (5000 PSI MIN)

S8 SUBMIT SHOP DRAWINGS INDICATING ALL SHOP AND ERECTION DETAILS INCLUDING PROFILES, SIZES, SPACING AND LOCATIONS OF STRUCTURAL MEMBERS, CONNECTION ATTACHMENTS, FASTENERS, LOADS AND TOLERANCES.

S9 ALL WELDED CONN. SHALL BE 1/4" FILLET ALL AROUND, UNO. ALL BOLTED CONN. SHALL BE 3/4"ø A325 BOLTS, UNO.

S10 ALL EXPOSED STEEL SHALL HAVE ZINC RICH PRIMER OR GALVANIZATION COAT. TOUCH UP AFTER ALL CONNECTIONS HAVE BEEN COMPLETED AND INSPECTED.

MASONRY

M1 MASONRY CONSTRUCTION SHALL CONFORM TO ACI STANDARD BUILDING CODE REQUIREMENTS FOR CONCRETE MASONRY STRUCTURES (ACI 530-13/ASCE 5-13/TMS 402-13) , SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530.1-13 /ASCE 6-13/TMS 602-13) ASTM C476, ASTM C1019, AND NCMA TEK 107.

M2 CONCRETE BLOCKS SHALL CONFORM TO ASTM C-90. PROVIDE f'm=2000 PSI.

M3 MORTAR SHALL COMPLY WITH ASTM C270, TYPE M OR S. (COMPRESSIVE STRENGTH = 2500 PSI AND 1800 PSI, RESPECTIVELY. SITE TESTED MORTAR CUBES SHALL ACHIEVE A MINIMUM OF 80% OF THE DESIGN COMPRESSIVE STRENGTH)

M4 BLOCK SHALL NOT BE MOISTENED BEFORE GROUTING.

M5 ALL MASONRY CROSS WEBS SHALL BE FULLY BEDDED IN MORTAR AROUND CELLS TO BE GROUTED.

M6 THE MINIMUM CONTINUOUS UNOBSTRUCTED CELL AREA IN CELL TO RECEIVE GROUT MUST BE NOT LESS THAN 2"x3". MORTAR FINS MUST BE REMOVED AS BLOCK PLACEMENT PROCEEDS. MORTAR DROPPINGS MUST BE KEPT OUT OF CELLS WHICH ARE TO BE GROUTED.

M7 REINFORCE WALLS WITH LADDER TYPE (ASTM A-82, #9 GAGE WIRE) REINFORCEMENT EQUAL TO DURO-WALL IN BED JOINTS AT 16" OC UNO, MEASURED VERTICALLY PLACE PER MFR INSTR. LAP ALL HORIZONTAL JOINT REINFORCING 8", MIN. EXTEND HORIZONTAL REINFORCEMENT 4 INCHES INTO CONC. COLS. OR TIE COLS.

M8 WHERE SHOWN, CELLS OF BLOCK MASONRY SHALL BE FILLED WITH GROUT WITH MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS, AND MEET ASTM C476. GROUT SHALL BE PROVIDED BY CONCRETE SUPPLIER FROM THEIR BATCH PLANT WITH A SLUMP OF 8" TO 10". JOB SITE MIXING OF GROUT SHALL NOT BE PERMITTED. TESTING SHALL CONFORM TO ASTM C1019.

M9 GROUT FOR FILLED CELLS SHALL BE POURED OR PUMPED IN LIFTS NOT TO EXCEED FOUR (4) FEET IN HEIGHT, AND A MAX POUR OF 12 FT. FILLED CELLS SHALL BE CONSOLIDATED AT TIME OF POURING BY RODDING OR VIBRATING BETWEEN LIFTS.

M10 PROVIDE KNOCK-OUT CMU AT BASE OF EACH FILLED CELL TO ALLOW VISUAL VERIFICATION OF COMPLETE GROUT PENETRATION (FOR LIFTS OF 5'-0" OR LESS, A KNOCK-OUT AT BASE OF LIFT WILL NOT BE REQUIRED).

M11 VERTICAL REINFORCING MUST HAVE A MINIMUM CLEARANCE OF 1/2" TO INSIDE FACE. MIN VERTICAL BAR LAP = 48 x BAR DIAMETER. VERTICAL REINFORCEMENT IN WALLS SHALL BE SECURED AND LATERALLY SUPPORTED AGAINST DISPLACEMENT AT INTERVALS NOT EXCEEDING 192 x BAR DIAMETER NOR 10 FT.

M12 GROUT PLACEMENT STOPPED FOR (1) HOUR OR MORE SHOULD BE STOPPED (1 1/2") BELOW THE TOP OF THE MASONRY UNIT TO PROVIDE A KEY FOR SUBSEQUENT GROUTING.

M13 SEE FOUNDATION PLANS FOR ALL VERT REINFORCING. TYP VERTICAL REINFORCING SIZE & SPACING SHALL BE ABOVE AND BELOW ALL WALL OPENINGS.

M14 TEMPORARY BRACING AND SHORING OF WALLS TO PROVIDE STABILITY DURING CONSTRUCTION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.

M15 MASONRY CONSTRUCTION MATERIALS AND INSPECTIONS SHALL CONFORM TO ALL REQUIREMENTS OF "SPECIFICATIONS FOR MASONRY STRUCTURES (ACI-ASCE 530.1)" EXCEPT AS MODIFIED BY THE REQUIREMENTS OF THESE DOCUMENTS.

M16 PROVIDE FILLED PRECAST U-LINTELS WITH (1) #5 CONT AT ALL OPENINGS WHERE CONCRETE BEAMS ARE NOT SHOWN OR NOTED. MINIMUM UNFILLED LINTEL CAPACITY = 400 lb/LF FOR SPAN INDICATED.

M17 STOPPING AND RESUMING WORK: RACK BACK 1/2-UNIT LENGTH IN EACH COURSE. DO NOT TOOTH. CLEAN EXPOSED SURFACES OF SET MASONRY WET UNITS LIGHTLY (IF REQ'D) AND REMOVE LOOSE MAS UNITS AND MORTAR PRIOR TO LAYING FRESH MASONRY.

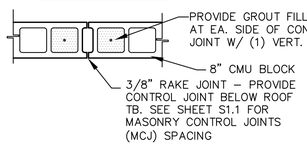
M18 REINFORCE MASONRY OPENINGS GREATER THAN 1'-0" WIDE, WITH HORIZ JT REINF PLACED IN (2) HORIZ JT'S APPROXIMATELY 8" APART, IMMEDIATELY ABOVE THE LINTEL AND IMMEDIATELY BELOW THE SILL. EXTEND REINFORCING A MINIMUM OF 2'-0" BEYOND JAMBS OF THE OPENING EXCEPT AT CONTROL JOINTS. SEE PLAN FOR ADDITIONAL REQUIREMENTS.

M19 DO NOT APPLY UNIFORM LOADS TO MASONRY WALLS FOR (3) DAYS.

M20 DO NOT APPLY CONCENTRATED LOADS TO MASONRY WALLS FOR (7) DAYS.

M21 EXTEND ALL VERTICAL WALL REINFORCEMENT TO WITHIN 2" OF TOP OF WALL OR BEAM UNLESS NOTED OTHERWISE. TERMINATE REIN-FORCING WITH STANDARD ACI HOOK.

M22 CONTROL JOINT DETAIL

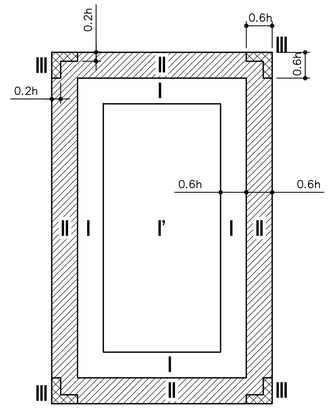


SLAB ON GRADE

S1 UNLESS NOTED OTHERWISE IN THE GEOTECHNICAL REPORT REFERENCED ABOVE COMPACT INTERIOR FILL TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557). SOIL COMPACTION SHALL BE FIELD CONTROLLED BY REPRESENTATIVE TECHNICIAN OF QUALIFIED LABORATORY. EACH LAYER OF FILL SHALL NOT EXCEED 8" THICK AND SHALL BE COMPACTED PRIOR TO PLACEMENT OF NEXT LAYER.

S2 MINIMUM PLACEMENT OF CONTROL JOINTS FOR FUTURE SLAB ON GRADE SHALL BE AS SET IN THE TABLE BELOW. JOINTS OCCUR IN EACH DIRECTION.

SLAB THK IN.	COLUMN SPACING (FT.)			
	15' OR LESS	15'-1" TO 32'-0"	32'-1" TO 48'-0"	48'-1" TO 60'-0"
4"	AT COL. GRID	AT COL. GRID & 1/2 WAY BTWN (2 EQ)	AT COL. GRID & @ 1/3 POINTS (3 EQ.)	AT COL. GRID & @ 1/4 POINTS (4 EQ.)
5"	AT COL. GRID	AT COL. GRID & 1/2 WAY BTWN (2 EQ)	AT COL. GRID & 1/2 WAY BTWN (2 EQ)	AT COL. GRID & @ 1/3 POINTS (3 EQ.)
6"	AT COL. GRID	AT COL. GRID & 1/2 WAY BTWN (2 EQ)	AT COL. GRID & 1/2 WAY BTWN (2 EQ)	AT COL. GRID & @ 1/3 POINTS (3 EQ.)



ROOF UPLIFT PLAN

0.6h = 7'-7"
0.2h = 2'-7"

ROOF UPLIFT PLAN (SERVICE)

ZONE	GIRDERS*	JOISTS**	ROOFING
I'			-34.6 PSF
I			-60.0 PSF
II			-79.2 PSF
III			-108 PSF

*NET UPLIFT, 500 SQFT. **NET UPLIFT, 100 SQFT.

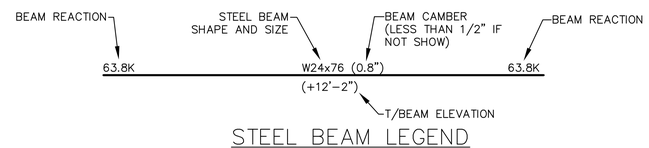
WALL SERVICE WIND PRESSURES

AREA (FT^2)	ZONE 4 (PSF)	ZONE 5 (PSF)
10	±37.5 PSF	±46.1 PSF
50	±33.9 PSF	±39.0 PSF
100	±32.3 PSF	±35.9 PSF
200	±30.9 PSF	±32.9 PSF
350	±29.6 PSF	±30.4 PSF
500	±28.8 PSF	±28.8 PSF

NOTE 1: WIND PRESSURE SHOWN ARE SERVICE PRESSURES
NOTE 2: a = 5'-0" (WITHIN 'a' DISTANCE FROM BUILDING OUTSIDE CORNERS USE ZONE 5, EVERYWHERE USE ZONE 4)

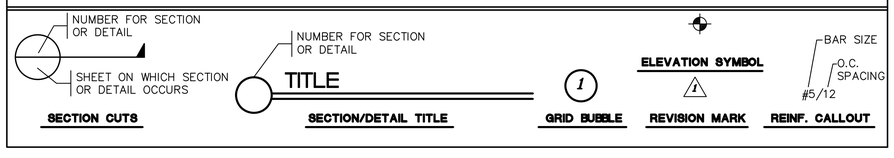
STRUCTURAL ABBREVIATIONS

AB	ANCHOR BOLT
ABV	ABOVE
A.C.I.	AMERICAN CONCRETE INSTITUTE
ADD'L	ADDITIONAL
AFF	ABOVE FINISH FLOOR
AGGR	AGGREGATE
A.I.S.C.	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
A.I.S.I.	AMERICAN IRON AND STEEL INSTITUTE
AL	ALUMINUM
ALT	ALTERNATE
ARCH	ARCHITECT(URAL)
A.S.T.M.	AMERICAN SOCIETY OF TESTING MATERIALS
A.W.S.	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
BB	BOND BEAM
BLDG	BUILDING
BLW	BELOW
BM	BEAM
BOT	BOTTOM
BP	BASE PLATE
BRDG	BRIDGING
BRG	BEARING
BRK	BRICK
BS	BOTH SIDES
BTJ	BOLTED TIE JOIST
BTWN	BETWEEN
C/C	CENTER TO CENTER
CANT	CANTILEVER
CB	CONCRETE BEAM
CC	CONCRETE COL
CIP	CAST IN PLACE
CJ	CONSTRUCTION JOINT OR CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR(ANCE)
CM	CONCRETE MASONRY
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
CSK	COUNTER SINK
CTR	CENTER
CTR'D	CENTERED
DIA	DIAMETER
DL	DEAD LOAD
DN	DOWN
DTL	DETAIL
DWG	DRAWING
DWL	DOWEL
EA	EACH
EE	EACH END
EF	EACH FACE
EJ	EXPANSION JOINT
ENG	ENGINEER
EL	ELEVATION
EQ	EQUAL
EQ SP	EQUAL SPACE(S) (ING)
ES	EACH SIDE
EW	EACH WAY
EXT	EXTERIOR
F/	FACE OF
FD	FLOOR DRAIN
FDN	FOUNDATION
FIN	FINISH
FL	FLOOR
FLG	FLANGE
FS	FAR SIDE
FT	FOOT
FTG	FOOTING
GA	GAGE, GAUGE
GALV	GALVANIZE
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GLB	GLU-LAM BEAM
GR	GRADE
HC	HOLLOW CORE
HK	HOOK
HORIZ	HORIZONTAL
HP	HIGH POINT
HS	HEADED STUD
ID	INSIDE DIAMETER
IF	INSIDE FACE
INT	INTERIOR
JST	JOIST
K	KIP
KO	KNOCK OUT
LG	LONG
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNTL	LINTEL
LSL	LONG SLOTTED HOLES
LONG	LONGITUDINAL
LP	LOW POINT
MAS	MASONRY
MAX	MAXIMUM
MBM	METAL BUILDING MFR
MC	MOMENT CONNECTION
MCJ	MASONRY CONTROL JT
MECH	MECHANICAL
MEZZ	MEZZANINE
MFR	MANUFACTURE(ER)
MIN	MINIMUM
MO	MASONRY OPENING
MS	METAL STUD
MTL	METAL
NS	NEAR SIDE
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
PAF	POWDER ACTUATED FASTENERS
PERP	PERPENDICULAR
PC	PRECAST
PL	PLATE
PLYWD	PLYWOOD
PNL	PANEL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PTN	PARTITION
R	RADIUS
REF	REFERENCE
REINF	REINFORCE(D) (ING)
REQ	REQUIRE
REQ'D	REQUIRED
RF	ROOF
RTN	RETURN
RW	RETAINING WALL
SCH	SCHEDULE
SE	SLAB EDGE
SECT	SECTION
SHT	SHEET
SIM	SIMILAR
SJ	SAWCUT JOINT
SJI	STEEL JOIST INSTITUTE
SL	SLOPE
SP	SPACE(S)
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STR	STRENGTH
STRL	STRUCTURAL
SW	SHEAR WALL
SYMM	SYMMETRICAL
SYP	SOUTHERN YELLOW PINE
TB	TIE BEAM
T&B	TOP & BOTTOM
TC	TIE COLUMN
TDS	TURN DOWN SLAB
TEMP	TEMPERATURE
THK	THICK
THNS	THICKEN SLAB
TOP'G	TOPPING
TYP	TYPICAL
T/	TOP OF
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
WF	WALL FOOTING
WO	WINDOW OPENING (MASONRY)
WP	WORKING POINT
WS	WATERSTOP
WWF	WELDED WIRE FABRIC
W/	WITH



STEEL BEAM LEGEND

SYMBOL LEGEND



POLK BUILDING RENOVATION
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8200 SOUTH PALM DRIVE
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Project no.: 22078

Drawn by: S.G.

Checked by: E.B.

DATE: 10-27-2023

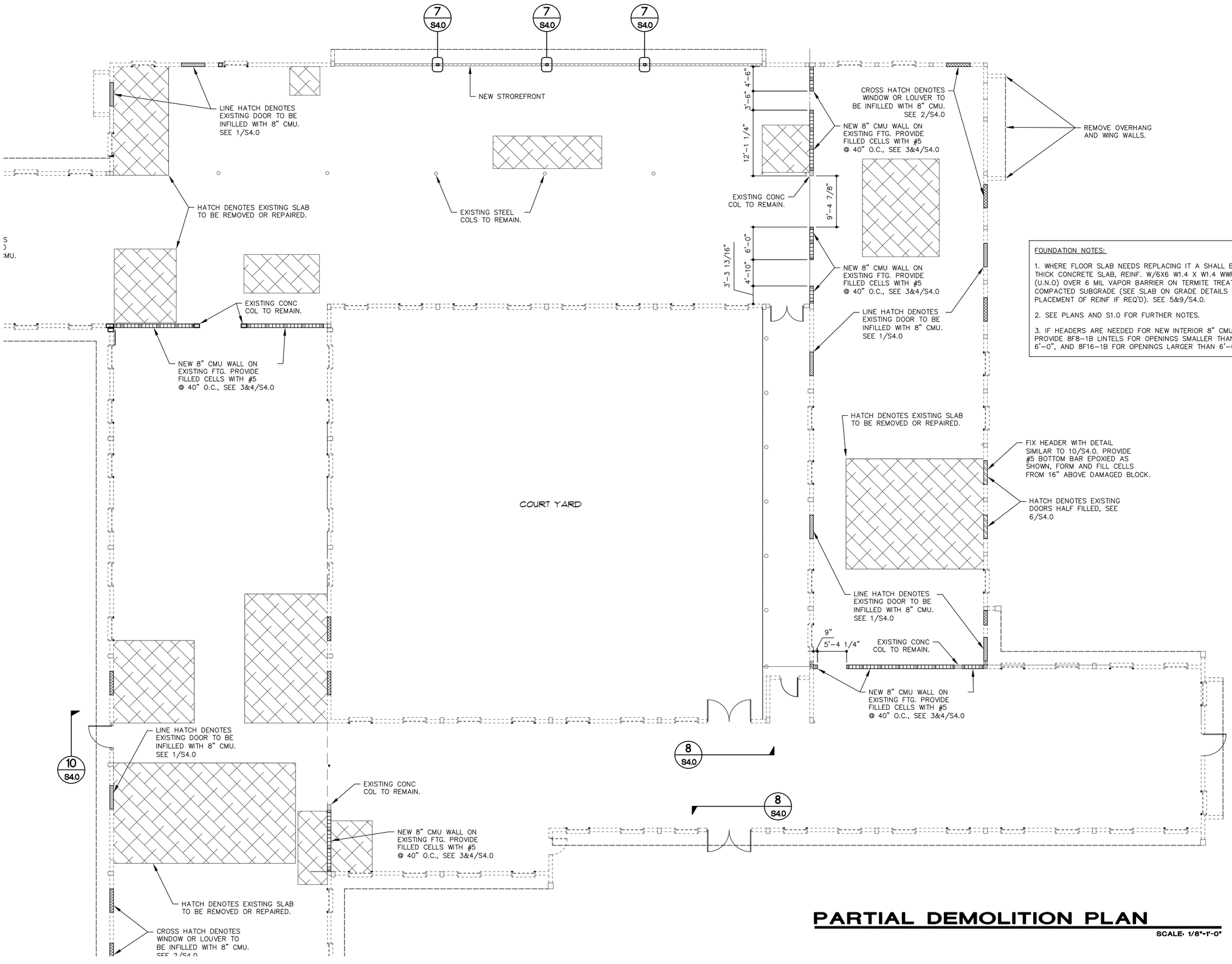
REVISIONS

STRUCTURAL NOTES AND SCHEDULES

SCALE: AS NOTED

S1.0

DRAFT DOCUMENT FOR COMMISSION REVIEW



FOUNDATION NOTES:

1. WHERE FLOOR SLAB NEEDS REPLACING IT A SHALL BE 4" THICK CONCRETE SLAB, REINF. W/6X6 W1.4 X W1.4 WWF (U.N.O) OVER 6 MIL VAPOR BARRIER ON TERMITE TREATED, COMPACTED SUBGRADE (SEE SLAB ON GRADE DETAILS FOR PLACEMENT OF REINF IF REQ'D). SEE 5&9/S4.0.

2. SEE PLANS AND S1.0 FOR FURTHER NOTES.

3. IF HEADERS ARE NEEDED FOR NEW INTERIOR 8" CMU PROVIDE 8F8-1B LINTELS FOR OPENINGS SMALLER THAN 6'-0", AND 8F16-1B FOR OPENINGS LARGER THAN 6'-0".

PARTIAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES

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SCALE: 1/8"=1'-0"

S2.0

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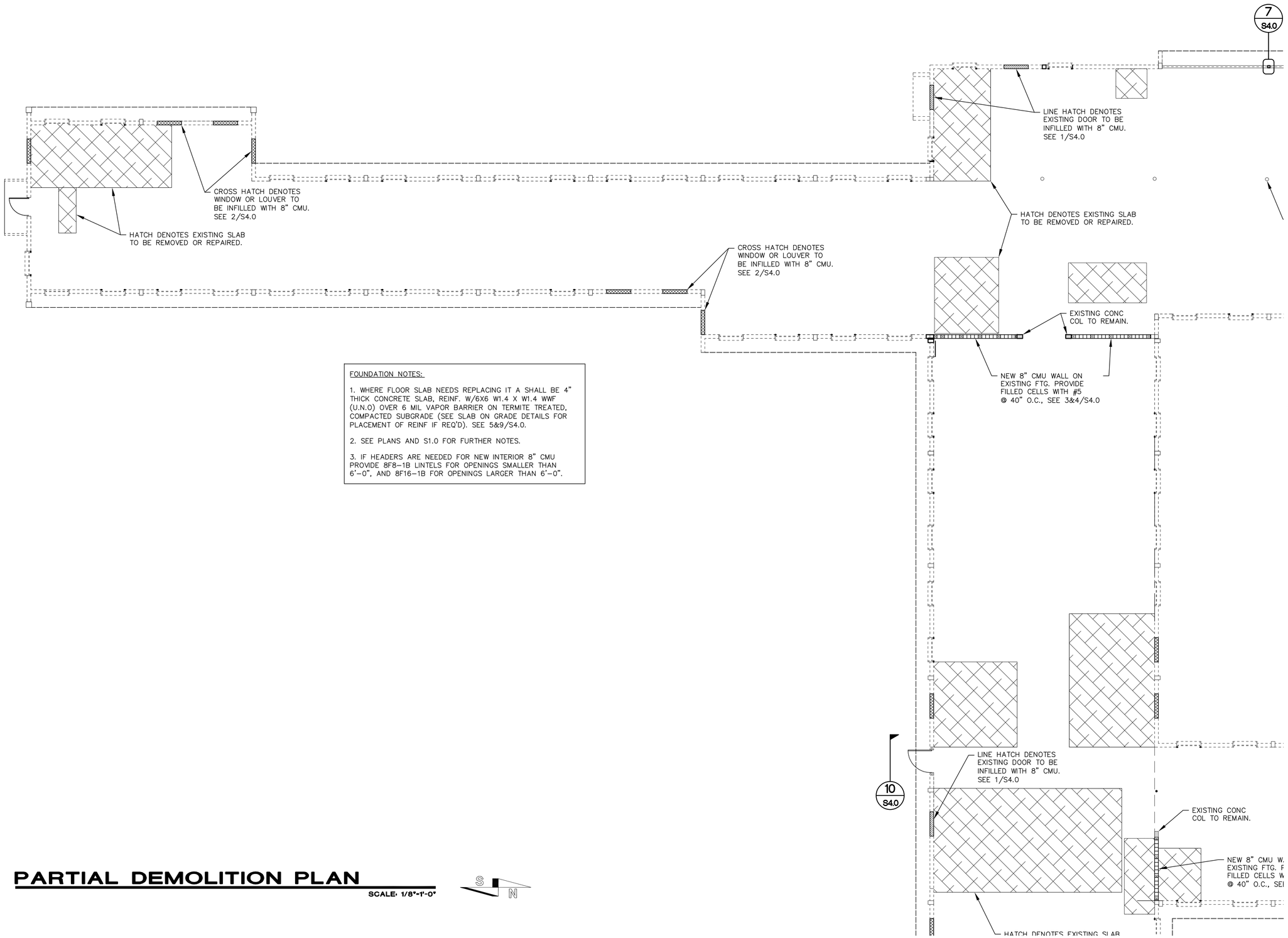
Attachment G



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PARTIAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"

S N

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PARTIAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"

S2.1

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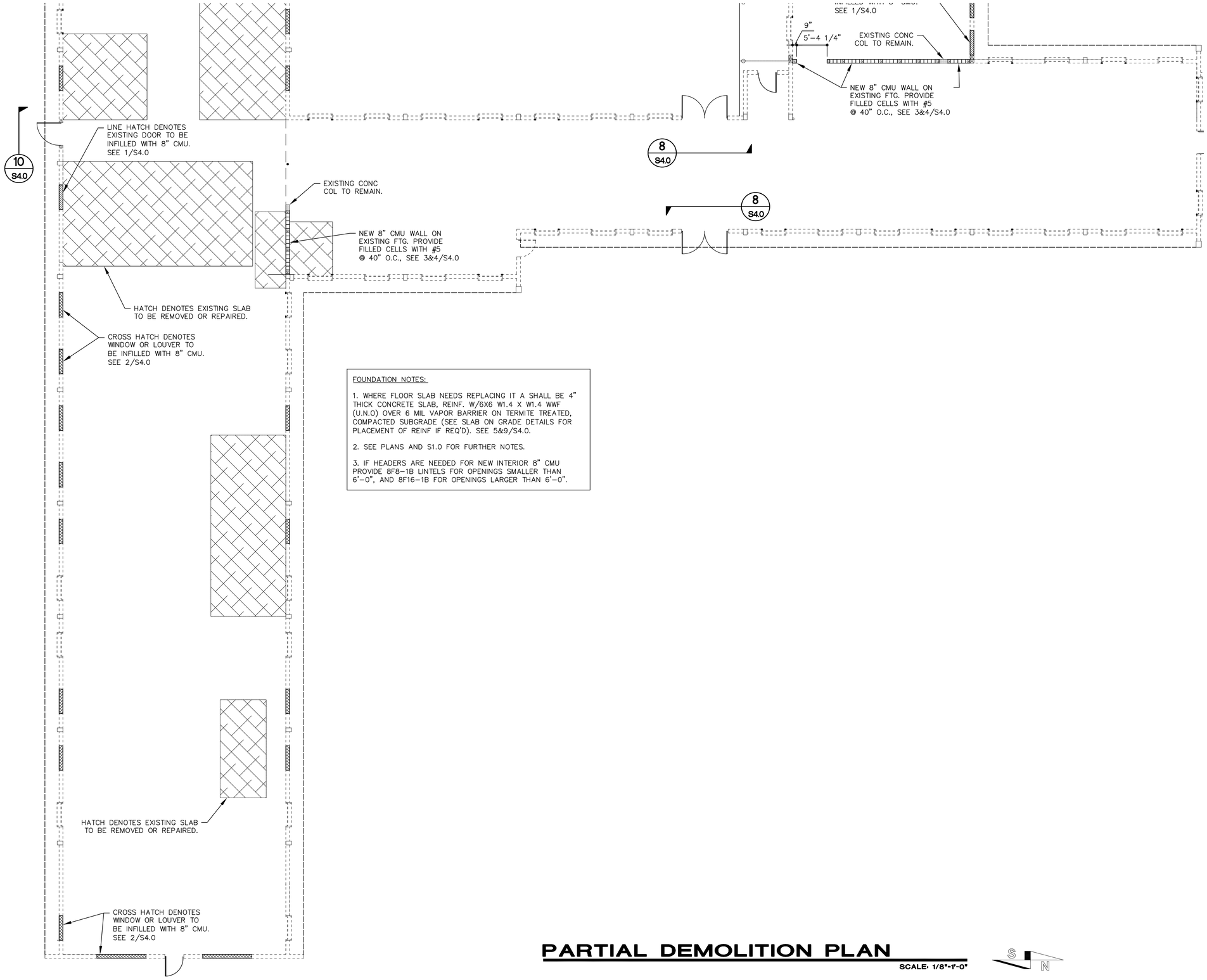

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PARTIAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"

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PARTIAL DEMOLITION PLAN

SCALE: 1/8"=1'-0"

S2.2

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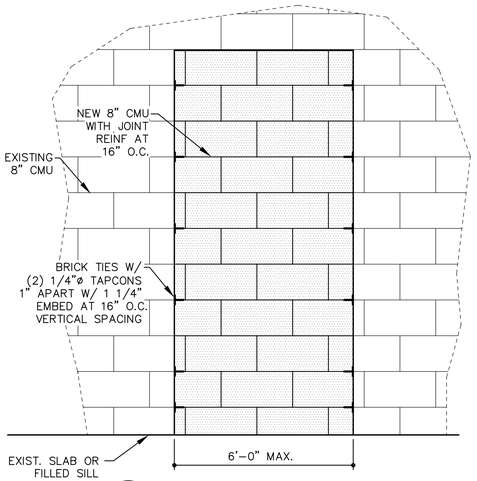
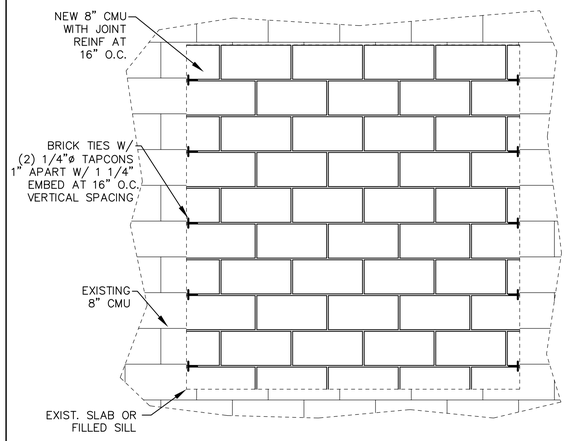


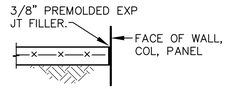
1 ELEVATION • DOOR INFILL

SCALE: 3/4"=1'-0"

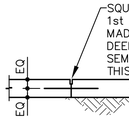


2 ELEVATION • WINDOW INFILL

1. SEMI-RIGID EPOXY SHALL BE PROVIDED IN CONSTRUCTION & SAWCUT JOINTS WHERE EXPOSED TO VEHICULAR TRAFFIC. EPOXY SHALL BE MM80 BY METZGER/McGUIRE OR EUCO 700 BY EUCLID.
2. CONCRETE SHALL AGE A MINIMUM OF 45 DAYS. CHASE THE JOINT WITH A CONCRETE SAW AND BLOW CLEAN W/ COMPRESSED AIR.
3. USE BACKER ROD TO CREATE VERTICAL DAM AT EA END OF THE LEG TO BE FILLED. DO NOT USE BACKER ROD AT THE BOTTOM OF THE JOINT.
4. LEAVE THE SURFACE CROWNED AND GRIND FLUSH AFTER IT HAS HARDENED.



EJ (EXPANSION JOINT)

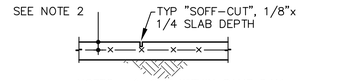


NOTES:
1. USE SMOOTH DWL W/ PROJECTED END COATED TO PREVENT BOND. SEE SCHEDULE BELOW.
2. REINF NOT SHOWN FOR CLARITY. DISCONTINUE REINF @ JT.

SMOOTH DOWEL SCHEDULE			
SLAB DEPTH (IN)	DIAMETER (IN)	TOTAL LENGTH (IN)	SPACING C TO C (IN)
5	5/8	12	12
6	3/4	14	12
7	7/8	14	12
8	1	14	12
9	11/8	16	12
10	11/4	16	12

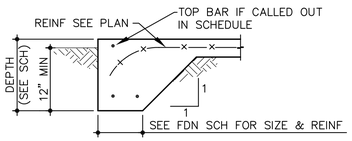
NOTE: DWLS SHALL BE CUT TO LENGTH NOT SHEARED. GRIND ANY BURRS SMOOTH FROM PROJECTED END.

CJ (CONSTRUCTION JOINT – DOWELLED)



NOTES:
1. CUT WITHIN SAME DAY OF SLAB PLACEMENT.
2. PLACE REINF 1/3 SLAB DEPTH FOR SLABS GREATER THAN 5". 1 1/2" CLR FOR SLABS 5".
3. SEE SEMI-RIGID NOTES THIS DTL.

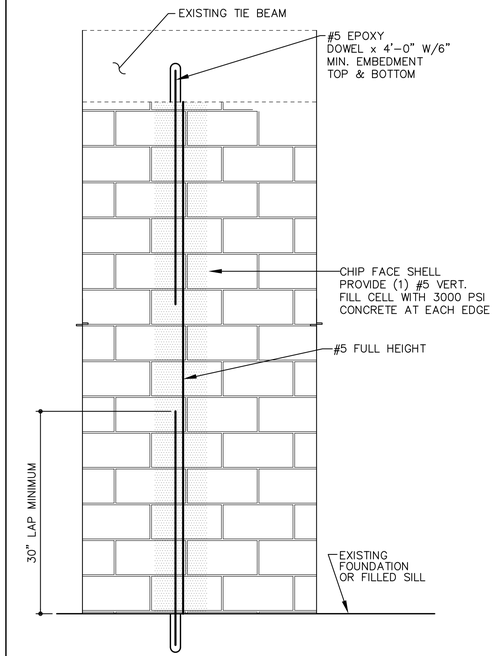
SJ (SAWCUT JOINT)



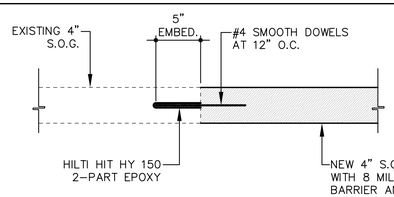
TDS (TURN DOWN SLAB)
(SEE FOOTING SCHEDULE)

A SLAB ON GRADE DETAILS

NTS

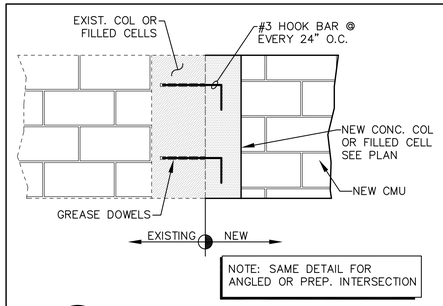


3 DETAIL • NEW FILLED CELL

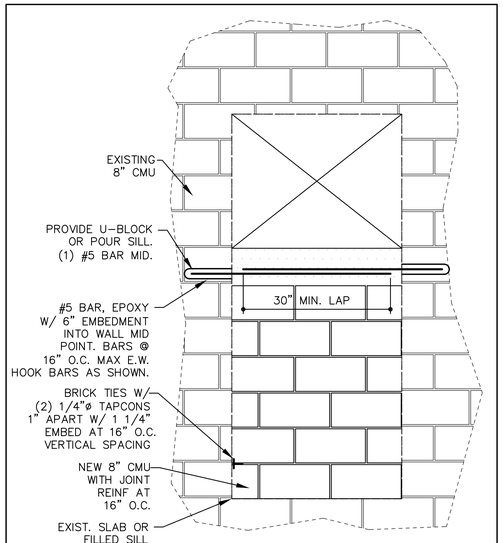


5 TYP. NEW-EXIST. SLAB

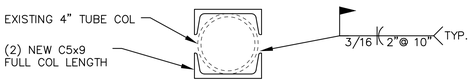
SCALE: 1 1/2" = 1'-0"



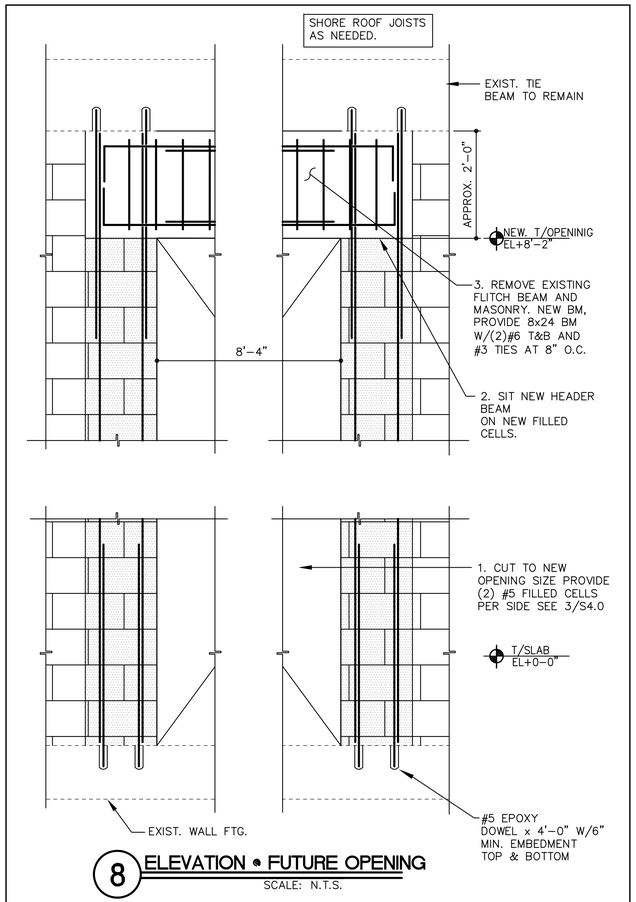
4 DETAIL • NEW CMU TO EXIST. COL



6 ELEVATION • NEW HEADER + INFILL

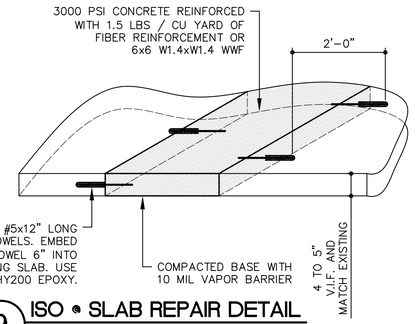


7 SECTION • EXIST COL REPAIR

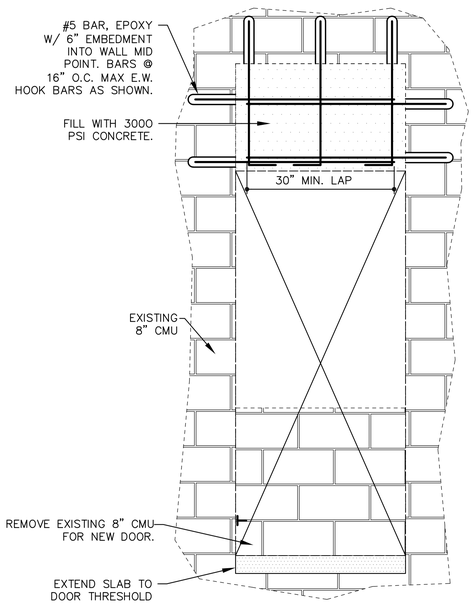


8 ELEVATION • FUTURE OPENING

SCALE: N.T.S.



9 ISO • SLAB REPAIR DETAIL



10 ELEVATION • NEW HEADER + INFILL

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

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Project no.: 22078
Drawn by: S.G.
Checked by: E.B.
DATE: 10-27-2023

REVISIONS

STRUCTURAL DETAILS

SCALE: 3/4" = 1'-0"

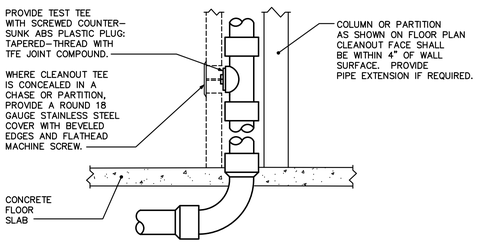
S4.0

DRAFT DOCUMENT FOR COMMISSION REVIEW

TYPICAL PLUMBING FIXTURE CONNECTION SCHEDULE

TYPE	SOIL / WASTE	VENT	TRAP	CW	HW	REMARKS
OUTLET BOX	–	–	–	½"	–	PROVIDE w/ INTEGRAL WATER HAMMER ARRESTOR.
SINK	2"	2"	1½"	½"	½"	1.0 GPM AT 60 PSI MAXIMUM.
LAVATORY (PUBLIC TYPE)	2"	2"	1¼"	½"	½"	0.5 GPM AT 60 PSI MAXIMUM. (0.25 GALLON METERING CYCLE)
REFRIGERATOR	–	–	–	½"	–	PROVIDE WITH VACUUM BREAKER.
WATER CLOSET (FLUSH TANK)	3" OR 4"	2"	INTEGRAL	½"	–	1.28 GALLONS PER FLUSHING CYCLE MAXIMUM.
URINAL	2"	2"	INTEGRAL	¾"	–	0.128 GALLONS PER FLUSHING CYCLE MAXIMUM.

NOTE: PLUMBING FIXTURE CONNECTION SCHEDULE IS SHOWN FOR CONVENIENCE ONLY. PLUMBING CONTRACTOR TO CONFIRM FINAL PLUMBING FIXTURE CONNECTION SIZES WITH PLUMBING FIXTURE MANUFACTURER'S REQUIREMENTS. ALL FIXTURES SHALL COMPLY WITH LOCAL WATER-USE EFFICIENCY REQUIREMENTS.



NOTE:
PROVIDE WCO WHERE SHOWN ON PLAN, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT: LOCATE ABOVE FIXTURE FLOOD RIM WITHIN 4' OF FLOOR. CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS.

WALL CLEANOUT DETAIL
NOT TO SCALE

PLUMBING LEGEND

CO	CLEAN OUT		SANITARY SEWER PIPING
S.O.V.	SHUT-OFF VALVE		VENT PIPING
COTC	CLEAN OUT TO GRADE		DOMESTIC COLD WATER PIPING
FD	FLOOR DRAIN		HOT WATER PIPING (110°)
CW	DOMESTIC COLD WATER	CD	CONDENSATE PIPING
HW	DOMESTIC HOT WATER	T&P	TEMPERATURE AND PRESSURE RELIEF
HWR	DOMESTIC HOT WATER RECIRCULATING		PIPE RISE UP
HB	HOSE BIBB		PIPE DOWN OR DROP
VTR	VENT THRU ROOF		CAPPED END OF PIPE
	GATE VALVE		POINT OF CONNECTION
	GLOBE VALVE		P-TRAP
	CHECK VALVE		
#	WATER HAMMER ARRESTER (PDI No.)		
FD	FLOOR DRAIN		

SHOCK ARRESTOR SCHEDULE

P.D.I. DESIGNATION	MANUF. & MODEL	FIXTURE UNITS	CONNECTION
A	SIOUX CHIEF 652-A	1-11	1/2"
B	SIOUX CHIEF 653-B	12-32	3/4"
C	SIOUX CHIEF 654-C	33-60	1"

SIOUX CHIEF SHOCK ARRESTORS APPROVED FOR INSTALLATION WITH NO ACCESS DOOR REQUIRED. CONFORMS TO ANSI/ASSE 1010 STANDARDS.

SLOPE OF HORIZ. DRAINAGE PIPE

SIZE (inches)	MINIMUM SLOPE (inch per foot)
2-1/2 or less	1/4
3 to 6	1/8
8 or larger	1/16

TABLE 704.1 OF THE FLORIDA PLUMBING CODE 2017

PLUMBING NOTES

1. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE INSTALLATION OF A COMPLETE SCOPE OF WORK. ALL WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE FLORIDA BUILDING CODE 7th EDITION (2020) – PLUMBING, APPLICABLE LOCAL CODES, RULES, AND ORDINANCES.
2. THE PLUMBING CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME THOROUGHLY FAMILIAR WITH ALL EXISTING CONDITIONS.
3. ALL MATERIALS SHALL BE NEW AND OF GOOD QUALITY.
4. ALL WORK SHALL BE PERFORMED BY A LICENSED PLUMBING CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY-OPERATIONAL. ALL EXCAVATION AND BACKFILL AS REQUIRED FOR THIS PHASE OF CONSTRUCTION SHALL BE A PART OF THIS CONTRACT.
5. REQUIRED INSURANCE SHALL BE PROVIDED BY THE PLUMBING CONTRACTOR FOR PROTECTION AGAINST PUBLIC LIABILITY AND PROPERTY DAMAGE FOR THE DURATION OF THE WORK.
6. PLUMBING CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS AND TESTS. PLUMBING CONTRACTOR SHALL OBTAIN PERMIT AND APPROVED SUBMITTALS PRIOR TO BEGINNING WORK OR ORDERING EQUIPMENT. PLUMBING CONTRACTOR MUST BE PRESENT FOR ALL INSPECTIONS OF HIS WORK BY REGULATORY AUTHORITIES.
7. CONTRACTOR SHALL SUBMIT TO ARCHITECT/ENGINEER, FOR REVIEW & APPROVAL, FIVE (5) SETS OF MANUFACTURER'S CUT SHEETS FOR EACH FIXTURE, PIPING/FITTING MATERIAL AND EQUIPMENT ITEM WITH ASSOCIATED CONTROLS, THAT ARE INCLUDED IN THE CONTRACT.
8. DRAWINGS ARE DIAGRAMMATIC. DO NOT SCALE FOR THE EXACT LOCATION OF FIXTURES, PIPING, EQUIPMENT, ETC.
9. ALL WORK SHALL BE COORDINATED WITH OTHER TRADES TO AVOID INTERFERENCE WITH THE PROGRESS OF CONSTRUCTION. REPORT ANY DISCREPANCY TO ARCHITECT/ENGINEER PRIOR TO BEGINNING CONSTRUCTION.
10. VERIFY LOCATION, SIZE, DIRECTION OF FLOW AND INVERT ELEVATIONS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING OF CONSTRUCTION. ADVISE ARCHITECT/ENGINEER OF ANY DISCREPANCIES.
11. WATER DISTRIBUTION PIPING ABOVE AND BELOW GROUND SHALL BE TYPE "L" COPPER. ALTERNATE PIPING & FITTING MATERIALS MAY BE USED IN ACCORDANCE WITH FLORIDA BUILDING CODE 7th EDITION (2020) – PLUMBING, TABLES 605.3, 605.4 & 605.5, WHEN APPROVED BY ENGINEER OF RECORD AND LOCAL AUTHORITY HAVING JURISDICTION. PROVIDE ALTERNATE FOR CPVC PIPING & FITTINGS EQUAL TO LUBRIZOL CORZAN OR FLOW-GUARD GOLD. APROVIDE ALTERNATE FOR PEX TYPE 'A' PIPING & FITTINGS EQUAL TO UPONOR. ALTERNATES ARE PERTINENT FOR WATER SERVICES KNOWN OR DETERMINED TO HAVE ACIDIC CHARACTERISTICS OR OTHER PARTICULAR CIRCUMSTANCES AS DEEMED APPROPRIATE BY DIRECTIVE FROM THE OWNER. CONTRACTOR SHALL PERFORM A WATER TEST TO DETERMINE WATER CHEMISTRY PRIOR TO ANY WORK OR PIPING INSTALLATION AND SHALL SUBMIT TEST RESULTS TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL. DISINFECTION OF POTABLE WATER SYSTEM SHALL COMPLY WITH FLORIDA BUILDING CODE 7th EDITION (2020) – PLUMBING, SECTION 610. ALL WATER PIPING & FITTINGS SHALL BE OF DOMESTIC MANUFACTURE; SPECIFICALLY IN THE UNITED STATES OF AMERICA.
12. ALL DOMESTIC WATER PIPING, VALVES AND DEVICES INTENDED TO SUPPLY DRINKING WATER SHALL BE COMPLIANT WITH NSF 61, PER FLORIDA BUILDING CODE 7th EDITION (2020)– PLUMBING, SECTION 605.7.
13. SOIL, WASTE, VENT, AND RAINWATER (DWV) PIPING & FITTINGS SHALL BE CAST IRON OR PVC, WHERE CODE ALLOWS. PVC SHALL NOT BE USED IN PLENUMS. PVC PIPING SHALL BE SOLID-CORE ONLY; FOAM-CORE PIPING SHALL NOT BE ACCEPTED. CAST IRON PIPING & FITTINGS SHALL BEAR THE CISPI-301 MARK. ALL DWV PIPING & FITTINGS SHALL BE OF DOMESTIC MANUFACTURE; SPECIFICALLY IN THE UNITED STATES OF AMERICA. ALL HORIZONTAL SANITARY PIPING RUN ABOVE FINISHED FLOOR THAT RECEIVES COLD DRAINAGE FROM REFRIGERATION EQUIPMENT SHALL BE INSULATED WITH ARMAFLEX AND A VAPOR-BARRIER JACKET.
14. NATURAL & PROPANE FUEL GAS PIPING SHALL BE THE FOLLOWING: UNDERGROUND – PE PIPE COMPLYING WITH ASTM D2683 OR ASTM D3261 AND ASTM D2513, SDR 11 TRANSITION FITTINGS. ABOVEGROUND – SCHEDULE 40 BLACK STEEL COMPLYING WITH ASTM A53 AND THREADED, WELDED, OR FLANGED FITTINGS. CORRUGATED STAINLESS STEEL TUBING COMPLYING WITH ANSI/IAS LC1 SHALL BE ALLOWED ONLY WITHIN INTERIOR ACCESSIBLE SPACES.
15. COMPRESSED AIR PIPING SHALL BE ASTM B241 EXTRUDED ALUMINUM ALLOY COMPLIANT WITH ASME B31.1 OR GALVANIZED BLACK STEEL IN ACCORDANCE WITH DIN EN 10255. ALUMINUM PIPING AND MECHANICAL GROOVED-JOINT FITTINGS SHALL BE AIRNET, TRANSAIR, OR APPROVED EQUAL. STEEL PIPING AND MECHANICAL GROOVED-JOINT FITTINGS SHALL BE VIEGA MEGAPRESS OR APPROVED EQUAL.
16. ALL FIXTURES MUST BE PROVIDED WITH READILY ACCESSIBLE ANGLE STOPS AND APPROPRIATELY MARKED ACCESS PANELS (WHERE REQUIRED). COORDINATE LOCATIONS WITH GENERAL CONTRACTOR PRIOR TO INSTALLATION.
17. PROVIDE APPROVED WATER HAMMER ARRESTORS FOR ALL (GROUP) PLUMBING FIXTURES, SIZED & LOCATED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS & PDI-WH201.
18. PROVIDE DIELECTRIC COUPLINGS OR FLANGES BETWEEN ALL DISSIMILAR METALS IN PIPING AND EQUIPMENT CONNECTIONS.
19. ISOLATE COPPER PIPING FROM METALLIC HANGERS OR SUPPORTS WITH ISOLATOR PADS OR NON-CONDUCTIVE MATERIAL.
20. ALL FIRE RATED FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY PROTECTED FROM FIRE, SMOKE AND WATER PENETRATION BY FILLING ANNULAR SPACE BETWEEN PIPING AND SLEEVES WITH INTUMESCENT CAULK, TO ACHIEVE THE SAME RATING AS WALLS OR FLOORS, AS PART OF THE PLUMBING CONTRACTOR'S WORK.
21. PLUMBING CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP FREE FROM DEFECTS FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF ACCEPTANCE BY OWNER. CORRECTION OF ANY DEFECTS SHALL BE COMPLETED WITHOUT ADDITIONAL CHARGE AND SHALL INCLUDE REPLACEMENT OR REPAIR OF ANY OTHER PHASE OF THE INSTALLATION WHICH MAY HAVE BEEN DAMAGED.
22. PROVIDE ACCESS PANELS FOR ALL CONCEALED VALVES. ACCESS PANELS IN RATED WALLS SHALL MAINTAIN THE SAME RATING AND SHALL MATCH THE FINISH OF THE WALL IN WHICH IT IS INSTALLED.
23. PROVIDE COMBINATION CLEANOUT PLUG AND COVER PLATE OR ACCESS PANEL FOR ALL WALL CLEANOUTS. FINISH TO MATCH NEARBY FIXTURE TRIM.
24. NO COMBUSTIBLE MATERIAL SHALL BE INSTALLED IN MECHANICAL ROOMS NOR IN CEILING SPACES WHERE USED AS RETURN AIR PLENUMS.
24. NO WATER, SANITARY OR DRAINAGE PIPING SHALL BE INSTALLED IN ELECTRICAL OR ELEVATOR EQUIPMENT ROOMS.
26. ALL CONTROL VALVES SHALL BE TAGGED AND MARKED. A REPRODUCIBLE DIAGRAM LOCATING ALL VALVES SHALL BE FURNISHED FOR OWNER/OPERATOR.
27. CONDENSATE DRAIN PIPING SHALL BE TYPE "L" COPPER WITH ARMAFLEX INSULATION AND A VAPOR-BARRIER JACKET PER FLORIDA BUILDING CODE 7th EDITION (2020) – ENERGY CONSERVATION, TABLE C403.2.8. PVC WITHOUT INSULATION IS ACCEPTABLE FOR RISERS AND BELOW GRADE PIPING. WHEN USED IN A RETURN AIR PLENUM, CPVC PIPING WITH INSULATION IS ACCEPTABLE IN LOCATIONS WHERE ALLOWED BY LOCAL CODES. CONDENSATE PIPING SHALL NOT DRAIN DIRECTLY INTO THE ROOFING SYSTEM NOR ANY OF ITS COMPONENTS (UNLESS ALLOWED BY THE AHJ). CONDENSATE PIPING ARRANGEMENT IS EXEMPT FROM MINIMUM EQUIPMENT CLEARANCE REQUIREMENTS PER FLORIDA BUILDING CODE 7th EDITION (2020), SECTION 1522.3.5. ALL HORIZONTAL RAINWATER PIPING RUN ABOVE FINISHED FLOOR THAT RECEIVES CONDENSATE DISCHARGE SHALL BE INSULATED WITH ARMAFLEX AND A VAPOR-BARRIER JACKET.
28. HOT WATER PIPING INSULATION SHALL BE PROVIDED IN ACCORDANCE WITH FLORIDA BUILDING CODE 7th EDITION (2020) – PLUMBING, SECTION 607.5 & FLORIDA BUILDING CODE 7th EDITION (2020) – ENERGY CONSERVATION, TABLE C403.2.10. CONTRACTOR SHALL USE ARMAFLEX OR EQUAL WHERE APPLICABLE. WHERE DOMESTIC WATER TEMPERATURES CAN CAUSE SWEATING, ALL COLD WATER PIPING SHALL BE INSULATED WITH ARMAFLEX INSULATION AND A VAPOR-BARRIER JACKET, PER FLORIDA BUILDING CODE 7th EDITION (2020) – ENERGY CONSERVATION, TABLE C403.2.10.
29. AIR ADMITTANCE VALVES MAY BE USED AS AN ALTERNATE TO VENT PIPING THRU ROOF WHERE ACCEPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION. INSTALLATION METHODS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS.

PLUMBING SHEET INDEX

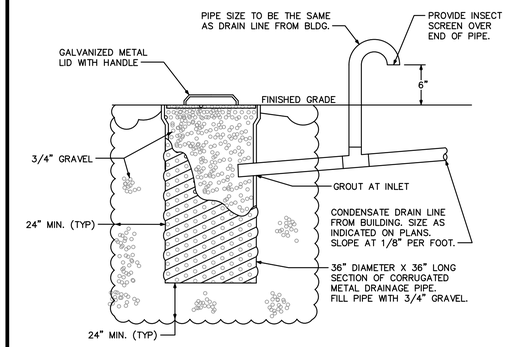
SHEET#	DESCRIPTION
P0.1	PLUMBING NOTES, LEGENDS, AND DETAILS
P2.1	SANITARY PLAN
P3.1	DOMESTIC WATER PLAN
P5.1	SANITARY ISOMETRIC
P6.1	DOMESTIC WATER ISOMETRIC AND WATER HEATER DETAILS

PLUMBING FIXTURE SCHEDULE

	LAVATORY, AMERICAN STANDARD "DECLYN" 0321.026 WALL MOUNT WHITE VITREOUS CHINA WITH T&S BRASS MODEL #B-2711-VF05, 0.5 GPM, SINGLE-LEVER, MANUALLY-OPERATED CENTERSET FAUCET. PROVIDE WITH MIFAB SERIES MC-41 CONCEALED-ARM CARRIER AND PLUMBEREX PRO EXTREME UNDER LAV SUPPLY & TRAP PROTECTORS.
L2	LAVATORY, AMERICAN STANDARD "AQUALYN", OVAL DROP-IN LAVATORY, WHITE VITREOUS CHINA WITH T&S BRASS MODEL #B-2711-VF05, 0.5 GPM, SINGLE-LEVER MANUALLY OPERATED CENTERSET FAUCET. INSTALL FIXTURE & TRIM IN BARRIER-FREE VANITY BY OTHERS. REFER TO ARCHITECTURAL DRAWINGS.
WC1	HANDICAP WATER CLOSET, AMERICAN STANDARD "MADERA" MODEL #2857.128. FLOOR MOUNTED, TOP-SPUD, MANUAL FLUSH VALVE SLOAN ROYAL MODEL #111-1.28 WITH OPEN-FRONT ELONGATED SEAT WITH CHECK HINGES BY OLSONITE, BEMIS, OR CHURCH.
WC2	WATER CLOSET, AMERICAN STANDARD "MADERA 15in HEIGHT" MODEL #3451.001-1.28, FLOOR MOUNTED, TOP-SPUD, MANUAL FLUSH VALVE SLOAN "ROYAL" MODEL #111-1.28, WITH OPEN-FRONT ELONGATED SEAT WITH CHECK HINGES BY OLSONITE, BEMIS, OR CHURCH.
U1	HANDICAP URINAL AMERICAN STANDARD, ALLBROOK 6541.132. FLUSH VALVE SLOAN ROYAL 186-0.125 WALL MOUNTED, WHITE URINAL. PROVIDE WITH MIFAB SERIES MC-32 DOUBLE-PLATE CARRIER.
U2	URINAL AMERICAN STANDARD, ALLBROOK 6541.132. FLUSH VALVE SLOAN ROYAL 186-0.125 WALL MOUNTED, WHITE URINAL. PROVIDE WITH MIFAB SERIES MC-32 DOUBLE-PLATE CARRIER.
EWC1	BARRIER-FREE BI-LEVEL ELECTRIC WATER COOLER, ELKAY MODEL #LZSTL8LC, FILTERED, NSF/ANSI 61 COMPLIANT WITH FRONT & SIDE PUSH PADS AND BI-LEVEL CARRIER EQUAL TO MIFAB SERIES MC-33-2. REFER TO ARCHITECTURAL FOR LEFT/RIGHT ORIENTATION OF HIGH/LOW BOWLS.
MSK1	MOP SINK, FIAT MODEL #TSB-200 WITH PLAIN CURBS, TERRAZZO WITH RIM GUARDS & WALL GUARDS. PROVIDE WITH T&S BRASS FAUCET MODEL #B-0661-RGH, ROUGH CHROME WITH CERAMIC-DISC CARTRIDGES & INTEGRAL LOOSE KEY STOPS.
SH1	HANDICAP SHOWER, BARRIER-FREE ENCLOSURE BY ARCHITECT. PROVIDE WITH ZURN MODEL #Z7301-SS-MT-DV-2P-HW-H9-S9 SHOWER UNIT, PRESSURE-BALANCE MIXING VALVE, CERAMIC DISC, FIXED & HAND HELD 1.5 GPM SHOWER HEADS, SINGLE LEVER CONTROL. DRAIN MIFAB #F1000-C.
SK1	KITCHEN SINK, JUST MODEL #SLN-ADA-2122-A-GR, ADA-COMPLIANT, 6-1/2" DEEP SINGLE-BASIN, LEDGE-BACK, SELF-RIMMING, 18-GAUGE TYPE 304 STAINLESS STEEL, WITH GRID STRAINER AND T&S BRASS FAUCET MODEL #B-2730-WS, SINGLE-LEVER, 9" SWING SPOUT, 1.5 GPM AERATOR, CERAMIC DISC CARTRIDGE AND SIDE-SPRAY ACCESSORY.
SK2	KITCHEN SINK, JUST MODEL #SL-ADA-2133-A-GR, ADA-COMPLIANT, 6-1/2" DEEP DOUBLE-BASIN, LEDGE-BACK, SELF-RIMMING, 18-GAUGE TYPE 304 STAINLESS STEEL, WITH GRID STRAINER AND DELTA PILAR FAUCET MODEL #470-DST, 1.5 GPM AERATOR WITH INTEGRAL SPRAYER. PROVIDE SINK WITH GLASS FILLER, JUST MODEL #JBGF-1.
OB1	WATER OUTLET BOX, GUY GRAY MODEL #BIM875QTSAB WITH LEAD-FREE QUARTER-TURN VALVE & INTEGRAL WATER-HAMMER ARRESTOR.
FD1	FLOOR DRAIN, MIFAB MODEL #F1000-6-3-7-C w/ 6" ROUND STAINLESS STEEL STRAINER.
FD2	FLOOR DRAIN, MIFAB MODEL #F1100-EF-3-7-C WITH 6" ROUND STAINLESS STEEL STRAINER & FUNNEL
WCO	WALL CLEANOUT, MIFAB C1430-RD WITH BRONZE PLUG, STAINLESS STEEL COVER, AND SCREW.
EHW1	ELECTRIC WATER HEATER, LOCHINVAR MODEL #LTJO30KD, 30 GAL. 208V/1PH/4.5kW. SET UNIT ON STAND AND PROVIDE WITH RECIRCULATION PUMP – BELL & GOSSETT MODEL #PL-30B AND THERM EXPANSION TANK – AMTROL MODEL #ST-5.
EHW2	ELECTRIC WATER HEATER, LOCHINVAR MODEL #LSJO30KD, 30 GALLON, 208V/1PH/4.5KW. PROVIDE RECIRCULATION PUMP – BELL & GOSSETT MODEL #PL-30B AND THERMAL EXPANSION TANK – AM MODEL #ST-5
EHW3	ELECTRIC WATER HEATER, LOCHINVAR MODEL #LTJO66KD, 65 GAL. 208V/1PH/4.5kW. SET UNIT ON STAND AND PROVIDE WITH RECIRCULATION PUMP – BELL & GOSSETT MODEL #PL-30B AND THERM EXPANSION TANK – AMTROL MODEL #ST-12.
IWH1	TANKLESS WATER HEATER, EEMAX MODEL #EX3208T-ML, 208V/1Ø/3.0 KW. SET @ 110°F OUTLET
WH1	WALL HYDRANT, MIFAB MODEL #MHY-35-3, STAINLESS STEEL ENCASED WALL HYDRANT, MODERATE CLIMATE WITH INTEGRAL VACUUM BREAKER.

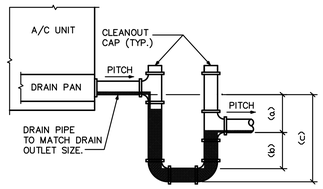
GENERAL NOTES:
(1) – FIXTURES SHALL BE AS SHOWN OR EQUAL.
(2) – FIXTURES SHALL COMPLY w/ 2020 FBC-P, TABLE 604.4 & LOCAL WATER-USE EFFICIENCY ORDINANCES.
(3) – FIXTURE TRIM PACKAGES INCLUDING, BUT NOT LIMITED TO TRAP, ANGLE STOP, FLUSH VALVE, SUPPLY TUBES, AND CLEANOUT COVER PLATES SHALL BE OF THE SAME FINISH AS THE ASSOCIATED FAUCET AND PER ARCHITECTURAL FINISH SCHEDULE.
(4) – FIXTURES SHALL BE ROUGHED IN PER MANUFACTURER'S CUT SHEET TO MAINTAIN UNIFORMITY.

NOTE:
THIS CONDENSATE DRYWELL/SOAKAGE PIT HAS BEEN ENGINEERED TO ACCOMMODATE UP TO 50 TONS OF HVAC EQUIPMENT.
THE DRYWELL DEPTH SHALL NOT EXCEED THE DIAMETER OR LARGEST SURFACE DIMENSION OF THE DRYWELL TO AVOID COMPLIANCE WITH DRAINAGE WELL REQUIREMENTS OF RULE 62-528.600, FAC.



CONDENSATE DRYWELL DETAIL (LARGE)
NOT TO SCALE

NOTES:
1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP
2. PITCH DRAIN FOR PROPER RUNOFF.
3. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL.
4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.



THIS STANDARD DETAIL MUST BE REVIEWED AND SITE ADAPTED BY CONTRACTOR PRIOR TO USE FOR FINAL EQUIPMENT.

(a) THIS DIMENSION IN INCHES MUST BE EQUAL TO THE MAXIMUM FAN SUCTION (NEGATIVE) STATIC PRESSURE IN INCHES WG (WITH DIRTY FILTERS, COILS, AND MAXIMUM AIR FLOW) + 1" W.G.

(b) THIS DIMENSION IN INCHES MUST BE EQUAL TO MIN. 1/2 OF THE (a) ABOVE

(c) EQUALS (a) + (b) + PIPE DIA. + + INSULATION

DRAW THRU UNIT CONDENSATE TRAP
NOT TO SCALE

CONDENSATE DRAIN PIPE SIZING

EQUIPMENT CAPABILITY	MINIMUM CONDENSATE PIPE DIAMETER (inch)
UP TO 20 TONS OF REFRIGERATION	1"
OVER 21 TONS TO 40 TONS OF REFRIGERATION	1-1/4"
OVER 41 TONS TO 60 TONS OF REFRIGERATION	1-1/2"
OVER 61 TONS TO 100 TONS OF REFRIGERATION	2"
OVER 101 TONS TO 250 TONS OF REFRIGERATION	3"
OVER 251 TONS & LARGER OF REFRIGERATION	4"

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
PEMBROKE PINES, FLORIDA, 33025

SALTZ MICHELSON ARCHITECTS
3501 Griffin Road
Ft. Lauderdale, FL 33312
(954) 266-2700 Fx: (954) 266-2701
sma@saltzmichelson.com

AR-0009976

STATE OF FLORIDA
SHEFF L. DEVIER III
AR0007699
REGISTERED ARCHITECT
Sheff L. Devier III AR0007699

Project No.:
2022-133
Drawn By:
EQ
Checked By:
SD
Date:
11/17/2023

REVISIONS

PLUMBING NOTES

KAMM CONSULTING PROJECT #: 2022-0686
PROJECT MANAGER: GREG KEMP
KAMM Consulting
1407 West Newport Center Drive
Deerfield Beach, Florida 33442
Phone 954.949.2200 Fax 954.949.2201
engineering@kammconsulting.com
Certification of Authorization #8159

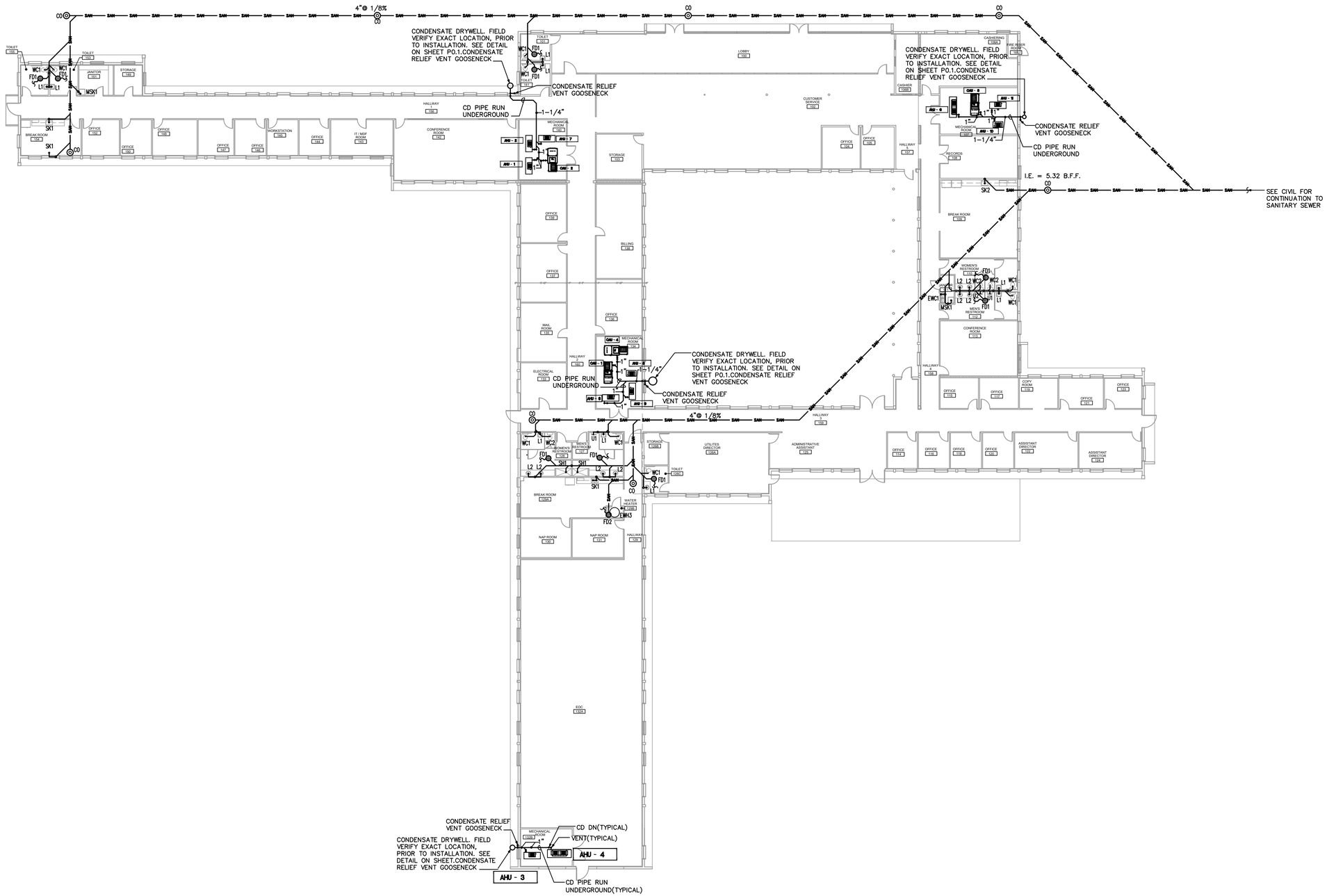
date

signed

P0.1

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment H



SANITARY PLAN

1/16"=1'-0" NORTH

SALTZ MICHELSON ARCHITECTS
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STATE OF FLORIDA
SHEFF L. DEVIER III
AR0007699
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POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
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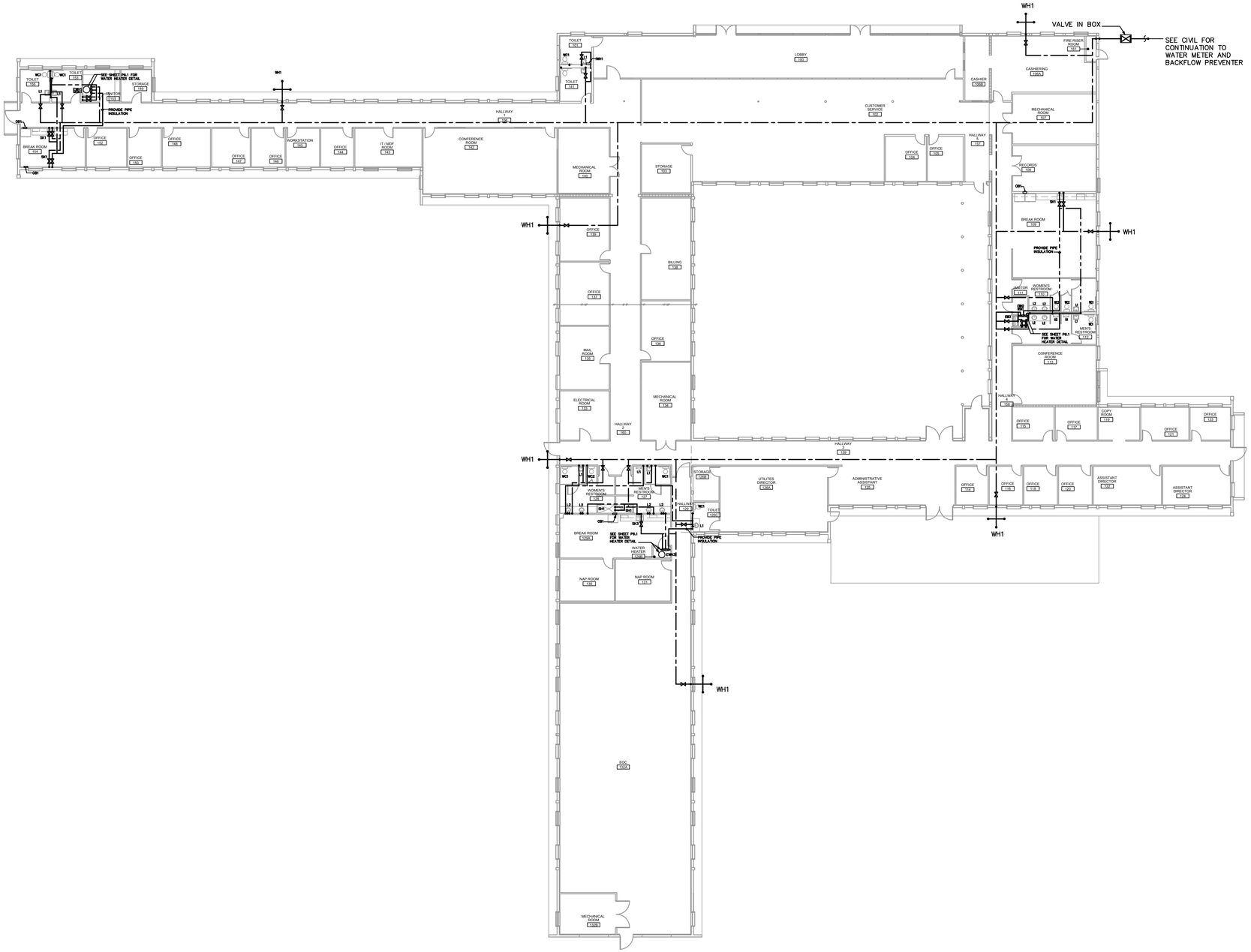

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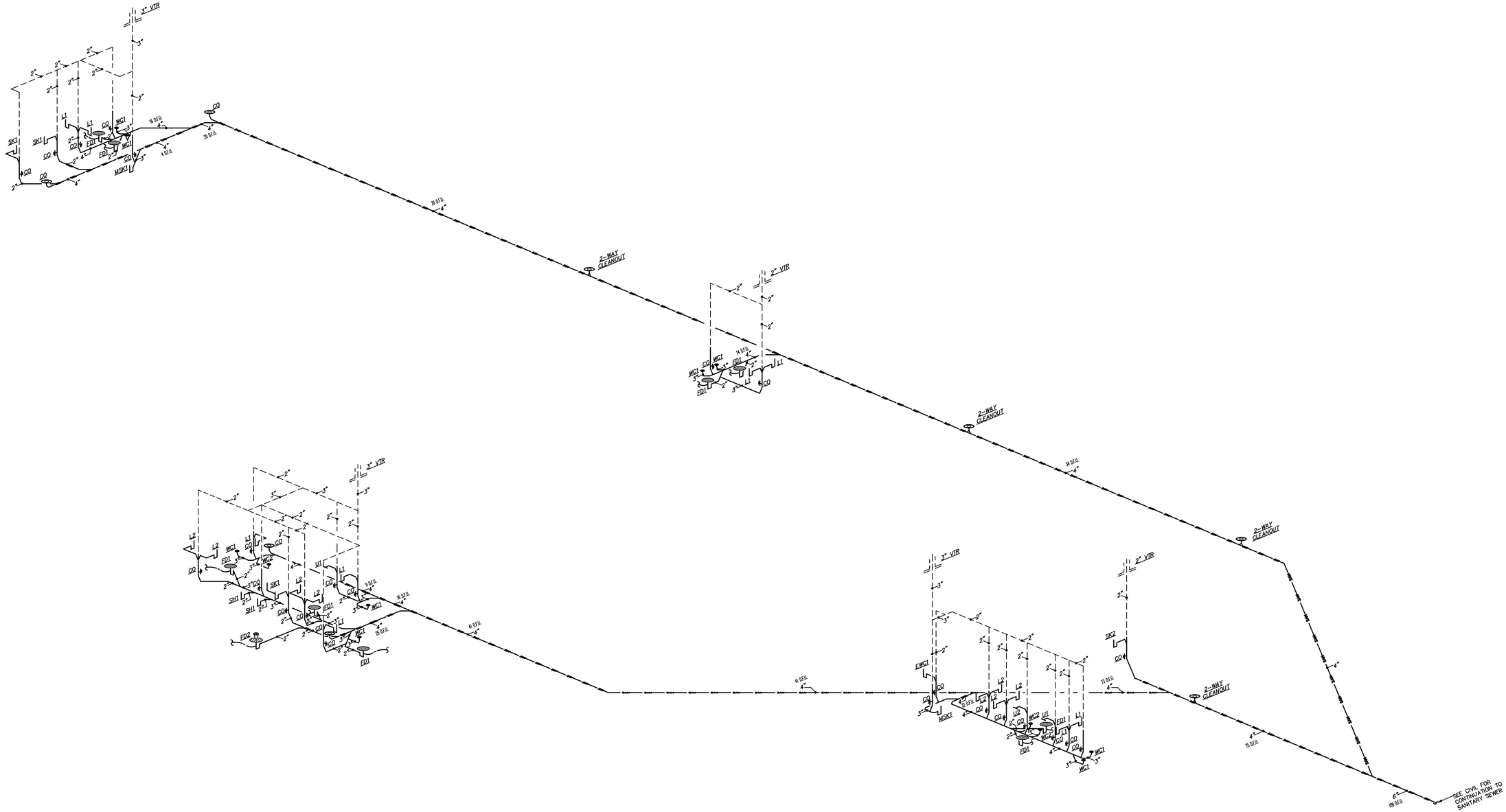

SANITARY ISOMETRIC

NOT TO SCALE

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
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PEMBROKE PINES, FLORIDA, 33025

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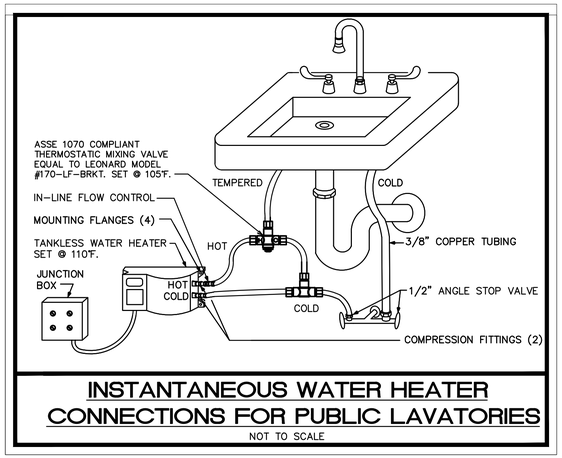
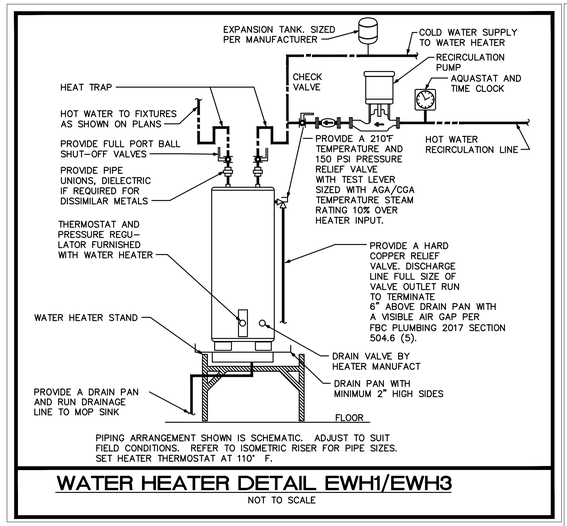


INSTANTANEOUS WATER HEATER CONNECTIONS FOR PUBLIC LAVATORIES

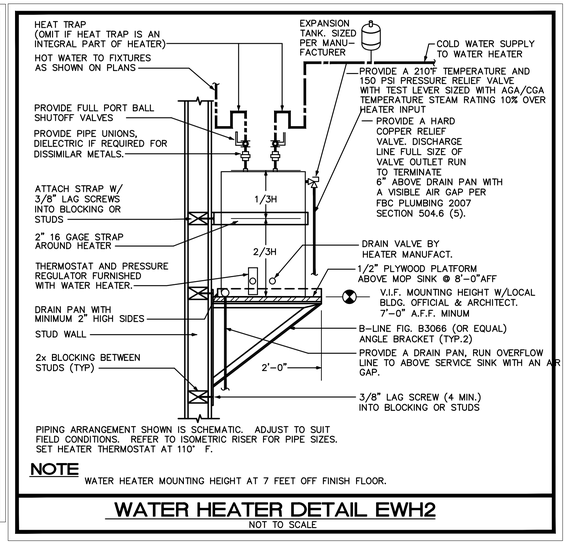
NOT TO SCALE



PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO ISOMETRIC RISER FOR PIPE SIZES. SET HEATER THERMOSTAT AT 110° F.

WATER HEATER DETAIL EWH1/EWH3

NOT TO SCALE



PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO ISOMETRIC RISER FOR PIPE SIZES. SET HEATER THERMOSTAT AT 110° F.

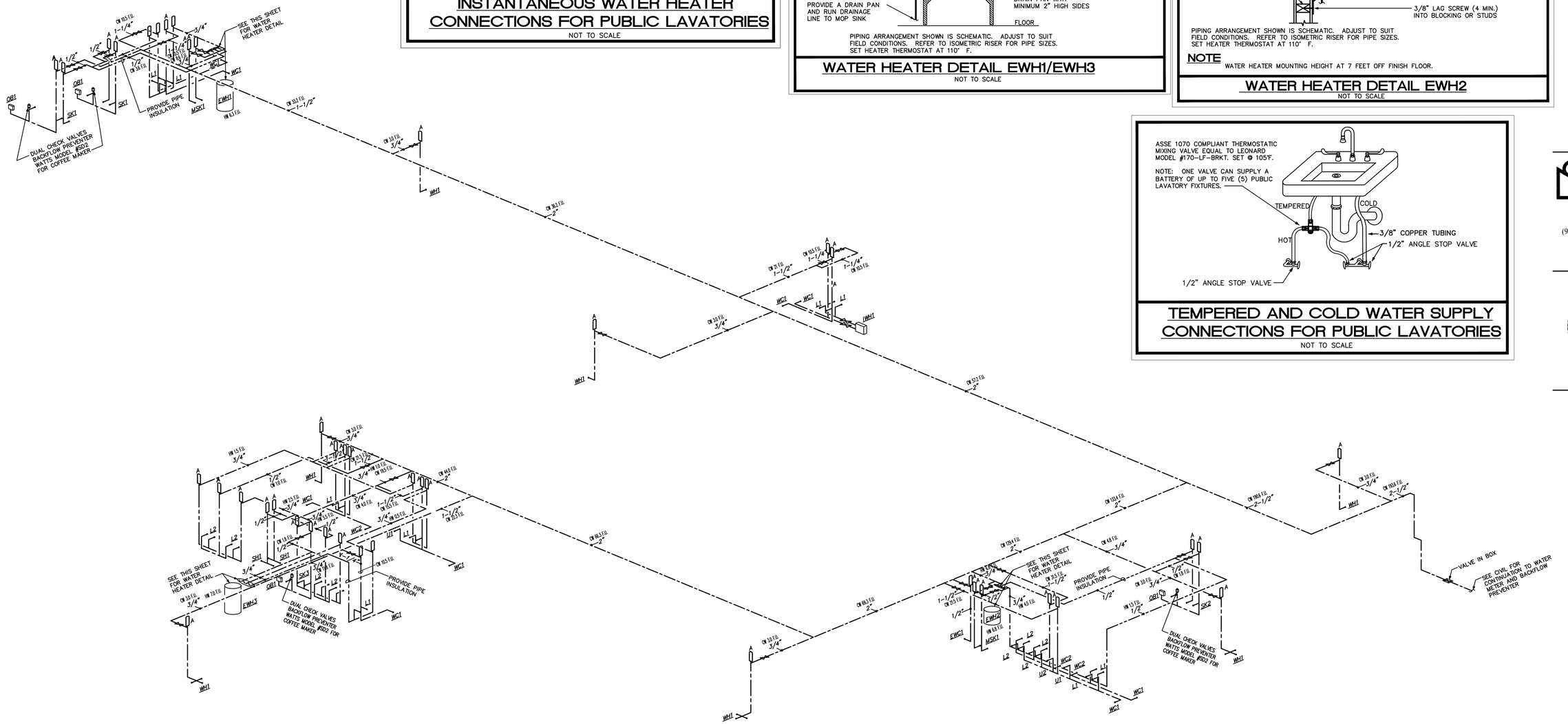
NOTE WATER HEATER MOUNTING HEIGHT AT 7 FEET OFF FINISH FLOOR.

WATER HEATER DETAIL EWH2

NOT TO SCALE

TEMPERED AND COLD WATER SUPPLY CONNECTIONS FOR PUBLIC LAVATORIES

NOT TO SCALE



DOMESTIC WATER ISOMETRIC AND WATER HEATER DETAILS

NOT TO SCALE

POLK BUILDING RENOVATION
CITY OF PEMBROKE PINES
8200 SOUTH PALM DRIVE
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AR-0009976

STATE OF FLORIDA · SHEFF L. DEVIER III · REGISTERED ARCHITECT · AR0007699

Sheff L. Devier III AR0007699

Project No.: 2022-133
Drawn By: EQ
Checked By: SD
Date: 11/17/2023

REVISIONS

DOMESTIC WATER ISOMETRIC

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Attachment I

CITY OF PEMBROKE PINES

100% DOCUMENTS

POLK BUILDING RENOVATION
PEMBROKE PINES, FLORIDA

TECHNICAL SPECIFICATIONS

Prepared by:

SALTZ MICHELSON ARCHITECTS

SMA Project No. 2022-133

November 17, 2023

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

SECTION 000100
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POLK BUILDING RENOVATION
PEMBROKE PINES, FLORIDA
PROPOSED TECHNICAL SPECIFICATIONS

November 17, 2023

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END OF SECTION 000100

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Attachment I

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Work covered by Contract Documents.
2. Work under separate contracts.
3. Owner-furnished products.
4. Access to site.
5. Coordination with occupants.
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.

1.3 PROJECT INFORMATION

A. Project Identification: Polk Building Renovation
1. Project Location: 72,310 sf vacant property Located at 8200 South Palm Drive in the City of Pembroke Pines, Broward County, Florida 33025.

B. Owner: City of Pembroke Pines.
1. Owner's Representative: Steven Buckland, Public Services Department; 8300 South Palm Drive, Pembroke Pines, Florida 33025.
Tel: (954) 518-9107.

C. Architect: Saltz Michelson Architects; 3501 Griffin Road, Fort Lauderdale, FL 33312; Tel: (954) 266-2700.

1.4 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:
1. Renovation of the existing 1-story Polk Building for the City of Pembroke Pines. The Work includes interior and exterior renovations to the existing 24,000 sf Polk Building originally construction in 1956 that has had all interior improvements remove to the bare

existing CMU exterior walls. The new Work consists of new windows and doors, new partitions for offices and restrooms, new breakrooms, storage rooms, mechanical rooms, and new finishes throughout. Demolition and structural repair work is required. Site work includes a new asphalt parking lot for 100 cars, including parking for the physically disabled, site lighting to meet City of Pembroke Pines Code ordinances, irrigation and landscaping improvements, walkways and accessible paths for the physically disabled. New electrical systems, mechanical systems, plumbing and fire protection systems are included in the Work as is a new generator. As part of the Contractor's responsibility they shall include in their costs of all commissioning and certifications required for this project.

2. Prior to start of any site work, including civil work, water lines, running electric lines and plumbing lines, etc., coordinate routes and locations with the Architect, Engineer and Owner in a pre-construction conference or conferences.

3. Site work includes water and sewer piping connections, storm water, asphalt paving for parking and driveways, concrete paving, etc. Refer to civil drawings.

4. The building is classified as Group "B" Business Occupancy, with construction 'Type II B, Fully Sprinkled' per the 2020 (7th edition) Florida Building Code with Broward County amendments.

B. ype of Contract:

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

1.5 WORK UNDER SEPARATE CONTRACTS

A. General: Cooperate fully with any separate contractors the Owner may engage, so work on those contracts may be carried out smoothly, without interfering with or delaying work under this Contract or other contracts. Coordinate the Work of this Contract with any work performed under separate contracts.

1.6 OWNER-FURNISHED AND INSTALLED PRODUCTS

A. Owner will furnish and install products indicated. The Contractor will be required to make building service connections where required for a specific product.

B. Owner-Furnished Products:

1. Furniture.
2. Exterior Building Identification Sign art.
3. Interior Sign Plaques
4. Active Network Electronics
5. Phone system and sets
6. Personal and workstation computers
7. Printers
8. Copiers
9. Fax Machines

10. Plotters
11. CATV receiver equipment for both cable and satellite television

C. Other than the items listed above there are no additional Owner-Furnished items or products on this project. The Contractor is to provide and install all materials for a completed construction unless specifically noted above. This includes the Technology package in its entirety as documented in these drawings and specifications.

D. Any reference to a "vendor" should not be misconstrued as an Owner provided product.

1.7 ACCESS TO SITE

A. General: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

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: Confine construction operations to area of the new building and adjacent site areas as agreed to with the Owner.
2. Adjacent Driveways, Walkways and Entrances: Keep adjacent driveways and entrances serving other buildings and site areas clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials beyond what has been agreed to with the City of Pembroke Pines.

    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. Condition of Existing Site: Maintain portions of existing site affected by construction operations adjacent to all residences and traffic ways throughout construction period. Repair damage caused by construction operations.

1.8 COORDINATION WITH ADJACENT NEIGHORHOOD

A. The work shall not interfere with adjacent properties during the construction period. Cooperate with adjacent Owners during construction operations to minimize conflicts. Perform the Work so as not to interfere with the area's day-to-day operations.

1. Maintain access to existing driveways, roadways, walkways, and other adjacent occupied or used areas. Do not close or obstruct existing driveways, roadways, walkways, or other areas without written permission from the Owner and approval of authorities having jurisdiction.
2. Notify Owners not less than 72 hours in advance of activities that will affect Owner's operations.

B. City will take over and occupy the facility once CO has been issued.

1.9 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.

B. On-Site Work Hours: Limit work to normal business working hours of 7 a.m. to 7 p.m., Monday through Friday, unless otherwise indicated.

1. Weekend Hours: As allowed by City Ordinance or agreed to with the Owner not less than 72 hours in advance of performing weekend work.

C. Existing Utility Interruptions: Do not interrupt utilities serving adjacent 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 Architect and Owner not less than 72 hours in advance of proposed utility interruptions.
2. Obtain Architect's written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruption to Owner occupancy with Owner.

1. Notify Architect not less than two days in advance of proposed disruptive operations.
2. Obtain Architect's written permission before proceeding with disruptive operations.

E. Nonsmoking Building: Smoking is not permitted within the building or within 25 feet (8 m) of entrances, operable windows, or outdoor-air intakes.

1.10 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.

Attachment I

2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard.
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 (Not Used)

END OF SECTION 011000

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Attachment I

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 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 Web site.
5. Project meetings.

B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.

C. Related Requirements:
1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.

1.3 DEFINITIONS

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

1.4 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, and telephone number of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, office, and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1. Post copies of list in project meeting room, in temporary field office, and by each temporary telephone. Keep list current at all times.

1.5 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.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.

1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

C. 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. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

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. Architect will return RFIs submitted to Architect by other entities controlled by Contractor with no response.
2. Coordinate and submit RFIs in a prompt manner so as 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 and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Architect**.**
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.
10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: AIA Document G716 or Software-generated form with substantially the same content as indicated above, acceptable to Architect.

1. Attachments shall be electronic files in Adobe Acrobat PDF format.

D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven working days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.

1. The following Contractor-generated RFIs will be returned without action:

    a. Requests for approval of submittals.
    b. Requests for approval of substitutions.

c. Requests for approval of Contractor's means and methods.
d. Requests for coordination information already indicated in the Contract Documents.
e. Requests for adjustments in the Contract Time or the Contract Sum.
f. Requests for interpretation of Architect's actions on submittals.
g. Incomplete RFIs or inaccurately prepared RFIs.

2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt of additional information.
3. 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 Architect in writing within 10 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 monthly.

1. Project name.
2. Name and address of Contractor.
3. Name and address of Architect and Construction Manager.
4. RFI number including RFIs that were returned without action or withdrawn.
5. RFI description.
6. Date the RFI was submitted.
7. Date Architect's response was received.

F. On receipt of Architect's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Architect within seven 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 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 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 Architect, but no later than 15 days after execution of the Agreement.

1. Conduct the conference to review responsibilities and personnel assignments.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect progress, including the following:

    a. Tentative construction schedule.
    b. Phasing.
    c. Critical work sequencing and long-lead items.
    d. Designation of key personnel and their duties.
    e. Lines of communications.
    f. Procedures for processing field decisions and Change Orders.
    g. Procedures for RFIs.
    h. Procedures for testing and inspecting.
    i. Procedures for processing Applications for Payment.
    j. Distribution of the Contract Documents.
    k. Submittal procedures.
    l. Preparation of record documents.
    m. Use of the premises.
    n. Work restrictions.
    o. Working hours.
    p. Owner's occupancy requirements.
    q. Responsibility for temporary facilities and controls.
    r. Procedures for moisture and mold control.
    s. Procedures for disruptions and shutdowns.
    t. Construction waste management and recycling.
    u. Parking availability.
    v. Office, work, and storage areas.
    w. Equipment deliveries and priorities.
    x. First aid.
    y. Security.
    z. Progress cleaning.

4. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

a. Contract Documents.
b. Options.
c. Related RFIs.
d. Related Change Orders.
e. Purchases.
f. Deliveries.
g. Submittals.
h. Review of mockups.
i. Possible conflicts.
j. Compatibility requirements.
k. Time schedules.
l. Weather limitations.
m. Manufacturer's written instructions.
n. Warranty requirements.
o. Compatibility of materials.
p. Acceptability of substrates.
q. Temporary facilities and controls.
r. Space and access limitations.
s. Regulations of authorities having jurisdiction.
t. Testing and inspecting requirements.
u. Installation procedures.
v. Coordination with other work.
w. Required performance results.
x. Protection of adjacent work.
y. Protection of construction and personnel.

3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.

D. Project Closeout Conference: Schedule and conduct a project closeout conference, at a time convenient to Owner and Architect, but no later than 90 days prior to the scheduled date of Substantial Completion.

1. Conduct the conference to review requirements and responsibilities related to Project closeout.
2. Attendees: Authorized representatives of Owner, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:

a. Preparation of record documents.
b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
c. Submittal of written warranties.

d. Requirements for preparing operations and maintenance data.
e. Requirements for delivery of material samples, attic stock, and spare parts.
f. Requirements for demonstration and training.
g. Preparation of Contractor's punch list.
h. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
i. Submittal procedures.
j. Coordination of separate contracts.
k. Owner's partial occupancy requirements.
l. Installation of Owner's furniture, fixtures, and equipment.
m. Responsibility for removing temporary facilities and controls.

4. Minutes: Entity conducting meeting will record and distribute meeting minutes.

E. Progress Meetings: Conduct progress meetings at regular intervals.

1. Coordinate dates of meetings with preparation of payment requests.
2. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
3. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

1) Review schedule for next period.

b. Review present and future needs of each entity present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Resolution of BIM component conflicts.
4) Status of submittals.
5) Deliveries.
6) Off-site fabrication.
7) Access.
8) Site utilization.
9) Temporary facilities and controls.
10) Progress cleaning.
11) Quality and work standards.
12) Status of correction of deficient items.
13) Field observations.
14) Status of RFIs.

15) Status of proposal requests.
16) Pending changes.
17) Status of Change Orders.
18) Pending claims and disputes.
19) Documentation of information for payment requests.

4. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.

a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

F. Coordination Meetings: Conduct Project coordination meetings as may be necessary. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and preinstallation conferences.

1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meetings shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.

a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to combined Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
b. Schedule Updating: Revise combined Contractor's construction schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
c. Review present and future needs of each contractor present, including the following:

1) Interface requirements.
2) Sequence of operations.
3) Status of submittals.
4) Deliveries.
5) Off-site fabrication.
6) Access.
7) Site utilization.
8) Temporary facilities and controls.
9) Work hours.
10) Hazards and risks.
11) Progress cleaning.
12) Quality and work standards.

13) Change Orders.

3. Reporting: Record meeting results and distribute copies to everyone in attendance and to others affected by decisions or actions resulting from each meeting.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

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Attachment I

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

1. Startup construction schedule.
2. Contractor's construction schedule.
3. Construction schedule updating reports.
4. Daily construction reports.
5. Material location reports.
6. Site condition reports.
7. Special reports.

B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting schedules and reports.
2. Section 014000 "Quality Requirements" for submitting a schedule of tests and inspections.

1.3 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. Cost Loading: The allocation of the schedule of values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum unless otherwise approved by the Architect.

C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

E. Event: The starting or ending point of an activity.

F. Float: The measure of leeway in starting and completing an activity.

1. Float time **is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date**.
2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.

G. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

1.4 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.
3. Two paper copies.

B. Startup construction schedule.

1. Approval of cost-loaded, startup construction schedule will not constitute approval of schedule of values for cost-loaded activities.

C. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

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

1. Submit a working electronic copy of schedule, using software indicated, and labeled to comply with requirements for submittals. Include type of schedule (initial or updated) and date on label.

E. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.

3. Total Float Report: List of all activities sorted in ascending order of total float.
4. Earnings Report: Compilation of Contractor's total earnings from **commencement of the Work and the Notice to Proceed** until most recent Application for Payment.

F. Construction Schedule Updating Reports: Submit with Applications for Payment.

G. Daily Construction Reports: Submit at monthly intervals.

H. Material Location Reports: Submit at monthly intervals.

I. Site Condition Reports: Submit at time of discovery of differing conditions.

J. Special Reports: Submit at time of unusual event.

K. Qualification Data: For scheduling consultant.

1.5 QUALITY ASSURANCE

A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Architect's request.

B. Prescheduling Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to the preliminary construction schedule and Contractor's construction schedule, including, but not limited to, the following:

1. Review software limitations and content and format for reports.
2. Verify availability of qualified personnel needed to develop and update schedule.
3. Discuss constraints, including phasing, work stages, area separations, and interim milestones.
4. Review delivery dates for Owner-furnished products.
5. Review schedule for work of Owner's separate contracts.
6. Review submittal requirements and procedures.
7. Review time required for review of submittals and resubmittals.
8. Review requirements for tests and inspections by independent testing and inspecting agencies.
9. Review time required for Project closeout and Owner startup procedures.
10. Review and finalize list of construction activities to be included in schedule.
11. Review procedures for updating schedule.

1.6 COORDINATION

A. Coordinate Contractor's construction schedule with the schedule of values, **list of subcontracts,** submittal schedule, progress reports, payment requests, and other required schedules and reports.

1. Secure time commitments for performing critical elements of the Work from entities involved.

2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

PART 2 - PRODUCTS

2.1 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL

A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of final completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.

B. Activities: Treat each story or separate area as a separate numbered activity for each main element of the Work. Comply with the following:

1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
2. Procurement Activities: Include procurement process activities for the following long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.

    a. HVAC Equipment.
    b. Electrical Switchgear Equipment.
    c. Generator.
    d. UPS Equipment.

3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's construction schedule with submittal schedule.
4. Startup and Testing Time: Include no fewer than 15 days for startup and testing.
5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
6. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and final completion.

C. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Work under More Than One Contract: Include a separate activity for each contract.
3. Work by Owner: Include a separate activity for each portion of the Work performed by Owner.
4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.

5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
6. Work Restrictions: Show the effect of the following items on the schedule:

    a. Coordination with existing construction.
    b. Limitations of continued occupancies.
    c. Uninterruptible services.
    d. Partial occupancy before Substantial Completion.
    e. Use of premises restrictions.
    f. Provisions for future construction.
    g. Seasonal variations.
    h. Environmental control.

7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:

    a. Subcontract awards.
    b. Submittals.
    c. Purchases.
    d. Mockups.
    e. Fabrication.
    f. Sample testing.
    g. Deliveries.
    h. Installation.
    i. Tests and inspections.
    j. Adjusting.
    k. Curing.
    l. Building flush-out.
    m. Startup and placement into final use and operation.

8. Construction Areas: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:

    a. Structural completion.
    b. Temporary enclosure and space conditioning.
    c. Permanent space enclosure.
    d. Completion of mechanical installation.
    e. Completion of electrical installation.
    f. Substantial Completion.

D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and final completion, and other important milestones.

E. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.

1. See Section 00700 “General Conditions,” Article 9 for cost reporting and payment procedures.

F. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and Contract Time.

G. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by which Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew sizes, and equipment required to achieve compliance, and date by which recovery will be accomplished.

H. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

1. Use Microsoft Project or Primavera, for Windows 7 or later operating system.

2.2 STARTUP CONSTRUCTION SCHEDULE

A. Bar-Chart Schedule: Submit startup, horizontal, bar-chart-type construction schedule within seven days of date established for the Notice to Proceed.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. Outline significant construction activities for first 90 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE (GANTT CHART)

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Gantt-chart-type, Contractor's construction schedule within 30 days of date established for the Notice to Proceed. Base schedule on the startup construction schedule and additional information received since the start of Project.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

1. For construction activities that require three months or longer to complete, indicate an estimated completion percentage in 10 percent increments within time bar.

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Attachment I

2.4 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. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Accidents.
8. Meetings and significant decisions.
9. Unusual events (see special reports).
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.
15. Construction Change Directives received and implemented.
16. Services connected and disconnected.
17. Equipment or system tests and startups.
18. Partial completions and occupancies.
19. Substantial Completions authorized.

B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

2.5 SPECIAL REPORTS

A. General: Submit special reports directly to Owner within one day(s) of an occurrence. Distribute copies of report to parties affected by the occurrence.

B. Reporting Unusual Events: When an event of an unusual and significant nature occurs at Project site, whether or not related directly to the Work, prepare and submit a special report. List chain of events, persons participating, response by Contractor's personnel, evaluation of results or effects, and similar pertinent information. Advise Owner in advance when these events are known or predictable.

PART 3 - EXECUTION

3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.

1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.

B. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule with each progress payment.

1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
3. As the Work progresses, indicate final completion percentage for each activity.

C. Distribution: Distribute copies of approved schedule to Architect, Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

1. Post copies in Project meeting rooms and temporary field offices.
2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF SECTION 013200

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Attachment I

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

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

B. Related Requirements:

1. Section 00700 “General Conditions,” Article 9 “Payment Completion,” for submitting Applications for Payment and the schedule of values.
2. Section 013200 “Construction Progress Documentation” for submitting schedules and reports, including Contractor's construction schedule.
3. Section 017823 “Operation and Maintenance Data” for submitting operation and maintenance manuals.
4. Section 017839 “Project Record Documents” for submitting record Drawings, record Specifications, and record Product Data.
5. Section 017900 “Demonstration and Training” for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require 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 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. File Transfer Protocol (FTP): Communications protocol that enables transfer of files to and from another computer over a network and that serves as the basis for standard Internet protocols. An FTP site is a portion of a network located outside of network firewalls within which internal and external users are able to access files.

D. 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.

1.4 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. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
2. Initial Submittal: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
3. Final Submittal: Submit concurrently with the first complete submittal of Contractor's construction schedule.

    a. Submit revised submittal schedule to reflect changes in current status and timing for submittals.

4. Format: Arrange the following information in a tabular format:

    a. Scheduled date for first submittal.
    b. Specification Section number and title.
    c. Submittal category: Action; informational.
    d. Name of subcontractor.
    e. Description of the Work covered.
    f. Scheduled date for Architect's final release or approval.
    g. Scheduled date of fabrication.
    h. Scheduled dates for purchasing.
    i. Scheduled dates for installation.
    j. Activity or event number.

1.5 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
4. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

    a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

B. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. 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 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. 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 15 days for review of each resubmittal.
4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.

    a. HVAC Submittals.

5. Concurrent Consultant Review: Where the Contract Documents indicate that submittals may be transmitted simultaneously to Architect and to Architect's consultants, allow 15 days for review of each submittal. Submittal will be returned to Architect before being returned to Contractor.

C. Paper Submittals: Place a permanent label or title block on each submittal item for identification.

1. Indicate name of firm or entity that prepared each submittal on label or title block.
2. Provide a space approximately 6 by 8 inches (150 by 200 mm) on label or beside title block to record Contractor's review and approval markings and action taken by Architect**.**
3. Include the following information for processing and recording action taken:

    a. Project name.
    b. Date.
    c. Name of Architect.
    d. Name of Construction Manager.
    e. Name of Contractor.
    f. Name of subcontractor.
    g. Name of supplier.
    h. Name of manufacturer.
    i. Submittal number or other unique identifier, including revision identifier.

        1) Submittal number shall use Specification Section number followed by a decimal point and then a sequential number (e.g., 061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., 061000.01.A).

    j. Number and title of appropriate Specification Section.
    k. Drawing number and detail references, as appropriate.
    l. Location(s) where product is to be installed, as appropriate.
    m. Other necessary identification.

4. Additional Paper Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.

   a. Submit one copy of submittal to concurrent reviewer in addition to specified number of copies to Architect**.**

5. Transmittal for Paper Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Architect will return without review submittals received from sources other than Contractor.

   a. Transmittal Form for Paper Submittals: Use CSI Form 12.1A.
   b. Transmittal Form for Paper Submittals: Provide locations on form for the following information:

      1) Project name.
      2) Date.
      3) Destination (To:).
      4) Source (From:).
      5) Name and address of Architect.
      6) Name of Construction Manager.
      7) Name of Contractor.
      8) Name of firm or entity that prepared submittal.
      9) Names of subcontractor, manufacturer, and supplier.
      10) Category and type of submittal.
      11) Submittal purpose and description.
      12) Specification Section number and title.
      13) Specification paragraph number or drawing designation and generic name for each of multiple items.
      14) Drawing number and detail references, as appropriate.
      15) Indication of full or partial submittal.
      16) Transmittal number.
      17) Submittal and transmittal distribution record.
      18) Remarks.
      19) Signature of transmitter.

D. 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.

   a. File name shall use project identifier and Specification Section number followed by a decimal point and then a sequential number (e.g., LNHS-061000.01). Resubmittals shall include an alphabetic suffix after another decimal point (e.g., LNHS-061000.01.A).

3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect**.**

4. Transmittal Form for Electronic Submittals: Use electronic form acceptable to Owner, containing the following information:

    a. Project name.
    b. Date.
    c. Name and address of Architect.
    d. Name of Construction Manager.
    e. Name of Contractor.
    f. Name of firm or entity that prepared submittal.
    g. Names of subcontractor, manufacturer, and supplier.
    h. Category and type of submittal.
    i. Submittal purpose and description.
    j. Specification Section number and title.
    k. Specification paragraph number or drawing designation and generic name for each of multiple items.
    l. Drawing number and detail references, as appropriate.
    m. Location(s) where product is to be installed, as appropriate.
    n. Related physical samples submitted directly.
    o. Indication of full or partial submittal.
    p. Transmittal number.
    q. Submittal and transmittal distribution record.
    r. Other necessary identification.
    s. Remarks.

5. Metadata: Include the following information as keywords in the electronic submittal file metadata:

    a. Project name.
    b. Number and title of appropriate Specification Section.
    c. Manufacturer name.
    d. Product name.

E. Options: Identify options requiring selection by Architect.

F. 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 Architect on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same identification information as related submittal.

G. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.
2. Note date and content of revision in label or title block and clearly indicate extent of revision.
3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.

H. 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.

I. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from 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.

    a. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
3. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
4. Certificates and Certifications Submittals: Provide a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.

    a. Provide a digital signature with digital certificate on electronically submitted certificates and certifications where indicated.
    b. Provide a notarized statement on original paper copy certificates and certifications where indicated.

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. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

a. Wiring diagrams showing factory-installed wiring.
b. Printed performance curves.
c. Operational range diagrams.
d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before or concurrent with Samples.
6. Submit Product Data in the following format:

a. PDF electronic file.
b. Three paper copies of Product Data unless otherwise indicated. Architect will return two copies.

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, unless submittal based on Architect's digital data drawing files is otherwise permitted.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Identification of products.
b. Schedules.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

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, or at least four opaque copies of each submittal. Architect will retain two to three copies; remainder will be returned.

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. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Attach label on unexposed side of Samples that includes the following:

a. Generic description of Sample.
b. Product name and name of manufacturer.
c. Sample source.
d. Number and title of applicable Specification Section.
e. Specification paragraph number and generic name of each item.

3. For projects where electronic submittals are required, provide corresponding electronic submittal of Sample transmittal, digital image file illustrating Sample characteristics, and identification information for record.
4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

    a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
    b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.

5. 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.

    a. Number of Samples: Submit two full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.

6. 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. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

    a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record sample.

        1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
        2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

E. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
2. Manufacturer and product name, and model number if applicable.
3. Number and name of room or space.
4. Location within room or space.
5. Submit product schedule in the following format:

a. PDF electronic file, or three paper copies of product schedule or list unless otherwise indicated. Architect will return two copies.

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. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

N. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.

O. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.

P. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

Q. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.

R. 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.

S. 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.

T. 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.

U. 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 primers and substrate preparation needed for adhesion.

V. 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.

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 Architect.

B. Project Closeout and Maintenance Material Submittals: See requirements in Section 017839 "Project Record Documents".

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: Architect will review each submittal, make marks to indicate corrections or revisions required, and return it. Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action.

B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. 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 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 Architect without action.

END OF SECTION 013300

Attachment I

SECTION 01 35 00
SPECIAL PROCEDURES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Hurricane/Storm Precautions.

1.02 HURRICANE/STORM PRECAUTIONS

A. Preliminary preparations: Hurricane Season

1. Discuss hurricane procedures at Progress meetings.

   a. Designate the Superintendent as the Contractor's point of contact for hurricane preparedness activities.

   b. Coordinate with the Owner and cooperate with hurricane preparedness activities in pre-, trans- and post-storm periods.

2. Rosters of Available Personnel:

   a. Ensure Superintendent maintains a roster of names, addresses, and telephone numbers of:

      1) At least three laborers and two carpenters that can be reached in an emergency situation who could and would work around-the-clock, if necessary.

      2) Electricians, plumbers and other technicians necessary to secure the site before the storm and remobilize it afterwards.

   b. Ensure Superintendent maintains a roster and key contacts for all subcontractors, suppliers, and manufacturers.

3. Ensure that Contractor's office on site is equipped with a hurricane tracking map. Watch and track all tropical storms and hurricanes on a daily basis.

4. Temporary Facilities:

   a. Ensure proper anchoring of all jobsite office trailers, tool trailers and other temporary storage facilities with hurricane anchor straps. Maintain anchorage throughout contract term.

   b. Ensure that adequate plywood or aluminum storm shutters are available for all openings (windows and doors).

c. Plan for securing contents or relocating them to a safe location during storm periods. Ensure protection for project records and project record documents.

5. Maintain clean site and work areas.

6. Verify that the Builder's Risk policy is in effect and covers wind damage or storm damage.

7. Make arrangements for and secure cleanup materials and tarps or plastic sheeting for protection of indoor equipment.

B. Preparation 72 hours prior to Hurricane:

1. Check to see that all preliminary preparations have been made.

2. Photograph entire project site. Ensure film and photographs are maintained in a safe location during and after the storm.

3. Delay delivery of materials that cannot be adequately protected such as cabinets, light fixtures, appliances.

4. Clean site of loose debris, tools and materials:

a. Broom clean entire project inside of building and outside.

b. Empty and secure all trash containers: remove trash from site.

c. Ensure that no part of the Owner’s or adjacent properties will suffer damage from windblown debris originating on the project site.

5. Protection of the Work:

a. Pour any slabs, columns or beams that are available and ready to be poured.

b. Secure all loose objects, both inside and outside.

c. Band all loose materials on the site with metal straps. Secure banded materials to floors and columns.

d. Make projects as wind and watertight as possible by covering all openings with plywood or shutters as appropriate to the level of finish of the Work.

e. Power down energized buildings prior to leaving the site before the storm.

f. Lower all cranes and free wheel all tower cranes.

1. Tower Cranes: Verify requirements for additional shoring or bracing with engineers and provide if necessary to withstand anticipated wind pressures.

g. Check all material hoists to ensure that hoist platforms are on the ground and that all towers are securely in place.

6. Temporary Facilities:

    a. Bring all jobsite files, computers, typewriters, calculators, levels, transits, and small tools into the main office or temporarily relocate them to a safe location.

    b. Secure temporary buildings and shutter openings.

    c. Power down energized buildings prior to leaving the site before the storm.

7. Ensure security and safety of the site prior to storm.

8. Ensure workers have personally prepared for the storm and are instructed to return as soon as possible after the storm has past.

C. Post-Storm Activities

1. Photograph project site immediately upon return.

2. Coordinate and cooperate with Owner and Project Consultant to assess damage.

3. Ensure immediate safe re-mobilization of site and workforce.

4. Ensure minimized impact on project schedule.

PART 2 PRODUCTS **NOT USED**

PART 3 EXECUTION **NOT USED**

END OF SECTION

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting 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. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and -control services required by Architect, Owner or authorities having jurisdiction are not limited by provisions of this Section.
4. Specific test and inspection requirements are not specified in this Section.

C. Related Requirements:

1. Section 012100 "Allowances" for testing and inspecting allowances.

1.3 DEFINITIONS

A. 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.

B. 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 Architect.

C. Mockups: Full-size physical assemblies that are constructed on-site. Mockups are constructed to verify selections made under Sample submittals; to demonstrate aesthetic effects and, where indicated, qualities of materials and execution; to review coordination, testing, or operation; to

show interface between dissimilar materials; and to demonstrate compliance with specified installation tolerances. Mockups are not Samples. Unless otherwise indicated, approved mockups establish the standard by which the Work will be judged.

1. Laboratory Mockups: Full-size physical assemblies constructed at testing facility to verify performance characteristics.
2. Integrated Exterior Mockups: Mockups of the exterior envelope erected separately from the building but on Project site, consisting of multiple products, assemblies, and subassemblies.
3. Room Mockups: Mockups of typical interior spaces complete with wall, floor, and ceiling finishes, doors, windows, millwork, casework, specialties, furnishings and equipment, and lighting.

D. Preconstruction Testing: Tests and inspections performed specifically for Project before products and materials are incorporated into the Work, to verify performance or compliance with specified criteria.

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.

F. Source Quality-Control Testing: Tests and inspections that are performed at the source, e.g., plant, mill, factory, or shop.

G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

I. 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.

1. Use of trade-specific terminology in referring to a trade or entity does not require that certain construction activities be performed by accredited or unionized individuals, or that requirements specified apply exclusively to specific trade(s).

J. 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.

1.4 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 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 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. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility sent to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the designated seismic system quality-assurance plan prepared by Architect.
2. Main wind-force-resisting system or a wind-resisting component listed in the wind-force-resisting system quality-assurance plan prepared by Architect.

D. 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.

E. Schedule of Tests and Inspections: Prepare in tabular form and include the following:

1. Specification Section number and title.
2. Entity responsible for performing tests and inspections.
3. Description of test and inspection.
4. Identification of applicable standards.
5. Identification of test and inspection methods.
6. Number of tests and inspections required.
7. Time schedule or time span for tests and inspections.
8. Requirements for obtaining samples.
9. Unique characteristics of each quality-control service.

1.6 CONTRACTOR'S QUALITY-CONTROL PLAN

A. 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.

B. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

C. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work 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. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, and telephone number of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.
9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and re-inspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Name, address, and telephone number of technical representative making report.
2. Statement on condition of substrates and their acceptability for installation of product.
3. Statement that products at Project site comply with requirements.
4. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
5. Results of operational and other tests and a statement of whether observed performance complies with requirements.
6. Statement whether conditions, products, and installation will affect warranty.
7. Other required items indicated in individual Specification 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. Include the following:

1. Name, address, and telephone number of factory-authorized service representative making report.

2. Statement that equipment complies with requirements.
3. Results of operational and other tests and a statement of whether observed performance complies with requirements.
4. Statement whether conditions, products, and installation will affect warranty.
5. Other required items indicated in individual Specification Sections.

D. Permits, Licenses, and Certificates: For Owner's records, 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.

1.8 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. Specialists: Certain Specification Sections require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirements of authorities having jurisdiction shall supersede requirements for specialists.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. 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.

I. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to 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. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Payment for these services will be made from testing and inspecting allowances, as authorized by Change Orders.
3. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. 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.
2. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.

    a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.

3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
5. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. 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."

D. 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.

E. 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.

F. Testing Agency Responsibilities: Cooperate with Architect and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.

1. Notify Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
6. Do not perform any duties of Contractor.

G. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Delivery of samples to testing agencies.
6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
7. Security and protection for samples and for testing and inspecting equipment at Project site.

H. 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.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

I. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Coordinate and submit concurrently with Contractor's construction schedule. Update as the Work progresses.

1. Distribution: Distribute schedule to Owner, Architect testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

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 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. Provide access to test and inspection log for Architect's reference during normal working hours.

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.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

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.

END OF SECTION 014000

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Architect's action on Contractor's submittals, applications, and requests, "approved" is limited to Architect's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by 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.

1.3 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.

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.

1.4 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. ACI - American Concrete Institute; (Formerly: ACI International); www.concrete.org.
8. ACPA - American Concrete Pipe Association; www.concrete-pipe.org.
9. AEIC - Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
10. AF&PA - American Forest & Paper Association; www.afandpa.org.
11. AGA - American Gas Association; www.aga.org.
12. AHAM - Association of Home Appliance Manufacturers; www.aham.org.
13. AHRI - Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.
14. AI - Asphalt Institute; www.asphaltinstitute.org.
15. AIA - American Institute of Architects (The); www.aia.org.
16. AISC - American Institute of Steel Construction; www.aisc.org.
17. AISI - American Iron and Steel Institute; www.steel.org.
18. AITC - American Institute of Timber Construction; www.aitc-glulam.org.
19. AMCA - Air Movement and Control Association International, Inc.; www.amca.org.
20. ANSI - American National Standards Institute; www.ansi.org.
21. AOSA - Association of Official Seed Analysts, Inc.; www.aosaseed.com.
22. APA - APA - The Engineered Wood Association; www.apawood.org.
23. APA - Architectural Precast Association; www.archprecast.org.
24. API - American Petroleum Institute; www.api.org.
25. ARI - Air-Conditioning & Refrigeration Institute; (See AHRI).
26. ARI - American Refrigeration Institute; (See AHRI).
27. ARMA - Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.

28. ASCE - American Society of Civil Engineers; www.asce.org.
29. ASCE/SEI - American Society of Civil Engineers/Structural Engineering Institute; (See ASCE).
30. ASHRAE - American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
31. ASME - ASME International; (American Society of Mechanical Engineers); www.asme.org.
32. ASSE - American Society of Safety Engineers (The); www.asse.org.
33. ASSE - American Society of Sanitary Engineering; www.asse-plumbing.org.
34. ASTM - ASTM International; (American Society for Testing and Materials International); www.astm.org.
35. ATIS - Alliance for Telecommunications Industry Solutions; www.atis.org.
36. AWEA - American Wind Energy Association; www.awea.org.
37. AWI - Architectural Woodwork Institute; www.awinet.org.
38. AWMAC - Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
39. AWPA - American Wood Protection Association; (Formerly: American Wood-Preservers' Association); www.awpa.com.
40. AWS - American Welding Society; www.aws.org.
41. AWWA - American Water Works Association; www.awwa.org.
42. BHMA - Builders Hardware Manufacturers Association; www.buildershardware.com.
43. BIA - Brick Industry Association (The); www.gobrick.com.
44. BICSI - BICSI, Inc.; www.bicsi.org.
45. BIFMA - BIFMA International; (Business and Institutional Furniture Manufacturer's Association); www.bifma.com.
46. BISSC - Baking Industry Sanitation Standards Committee; www.bissc.org.
47. BWF - Badminton World Federation; (Formerly: International Badminton Federation); www.bwfbadminton.org.
48. CDA - Copper Development Association; www.copper.org.
49. CEA - Canadian Electricity Association; www.electricity.ca.
50. CEA - Consumer Electronics Association; www.ce.org.
51. CFFA - Chemical Fabrics & Film Association, Inc.; www.chemicalfabricsandfilm.com.
52. CFSEI - Cold-Formed Steel Engineers Institute; www.cfsei.org.
53. CGA - Compressed Gas Association; www.cganet.com.
54. CIMA - Cellulose Insulation Manufacturers Association; www.cellulose.org.
55. CISCA - Ceilings & Interior Systems Construction Association; www.cisca.org.
56. CISPI - Cast Iron Soil Pipe Institute; www.cispi.org.
57. CLFMI - Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
58. CPA - Composite Panel Association; www.pbmdf.com.
59. CRI - Carpet and Rug Institute (The); www.carpet-rug.org.
60. CRRC - Cool Roof Rating Council; www.coolroofs.org.
61. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.
62. CSA - Canadian Standards Association; www.csa.ca.
63. CSA - CSA International; (Formerly: IAS - International Approval Services); www.csa-international.org.
64. CSI - Construction Specifications Institute (The); www.csinet.org.
65. CSSB - Cedar Shake & Shingle Bureau; www.cedarbureau.org.
66. CTI - Cooling Technology Institute; (Formerly: Cooling Tower Institute); www.cti.org.
67. CWC - Composite Wood Council; (See CPA).
68. DASMA - Door and Access Systems Manufacturers Association; www.dasma.com.
69. DHI - Door and Hardware Institute; www.dhi.org.

70. ECA - Electronic Components Association; (See ECIA).
71. ECAMA - Electronic Components Assemblies & Materials Association; (See ECIA).
72. ECIA - Electronic Components Industry Association; www.eciaonline.org
73. EIA - Electronic Industries Alliance; (See TIA).
74. EIMA - EIFS Industry Members Association; www.eima.com.
75. EJMA - Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
76. ESD - ESD Association; (Electrostatic Discharge Association); www.esda.org.
77. ESTA - Entertainment Services and Technology Association; (See PLASA).
78. EVO - Efficiency Valuation Organization; www.evo-world.org.
79. FBC – Florida Building Code 2017 (6th edition) and all HVWZ requirements
80. FIBA - Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
81. FIVB - Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
82. FM Approvals - FM Approvals LLC; www.fmglobal.com.
83. FM Global - FM Global; (Formerly: FMG - FM Global); www.fmglobal.com.
84. FRSA - Florida Roofing, Sheet Metal & Air Conditioning Contractors Association, Inc.; www.floridaroof.com.
85. FSA - Fluid Sealing Association; www.fluidsealing.com.
86. FSC - Forest Stewardship Council U.S.; www.fscus.org.
87. GA - Gypsum Association; www.gypsum.org.
88. GANA - Glass Association of North America; www.glasswebsite.com.
89. GS - Green Seal; www.greenseal.org.
90. HI - Hydraulic Institute; www.pumps.org.
91. HI/GAMA - Hydronics Institute/Gas Appliance Manufacturers Association; (See AHRI).
92. HMMA - Hollow Metal Manufacturers Association; (See NAAMM).
93. HPVA - Hardwood Plywood & Veneer Association; www.hpva.org.
94. HPW - H. P. White Laboratory, Inc.; www.hpwhite.com.
95. IAPSC - International Association of Professional Security Consultants; www.iapsc.org.
96. IAS - International Accreditation Service; www.iasonline.org.
97. IAS - International Approval Services; (See CSA).
98. ICBO - International Conference of Building Officials; (See ICC).
99. ICC - International Code Council; www.iccsafe.org.
100. ICEA - Insulated Cable Engineers Association, Inc.; www.icea.net.
101. ICPA - International Cast Polymer Alliance; www.icpa-hq.org.
102. ICRI - International Concrete Repair Institute, Inc.; www.icri.org.
103. IEC - International Electrotechnical Commission; www.iec.ch.
104. IEEE - Institute of Electrical and Electronics Engineers, Inc. (The); www.ieee.org.
105. IES - Illuminating Engineering Society; (Formerly: Illuminating Engineering Society of North America); www.ies.org.
106. IESNA - Illuminating Engineering Society of North America; (See IES).
107. IEST - Institute of Environmental Sciences and Technology; www.iest.org.
108. IGMA - Insulating Glass Manufacturers Alliance; www.igmaonline.org.
109. IGSHPA - International Ground Source Heat Pump Association; www.igshpa.okstate.edu.
110. ILI - Indiana Limestone Institute of America, Inc.; www.iliai.com.
111. Intertek - Intertek Group; (Formerly: ETL SEMCO; Intertek Testing Service NA); www.intertek.com.
112. ISA - International Society of Automation (The); (Formerly: Instrumentation, Systems, and Automation Society); www.isa.org.
113. ISAS - Instrumentation, Systems, and Automation Society (The); (See ISA).

114. ISFA - International Surface Fabricators Association; (Formerly: International Solid Surface Fabricators Association); www.isfanow.org.
115. ISO - International Organization for Standardization; www.iso.org.
116. ISSFA - International Solid Surface Fabricators Association; (See ISFA).
117. ITU - International Telecommunication Union; www.itu.int/home.
118. KCMA - Kitchen Cabinet Manufacturers Association; www.kcma.org.
119. LMA - Laminating Materials Association; (See CPA).
120. LPI - Lightning Protection Institute; www.lightning.org.
121. MBMA - Metal Building Manufacturers Association; www.mbma.com.
122. MCA - Metal Construction Association; www.metalconstruction.org.
123. MFMA - Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
124. MFMA - Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
125. MHIA - Material Handling Industry of America; www.mhia.org.
126. MIA - Marble Institute of America; www.marble-institute.com.
127. MMPA - Moulding & Millwork Producers Association; (Formerly: Wood Moulding & Millwork Producers Association); www.wmmpa.com.
128. MPI - Master Painters Institute; www.paintinfo.com.
129. MSS - Manufacturers Standardization Society of The Valve and Fittings Industry Inc.; www.mss-hq.org.
130. NAAMM - National Association of Architectural Metal Manufacturers; www.naamm.org.
131. NACE - NACE International; (National Association of Corrosion Engineers International); www.nace.org.
132. NADCA - National Air Duct Cleaners Association; www.nadca.com.
133. NAIMA - North American Insulation Manufacturers Association; www.naima.org.
134. NBGQA - National Building Granite Quarries Association, Inc.; www.nbgqa.com.
135. NCAA - National Collegiate Athletic Association (The); www.ncaa.org.
136. NCMA - National Concrete Masonry Association; www.ncma.org.
137. NEBB - National Environmental Balancing Bureau; www.nebb.org.
138. NECA - National Electrical Contractors Association; www.necanet.org.
139. NeLMA - Northeastern Lumber Manufacturers Association; www.nelma.org.
140. NEMA - National Electrical Manufacturers Association; www.nema.org.
141. NETA - InterNational Electrical Testing Association; www.netaworld.org.
142. NFHS - National Federation of State High School Associations; www.nfhs.org.
143. NFPA - NFPA; (National Fire Protection Association); www.nfpa.org.
144. NFPA - NFPA International; (See NFPA).
145. NFRC - National Fenestration Rating Council; www.nfrc.org.
146. NHLA - National Hardwood Lumber Association; www.nhla.com.
147. NLGA - National Lumber Grades Authority; www.nlga.org.
148. NOFMA - National Oak Flooring Manufacturers Association; (See NWFA).
149. NOMMA - National Ornamental & Miscellaneous Metals Association; www.nomma.org.
150. NRCA - National Roofing Contractors Association; www.nrca.net.
151. NRMCA - National Ready Mixed Concrete Association; www.nrmca.org.
152. NSF - NSF International; (National Sanitation Foundation International); www.nsf.org.
153. NSPE - National Society of Professional Engineers; www.nspe.org.
154. NSSGA - National Stone, Sand & Gravel Association; www.nssga.org.
155. NTMA - National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
156. NWFA - National Wood Flooring Association; www.nwfa.org.
157. PCI - Precast/Prestressed Concrete Institute; www.pci.org.
158. PDI - Plumbing & Drainage Institute; www.pdionline.org.

159. PLASA - PLASA; (Formerly: ESTA - Entertainment Services and Technology Association); www.plasa.org.
160. RCSC - Research Council on Structural Connections; www.boltcouncil.org.
161. RFCI - Resilient Floor Covering Institute; www.rfci.com.
162. RIS - Redwood Inspection Service; www.redwoodinspection.com.
163. SAE - SAE International; (Society of Automotive Engineers); www.sae.org.
164. SCTE - Society of Cable Telecommunications Engineers; www.scte.org.
165. SDI - Steel Deck Institute; www.sdi.org.
166. SDI - Steel Door Institute; www.steeldoor.org.
167. SEFA - Scientific Equipment and Furniture Association; www.sefalabs.com.
168. SEI/ASCE - Structural Engineering Institute/American Society of Civil Engineers; (See ASCE).
169. SIA - Security Industry Association; www.siaonline.org.
170. SJI - Steel Joist Institute; www.steeljoist.org.
171. SMA - Screen Manufacturers Association; www.smainfo.org.
172. SMACNA - Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
173. SMPTE - Society of Motion Picture and Television Engineers; www.smpte.org.
174. SPFA - Spray Polyurethane Foam Alliance; www.sprayfoam.org.
175. SPIB - Southern Pine Inspection Bureau; www.spib.org.
176. SPRI - Single Ply Roofing Industry; www.spri.org.
177. SRCC - Solar Rating and Certification Corporation; www.solar-rating.org.
178. SSINA - Specialty Steel Industry of North America; www.ssina.com.
179. SSPC - SSPC: The Society for Protective Coatings; www.sspc.org.
180. STI - Steel Tank Institute; www.steeltank.com.
181. SWI - Steel Window Institute; www.steelwindows.com.
182. SWPA - Submersible Wastewater Pump Association; www.swpa.org.
183. TCA - Tilt-Up Concrete Association; www.tilt-up.org.
184. TCNA - Tile Council of North America, Inc.; (Formerly: Tile Council of America); www.tileusa.com.
185. TEMA - Tubular Exchanger Manufacturers Association, Inc.; www.tema.org.
186. TIA - Telecommunications Industry Association; (Formerly: TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance); www.tiaonline.org.
187. TIA/EIA - Telecommunications Industry Association/Electronic Industries Alliance; (See TIA).
188. TMS - The Masonry Society; www.masonrysociety.org.
189. TPI - Truss Plate Institute; www.tpinst.org.
190. TPI - Turfgrass Producers International; www.turfgrasssod.org.
191. TRI - Tile Roofing Institute; (Formerly: National Tile Roofing Manufacturing Association); www.tileroofing.org.
192. UBC - Uniform Building Code; (See ICC).
193. UL - Underwriters Laboratories Inc.; www.ul.com.
194. UNI - Uni-Bell PVC Pipe Association; www.uni-bell.org.
195. USAV - USA Volleyball; www.usavolleyball.org.
196. USGBC - U.S. Green Building Council; www.usgbc.org.
197. USITT - United States Institute for Theatre Technology, Inc.; www.usitt.org.
198. WASTEC - Waste Equipment Technology Association; www.wastec.org.
199. WCLIB - West Coast Lumber Inspection Bureau; www.wclib.org.
200. WCMA - Window Covering Manufacturers Association; www.wcmanet.org.
201. WDMA - Window & Door Manufacturers Association; www.wdma.com.

202. WI - Woodwork Institute; (Formerly: WIC - Woodwork Institute of California); www.wicnet.org.
203. WMMPA - Wood Moulding & Millwork Producers Association; (See MMPA).
204. WSRCA - Western States Roofing Contractors Association; www.wsrca.com.
205. WPA - Western Wood Products Association; www.wwpa.org.
206. NOA/FL – Miami-Dade Product Approval or Florida Product Approval
207. HVWZ – High velocity wind zones

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 f?r 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; http://dodssp.daps.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.
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; http://eetd.lbl.gov.
12. OSHA - Occupational Safety & Health Administration; www.osha.gov.
13. SD - Department of State; www.state.gov.
14. TRB - Transportation Research Board; National Cooperative Highway Research Program; www.trb.org.
15. USDA - Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
16. USDA - Department of Agriculture; Rural Utilities Service; www.usda.gov.
17. USDJ - Department of Justice; Office of Justice Programs; National Institute of Justice; www.ojp.usdoj.gov.
18. USP - U.S. Pharmacopeia; www.usp.org.
19. 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 Department of Defense Single Stock Point; http://dodssp.daps.dla.mil.
3. DSCC - Defense Supply Center Columbus; (See FS).
4. FED-STD - Federal Standard; (See FS).
5. FS - Federal Specification; Available from Department of Defense Single Stock Point; http://dodssp.daps.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.

6. MILSPEC - Military Specification and Standards; (See DOD).
7. USAB - United States Access Board; www.access-board.gov.
8. 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 Appliance and 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. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
7. TFS; Texas Forest Service; Forest Resource Development and Sustainable Forestry; http://txforestservice.tamu.edu.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

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Attachment I

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 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.

1.3 USE CHARGES

A. General: Installation and removal of and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities to use temporary services and facilities without cost, including, but not limited to, Owner's construction forces, Architect, occupants of Project, testing agencies, and authorities having jurisdiction.

B. Sewer Service: Pay sewer-service use charges for sewer usage by all entities for construction operations.

C. Water Service: Pay water-service use charges for water used by all entities for construction operations.

D. Electric Power Service: Pay electric-power-service use charges for electricity used by all entities for construction operations.

1.4 INFORMATIONAL SUBMITTALS

A. Site Plan: Show temporary facilities, utility hookups, staging areas, and parking areas for construction personnel.

B. Erosion- and Sedimentation-Control Plan: Show compliance with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.

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.

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D. Moisture-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage.

1. Describe delivery, handling, and storage provisions for materials subject to water absorption or water damage.
2. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and replacing water-damaged Work.
3. Indicate sequencing of work that requires water, such as sprayed fire-resistive materials, plastering, and terrazzo grinding, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.

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. Include the following:

1. Locations of dust-control partitions at each phase of work.
2. HVAC system isolation schematic drawing.
3. Location of proposed air-filtration system discharge.
4. Waste handling procedures.
5. Other dust-control measures.

1.5 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.

C. Accessible Temporary Egress: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines and ICC/ANSI A117.1.

1.6 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts;

minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts.

B. Portable Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.8-mm-) thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized-steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized-steel bases for supporting posts.

C. 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.

2.2 TEMPORARY FACILITIES

A. Field Offices, General: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Common-Use Field Office: Of sufficient size to accommodate needs of Owner, Architect, and construction personnel office activities and to accommodate Project meetings specified in other Division 01 Sections. Keep office clean and orderly. Furnish and equip offices as follows:

1. Furniture required for Project-site documents including file cabinets, plan tables, plan racks, and bookcases.
2. Meeting area of sufficient size to accommodate meetings of 10 individuals. Provide electrical power service and 120-V ac duplex receptacles, with no fewer than one receptacle on each wall. Furnish room with conference table, chairs, and 4-foot- (1.2-m-) square tack and marker boards.
3. Drinking water and private toilet.
4. Coffee machine and supplies.
5. Heating and cooling equipment necessary to maintain a uniform indoor temperature of 68 to 72 deg F (20 to 22 deg C).
6. Lighting fixtures capable of maintaining average illumination of 20 fc (215 lx) at desk height.

C. 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.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."

B. 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. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Refer to Paragraph 3.17 of Section 00700 “General Conditions,” for specific requirements.

1. Contractor is responsible to bring, connect, disconnect and remove all temporary utility services to the project site.

2. The contractor shall be responsible to pay all charges for connections and monthly charges for all temporary utilities brought to the site.

C. Water Service: Install water service and distribution piping in sizes and pressures adequate for construction.

D. Sanitary Facilities: Provide temporary toilets, wash 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.

1. Toilets: Use of Owner's existing toilet facilities is not permitted.

E. Cooling: Provide temporary cooling required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installations or elements being installed.

F. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.

1. Prior to commencing work, isolate the HVAC system in area where work is to be performed according to coordination drawings.

a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.

b. Maintain negative air pressure within work area using HEPA-equipped air-filtration units, starting with commencement of temporary partition construction, and continuing until removal of temporary partitions is complete.

2. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.

G. 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.

H. Electric Power Service: Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.

1. Install electric power service overhead or underground unless otherwise indicated.

I. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.
2. Install lighting for Project identification sign.

J. Telephone Service: Provide superintendent with cellular telephone service.

K. Electronic Communication Service: Provide secure WiFi wireless connection to the internet with provision for access by Architect and Owner.

3.3 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30 feet (9 m) of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until 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. Temporary Use of Permanent Roads and Paved Areas: Locate temporary roads and paved areas in same location as permanent roads and paved areas. Construct and maintain temporary roads and paved areas adequate for construction operations. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.

1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Section 312000 "Earth Moving."
3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
4. Delay installation of final course of permanent hot-mix asphalt pavement until immediately before Substantial Completion. Repair hot-mix asphalt base-course pavement before installation of final course according to Section 321216 "Asphalt Paving."

C. Traffic Controls: Comply with requirements of authorities having jurisdiction.

1. Protect existing site improvements to remain including curbs, pavement, and utilities.
2. Maintain access for fire-fighting equipment and access to fire hydrants.

D. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

E. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.

1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
2. Remove snow and ice as required to minimize accumulations.

F. Project Signs: Provide Project signs as indicated. Unauthorized signs are not permitted.

1. Identification Signs: Provide Project identification signs as indicated on Drawings.
2. 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.

3. Maintain and touchup signs so they are legible at all times.

G. Waste Disposal Facilities: Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

H. 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."

I. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.

1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

J. Temporary Use of Permanent Stairs: Use of new stairs for construction traffic will be permitted, provided stairs are protected and finishes restored to new condition at time of Substantial Completion.

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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.

1. Comply with work restrictions specified in Section 011000 "Summary."

C. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.

D. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.

E. 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.

F. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people and animals from easily entering site except by entrance gates.

1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations and as approved by Owner.
2. Maintain security by limiting number of keys and restricting distribution to authorized personnel.

G. 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.

H. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

I. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

J. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.

1. Where heating or cooling is needed and permanent enclosure is incomplete, insulate temporary enclosures.

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.

B. Exposed Construction Phase: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:

1. Protect porous materials from water damage.
2. Protect stored and installed material from flowing or standing water.
3. Keep porous and organic materials from coming into prolonged contact with concrete.
4. Remove standing water from decks.
5. Keep deck openings covered or dammed.

C. Partially Enclosed Construction Phase: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:

1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
2. Keep interior spaces reasonably clean and protected from water damage.
3. Periodically collect and remove waste containing cellulose or other organic matter.
4. Discard or replace water-damaged material.
5. Do not install material that is wet.
6. Discard, replace, or clean stored or installed material that begins to grow mold.
7. Perform work in a sequence that allows any wet materials adequate time to dry before enclosing the material in drywall or other interior finishes.

D. Controlled Construction Phase of Construction: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:

1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
2. Use permanent HVAC system to control humidity.
3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.

    a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective.
    b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
    c. Remove materials that can not be completely restored to their manufactured moisture level within 48 hours.

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.

1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.

C. Operate Project-identification-sign lighting daily from dusk until 12:00 midnight.

D. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.

E. 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. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 00960 "Project Closeout."

END OF SECTION 015000

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SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 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 00700 “General Conditions”, Article 12.3 “Acceptance of Nonconforming Work” for requests for substitutions.
2. Section 014200 "References" for applicable industry standards for products specified.

1.3 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. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. 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.

1.4 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. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven 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 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.

1.5 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.

1. Each contractor is responsible for providing products and construction methods compatible with products and construction methods of other contractors.
2. If a dispute arises between contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.

1.6 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. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by Owner's construction forces. Coordinate location with Owner.

1.7 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.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

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. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. 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.
3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
6. 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. Restricted 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 be considered unless otherwise indicated.
    b. Nonrestricted 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. Restricted 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 be considered unless otherwise indicated.
    b. Nonrestricted 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 Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

D. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

E. Substitutions review: Whereas the GC requests a substitution for material, equipment, and component different from the Basis of design they will have to do so before the bid is submit. Furthermore the City reserves the right to only except those substituted item at their discretion that meet the specifics set forth in the basis of design only.

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, 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.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

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SECTION 01 71 00
EXAMINATION

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Inspection of Conditions

B. Acceptance of Conditions

C. Existing Conditions

1.02 RELATED DOCUMENTS

A. Section 01 11 00: Summary of Work

B. Section 01 31 00: Project Management and Coordination.

C. Section 01 40 00: Quality Requirements

1.03 INSPECTION OF CONDITIONS

A.

Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed.

B. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

C. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.

D. Recheck and verify:

1. The specific conditions and requirements described in individual specification sections and on the drawings.

2. Measurements and dimensions, before starting each installation.

3. That existing site conditions and substrate surfaces are acceptable for subsequent Work.

4. That existing substrate is capable of structural attachment of new Work being applied or attached.

5. That utility services, including any required electrical, plumbing and other fixtures, components or service connections, are available, have the correct characteristics for the Work, and are in the correct location.

1.05 ACCEPTANCE OF CONDITIONS

A. Beginning new Work means acceptance of existing conditions and substrates.

1.06 EXISTING CONDITIONS

A. Conditions existing at time of Bidder's inspection will be maintained by Owner insofar as practicable.

B. Variations of tree locations may occur by Owner's removal and salvage operations prior to start of the Work.

1. Protect as necessary until Owner's removal.

PART 2 PRODUCTS NOT USED

PART 3 EXECUTION NOT USED

END OF SECTION

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SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work including, but not limited to, the following:

1. Construction layout.
2. Field engineering and surveying.
3. Installation of the Work.
4. Coordination of Owner-installed products.
5. Progress cleaning.
6. Starting and adjusting.
7. Protection of installed construction.

B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 00960 “Project Closeout” for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.
4. Section 078413 "Penetration Firestopping" for patching penetrations in fire-rated construction.

1.3 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.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For land surveyor.

B. Certificates: Submit certificate signed by land surveyor certifying that location and elevation of improvements comply with requirements.

C. Cutting and Patching Plan: Submit plan describing procedures at least 10 days prior to the time cutting and patching will be performed. Include the following information:

1. Extent: Describe reason for and extent of each occurrence of cutting and patching.
2. Changes to In-Place Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building appearance and other significant visual elements.
3. Products: List products to be used for patching and firms or entities that will perform patching work.
4. Dates: Indicate when cutting and patching will be performed.
5. Utilities and Mechanical and Electrical Systems: List services and systems that cutting and patching procedures will disturb or affect. List services and systems that will be relocated and those that will be temporarily out of service. Indicate length of time permanent services and systems will be disrupted.

    a. Include description of provisions for temporary services and systems during interruption of permanent services and systems.

D. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

E. Certified Surveys: Submit two copies signed by land surveyor.

F. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections.

B. 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 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.

1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; underground electrical services, and other utilities.
2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

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.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work.
2. List of detrimental conditions, including substrates.
3. List of unacceptable installation tolerances.
4. Recommended corrections.

D. 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 local utility 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. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. 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 Architect according to requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Architect promptly.

B. General: Engage a land surveyor to lay out the Work using accepted surveying practices.

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

E. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 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.
3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
4. Maintain minimum headroom clearance of 96 inches (2440 mm) in occupied spaces and 90 inches (2300 mm) in unoccupied spaces.

B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.

D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on site and placement in permanent locations.

F. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

G. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions.

1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
2. Allow for building movement, including thermal expansion and contraction.
3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

I. 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.

J. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 OWNER-INSTALLED PRODUCTS

A. Site Access: Provide access to Project site for Owner's construction personnel.

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

2. Preinstallation Conferences: Include Owner's construction personnel at preinstallation conferences covering portions of the Work that are to receive Owner's work. Attend preinstallation conferences conducted by Owner's construction personnel if portions of the Work depend on Owner's construction.

3.7 PROGRESS CLEANING

A. General: Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.

    a. Use containers intended for holding waste materials of type to be stored.

4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.

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.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

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. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.

F. Exposed Surfaces in Finished Areas: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

G. 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 017419 "Construction Waste Management and Disposal."

H. 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.

I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

B. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

D. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 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.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

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SECTION 01741 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 WASTE MANAGEMENT REQUIREMENTS

A. Sustainable construction practices require that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. Minimize trash/waste disposal in landfills; reuse, salvage, or recycle as much waste as economically feasible. Divert not less than 75 percent of construction waste, including building demolition waste if any, from landfill.

D. Required Recycling, Salvage, and Reuse: The following may not be disposed of in landfills or by incineration:
   1. Aluminum and plastic beverage containers.
   2. Corrugated cardboard.
   3. Wood pallets.
   4. Clean dimensional wood: May be used as blocking or furring.
   5. Metals, including packaging banding, metal studs, sheet metal, structural steel, piping, reinforcing bars, door frames, and other items made of steel, iron, galvanized steel, stainless steel, aluminum, copper, zinc, lead, brass, and bronze.
   6. Glass.
   7. Gypsum drywall and plaster.
   8. Carpet, carpet cushion, carpet tile, and carpet remnants, both new and removed: DuPont (http://flooring.dupont.com) and Interface (www.interfaceinc.com) conduct reclamation programs.

E. Contractor shall submit periodic Waste Disposal Reports; all landfill disposal, incineration, recycling, salvage, and reuse must be reported regardless of to whom the cost or savings accrues; use the same units of measure on all reports.

F. Contractor shall develop and follow a Waste Management Plan designed to implement these requirements.

G. Methods of trash/waste disposal that are not acceptable are:
   1. Burning on the project site.
   2. Burying on the project site.
   3. Dumping or burying on other property, public or private.
   4. Other illegal dumping or burying.

H. Regulatory Requirements: Contractor is responsible for knowing and complying with regulatory requirements, including but not limited to Federal, state and local requirements, pertaining to legal disposal of all construction and demolition waste materials.

I. Waste Vendor: Contractor shall use the City of Pembroke Pines' vendor for general waste collection. Verify the firm with the Owner.

1.2 DEFINITIONS

A. Clean: Untreated and unpainted; not contaminated with oils, solvents, caulk, or the like.

B. Construction and Demolition Waste: Solid wastes typically including building materials, packaging, trash, debris, and rubble resulting from construction, remodeling,

repair and demolition operations.

C. Hazardous: Exhibiting the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity or reactivity.

D. Nonhazardous: Exhibiting none of the characteristics of hazardous substances, i.e., ignitibility, corrosivity, toxicity, or reactivity.

E. Nontoxic: Neither immediately poisonous to humans nor poisonous after a long period of exposure.

F. Recyclable: The ability of a product or material to be recovered at the end of its life cycle and remanufactured into a new product for reuse by others.

G. Recycle: To remove a waste material from the project site to another site for remanufacture into a new product for reuse by others.

H. Recycling: The process of sorting, cleansing, treating and reconstituting solid waste and other discarded materials for the purpose of using the altered form. Recycling does not include burning, incinerating, or thermally destroying waste.

I. Return: To give back reusable items or unused products to vendors for credit.

J. Reuse: To reuse a construction waste material in some manner on the project site.

K. Salvage: To remove a waste material from the project site to another site for resale or reuse by others.

L. Sediment: Soil and other debris that has been eroded and transported by storm or well production run-off water.

M. Source Separation: The act of keeping different types of waste materials separate beginning from the first time they become waste.

N. Toxic: Poisonous to humans either immediately or after a long period of exposure.

O. Trash: Any product or material unable to be reused, returned, recycled, or salvaged.

P. Waste: Extra material or material that has reached the end of its useful life in its intended use. Waste includes salvageable, returnable, recyclable, and reusable material.

1.3 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Waste Management Plan: Include the following information:

1. Analysis of the trash and waste projected to be generated during the entire project construction cycle, including types and quantities.
2. Landfill Options: The name, address, and telephone number of the landfill(s) where trash/waste will be disposed of, the applicable landfill tipping fee(s), and the projected cost
of disposing of all project trash/waste in the landfill(s).
3. Landfill Alternatives: List all waste materials that will be diverted from landfills by reuse, salvage, or recycling.
4. Meetings: Describe regular meetings to be held to address waste prevention, reduction, recycling, salvage, reuse, and disposal.
5. Materials Handling Procedures: Describe the means by which materials to be diverted from landfills will be protected from contamination and prepared for acceptance by designated facilities; include separation procedures for recyclables, storage, and packaging.
6. Transportation: Identify the destination and means of transportation of materials to be recycled; i.e. whether materials will be site-separated and self-hauled to designated
centers, or whether mixed materials will be collected by a waste hauler.

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C. Waste Disposal Reports: Submit at specified intervals, with details of quantities of trash and waste, means of disposal or reuse, and costs; show both totals to date and since last report.
   1. Submit updated Report with each Application for Progress Payment; failure to submit Report will delay payment.
   2. Submit Report on a form acceptable to Owner.
   3. Landfill Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project disposed of in landfills.
      c. State the identity of landfills, total amount of tipping fees paid to landfill, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   4. Incinerator Disposal: Include the following information:
      a. Identification of material.
      b. Amount, in tons or cubic yards, of trash/waste material from the project delivered to incinerators.
      c. State the identity of incinerators, total amount of fees paid to incinerator, and total disposal cost.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
   5. Recycled and Salvaged Materials: Include the following information for each:
      a. Identification of material, including those retrieved by installer for use on other projects.
      b. Amount, in tons or cubic yards, date removed from the project site, and receiving party.
      c. Transportation cost, amount paid or received for the material, and the net total cost or savings of salvage or recycling each material.
      d. Include manifests, weight tickets, receipts, and invoices as evidence of quantity and cost.
      e. Certification by receiving party that materials will not be disposed of in landfills or by incineration.
   6. Material Reused on Project: Include the following information for each:
      a. Identification of material and how it was used in the project. b. Amount, in tons or cubic yards.
      c. Include weight tickets as evidence of quantity.
   7. Other Disposal Methods: Include information similar to that described above, as appropriate to disposal method.

PART 2 PRODUCTS – NOT USED

PART 3 EXECUTION

3.1 WASTE MANAGEMENT PROCEDURES

A. See Section 01 30 00 for additional requirements for project meetings, reports, submittal procedures, and project documentation.

3.2 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman,

each subcontractor, Sustainability Consultant, and Architect.

C. Instruction: Provide on-site instruction of appropriate separation, handling, and recycling, salvage, reuse, and return methods to be used by all parties at the appropriate stages of the project.

D. Meetings: Discuss trash/waste management goals and issues at project meetings.
   1. Pre-bid meeting.
   2. Pre-construction meeting.
   3. Regular job-site meetings.

E. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.
   1. Provide containers as required.
   2. Provide adequate space for pick-up and delivery and convenience to subcontractors.
   3. Keep recycling and trash/waste bin areas neat and clean and clearly marked in order to avoid contamination of materials.

F. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

G. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

H. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

I. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

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SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory.
2. Emergency manuals.
3. Operation manuals for systems, subsystems, and equipment.
4. Product maintenance manuals.
5. Systems and equipment maintenance manuals.

B. Related Requirements:

1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
2. Section 017839 “Project Record Documents.”

1.3 DEFINITIONS

A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.

B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 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.

1. Architect will comment on whether content of operations and maintenance submittals are acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

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 Architect.

    a. Name each indexed document file in composite electronic index with applicable item name. Include a complete electronically linked operation and maintenance directory.
    b. Enable inserted reviewer comments on draft submittals.

2. Three paper copies. Include a complete operation and maintenance directory. Enclose title pages and directories in clear plastic sleeves. Architect will return two copies.

C. Initial Manual Submittal: Submit a draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.

D. 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. Architect will return copy with comments.

1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information. Include a section in the directory for each of the following:

1. List of documents.
2. List of systems.
3. List of equipment.
4. Table of contents.

B. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.

C. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.

D. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to

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ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

2.2 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Construction Manager.
7. Name and contact information for Architect.
8. Name and contact information for Commissioning Authority.
9. Names and contact information for major consultants to the Architect that designed the systems contained in the manuals.
10. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.

D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.

E. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Enable bookmarking of individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily

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navigated file tree. Configure electronic manual to display bookmark panel on opening file.

F. Manuals, Paper Copy: Submit manuals in the form of hard copy, bound and labeled volumes.

1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch (215-by-280-mm) paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.

    a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.
    b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name and subject matter of contents. Indicate volume number for multiple-volume sets.

2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment.
4. Supplementary Text: Prepared on 8-1/2-by-11-inch (215-by-280-mm) white bond paper.
5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.

    a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
    b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

2.3 EMERGENCY MANUALS

A. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

B. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.

6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

C. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

D. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

2.4 OPERATION MANUALS

A. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.
10. License requirements including inspection and renewal dates.

B. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

C. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.

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3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

D. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

E. Piped Systems: Diagram piping as installed, and identify color-coding where required for identification.

2.5 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. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. 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.

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2.6 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranty and bond information, as described below.

B. Source Information: List each system, subsystem, and piece of equipment 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. Manufacturers' Maintenance Documentation: Manufacturers' maintenance documentation including the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins.
2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

H. 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. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals.

B. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

C. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

D. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

E. Manufacturers' Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

F. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1. Do not use original project record documents as part of operation and maintenance manuals.
2. Comply with requirements of newly prepared record Drawings in Section 017839 "Project Record Documents."

G. Comply with Section 00960 “Project Closeout" for schedule for submitting operation and maintenance documentation.

END OF SECTION 017823

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SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 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.
4. Miscellaneous record submittals.

B. Related Requirements:
1. Section 017300 "Execution" for final property survey.
2. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.
3. Section 017839 “Project Record Documents” for general closeout procedures.

1.3 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Number of Copies: Submit one set(s) of marked-up record prints.
2. Number of Copies: Submit copies of record Drawings as follows:

a. Initial Submittal:

1) Submit one paper-copy set(s) of marked-up record prints.
2) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.

b. Final Submittal:

1) Submit PDF electronic files of scanned record prints and three set(s) of prints.
2) Print each drawing, whether or not changes and additional information were recorded.

B. Record Specifications: Submit one paper copy and annotated PDF electronic files of Project's Specifications, including addenda and contract modifications.

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C. Record Product Data: Submit one paper copy and 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.

D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit one paper copy of each submittal.

E. Reports: Submit written report indicating items incorporated into project record documents concurrent with progress of the Work, including revisions, concealed conditions, field changes, product selections, and other notations incorporated.

PART 2 - PRODUCTS

2.1 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. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.
d. Record and check the markup before enclosing concealed installations.
e. Cross-reference record prints to corresponding archive 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. Depths of foundations below first floor.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Actual equipment locations.
h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Changes made by Change Order or Construction Change Directive.
k. Changes made following Architect's written orders.
l. Details not on the original Contract Drawings.
m. Field records for variable and concealed conditions.

n. 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 sets 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. Newly Prepared Record Drawings: Prepare new Drawings instead of preparing record Drawings where Architect determines that neither the original Contract Drawings nor Shop Drawings are suitable to show actual installation.

1. New Drawings may be required when a Change Order is issued as a result of accepting an alternate, substitution, or other modification.
2. Consult Architect for proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction. Integrate newly prepared record Drawings into record Drawing sets; comply with procedures for formatting, organizing, copying, binding, and submitting.

C. Format: Identify and date each record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints and newly prepared record Drawings 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 Architect.
e. Name of Contractor.

2.2 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. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.

3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
4. For each principal product, indicate whether record Product Data has been submitted in operation and maintenance manuals instead of submitted as record Product Data.
5. Note related Change Orders, record Product Data, and record Drawings where applicable.

B. Format: Submit record Specifications as paper copy and scanned PDF electronic file(s) of marked-up paper copy of Specifications.

2.3 RECORD PRODUCT DATA

A. 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, record Specifications, and record Drawings where applicable.

B. Format: Submit record Product Data as paper copy and scanned PDF electronic file(s) of marked-up paper copy of Product Data.

1. Include record Product Data directory organized by Specification Section number and title, electronically linked to each item of record Product Data.

2.4 MISCELLANEOUS RECORD SUBMITTALS

A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

B. Format: Submit miscellaneous record submittals as paper copy and scanned PDF electronic file(s) of marked-up miscellaneous record submittals.

1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

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. Maintenance of Record Documents and Samples: Store record documents and Samples 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 Architect's reference during normal working hours.

END OF SECTION 017839

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SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:

1. Demonstration of operation of systems, subsystems, and equipment.
2. Training in operation and maintenance of systems, subsystems, and equipment.
3. Demonstration and training video recordings.

1.3 INFORMATIONAL SUBMITTALS

A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.

1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.

B. Attendance Record: For each training module, submit list of participants and length of instruction time.

1.4 CLOSEOUT SUBMITTALS

A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.

1. Identification: On each copy, provide an applied label with the following information:

a. Name of Project.
b. Name and address of videographer.
c. Name of Architect.
d. Name of Construction Manager.
e. Name of Contractor.
f. Date of video recording.

2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
3. Transcript: Prepared in PDF electronic format. Include a cover sheet with same label information as the corresponding video recording and a table of contents with links to corresponding training components. Include name of Project and date of video recording on each page.
4. At completion of training, submit complete training manual(s) for Owner's use prepared and bound in format matching operation and maintenance manuals.

1.5 QUALITY ASSURANCE

A. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.

B. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.

C. Pre-instruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:

1. Inspect and discuss locations and other facilities required for instruction.
2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
3. Review required content of instruction.
4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.6 COORDINATION

A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.

C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data has been reviewed and approved by Architect.

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PART 2 - PRODUCTS

(NOT USED)

PART 3 - EXECUTION

3.1 PREPARATION

A. Assemble educational materials necessary for instruction.

B. Set up instructional equipment at instruction location.

3.2 INSTRUCTION

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.

B. Scheduling: Provide instruction at mutually agreed on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.

1. Schedule training with Owner with at least seven days' advance notice.

C. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.

D. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

3.3 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.

1. At beginning of each training module, record each chart containing learning objective and lesson outline.

B. Video: Provide minimum 1080P video resolution converted to format file type acceptable to Owner, on electronic media.

1. Electronic Media: Read-only format AVI format on USB flash drive to Owner, with commercial-grade graphic label.
2. File Hierarchy: Organize folder structure and file locations according to project manual table of contents. Provide complete screen-based menu.
3. File Names: Utilize file names based upon name of equipment generally described in video segment, as identified in Project specifications.

4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the Equipment Demonstration and Training DVD that describes the following for each Contractor involved on the Project, arranged according to Project table of contents:

    a. Name of Contractor/Installer.
    b. Business address.
    c. Business phone number.
    d. Point of contact.
    e. E-mail address.

C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.

1. Film training session(s) in segments not to exceed 15 minutes.

    a. Produce segments to present a single significant piece of equipment per segment.
    b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
    c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.

D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.

1. Furnish additional portable lighting as required.

E. Narration: Describe scenes on video recording by audio narration by microphone while video recording is recorded. Include description of items being viewed.

END OF SECTION 017900

Attachment I

SECTION 055000 – METAL FABRICATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General, Special, and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following metal fabrications:

1. Rough hardware.
2. Shelf and relieving angles.
3. Miscellaneous framing and supports.
4. Pipe bollards
5. TV wall mounted yoke brackets with mounting plates.

1.3 SUBMITTALS

A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.

B. Product data for non-slip aggregates and non-slip aggregate surface finishes, paint products, and grout.

C. Shop drawings detailing fabrication and erection of each metal fabrication indicated. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide templates for anchors and bolts specified for installation under other Sections.

D. Samples representative of materials and finished products as may be requested by Architect.

E. Welder certificates signed by Contractor certifying that welders comply with requirements specified under the "Quality Assurance" Article.

F. Qualification data for firms and persons specified in the "Quality Assurance" Article to demonstrate their capabilities and experience. Include a list of completed projects with project name, addresses, names of architects and owners, and other information specified.

1.4 QUALITY ASSURANCE

A. Fabricator Qualifications: Firm experienced in producing metal fabrications similar to those indicated for this Project with a record of successful in-service performance, and with sufficient production capacity to produce required units without delaying the Work.

B. Welding Standards: Comply with applicable provisions of AWS D1.1 "Structural Welding Code--Steel," AWS D1.2 "Structural Welding Code--Aluminum," and AWS D1.3 "Structural Welding Code--Sheet Steel."

1. Certify that each welder has satisfactorily passed AWS qualification tests for welding processes involved and, if pertinent, has undergone re-certification.

1.5 PROJECT CONDITIONS

A. Field Measurements: Check actual locations of walls and other construction to which metal fabrications must fit by accurate field measurements before fabrication. Show recorded measurements on final shop drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Where field measurements cannot be made without delaying the Work, guarantee dimensions and proceed with fabricating products without field measurements. Coordinate construction to ensure that actual dimensions correspond to guaranteed dimensions. Allow for trimming and fitting.

PART 2 - PRODUCTS

2.1 FERROUS METALS

A. Metal Surfaces, General: For metal fabrications exposed to view in the completed Work, provide materials selected for their surface flatness, smoothness, and freedom from surface blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

B. Steel Plates, Shapes, and Bars: ASTM A 36.

C. Steel Tubing: Product type (manufacturing method) and as follows:

1. Cold-Formed Steel Tubing: ASTM A 500.

D. Steel Pipe: ASTM A 53, standard weight (schedule 40), unless otherwise indicated, or another weight required by structural loads.

a. Black finish, unless otherwise indicated.

E. Gray-Iron Castings: ASTM A 48, Class 30.

F. Malleable-Iron Castings: ASTM A 47, Grade 32510.

G. Cast-in-Place Anchors in Concrete: Anchors of type indicated below, fabricated from

corrosion-resistant materials capable of sustaining, without failure, the load imposed within a safety factor of 4, as determined by testing per ASTM E 488, conducted by a qualified independent testing agency.

1. Threaded or wedge type; galvanized ferrous castings, either ASTM A 47 malleable iron or ASTM A 27 cast steel. Provide bolts, washers, and shims as required, hot-dip galvanized per ASTM A 153.

H. Welding Rods and Bare Electrodes: Select according to AWS specifications for the metal alloy to be welded.

G. Recycled Content of Steel Products: Provide products with an average recycled content of steel products so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 60 percent.

2.2 PAINT

A. Shop Primer for Ferrous Metal: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with performance requirements of FS TT-P-664, selected for good resistance to normal atmospheric corrosion, compatibility with finish paint systems indicated, and capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.

B. Galvanizing Repair Paint: High-zinc-dust-content paint for re-galvanizing welds in galvanized steel, with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035 or SSPC-Paint 20.

2.3 FASTENERS

A. General: Provide plated fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating, for exterior use or where built into exterior walls. Select fasteners for the type, grade, and class required.

B. Bolts and Nuts: Regular hexagon-head bolts, ASTM A 307, Grade A, with hex nuts, ASTM A 563, and, where indicated, flat washers.

C. Machine Screws: ANSI B18.6.3.

D. Lag Bolts: ANSI B18.2.1.

E. Wood Screws: Flat head, carbon steel, ANSI B18.6.1.

F. Plain Washers: Round, carbon steel, ANSI B18.22.1.

G. Lock Washers: Helical, spring type, carbon steel, ANSI B18.21.1.

H. Expansion Anchors: Anchor bolt and sleeve assembly of material indicated below with capability to sustain, without failure, a load equal to 6 times the load imposed when installed in unit masonry and equal to 4 times the load imposed when installed in

concrete as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.

1. Material: Carbon steel components zinc-plated to comply with ASTM B 633, Class Fe/Zn 5.

I. Toggle Bolts: FS FF-B-588, tumble-wing type, class and style as required.

2.4 GROUT

A. Non-shrink, Nonmetallic Grout: Factory-packaged, non-staining, non-corrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.

B. Products: Subject to compliance with requirements, provide one of the following:

1. Non-shrink, Nonmetallic Grouts:

a. Euco N-S Grout; Euclid Chemical Co.
b. Five Star Grout; Five Star Products.
c. Vibropruf #11; Lambert Corp.
d. Masterflow 928 and 713; Master Builders Inc.
e. Sealtight 588 Grout; W. R. Meadows, Inc.
f. Sonogrout 14; Sonneborn Building Products - ChemRex Inc.

2.5 CONCRETE FILL

A. Concrete Materials and Properties: Comply with requirements of Division 3 Section "Cast-in-Place Concrete" for normal-weight, air-entrained, ready-mix concrete with a minimum 28-day compressive strength of 3000 psi, unless higher strengths are indicated.

2.6 FABRICATION, GENERAL

A. Form metal fabrications from materials of size, thickness, and shapes indicated but not less than that needed to comply with performance requirements indicated. Work to dimensions indicated or accepted on shop drawings, using proven details of fabrication and support. Use type of materials indicated or specified for various components of each metal fabrication.

B. Form exposed work true to line and level with accurate angles and surfaces and straight sharp edges.

C. Allow for thermal movement resulting from the following maximum change (range) in ambient temperature in the design, fabrication, and installation of installed metal assemblies to prevent buckling, opening up of joints, and overstressing of welds and

fasteners. Base design calculations on actual surface temperatures of metals due to both solar heat gain and nighttime sky heat loss.

1. Temperature Change (Range): 100 deg F.

D. Shear and punch metals cleanly and accurately. Remove burrs.

E. Ease exposed edges to a radius of approximately 1/32 inch. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing work.

F. Remove sharp or rough areas on exposed traffic surfaces.

G. Weld corners and seams continuously to comply with the following:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.

H. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners wherever possible. Use exposed fasteners of type indicated or, if not indicated, Phillips flat-head (countersunk) screws or bolts. Locate joints where least conspicuous.

I. Provide for anchorage of type indicated; coordinate with supporting structure. Fabricate and space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

J. Shop Assembly: Pre-assemble items in shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.

K. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.

L. Fabricate joints that will be exposed to weather in a manner to exclude water, or provide weep holes where water may accumulate.

2.7 ROUGH HARDWARE

A. Furnish bent, or otherwise custom-fabricated, bolts, plates, anchors, hangers, dowels, and other miscellaneous steel and iron shapes as required for framing and supporting woodwork, and for anchoring or securing woodwork to concrete or other structures.

Straight bolts and other stock rough hardware items are specified in Division 6 Sections.

B. Fabricate items to sizes, shapes, and dimensions required. Furnish malleable-iron washers for heads and nuts that bear on wood structural connections, and furnish steel washers elsewhere.

2.8 SHELF AND RELIEVING ANGLES

A. Fabricate shelf and relieving angles from steel angles of sizes indicated and for attachment to concrete framing. Provide slotted holes to receive 3/4-inch bolts, spaced not more than 6 inches from ends and not more than 24 inches O.C., unless otherwise indicated.

B. For cavity walls, provide vertical channel brackets to support shelf/relieving angles from back-up masonry and concrete. Align expansion joints in angles with indicated control and expansion joints in cavity wall exterior wythe.

C. Galvanize shelf angles to be installed on exterior concrete framing.

D. Furnish wedge-type concrete inserts, complete with fasteners, to attach shelf angles to cast-in-place concrete.

2.9 MISCELLANEOUS FRAMING AND SUPPORTS

A. General: Provide steel framing and supports for applications indicated that are not a part of structural steel framework as required to complete the Work.

B. Fabricate units to sizes, shapes, and profiles indicated and required to receive other adjacent construction retained by framing and supports. Fabricate from structural steel shapes, plates, and steel bars of welded construction using mitered joints for field connection. Cut, drill, and tap units to receive hardware, hangers, and similar items.

1. Equip units with integrally welded anchors for casting into concrete or building into masonry. Furnish inserts if units must be installed after concrete is placed.

    a. Except as otherwise indicated, space anchors 24 inches o.c. and provide minimum anchor units in the form of steel straps 1-1/4 inches wide by 1/4 inch thick by 8 inches long.

2.80 PIPE BOLLARDS

A. Fabricate pipe bollards from Schedule 80 steel pipe. Bollards to have 1/4-inch minimum steel plate welded to bottom.

1. Provide pipe with 4 inch outside diameter; height above grade to be 4 feet.

B. Fabricate sleeves for bollard anchorage from steel pipe with 1/4-inch- thick steel plate welded to bottom of sleeve.

2.12 TV WALL MOUNTED YOKE BRACKETS WITH MOUNTING PLATES

B. Wall mounted yokes, brackets and in-wall mounting plates to be by Peerless Sales Company, 1980 Hawthorne Ave., Melrose Park, IL 60160, (708) 856-8870, or other as acceptable to Architect.

1. In-the-wall mounting plate to be manufacturer's Model No. WSP 414 in 11 gage steel in standard 14-1/2" wide by 13" high plate with a 1-1/2" return and a black fused epoxy finish. Mounting plate shall have a pre-drilled hole pattern to match up with all Peerless wall brackets and provision for up to three single gang electrical boxes for power, antenna, and remote control.
2. Wall mount to be manufacturer's Model No. WMY 234 and shall consist of a wall plate arm assembly that has a 6" by 12" steel wall mounting plate with a gusset and a 1-1/2" by 2" by 20" long rectangular tubular arm welded in a horizontal plane. The arm shall extend at right angles to the wall and support an adjustable yoke bracket which shall be fastened securely to the bottom of the monitor.
3. The steel yoke bracket, Model No. WMY 234 shall be constructed so that both height and width can be adjusted, and shall include a universal three piece perforated tray to facilitate attachment of the TV or monitor. The bracket, when properly installed, shall be capable of carrying a load of 215 pounds.
4. The entire bracket assembly shall be finished in satin black fused epoxy. All hardware necessary for assembly of the bracket shall be included.

C. The installation contractor must supply the fasteners needed to attach the bracket to the wall.

D. Submit shop drawings indicating mounting heights and other pertinent data.

2.13 FINISHES, GENERAL

A. Comply with NAAMM "Metal Finishes Manual" for recommendations relative to applying and designing finishes.

B. Finish metal fabrications after assembly.

2.14 STEEL AND IRON FINISHES

A. Galvanizing: For those items indicated for galvanizing, apply zinc coating by the hot-dip process complying with the following requirements:

1. ASTM A 153 for galvanizing iron and steel hardware.
2. ASTM A 123 for galvanizing both fabricated and unfabricated iron and steel products made of uncoated rolled, pressed, and forged shapes, plates, bars, and

strip 0.0299 inch thick or thicker.

B. Preparation for Shop Priming: Prepare uncoated ferrous metal surfaces to comply with minimum requirements indicated below for SSPC surface preparation specifications and environmental exposure conditions of installed metal fabrications:

1. Exteriors (SSPC Zone 1B): SSPC-SP 6 "Commercial Blast Cleaning."
2. Interiors (SSPC Zone 1A): SSPC-SP 3 "Power Tool Cleaning."

C. Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes or to be embedded in concrete, sprayed-on fireproofing, or masonry, unless otherwise indicated. Comply with requirements of SSPC-PA 1 "Paint Application Specification No. 1" for shop painting.

1. Stripe paint corners, crevices, bolts, welds, and sharp edges.

PART 3 - EXECUTION

3.1 PREPARATION

A. Coordinate and furnish anchorages, setting drawings, diagrams, templates, instructions, and directions for installing anchorages, including concrete inserts, sleeves, anchor bolts, and miscellaneous items having integral anchors that are to be embedded in concrete or masonry construction. Coordinate delivery of such items to Project site.

B. Set sleeves in concrete with tops flush with finish surface elevations. Protect sleeves from water and concrete entry.

3.2 INSTALLATION, GENERAL

A. Fastening to In-Place Construction: Provide anchorage devices and fasteners where necessary for securing miscellaneous metal fabrications to in-place construction. Include threaded fasteners for concrete and masonry inserts, toggle bolts, through-bolts, lag bolts, and other connectors as required.

B. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.

C. Provide temporary bracing or anchors in formwork for items that are to be built into concrete masonry or similar construction.

D. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop-welded because of shipping size limitations. Do not weld, cut, or abrade the surfaces of exterior units that have been hot-dip galvanized after fabrication and are intended for bolted or screwed

field connections.

E. Field Welding: Comply with the following requirements:

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove welding flux immediately.
4. At exposed connections, finish exposed welds and surfaces smooth and blended so that no roughness shows after finishing, and contour of welded surface matches those adjacent.

3.3 INSTALLING PIPE BOLLARDS

A. Anchor bollards in concrete with pipe sleeves preset and anchored into concrete. After bollards have been inserted into sleeves, fill annular space between bollard and sleeve solidly with non-shrink, nonmetallic grout, mixed and placed to comply with grout manufacturer's directions.

B. Fill bollards solidly with concrete, mounding top surface.

3.4 ADJUSTING AND CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material as used for shop painting to comply with SSPC-PA 1 requirements for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a 2.0-mil minimum dry film thickness.

B. For galvanized surfaces, clean welds, bolted connections, and abraded areas, and apply galvanizing repair paint to comply with ASTM A 780.

END OF SECTION 055000

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SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood blocking and nailers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

1.3 INFORMATIONAL SUBMITTALS

A. Material Certificates: 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.

B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Power-driven fasteners.
3. Powder-actuated fasteners.
4. Expansion anchors.
5. Metal framing anchors.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded 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. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece or omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal (38-mm actual) thickness or less, 19 percent for more than 2-inch nominal (38-mm actual) thickness unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the ground.

1. 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.

D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.

2.3 DIMENSION LUMBER FRAMING

A. Framing Other Than Non-Load-Bearing Interior Partitions: Construction, Stud, or No. 3 grade.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Furring.
4. Grounds.

B. For items of dimension lumber size, provide Standard, Stud, or No. 3 grade lumber of any species.

C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine; No. 2 grade; SPIB.
2. Eastern softwoods; No. 2 Common grade; NeLMA.
3. Northern species; No. 2 Common grade; NLGA.
4. Western woods; Standard or No. 3 Common grade; WCLIB or WWPA.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.

B. Power-Driven Fasteners: NES NER-272.

C. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.7 MISCELLANEOUS MATERIALS

A. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D3498 that is approved for use indicated by adhesive manufacturer.

1. Use adhesives that have a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

C. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.

D. Do not splice structural members between supports unless otherwise indicated.

E. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

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. NES NER-272 for power-driven fasteners.
2. Table 2304.10.1, "Fastening Schedule," in 6th Edition Florida Building Code, 2017

3.2 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.

B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

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SECTION 064116 - PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Plastic-laminate-faced architectural cabinets.
2. Wood furring, blocking, shims, and hanging strips for installing plastic-laminate-faced architectural cabinets unless concealed within other construction before cabinet installation.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood furring, blocking, shims, and hanging strips required for installing cabinets and concealed within other construction before cabinet installation.

2. Section 123661.19 - Quartz Agglomerate Countertops.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product, including panel products high-pressure decorative laminate adhesive for bonding plastic laminate fire-retardant-treated materials and cabinet hardware and accessories.

1. Include data for fire-retardant treatment from chemical-treatment manufacturer and certification by treating plant that treated materials comply with requirements.

B. Shop Drawings: Show location of each item, dimensioned plans and elevations, large-scale details, attachment devices, and other components.

1. Show details full size.
2. Show locations and sizes of furring, blocking, and hanging strips, including concealed blocking and reinforcement specified in other Sections.

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3. Show locations and sizes of cutouts and holes for electrical switches and outlets and other items installed in architectural plastic-laminate cabinets.

C. Samples for Initial Selection:

1. Plastic laminates.
2. PVC edge material.
3. Thermoset decorative panels.

D. Samples for Verification:

1. Plastic laminates, for each type, color, pattern, and surface finish.
2. Wood-grain plastic laminates, 12 by 24 inches (300 by 600 mm), for each type, pattern and surface finish.
3. Thermoset decorative panels, 8 by 10 inches (200 by 250 mm), for each color, pattern, and surface finish.
4. Corner pieces as follows:

   a. Cabinet-front frame joints between stiles and rails, as well as exposed end pieces, 18 inches (450 mm) high by 18 inches (450 mm) wide by 6 inches (150 mm) deep.
   b. Miter joints for standing trim.

5. Exposed cabinet hardware and accessories, one unit for each type and finish.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and fabricator.

B. Product Certificates: For each type of product the following:

1. Composite wood and agrifiber products.
2. High-pressure decorative laminate.
3. Adhesives.

C. Woodwork Quality Standard Compliance Certificates: AWI Quality Certification Program certificates.

D. Evaluation Reports: For fire-retardant-treated materials, from ICC-ES.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance. Shop is a certified participant in AWI's Quality Certification Program.

B. Installer Qualifications: Fabricator of products.

C. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

D. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

E. Forest Certification: Provide paneling produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, “FSC principles and Criteria for Forest Stewardship.”
1. Interior plywood and hardboard paneling.
2. Shelving and clothes rods.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Do not deliver cabinets until painting and similar operations that could damage woodwork have been completed in installation areas. If cabinets must be stored in other than installation areas, store only in areas where environmental conditions comply with requirements specified in "Field Conditions" Article.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Environmental Limitations: Do not deliver or install cabinets until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F (16 and 32 deg C) and relative humidity between 43 and 70 percent during the remainder of the construction period.

C. Field Measurements: Where cabinets are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication, and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

1. Locate concealed framing, blocking, and reinforcements that support cabinets by field measurements before being enclosed, and indicate measurements on Shop Drawings.

D. Established Dimensions: Where cabinets are indicated to fit to other construction, establish dimensions for areas where cabinets are to fit. Provide allowance for trimming at site, and coordinate construction to ensure that actual dimensions correspond to established dimensions.

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1.9 COORDINATION

A. Coordinate sizes and locations of framing, blocking, furring, reinforcements, and other related units of Work specified in other Sections to ensure that cabinets can be supported and installed as indicated.

PART 2 - PRODUCTS

2.1 PLASTIC-LAMINATE-FACED ARCHITECTURAL CABINETS

A. Quality Standard: Unless otherwise indicated, comply with the "Architectural Woodwork Standards" for grades of architectural plastic-laminate cabinets indicated for construction, finishes, installation, and other requirements.

1. Provide labels and certificates from AWI or WI certification program indicating that woodwork, including installation, complies with requirements of grades specified.
2. The Contract Documents contain selections chosen from options in the quality standard and additional requirements beyond those of the quality standard. Comply with those selections and requirements in addition to the quality standard.

B. Grade: Custom.

C. Regional Materials: Plastic-laminate cabinets shall be manufactured within 500 miles (800 km) of Project site.

D. Type of Construction: Frameless.

E. Cabinet, Door, and Drawer Front Interface Style: Flush overlay.

F. Reveal Dimension: As indicated.

G. High-Pressure Decorative Laminate: NEMA LD 3, grades as indicated or if not indicated, as required by woodwork quality standard.

H. Laminate Cladding for Exposed Surfaces:

1. Horizontal Surfaces: Grade HGS.
2. Vertical Surfaces: Grade HGS.
3. Edges: Grade HGS.
4. Pattern Direction: Vertically for drawer fronts, doors, and fixed panels.

I. Materials for Semiexposed Surfaces:

1. Surfaces Other Than Drawer Bodies: High-pressure decorative laminate, NEMA LD 3, Grade VGS.

a. Edges of Plastic-Laminate Shelves.
b. Edges of Thermoset Decorative Panel Shelves: PVC or polyester edge banding.

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c. For semiexposed backs of panels with exposed plastic-laminate surfaces, provide surface of high-pressure decorative laminate, NEMA LD 3, Grade VGS.

2. Drawer Sides and Backs: Solid-hardwood lumber.
3. Drawer Bottoms: Hardwood plywood.

J. Dust Panels: 1/4-inch (6.4-mm) plywood or tempered hardboard above compartments and drawers unless located directly under tops.

K. Concealed Backs of Panels with Exposed Plastic-Laminate Surfaces: High-pressure decorative laminate, NEMA LD 3, Grade BKL.

L. Drawer Construction: Fabricate with exposed fronts fastened to subfront with mounting screws from interior of body.

1. Join subfronts, backs, and sides with glued rabbeted joints supplemented by mechanical fasteners.

M. Colors, Patterns, and Finishes: Provide materials and products that result in colors and textures of exposed laminate surfaces complying with the following requirements:

1. As indicated by laminate manufacturer's designations.
2. Match Architect's sample.
3. As selected by Architect from laminate manufacturer's full range of colors.

N. Quartz Counters and Splashes: refer to section 123661.19 - Quartz Agglomerate Countertops.

2.2 WOOD MATERIALS

A. Wood Products: Provide materials that comply with requirements of referenced quality standard for each type of woodwork and quality grade specified unless otherwise indicated.

1. Wood Moisture Content: 5 to 10 percent.

2. Plywood:

a. Core: Body members other than back, drawer bottoms, pigeonhole partitions, etc. not less than ¾ inch thick plywood. Tops in which sinks occur must have a core of exterior grade plywood.
b. Backs and Drawer Bottoms: Minimum ¼ inch thickness plywood.
c. Shelves: ¾ or one (1) inch thickness as per AWI.
d. Particleboard is not permitted.

B. Recycled Content of Medium-Density Fiberboard and Particleboard: Provide products with an average recycled content so postconsumer recycled content plus one-half of preconsumer recycled content is not less than 20 percent.

C. Wood Products: Comply with the following:

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1. Medium-Density Fiberboard: ANSI A208.2, Grade MD, made with binder containing no urea formaldehyde.
2. Softwood Plywood: DOC PS 1, Medium Density Overlay.
3. Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1, made with adhesive containing no urea formaldehyde.
4. THE USE OF PARTICLE BOARD IS NOT PERMITTED.

2.3 CABINET HARDWARE AND ACCESSORIES

A. General: Provide cabinet hardware and accessory materials associated with architectural cabinets except for items specified in Section 087111 "Door Hardware (Descriptive Specification)."

B. Frameless Concealed Hinges (European Type): BHMA A156.9, B01602, 135 degrees of opening, self-closing.

C. Back-Mounted Pulls: BHMA A156.9, B02011.

D. Pulls: Back mounted, solid metal, minimum of 4 inches (127 mm) long, 1 inch deep, and 5/16 inch (8 mm) in diameter.

E. Catches: Magnetic catches, BHMA A156.9, B03141.

F. Adjustable Recessed Shelf Standards and Supports: BHMA A156.9, B04071; with shelf rests, B04081.

G. Shelf Rests: BHMA A156.9, B04013; metal.

H. Drawer Slides: BHMA A156.9.
1. Grade 1HD-100 and Grade 1HD-200: Side mounted; full-extension type; zinc-plated-steel ball-bearing slides.
2. For drawers more than 3 inches (75 mm) high but not more than 6 inches (150 mm) high and not more than 24 inches (600 mm) wide, provide Grade 1.
3. For drawers more than 6 inches (150 mm) high or more than 24 inches (600 mm) wide, provide Grade 1HD-100.
4. For computer keyboard shelves, provide Grade 1.

I. Door Locks: BHMA A156.11, E07121.

J. Drawer Locks: BHMA A156.11, E07041.

K. Door and Drawer Silencers: BHMA A156.16, L03011.

L. Exposed Hardware Finishes: For exposed hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.

1. Dark, Oxidized, Satin Bronze, Oil Rubbed: BHMA 613 for bronze base; BHMA 640 for steel base; match Architect's sample.
2. Bright Brass, Clear Coated: BHMA 605 for brass base; BHMA 632 for steel base.

3. Bright Brass, Vacuum Coated: BHMA 723 for brass base; BHMA 729 for zinc-coated-steel base.
4. Satin Brass, Blackened, Bright Relieved, Clear Coated: BHMA 610 for brass base; BHMA 636 for steel base.
5. Satin Chromium Plated: BHMA 626 for brass or bronze base; BHMA 652 for steel base.
6. Bright Chromium Plated: BHMA 625 for brass or bronze base; BHMA 651 for steel base.
7. Satin Stainless Steel: BHMA 630.

M. For concealed hardware, provide manufacturer's standard finish that complies with product class requirements in BHMA A156.9.

2.4 MISCELLANEOUS MATERIALS

A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln dried to less than 15 percent moisture content.

B. Anchors: Select material, type, size, and finish required for each substrate for secure anchorage. Provide metal expansion sleeves or expansion bolts for post-installed anchors. Use nonferrous-metal or hot-dip galvanized anchors and inserts at inside face of exterior walls and at floors.

C. Adhesives: Do not use adhesives that contain urea formaldehyde.

D. Adhesive for Bonding Plastic Laminate: Unpigmented contact cement.

1. Adhesive for Bonding Edges: Hot-melt adhesive or adhesive specified above for faces.

E. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.

1. Use wood glue that has a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

F. Installation Adhesive for Foam Plastic Moldings: Product recommended for indicated use by foam plastic molding manufacturer.

1. Use adhesive that has a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

G. Paneling Adhesive: Comply with paneling manufacturer's written recommendations for adhesives.

1. Use adhesive that has a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

H. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.

1. Use adhesive that has a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

I. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

J. VOC Limits for Installation Adhesives and Glues: Use installation adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Wood Glues: 30 g/L.
2. Contact Adhesive: 250 g/L.

2.5 FABRICATION

A. Sand fire-retardant-treated wood lightly to remove raised grain on exposed surfaces before fabrication.

B. Fabricate cabinets to dimensions, profiles, and details indicated.

C. Complete fabrication, including assembly and hardware application, to maximum extent possible before shipment to Project site. Disassemble components only as necessary for shipment and installation. Where necessary for fitting at site, provide ample allowance for scribing, trimming, and fitting.

1. Notify Architect seven days in advance of the dates and times woodwork fabrication will be complete.
2. Trial fit assemblies at fabrication shop that cannot be shipped completely assembled. Install dowels, screws, bolted connectors, and other fastening devices that can be removed after trial fitting. Verify that various parts fit as intended and check measurements of assemblies against field measurements before disassembling for shipment.

D. Shop-cut openings to maximum extent possible to receive hardware, appliances, electrical work, and similar items. Locate openings accurately and use templates or roughing-in diagrams to produce accurately sized and shaped openings. Sand edges of cutouts to remove splinters and burrs.

PART 3 - EXECUTION

3.1 PREPARATION

A. Before installation, condition cabinets to average prevailing humidity conditions in installation areas.

B. Before installing cabinets, examine shop-fabricated work for completion and complete work as required.

3.2 INSTALLATION

A. Grade: Install cabinets to comply with same grade as item to be installed.

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B. Assemble cabinets and complete fabrication at Project site to the extent that it was not completed in the shop.

C. Install cabinets level, plumb, true, and straight. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches (3 mm in 2400 mm).

D. Scribe and cut cabinets to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.

E. Anchor cabinets to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.

1. Use filler matching finish of items being installed.

F. Cabinets: Install without distortion so doors and drawers fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation. Complete installation of hardware and accessory items as indicated.

1. Install cabinets with no more than 1/8 inch in 96-inch (3 mm in 2400-mm) sag, bow, or other variation from a straight line.
2. Fasten wall cabinets through back, near top and bottom, and at ends not more than 16 inches (400 mm) o.c. with No. 10 wafer-head screws sized for not less than 1-1/2-inch (38-mm) penetration into wood framing, blocking, or hanging strips.

G. Locks: Install locks on all doors and drawers.

H. Keying: Locks shall be master keyed in the building.

1. Locks in each room shall be keyed alike.
2. Provide a set of 2 keys for each room and 4 master keys.

3.3 ADJUSTING AND CLEANING

A. Repair damaged and defective cabinets, where possible, to eliminate functional and visual defects; where not possible to repair, replace woodwork. Adjust joinery for uniform appearance.

B. Clean, lubricate, and adjust hardware.

C. Clean cabinets on exposed and semi-exposed surfaces.

END OF SECTION 064116

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SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:
   1. Glass-fiber blanket.
   2. Mineral-wool board.

B. Related Requirements:
   1. Section 092900 “Gypsum Board” for sound attenuation blanket used as acoustic insulation.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Low-emitting product certification.

1.4 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For each product, for tests performed by a qualified testing agency.

B. Evaluation Reports: For foam-plastic insulation, from ICC-ES.

C. Sustainable Design Submittals

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

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PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET

A. Sustainability Requirements: Provide glass-fiber blanket insulation as follows:

1. Free of Formaldehyde: Insulation manufactured with 100 percent acrylic binders and no formaldehyde.
2. Low Emitting: Insulation tested according to ASTM D 5116 and shown to emit less than 0.05-ppm formaldehyde.
3. Low Emitting: Complies with the testing and product requirements of the California Department of Public Health's (formerly, the California Department of Health Services') "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

B. Recycled Content of Insulation: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 50 percent.

C. Glass-Fiber Blanket, Unfaced: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.

1. Equal to Owens Corning 3 ½-inch R-13 Batt Insulation full width for steel studs.

2.2 MINERAL-WOOL BOARD

A. Mineral-Wool Board, Types IA and IB, Unfaced: ASTM C 612, Types IA and IB; with maximum flame-spread and smoke-developed indexes of 15 and zero, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics. Nominal density of 4 lb/cu. ft. (64 kg/cu. m).

1. Equal to Owens Corning “Thermafiber RainBarrier HD” Insulation Board; 2” thick, 36” x 60” size panels, install using mechanical attachment method. R-value = 4.3 per inch of thickness of board.

2.3 INSULATION FASTENERS

A. Adhesively Attached, Spindle-Type Anchors: Plate welded to projecting spindle; capable of holding insulation of specified thickness securely in position with self-locking washer in place.

1. Plate: Perforated, galvanized carbon-steel sheet, 0.030 inch (0.762 mm) thick by 2 inches (50 mm) square.
2. Spindle: Copper-coated, low-carbon steel; fully annealed; 0.105 inch (2.67 mm) in diameter; length to suit depth of insulation.

B. Insulation-Retaining Washers: Self-locking washers formed from 0.016-inch- (0.41-mm-) thick galvanized-steel sheet, with beveled edge for increased stiffness, sized as required to hold insulation securely in place, but not less than 1-1/2 inches (38 mm) square or in diameter.

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1. Protect ends with capped self-locking washers incorporating a spring steel insert to ensure permanent retention of cap.

C. Anchor Adhesive: Product with demonstrated capability to bond insulation anchors securely to substrates without damaging insulation, fasteners, or substrates.

2.4 ACCESSORIES

A. Adhesive for Bonding Insulation: Product compatible with insulation and air and water barrier materials, and with demonstrated capability to bond insulation securely to substrates without damaging insulation and substrates.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

D. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF CAVITY-WALL INSULATION

A. Glass Fiber Blanket Insulation: Install with closely fitting joints using anchor pins attachment method according to manufacturer's written instructions.

3.4 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:

1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.

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2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
4. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.

3.5 PROTECTION

A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

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SECTION 078413 - PENETRATION FIRESTOPPING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Penetrations in fire-resistance-rated walls.
2. Penetrations in horizontal assemblies.
3. Penetrations in smoke barriers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

B. Product Schedule: For each penetration firestopping system. Include location and design designation of qualified testing and inspecting agency.

1. Where Project conditions require modification to a qualified testing and inspecting agency's illustration for a particular penetration firestopping condition, submit illustration, with modifications marked, approved by penetration firestopping manufacturer's fire-protection engineer as an engineering judgment or equivalent fire-resistance-rated assembly.

1.3 INFORMATIONAL SUBMITTALS

A. Installer Certificates: From Installer indicating penetration firestopping has been installed in compliance with requirements and manufacturer's written recommendations.

B. Product test reports.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A firm that has been approved by FM Global according to FM Global 4991, "Approval of Firestop Contractors," or been evaluated by UL and found to comply with its "Qualified Firestop Contractor Program Requirements."

B. Fire-Test-Response Characteristics: Penetration firestopping shall comply with the following requirements:

1. Penetration firestopping tests are performed by a qualified testing agency acceptable to authorities having jurisdiction.

2. Penetration firestopping is identical to those tested per testing standard referenced in "Penetration Firestopping" Article. Provide rated systems bearing marking of qualified testing and inspection agency.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. A/D Fire Protection Systems Inc.
2. Grace Construction Products.
3. Hilti, Inc.
4. Johns Manville.
5. Nelson Firestop Products.
6. NUCO Inc.
7. Passive Fire Protection Partners.
8. RectorSeal Corporation.
9. Specified Technologies Inc.
10. 3M Fire Protection Products.
11. Tremco, Inc.; Tremco Fire Protection Systems Group.
12. USG Corporation.

2.2 PENETRATION FIRESTOPPING

A. Provide penetration firestopping that is produced and installed to resist spread of fire according to requirements indicated, resist passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.

B. Penetrations in Fire-Resistance-Rated Walls: Ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.

C. Penetrations in Horizontal Assemblies: Ratings determined per ASTM E 814 or UL 1479, based on testing at a positive pressure differential of 0.01-inch wg (2.49 Pa).

1. F-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated.
2. T-Rating: At least 1 hour, but not less than the fire-resistance rating of constructions penetrated except for floor penetrations within the cavity of a wall.

D. Penetrations in Smoke Barriers: Provide penetration firestopping with ratings determined per UL 1479.

1. L-Rating: Not exceeding 5.0 cfm/sq. ft. (0.025 cu. m/s per sq. m) of penetration opening at 0.30-inch wg (74.7 Pa) at both ambient and elevated temperatures.

E. Exposed Penetration Firestopping: Provide products with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, as determined per ASTM E 84.

F. VOC Content: Penetration firestopping sealants and sealant primers shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

1. Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

G. Low-Emitting Materials: Penetration firestopping sealants and sealant primers shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

H. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping manufacturer and approved by qualified testing and inspecting agency for firestopping indicated.

I. Firestopping details are shown on the drawings.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.

B. Install penetration firestopping to comply with manufacturer's written installation instructions and published drawings for products and applications indicated.

C. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings indicated.

1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not indicated as permanent components of firestopping.

D. Install fill materials for firestopping by proven techniques to produce the following results:

1. Fill voids and cavities formed by openings, forming materials, accessories, and penetrating items as required to achieve fire-resistance ratings indicated.
2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

3.2 IDENTIFICATION

A. Identify penetration firestopping with preprinted metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches (150 mm) of firestopping edge so labels will be visible to anyone seeking to remove penetrating items or firestopping. Use mechanical fasteners or self-adhering-type labels with adhesives capable of permanently bonding labels to surfaces on which labels are placed. Include the following information on labels:

1. The words "Warning - Penetration Firestopping - Do Not Disturb. Notify Building Management of Any Damage."
2. Contractor's name, address, and phone number.
3. Designation of applicable testing and inspecting agency.
4. Date of installation.
5. Manufacturer's name.
6. Installer's name.

3.3 FIELD QUALITY CONTROL

A. Where deficiencies are found or penetration firestopping is damaged or removed because of testing, repair or replace penetration firestopping to comply with requirements.

B. Proceed with enclosing penetration firestopping with other construction only after inspection reports are issued and installations comply with requirements.

END OF SECTION 078413

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SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Silicone joint sealants.
2. Urethane joint sealants.
3. Latex joint sealants.
4. Preformed joint sealants.
5. Acoustical joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

B. Samples: For each kind and color of joint sealant required.

C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Preconstruction compatibility and adhesion test reports.

C. Preconstruction field-adhesion test reports.

D. Field-adhesion test reports.

E. Warranties.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C 1021 to conduct the testing indicated.

PART 2 - PRODUCTS

2.1 SILICONE JOINT SEALANTS

A. Mildew-Resistant Silicone Joint Sealant: ASTM C 920.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. BASF Building Systems.
b. Dow Corning Corporation.
c. GE Advanced Materials - Silicones.
d. May National Associates, Inc.
e. Pecora Corporation.
f. Polymeric Systems, Inc.
g. Schnee-Morehead, Inc.
h. Sika Corporation; Construction Products Division.
i. Tremco Incorporated.

2. Type: Single component (S) or multicomponent (M).
3. Grade: nonsag (NS).
4. Class: 100/50.
5. Uses Related to Exposure: Traffic (T).

2.2 LATEX JOINT SEALANTS

A. Latex Joint Sealant: Acrylic latex or siliconized acrylic latex, ASTM C 834, Type OP, Grade NF.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. BASF Building Systems.
b. Bostik, Inc.
c. May National Associates, Inc.
d. Pecora Corporation.
e. Schnee-Morehead, Inc.
f. Tremco Incorporated.

2.3 ACOUSTICAL JOINT SEALANTS

A. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

   a. Pecora Corporation .
   b. USG Corporation.

2.4 JOINT SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C 1330, Type C (closed-cell material with a surface skin), Type O (open-cell material), Type B (bicellular material with a surface skin), or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

B. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer.

2.5 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

1. Remove laitance and form-release agents from concrete.
2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or

by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.2 INSTALLATION

A. Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

1. Do not leave gaps between ends of sealant backings.
2. Do not stretch, twist, puncture, or tear sealant backings.
3. Remove absorbent sealant backings that have become wet before sealant application and replace them with dry materials.

C. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.

D. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

E. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.

1. Remove excess sealant from surfaces adjacent to joints.
2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
3. Provide concave joint profile per Figure 8A in ASTM C 1193, unless otherwise indicated.

F. Acoustical Sealant Installation: Comply with ASTM C 919 and with manufacturer's written recommendations.

G. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.3 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

    a. Control and expansion joints in unit masonry.
    b. Joints between different materials listed above.
    c. Perimeter joints between materials listed above and frames of doors, windows and louvers.
    d. Control and expansion joints in ceilings and other overhead surfaces.
    e. Other joints as indicated.

2. Joint Sealant: Silicone.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

    a. Control and expansion joints on exposed interior surfaces of exterior walls.
    b. Perimeter joints of exterior openings where indicated.
    c. Vertical joints on exposed surfaces of walls and partitions.
    d. Other joints as indicated.

2. Joint Sealant: Latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Sealant Location:

    a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
    b. Tile control and expansion joints where indicated.
    c. Other joints as indicated.

2. Joint Sealant: Silicone.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior acoustical joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Location:

    a. Acoustical joints where indicated.
    b. Other joints as indicated.

2. Joint Sealant: Acoustical.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range.

END OF SECTION 079200

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SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Extent of fire rated and non-fire rated standard steel doors and frames and windows are indicated on the drawings and in schedules.

B. Section Does Not Include: Use of aluminum doors.

C. Related Sections:

1. Section 061000 – Rough Carpentry.
2. Section 079200 – Joint Sealants.
3. Section 087100 – Door Hardware.
4. Section 088000 – Glass and Glazing.
5. Section 092900 – Gypsum Board.
6. Section 099000 – Painting.

1.2 REFERENCES

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

1. ASTM A 1011A/1011/M-00, Specifications for Steel Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, and High Strength Low-Alloy with improved Formability.
2. ASTM A 653/A 653/M-97 Specification for Steel Sheet, Zinc-coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed by the Hot Dipped Process (Commercial Steel).
3. ASTM A 1008/A 1008/M-00, Specification for Steel Sheet and Strip, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, and High-Strength, Low-Alloy with Improved Formability.
4. C270 – Mortar for Unit Masonry.
5. NFPA252 – Standard Methods of Fire Tests of Door Assemblies.

B. Factory Mutual (FM), latest edition.

C. National Builders Hardware Association – “Recommended Locations for Builder’s Hardware”, latest edition.

D. National Fire Protection Association (NFPA) – NFPA 80 “ Standard for Fire Doors and Windows.”

E. Steel Door Institute (SDI) – “Recommended Specifications: Standard Steel Doors and Frames” (SDI-100), latest edition.

F. Underwriters Laboratories (UL), latest edition.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's technical product data substantiating that products comply with requirements prior to start of manufacture.

B. Shop Drawings: Submit for fabrication and installation of steel doors and frames. Include details of each frame type, required custom reinforcement, elevations of door design types, conditions at openings, details of construction, location and installation requirements of finish hardware and reinforcements, details of joints and connections. Show anchorage and accessory items. Show allowable design pressures and impact resistance certification for doors exposed to wind loading.

1. Provide schedule of doors and frames using same reference numbers for details and openings as those on contract drawings.

2. Indicate coordination of glazing frames and stops with glass and glazing requirements.

3. Doors and frames shall meet or exceed wind pressure and large missile impact requirements shown on Contract Documents and in accordance with 6th Edition Florida Building Code- 2017; Building, High Velocity Hurricane Zones.

C. Label Construction Certification: For door assemblies required to be fire-rated and exceeding sizes of tested assemblies, submit manufacturer's certification for each door and frame assembly constructed to conform to design, materials, and construction equivalent to requirements for labeled construction.

D. Samples: Provide cut-away samples of hollow metal door and frame construction. Submit for review 1 foot 6 inches x 1 foot 6 inches portion of exterior flush door panel construction at upper hinge corner location. Sample to include actual thickness and gauges of face sheets, channels, reinforcing plates, insulation, etc. Sample to be prime painted. Submit for review 1-foot long lower portion of exterior hinge side frame construction. Sample to include actual gauge thickness of jamb sheet metal, reinforcing plates and floor anchors. Supply sample of expansion anchor fasteners. Jamb sample to be prime painted.

E. Submit copy of required product approvals either Miami-Dade NOA's or State of Florida.

1.4 QUALITY ASSURANCE

A. Provide doors and frames complying with SDI-100, and as here in specified.

B. Fire-Rated Door Assemblies: Where firerated door assemblies are indicated or required, provide fire-rated door and frame assemblies complying with NFPA 80 and have been tested, listed, and labeled according to ASTM E 152 by a nationally recognized independent testing and inspection agency acceptable to authorities having jurisdiction.

C. Provide factory applied metal labels on fire-rated doors and frames. Field applied labels shall not be acceptable.

D. The Owner reserves the right to select at random up to two (2) doors and frames to verify the construction for compliance with this specification. Cost of replacement of these two doors and frames shall be included in the Contract Amount, and entered in the Schedule of Values as a separate line item.

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1.5 DELIVERY, STORAGE AND HANDLING

A. Deliver steel doors and frames cartoned or crated to provide protection during transit and job storage. Provide additional sealed plastic wrapping for factory-finished doors.

B. Inspect steel doors and frames upon delivery for damage. Minor damage may be repaired if refinished items are equal in all respects to new work and acceptable to owner. Remove and replace damaged items as directed.

C. Doors and frames shall be stored at the building site under cover in a vertical position. Doors and frames shall be separated and spaced using wood blocking. Place units on minimum 4 inch high wood blocking. Avoid use of non-vented plastic or canvas shelters that could created humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide ¼ inch spaces between stacked doors to promote air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURES

A. Manufacturers listed are accepted upon certification that all requirements of this specification are met.

1. Schlage/ Steelcraft
2. Ceco Door
3. Curries Company
4. Mesker
5. Other approved equal manufacturers and products.

B. Source Limitations: Obtain hollow-metal work from single souce, from single manufacturer.

2.2 DOOR FRAMES

A. Fabricate exterior and interior frames to profiles indicated of 14 gauge base metal thickness for all frames, bonderized hot-dip zinc coated sheet steel in accordance with ASTMA653; A60 for all frames.

B. Frames: Fully welded, custom type, with faces mitered, and stops butted. Head and jamb members with integral stops and with combination buck and trim as shown.

1. Corners shall have continuous flush and smooth welds without dishing.

2. Minimum stop depth shall be 5/8 inch.

C. Hardware Reinforcements and Preparations:

1. Frames shall be mortised, reinforced, and drilled/tapped for mortised hardware according to approved finish hardware schedule and templates by hardware supplier.

(a) Drilling and tapping for surface applied hardware shall be done in the field.
(b) Locate finish hardware according to “Recommended Locations for Builder’s Hardware” published by National Builders Hardware Association or as otherwise directed by A/E.

2. Butt (Hinge) Reinforcing:

   (a) Steel plate 3/16 inch thick (7 gauge) by full width of jamb by 9inches long, offset as required to have faces of butts flush with doorframe edge and secured by not less than 12 spot welds.

3. Strike Reinforcement: Offset clips of 12-gauge steel, 1 ½ inch x 3 inches long.

4. Closer Shoe Reinforcing:

   (a) 10 gauge steel plates (minimum 14 inches long) width of stop near corner of hinge jamb.

   (b) Provide styrofoam or treated wood over plates to allow closer foot screws to seat without interference from grout fill.

D. Silencer (Mute) Provisions: Punch interior frames to receive silencers on strike jamb (except in weather stripped frames) scheduled in Section 087100. Provide 3 silencers for single door and 2 silencers for each leaf in pair of doors at head of frame. Install silencers before grouting. **DO NOT PUNCH EXTERIOR DOOR FRAMES.**

E. Grout Guards: Provide 26 gauge sheet metal covers welded to the back of frames at hinges, lock, bolts, tapped reinforcements at hardware.

F. Jamb Anchors for Cast-In-Place Concrete:

1. Provide “Hat” sections or “pipe spacers” standard to the manufacturer.

2. Provide at least three anchors up to 7 feet 6 inches high opening and one anchor for each additional 30 inches of opening height or part thereof for both strike and hinge jambs.

3. Provide complete with minimum 3/8-inch diameter cadmium plated flush head screw complete with expansion anchors.

G. Floor Anchors: Provide 14 gauge galvanized sheet steel angle shaped anchors for each jamb extending to the floor, punched for not less than two (2) 3/16 inches diameter cadmium plated bolts and washers each side. Shim anchors to slab with nylon shims.

H. Spreaders: Provide frames with temporary steel spreader bars tack welded to jambs to maintain full rigidity and proper alignment during installation.

I. Security Switch Preparation: Refer to the Drawings.

2.3 HOLLOW METAL DOORS

A. Fabricate exterior doors of 16-gauge and interior doors of 18 gauge bonderized hot-dip zinc coated steel in accordance with ASTM A653;A-60 Galvaneal for all doors.

B. Types: Custom flush, seamless hollow construction with louvers or vision cutouts as shown or specified.

C. Sizes and Thickness: Sizes shall be as indicated, and thickness shall be 1 ¾ inches unless otherwise specified or shown.

D. Door Perimeters:

1. Stile Edges:
   (a) Reinforce stile edges full height with 16 gauge bonderized zinc coated steel channels. Seams shall be continuously welded and ground smooth. Fill and sand depressions.
   (b) Reinforce door edge at each hinge location with minimum 7-gage steel hinge reinforcement.
   (c) Bevel for Single Acting Doors: 1/8 inches in 2 inches.
2. Door Tops:
   (a) Reinforce door tops with full width, 16 gauge, bonderized, zinc coated, continuous, recessed steel channels, spot-welded to face sheets.
   (b) All exterior door tops shall have flush, full width, 16 gauge, bonderized, zinc coated steel filler channel. Seams shall be welded and ground smooth. Fill and sand depressions to assure watertight.
3. Door Bottoms:
   (a) Reinforce door bottoms with full width 16 gauge bonderized zinc coated steel channels, spot welded to face sheets.
   (b) Provide three (3) 1/8-inch diameter weep holes in bottom channel of exterior doors.

E. Stiffeners: Provide 22 gauge "Z" or high hat shaped vertical members spaced not more than 6 inches o.c. with welds 5-inch o.c. maximum.

F. Core Fill: Mineral wool batt fiberglass blanket insulation. Pack insulation tight in all door panel cavities.

1. Exterior doors shall be thermal rated doors. Provide doors fabricated with thermal-resistance value (R-value) of not less than R-1.7 where tested according to ASTM 1363.

G. Hardware Reinforcements:

1. Mortise and reinforce as indicated on the Drawings, in this Section and as follows:
   (a) Drill/tap for mortised hardware according to accepted finish hardware schedule and templates furnished by hardware supplier.
   (b) Drilling and tapping for surface applied hardware shall be done in the field.
   (c) Locate finish hardware according to "Recommended Locations for Builder's Hardware," published by National Builders Hardware Association or as otherwise directed by A/E.
   (d) All door closures shall be through bolted with sex bolts.
2. Butt (Hinge) reinforcing: Steel plate 7 gauge thick by 1 ½ inch wide by 10 inches long. Offset and secured by not less than six spot welds.

H. Light Opening in Doors:

1. Provide light openings of sizes indicated.
2. At light opening cut outs, provide 16 gauge zinc coated steel channel closures welded into opening perimeter installed at factory.
3. At light opening cut outs, provide 18-gauge bonderized zinc coated steel channel type stops tightly fitted to opening, with square and true butt joints.

(a) Drill and dimple countersink stops for fastenings. Provide zinc plated No. 6 oval head screws into opening frames at not over 12 inches o.c.

(b) Exterior doors: Caulk perimeter of glass stops and glass and between metal pieces with exterior grade sealant prior to finish painting.

4. At exterior doors caulk perimeter seam between closure channel and door face sheet with exterior grade sealant prior to finish painting.

5. All light openings shall be cut, reinforced and stops applied in the shop. No field cutting of the doors.

I. Louvers: Louvers shall be 18 gauge, galvanized, inverted Y blades with mitered weld corners and counter sunk mounting holes with fasteners. Finish shall be manufactures standard prime paint or baked on enamel.

1. Include security grille over louver on both exterior and interior faces of louver.

2.4 FINISHING AND SHOP PAINT

A. After Fabrication: Grind exposed weld marks smooth and flush, clean and degrease surfaces, apply metallic filler, sand smooth, and apply shop coat of manufacturer's standard zinc-rich rust-inhibitive metal primer baked on.

B. Prime Coat: Thoroughly cover all surfaces to provide uniform dry film thickness of not less than 1.0 mil without runs, smears, or bare spots. Do not paint over fire rating labels.

PART 3 - EXECUTION

3.1 INSPECTION

A. Do not proceed with the work of this section until conditions detrimental to the proper and timely completion of the work have been corrected in an acceptable manner.

3.2 INSTALLATION

A. Frames:

1. Install plumb, level, and true to line, secured in openings.

2. Install frames according to accepted shop drawings, manufacturer's printed instructions.

3. Back paint all surfaces of interior and exterior frames with bitumastic paint. Provide complete coverage with 3-mil minimum paint thickness.

4. Grout fill door frames at metal stud walls and completely grout fill-in-place all other door frames (jambs and head).

5. Grout shall be a mortar mix complying with ASTM C270-91a, Type S – 1800-psi minimum.

6. Install fire-rated frames according to NFPA 80.

7. Fill surface depressions of hollow metal frames with metallic paste filler and grind smooth to finish.

8. Finish paint frames prior to hardware installation. Do not paint over fire rating labels.

B. Doors:

1. Install in openings plumb, level, and true to line.

2. Apply hardware and adjust to achieve smooth and quiet operation.

3. Install insect/rat screens on interior of exterior door louvers. At exterior doors, caulk perimeter seam between closure channel and doorframe sheet with paint grade exterior sealant, prior to finish paint.

4. Place fire-rated doors with clearances as specified in NFPA Standard No. 80.

5. Finish paint doors prior to hardware installation. Do not paint over fire rating labels.

3.3 ADJUST AND CLEAN

A. Prime Coat Touch-Up: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touch-up of compatible air-drying primer.

B. Protection Removal: Immediately before final inspection, remove protective plastic wrappings from prefinished doors.

C. Final Adjustments: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition. Provide final adjustment as follows:

1. Door Contact With Silencers: Doors shall strike a minimum of two silencers without binding lock or latch bolts in the strike plate.

2. Head, Strike, and Hinge Jamb Margin: 1/8 inch.

3. Meeting Edge Clearance, Pairs of Doors: 1/8” inch.

4. Bolts and Screws: Leave tight and firmly seated.

5. Soundseal gasketing: Full contact with no gaps.

6. Vermin Protection:

(a) Drop Seal: Full contact with no gaps.
(b) Brush weatherstripping: Full contact.

END OF SECTION 08110

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SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Solid-core doors with wood-veneer faces.
2. Factory finishing flush wood doors.
3. Factory fitting flush wood doors to frames and factory machining for hardware.

B. Related Requirements:

1. Section 061000 “Rough Carpentry”.
2. Section 088000 "Glazing" for glass view panels in flush wood doors.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of door. Include details of core and edge construction and trim for openings. Include factory-finishing specifications.

B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each kind of door; construction details not covered in Product Data; and the following:

1. Dimensions and locations of blocking.
2. Dimensions and locations of mortises and holes for hardware.
3. Dimensions and locations of cutouts.
4. Undercuts.
5. Requirements for veneer matching.
6. Doors to be factory finished and finish requirements.
7. Fire-protection ratings for fire-rated doors.

C. Samples for Initial Selection: For factory-finished doors.

D. Samples for Verification:

1. Factory finishes applied to actual door face materials, approximately 8 by 10 inches (200 by 250 mm), for each material and finish. For each wood species and transparent finish, provide set of three Samples showing typical range of color and grain to be expected in finished Work.
2. Corner sections of doors, approximately 8 by 10 inches (200 by 250 mm), with door faces and edges representing actual materials to be used.

    a. Provide Samples for each species of veneer and solid lumber required.
    b. Provide Samples for each color, texture, and pattern of plastic laminate required.
    c. Finish veneer-faced door Samples with same materials proposed for factory-finished doors.
3. Frames for light openings, 6 inches (150 mm) long, for each material, type, and finish required.

1.5 INFORMATIONAL SUBMITTALS

A. Sample Warranty: For special warranty.

B. Quality Standard Compliance Certificates: WI Certified Compliance Program certificates.

1.6 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer that is certified for chain of custody by an FSC-accredited certification body.

B. Forest Certification: Provide doors made with cores and/or veneers not less than 70 percent of wood products obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship."

1.7 DELIVERY, STORAGE, AND HANDLING

A. Comply with requirements of referenced standard and manufacturer's written instructions.

B. Package doors individually in plastic bags or cardboard cartons. Mark each door on bottom rail with opening number used on Shop Drawings.

1.8 FIELD CONDITIONS

A. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during remainder of construction period.

B. Environmental Limitations: Do not deliver or install doors until spaces are enclosed and weathertight, wet work in spaces is complete and dry, and HVAC system is operating and maintaining temperature between 60 and 90 deg F (16 and 32 deg C) and relative humidity between 43 and 70 percent during remainder of construction period.

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1.9 WARRANTY

A. A. Special Warranty: Manufacturer agrees to repair or replace doors that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Warping (bow, cup, or twist) more than 1/4 inch (6.4 mm) in a 42-by-84-inch (1067-by-2134-mm) section.
b. Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch (0.25 mm in a 76.2-mm) span.

2. Warranty shall also include installation and finishing that may be required due to repair or replacement of defective doors.
3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis of Design: Algoma Hardwoods, Inc.
1. Other acceptable manufacturers:
a. Marshfield Door Systems
b. Eggers Industries
c. VT Industries, Inc.

B. Source Limitations: Obtain flush wood doors from single manufacturer.

2.2 FLUSH WOOD DOORS, GENERAL

A. Quality Standard: In addition to requirements specified, comply with WDMA I.S.1-A, "Architectural Wood Flush Doors."

1. Provide WI Certified Compliance Labels indicating that doors comply with requirements of grades specified.
2. Contract Documents contain selections chosen from options in quality standard and additional requirements beyond those of quality standard. Comply with those selections and requirements in addition to quality standard.

B. WDMA I.S.1-A Performance Grade: Heavy Duty WDMA I.S.1-A Performance Grade:

1. Heavy Duty unless otherwise indicated.

C. Fire-Rated Wood Doors: Doors complying with NFPA 80 that are listed and labeled by a qualified testing agency, for fire-protection ratings indicated, based on testing at positive pressure according to NFPA 252 or UL 10C.

1. Oversize Fire-Rated Door Assemblies: For units exceeding sizes of tested assemblies, provide certification by a qualified testing agency that doors comply with standard construction requirements for tested and labeled fire-rated door assemblies except for size.
2. Temperature-Rise Limit: At vertical exit enclosures and exit passageways, provide doors that have a maximum transmitted temperature end point of not more than 450 deg F (250 deg C) above ambient after 30 minutes of standard fire-test exposure.
3. Cores: Provide core specified or mineral core as needed to provide fire-protection rating indicated.
4. Edge Construction: Provide edge construction with intumescent seals concealed by outer stile. Comply with specified requirements for exposed edges.
5. Pairs: Provide formed-steel edges and astragals with intumescent seals.

    a. Finish steel edges and astragals with baked enamel same color as doors.

D. Smoke- and Draft-Control Door Assemblies: Listed and labeled for smoke and draft control, based on testing according to UL 1784.

E. Particleboard-Core Doors:

1. Particleboard: ANSI A208.1, Grade LD-2.
2. Blocking: Provide wood blocking in particleboard-core doors as follows:

    a. 5-inch (125-mm) top-rail blocking, in doors indicated to have closers.
    b. 5-inch (125-mm) bottom-rail blocking, in exterior doors and doors indicated to have kick, mop, or armor plates.
    c. 5-inch (125-mm) midrail blocking, in doors indicated to have exit devices.

F. Mineral-Core Doors:

1. Core: Noncombustible mineral product complying with requirements of referenced quality standard and testing and inspecting agency for fire-protection rating indicated.
2. Blocking: Provide composite blocking with improved screw-holding capability approved for use in doors of fire-protection ratings indicated as follows:

    a. 5-inch (125-mm) top-rail blocking.
    b. 5-inch (125-mm) bottom-rail blocking, in doors indicated to have protection plates.
    c. 5-inch (125-mm) midrail blocking, in doors indicated to have armor plates.
    d. 4-1/2-by-10-inch (114-by-250-mm) lock blocks, in doors indicated to have exit devices.

3. Edge Construction: At hinge stiles, provide laminated-edge construction with improved screw-holding capability and split resistance. Comply with specified requirements for exposed edges.

    a. Screw-Holding Capability: 550 lbf (2440 N) per WDMA T.M.-10.

2.3 VENEER-FACED DOORS FOR TRANSPARENT FINISH

A. Interior Solid-Core Doors:

1. Grade: Custom (Grade A faces).
2. Species: Red oak.
3. Cut: Plain sliced (flat sliced).
4. Match between Veneer Leaves: Book match.
5. Assembly of Veneer Leaves on Door Faces: Center-balance match.
6. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
7. Room Match: Provide door faces of compatible color and grain within each separate room or area of building.
8. Blueprint Match: Where indicated, provide doors with faces produced from same flitches as adjacent wood paneling and arranged to provide blueprint match with wood paneling. Comply with requirements in Section 064216 "Flush Wood Paneling."
9. Exposed Vertical Edges: Applied wood-veneer edges of same species as faces and covering edges of faces - edge Type B.
10. Core: Particleboard.
11. Construction: Five plies. Stiles and rails are bonded to core, then entire unit is abrasive planed before veneering.
12. WDMA I.S.1-A Performance Grade: Heavy Duty.

2.4 LIGHT FRAMES

A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.

1. Wood Species: Same species as door faces.
2. Profile: Flush rectangular beads.
3. At wood-core doors with 20-minute fire-protection ratings, provide wood beads and metal glazing clips approved for such use.

B. Wood-Veneered Beads for Light Openings in Fire-Rated Doors: Manufacturer's standard wood-veneered noncombustible beads matching veneer species of door faces and approved for use in doors of fire-protection rating indicated. Include concealed metal glazing clips where required for opening size and fire-protection rating indicated.

2.5 FABRICATION

A. Factory fit doors to suit frame-opening sizes indicated. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.

1. Comply with NFPA 80 requirements for fire-rated doors.

B. Factory machine doors for hardware that is not surface applied. Locate hardware to comply with DHI-WDHS-3. Comply with final hardware schedules, door frame Shop Drawings, BHMA-156.115-W, and hardware templates.

1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.

2. Metal Astragals: Factory machine astragals and formed-steel edges for hardware for pairs of fire-rated doors.

C. Openings: Factory cut and trim openings through doors.

1. Light Openings: Trim openings with moldings of material and profile indicated.
2. Glazing: Factory install glazing in doors indicated to be factory finished. Comply with applicable requirements in Section 088000 "Glazing."

2.6 SHOP PRIMING

A. Doors for Transparent Finish: Shop prime faces and all four edges with stain (if required), other required pretreatments, and first coat of finish as specified in Section 099300 "Staining and Transparent Finishing." Seal edges of cutouts and mortises with first coat of finish.

2.7 FACTORY FINISHING

A. General: Comply with referenced quality standard for factory finishing. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.

1. Finish faces, all four edges, edges of cutouts, and mortises. Top and bottom edges shall be sealed.

B. Factory finish doors.

C. Transparent Finish:

1. Grade: Premium.
2. Finish: Algoma's Univar finish comparable to AWI System TR-6 catalyzed polyurethane.
3. Staining: Architect to select from manufacturer's full range of colors.
4. Effect: Filled finish.
5. Sheen: Satin.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and installed door frames, with Installer present, before hanging doors.

1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
2. Reject doors with defects.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Hardware: For installation, see Section 087100 "Door Hardware."

B. Installation Instructions: Install doors to comply with manufacturer's written instructions and referenced quality standard, and as indicated.

1. Install fire-rated doors according to NFPA 80.
2. Install smoke- and draft-control doors according to NFPA 105.

C. Job-Fitted Doors: Align and fit doors in frames with uniform clearances and bevels as indicated below; do not trim stiles and rails in excess of limits set by manufacturer or permitted for fire-rated doors. Machine doors for hardware. Seal edges of doors, edges of cutouts, and mortises after fitting and machining.

1. Clearances: Provide 1/8 inch (3.2 mm) at heads, jambs, and between pairs of doors. Provide 1/8 inch (3.2 mm) from bottom of door to top of decorative floor finish or covering unless otherwise indicated. Where threshold is shown or scheduled, provide1/4 inch (6.4 mm) from bottom of door to top of threshold unless otherwise indicated.

a. Comply with NFPA 80 for fire-rated doors.
b. Bevel non-fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock and hinge edges.

2. Bevel fire-rated doors 1/8 inch in 2 inches (3-1/2 degrees) at lock edge; trim stiles and rails only to extent permitted by labeling agency.

D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.

3.3 ADJUSTING

A. Operation: Rehang or replace doors that do not swing or operate freely.

B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

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SECTION 084113 - ALUMINUM-FRAMED STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Exterior and Interior Storefront Framing.
2. Exterior manual swing entrance doors and door frame units.

1.2 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at project site.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.

1. Include details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
2. Include full-size isometric details of each vertical-to-horizontal intersection of aluminum-framed entrances and storefronts, showing the following:

    a. Joinery, including concealed welds.
    b. Anchorage.
    c. Expansion provisions.
    d. Glazing.
    e. Flashing and drainage.

3. Show connection to and continuity with adjacent thermal, weather, air, and vapor barriers.

C. Samples: For each exposed finish required.

D. Delegated-Design Submittal: For aluminum-framed entrances and storefronts indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Energy Performance Certificates: NFRC-certified energy performance values from manufacturer.

B. Product test reports.

C. Field quality-control reports.

D. Sample warranties.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. Testing Agency Qualifications: Qualified according to ASTM E 699 for testing indicated and accredited by IAS or ILAC Mutual Recognition Arrangement as complying with ISO/IEC 17025.

C. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.

1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.7 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Structural failures including, but not limited to, excessive deflection.
b. Noise or vibration created by wind and thermal and structural movements.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
d. Water penetration through fixed glazing and framing areas.
e. Failure of operating components.

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2. Warranty Period: 10 years from date of Substantial Completion.

B. Special Finish Warranty: Standard form in which manufacturer agrees to repair finishes or replace aluminum that shows evidence of deterioration of factory-applied finishes within specified warranty period.

1. Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Hunter units when tested according to ASTM D 2244.
b. Chalking in excess of a No. 8 rating when tested according to ASTM D 4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design aluminum-framed entrances and storefronts.

B. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrances and storefronts representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.

1. Aluminum-framed entrances and storefronts shall withstand movements of supporting structure including, but not limited to, story drift, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
2. Failure also includes the following:

a. Thermal stresses transferring to building structure.
b. Glass breakage.
c. Noise or vibration created by wind and thermal and structural movements.
d. Loosening or weakening of fasteners, attachments, and other components.
e. Failure of operating units.

C. Structural Loads:

1. Wind Loads: As indicated on Drawings.

D. Deflection of Framing Members: At design wind pressure, as follows:

1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane not exceeding 1/175 of the glass edge length for each individual glazing lite or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19.1 mm), whichever is less.
2. Deflection Parallel to Glazing Plane: Limited to 1/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.

E. Structural: Test according to ASTM E 330 as follows:

1. When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
2. When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity, but not less than 10 seconds.

F. Air Infiltration: Test according to ASTM E 283 for infiltration as follows:

1. Fixed Framing and Glass Area:

   a. Maximum air leakage of 0.06 cfm/sq. ft. (0.30 L/s per sq. m) at a static-air-pressure differential of 6.24 lbf/sq. ft. (300 Pa).

G. Water Penetration under Static Pressure: Test according to ASTM E 331 as follows:

1. No evidence of water penetration through fixed glazing and framing areas when tested according to a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 12 lbf/sq. ft. (575 Pa).

H. Windborne-Debris Impact Resistance: Pass missile-impact and cyclic-pressure tests when tested according to ASTM E 1886 and testing information in ASTM E 1996 in accordance with 2010 Florida Building Code; and complying with loads indicated on drawings.

1. Large-Missile Impact Test: For all glazed openings installed on the project – project requirement for LEVEL “D” impact rating.

I. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes:

1. Temperature Change: 180 deg F (100 deg C), material surfaces.

J. Structural-Sealant Joints:

1. Designed to carry gravity loads of glazing.
2. Designed to produce tensile or shear stress of less than 20 psi (138 kPa)

K. Structural Sealant: Capable of withstanding tensile and shear stresses imposed by structural-sealant-glazed curtain walls without failing adhesively or cohesively. When tested for preconstruction adhesion and compatibility, cohesive failure of sealant shall occur before adhesive failure.

1. Adhesive failure occurs when sealant pulls away from substrate cleanly, leaving no sealant material behind.
2. Cohesive failure occurs when sealant breaks or tears within itself but does not separate from each substrate because sealant-to-substrate bond strength exceeds sealant’s internal strength.

2.2 MANUFACTURERS

A. Exterior Storefront and Windows Basis-of-Design Product: Subject to compliance with requirements, provide YKK AP America, Inc. Series YHS 50FS impact rated missile level "D" storefront system, large missile impact or approved equal product.

B. Exterior Storefront Doors: YKK AP America, Inc., Series 35H Medium Stile Outswing Wet Glazed Aluminum Large Missile Impact Rated Storefront Door or approved equal product.

2.3 FRAMING

A. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.

1. Construction: Nonthermal.
2. Glazing System: Retained mechanically with gaskets on four sides.
3. Glazing Plane: Front.
4. Finish: High-performance organic finish.
5. Fabrication Method: Field-fabricated stick system.

B. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.

C. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with non-staining, nonferrous shims for aligning system components.

D. Materials:

1. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.

a. Sheet and Plate: ASTM B 209 (ASTM B 209M).
b. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
c. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
d. Structural Profiles: ASTM B 308/B 308M.

2. Steel Reinforcement: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods according to recommendations in SSPC-SP COM, and prepare surfaces according to applicable SSPC standard.

a. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
b. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
c. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

E. Framing System Gaskets and Sealants: Manufacturer's standard, recommended by manufacturer for joint type.

1. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

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2.4 ENTRANCE DOOR SYSTEMS

A. Exterior Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing operation.

1. Door Construction: 1-3/4-inch (44.5-mm) overall thickness, with minimum 0.125-inch-(3.2-mm-) thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.

2. Door Design: Medium stile; 3-1/2-inch (88.9-mm) nominal width and 6-1/2-inch (165.1-mm) bottom rails.

3. Glazing Stops and Gaskets: Square, snap-on, extruded-aluminum stops and preformed gaskets.

a. Provide non-removable glazing stops on outside of door.

2.5 ENTRANCE DOOR HARDWARE

A. Entrance Door Hardware: Hardware not specified in this Section is specified in Section 087100 "Door Hardware."

B. General: Provide entrance door hardware and entrance door hardware sets indicated in "Entrance Door Hardware Sets" Article for each entrance door to comply with requirements in this Section.

1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products equivalent in function and comparable in quality to named products.
2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.
3. Opening-Force Requirements:

a. Egress Doors: Not more than 15 lbf (67 N) to release the latch and not more than 30 lbf (133 N)to set the door in motion and not more than 15 lbf (67 N) to open the door to its minimum required width.

C. Designations: Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of entrance door hardware are indicated in "Entrance Door Hardware Sets" Article. Products are identified by using entrance door hardware designations as follows:

1. Named Manufacturers' Products: Manufacturer and product designation are listed for each door hardware type required for the purpose of establishing minimum requirements. Manufacturers' names are abbreviated in "Entrance Door Hardware Sets" Article.
2. References to BHMA Standards: Provide products complying with these standards and requirements for description, quality, and function.

D. Exterior Door Butt Hinges: BHMA A156.1, Grade 1, radius corner.

1. Nonremovable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while entrance door is closed.
2. Exterior Hinges: Stainless steel, with stainless-steel pin.
3. Quantities: as required by product approval documents.

    a. For doors up to 87 inches high, provide three hinges per leaf.
    b. For doors more than 87 and up to 120 inches high, provide four hinges per leaf.

E. Mortise Auxiliary Locks: BHMA A156.5, Grade 1.
1. Provide a keyed lock on interior doors with thumb turn on room side; Door 105 and 106.

F. Pulls:
1. Exterior Doors – YKK standard pull with exit devices.

G. Exterior Door Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
1. Provide a panic exit device at each door leaf of exterior door; both doors are active.
2. Provide electrified panic device when scheduled.

H. Cylinders: As specified in Section 087100 "Door Hardware."

1. Keying: Master key system. Permanently inscribe each key with a visual key control number and include notation "DO NOT DUPLICATE" to be furnished by Owner.

I. Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for aluminum framing.

J. Operating Trim: BHMA A156.6.

K. Exterior Door Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to comply with field conditions and requirements for opening force, 108 degree minimum scoring.

L. Interior Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.

M. Weather Stripping: Manufacturer's standard replaceable components.

1. Compression Type: Made of ASTM D 2000, molded neoprene, or ASTM D 2287, molded PVC.
2. Sliding Type: AAMA 701/702, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.

N. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.

O. Exterior Door Thresholds: BHMA A156.21, raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2 inch (12.7 mm).

2.6 GLAZING

A. Glazing: Comply with Section 088000 "Glazing."
   1. Exterior Glazing shall be LEVEL “D” large missile laminated impact glass.

B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.

C. Glazing Sealants: As recommended by manufacturer.

D. Sealants used inside the weatherproofing system shall have a VOC content of 250 g/L.

E. Glazing Sealants: For structural-sealant-glazed systems, as recommended by manufacturer for joint type, and as follows:
   1. Structural Sealant: ASTM C 1184, single-component neutral-curing silicone formulation that is compatible with system components with which it comes in contact, specifically formulated and tested for use as structural sealant and approved by a structural-sealant manufacturer for use in aluminum-framed systems indicated.
      a. Provide sealants for use inside of the weatherproofing system that have a VOC content of 100 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
      b. Color: As selected by Architect from manufacturer’s full range of colors.
   2. Weatherseal Sealant: ASTM C 920 for Type S, Grade NS, Class 25, Uses NT, G, A, and O; single-component neutral-curing formulation that is compatible with structural sealant and other system components with which it comes on contact; recommended by structural-sealant, weatherseal-sealant, and aluminum-framed-system manufacturers for this use.
      a. Provide sealants for use inside of the weatherproofing system that have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
      b. Color: Matching structural sealant.

2.7 ACCESSORIES

A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
   1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
   2. Reinforce members as required to receive fastener threads.
   3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.

B. Anchors: Three-way adjustable anchors with minimum adjustment that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.

1. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A 123/A 123M or ASTM A 153/A 153M requirements.

C. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.

D. Bituminous Paint: Cold-applied asphalt-mastic paint complying with SSPC-Paint 12 requirements except containing no asbestos, formulated for 30-mil (0.762-mm) thickness per coat.

2.8 FABRICATION

A. Form or extrude aluminum shapes before finishing.

B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

C. Fabricate components that, when assembled, have the following characteristics:

1. Profiles that are sharp, straight, and free of defects or deformations.
2. Accurately fitted joints with ends coped or mitered.
3. Physical and thermal isolation of glazing from framing members.
4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
5. Provisions for field replacement of glazing from exterior or interior.
6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

E. Structural-Sealant-Glazed Framing Members: Include accommodations for using temporary support device to retain glazing in place while structural sealant cures.

F. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.

1. At exterior doors, provide compression weather stripping at fixed stops.

G. Entrance Doors: Reinforce doors as required for installing entrance door hardware.

1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
2. At exterior doors, provide weather sweeps applied to door bottoms.

H. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.

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2.9 ALUMINUM FINISHES

A. High Performance Organic Coating Finish:

1. Type Factory applied two-coat 70% Kynar resin by Arkema or 70% Hylar resin by Solvay Solexis, fluoropolymer based coating system, Polyvinylidene Fluoride (PVF-2), applied in accordance with YKK AP procedures and meeting AAMA 2605 specifications.
2. Colors: Selected by Architect from the following:
   a. Standard coating color charts.
   b. Custom coating color charts.

2.10 SOURCE QUALITY CONTROL

A. Structural Sealant: Perform quality-control procedures complying with ASTM C 1401 recommendations including, but not limited to, assembly material qualification procedures, sealant testing, and assembly fabrication reviews and checks.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, 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. Prepare surfaces that are in contact with structural sealant according to sealant manufacturer's written instructions to ensure compatibility and adhesion. Preparation includes, but is not limited to, cleaning and priming surfaces.

3.3 INSTALLATION

A. General:

1. Comply with manufacturer's written instructions.
2. Do not install damaged components.
3. Fit joints to produce hairline joints free of burrs and distortion.
4. Rigidly secure nonmovement joints.
5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
6. Seal perimeter and other joints watertight unless otherwise indicated.

B. Metal Protection:

1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Set continuous sill members and flashing in full sealant bed as specified in Section 079200 "Joint Sealants" to produce weathertight installation.

D. Install components plumb and true in alignment with established lines and grades.

E. Install operable units level and plumb, securely anchored, and without distortion. Adjust weather-stripping contact and hardware movement to produce proper operation.

F. Install glazing as specified in Section 088000 “Glazing,” at exterior glaze in accordance with product approval documents.

G. Install weatherseal sealant according to Section 079200 "Joint Sealants" and according to sealant manufacturer's written instructions to produce weatherproof joints. Install joint filler behind sealant as recommended by sealant manufacturer.

H. Entrance Doors: Install doors to produce smooth operation and tight fit at contact points.

1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware according to entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

3.4 ERECTION TOLERANCES

A. Erection Tolerances: Install aluminum-framed entrances and storefronts to comply with the following maximum tolerances:

1. Plumb: 1/8 inch in 10 feet (3.2 mm in 3 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
2. Level: 1/8 inch in 20 feet (3.2 mm in 6 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
3. Alignment:

    a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch (12.7 mm) wide, limit offset from true alignment to 1/16 inch (1.6 mm).
    b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch (12.7 to 25.4 mm) wide, limit offset from true alignment to 1/8 inch (3.2 mm).
    c. Where surfaces are separated by reveal or protruding element of 1 inch (25.4 mm) wide or more, limit offset from true alignment to 1/4 inch (6 mm).

4. Location: Limit variation from plane to 1/8 inch in 12 feet (3.2 mm in 3.6 m); 1/2 inch (12.7 mm) over total length.

3.5 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing agency to perform tests and inspections.

B. Field Quality-Control Testing: Perform the following test on representative areas of aluminum-framed entrances, storefronts and curtain walls.

1. Water-Spray Test: Before installation of interior finishes has begun, areas designated by Architect shall be tested according to AAMA 501.2 and shall not evidence water penetration.

   a. Perform a minimum of five tests in areas as directed by Architect.

2. Air Infiltration: ASTM E 783 at 1.5 times the rate specified for laboratory testing in "Performance Requirements" Article but not more than 0.09 cfm/sq. ft. (0.45 L/s per sq. m) at a static-air-pressure differential of 1.57 lbf/sq. ft. (75 Pa).

   a. Perform a minimum of three tests in areas as directed by Architect.

3. Water Penetration: ASTM E 1105 at a minimum uniform and cyclic static-air-pressure differential of 0.67 times the static-air-pressure differential specified for laboratory testing in "Performance Requirements" Article, but not less than 6.24 lbf/sq. ft. (300 Pa), and shall not evidence water penetration.

C. Structural-Sealant Adhesion: Test structural sealant according to recommendations in ASTM C 1401, Destructive Test Method A, "Hand Pull Tab (Destructive)," Appendix X2.

1. Test a minimum of two areas on each building facade.
2. Repair installation areas damaged by testing.

D. Aluminum-framed entrances, storefronts and curtain walls will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports.

3.6 MAINTENANCE SERVICE

A. Entrance Door Hardware:

1. Maintenance Instructions: Furnish complete maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of entrance door hardware.
2. Initial Maintenance Service: Beginning at Substantial Completion, provide twelve months' full maintenance by skilled employees of entrance door hardware Installer. Include quarterly preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper entrance door hardware operation at rated speed and capacity. Use parts and supplies that are the same as those used in the manufacture and installation of original equipment.

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END OF SECTION 084113

Attachment I

SECTION 087100 – Door Hardware

PART I – GENERAL

1.1 SCOPE OF WORK

A. DESIGN REQUIREMENTS FOR DISABLED ACCESS: All doors and associated hardware shall comply with the Florida Building Code, Chapter 11 Accessibility Code for Building Construction (Section 11-4.13).

B. Renovations: On partial renovation projects, all new door hardware (except locksets and cylinders) shall match existing. Locksets and cylinders shall be upgraded to meet these standards. Finishes shall be selected to match existing, where practical.

1.2 QUALITY ASSURANCE

A. Manufacturer

1. Single Manufacturer for each item: obtain all hardware of each type (latch and locksets, lock cylinders, hinges, closers) from one manufacturer of that item type, (e.g., all hinges from one manufacturer, all closers from one manufacturer), although several manufacturers may be indicated as offering products complying with requirements.
2. The hardware manufacturers are to conduct a a post-installation walk-thru. This is to ensure proper installation and provide recommendations on any adjustments or replacements of hardware as required.

B. Supplier: A builder's hardware supplier who has been furnishing architectural hardware for a period of not less than 2 years and has in employment an experienced hardware consultant who is available for consultation.

C. No manufacturing orders shall be placed until a detailed schedule has been submitted to the architect and written approval is received.

D. Door closer installation certificate: The builder shall furnish a certificate executed by a representative of the manufacturer of the door closers have been inspected and adjusted, are operating as designed, and have been installed in accordance with the manufacturer's instructions. Refer to Division 1 section for Operations and
E. Maintenance Manuals and includes certificate with the submittal. Reference appendix A for additional Accessibility requirements.

F. Work Included

1. The work in this section shall include furnishing of all items of finish hardware as

hereinafter specified or obviously necessary to complete the building, except those items that are specifically excluded from this section of the specification.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. Hollow Metal Doors and Frames

B. Aluminum Doors and Frames

C. Wood Doors and Frames

1.4 DESCRIPTION OF WORK

A. Furnish labor and material to complete hardware work indicated, as specified herein, or as may be required by actual conditions at building.

B. Include all necessary screws, bolts, expansion shields, other devices, if necessary, as required for proper hardware application. The hardware supplier shall assume all responsibility for correct quantities.

C. All hardware shall meet the requirements of Federal, State and Local codes having jurisdiction over this project, notwithstanding any real or apparent conflict therewith in these specifications.

D. Fire-Rated Openings:
   1. Provide hardware for fire-rated openings in compliance with A.I.A. (NBFU) Pamphlet No. 80, NFPA Standards NO. 101, UBC 702 (1997) and UL10C. This requirement takes precedence over other requirements for such hardware. Provide only hardware that has been tested and listed by UL for the types and sizes of doors required and complies with the requirements of the door and door frame labels.
   2. Where panic exit devices are required on fire-rated doors, provide supplementary marking on door UL label indicating Fire Door to be equipped with fire exit hardware and provide UL label on exit device indicating "Fire Exit Hardware".

1.5 Fasteners:

A. Hardware as furnished shall conform to published templates generally prepared for machine screw installation.

B. Furnish each item complete with all screws required for installation. Typically, all exposed screws are installed.

C. Insofar as practical, furnished concealed type fasteners for hardware units that have exposed screws shall be furnished with Phillips flat head screws,

finished to match adjacent hardware.

D. Door closers and exit devices to be installed with closed head through bolts (sex bolts).

1.6 DELIVERY, STORAGE, AND HANDLING

A. Wrap, protect finishing hardware items for shipment. Deliver to manufacturing contractor's hardware items required by them for their application; deliver balance of hardware to job; store in designated location. Each item shall be clearly marked with its intended location.

1.7 WARRANTY

A. The material furnished shall be warranted for one year after installation or longer as the individual manufacturer's warranty permits.

B. Overhead door closers shall be warranted in writing by the manufacturer against failure due to defective materials and workmanship for a period of one (1) year commencing on the Date of Final Completion and Acceptance, and in the event of failure, the manufacture is to promptly repair or replace the defective with no additional cost to the Owner.

PART 2 – PRODUCTS

2.1 Acceptable Manufacturers

A. To the greatest extent possible, obtain each kind of hardware from only one manufacturer.

B. All numbers and symbols used herein have been taken from the current catalogues of the following manufacturers.

C. <u>To use manufacturers other than those listed requires prior approval from City of Pembroke Pines via Variance Form.</u>

PRODUCT (Division Resp.)	**ACCEPTABLE MANUFACTURER**	**ACCEPTABLE SUBSTITUTE**	
1) Hinges (8)	Hager	Ives	
2) Locks & Latches (8)		Schlage ND-Series	None
3) Electronic Locks (28)		Schlage AD / NDE	None
4) Cylinders, Keys, Keying (8)	Everest T29	None	
5) Exit Devices (8)	Von Duprin	None	
6) Door Closers (8)	LCN	None	
7) Auto Operators (8)	LCN	None	
8) OH Stops/Holders (8)		Glynn Johnson	None
9) Magnetic Hold Opens (8)		LCN JCI	

10)	Wall Stops/Floor (8)	Ives	Rockwood Stops, Flushbolts
11)	Kick Plates (8)	Ives	Rockwood
12)	Threshold/Weather-strip (8)	Zero	Pemko, Reese, NGP
13)	Silencers (8)	Ives	Rockwood
14)	Power Supply	Schlage PS900 Series	None

(Exit Devices) (8)		
15) EPT's Hinges (8)	Von Duprin	Hager
16) ETW Hinges (8)	Command Access	Hager

D. If material manufactured by other than specified or listed herewith as an equal, is to be bid upon, permission must be requested from the architect seven (7) days prior to bidding. If substitution is allowed, it will be so noted by addendum.

2.2 FINISH OF HARDWARE:

A. Exterior Hinges:

1. Exterior Hinges shall be Stainless Steel (32D), Interior Hinges to be Satin Chrome (26D). Door Closers to be Aluminum. Locks to be Satin Chrome (26D), Exit Devices to be Satin Chrome (26D). Overhead Holders to be Satin Chrome (26D), Flat Goods to be Satin Chrome (26D) or Stainless Steel (32D) and the Thresholds to be Mill Finish Aluminum.

B. HINGES AND PIVOTS:

1. Exterior butts shall be Stainless Steel. Butts on all out swinging doors shall be furnished with non-removable pins (NRP).

2. Interior butts shall be as listed.

3. Doors 5' or less in height shall have two (2) butts. Furnish one (1) additional butt for each 2'6" in height or fraction thereof. Dutch door shall have two (2) butts per leaf.

C. KEYING:

1. All cylinders shall be Schlage Lock Company Everest T29. Factory master keyed into existing key system.

2. Provide Everest T29 for all applications, unless otherwise indicated.

3. Each Campus to be master keyed to existing Schlage keyway.

Campus Standard:

1.C.3.1 Academic Village T29
1.C.3.2 West Campus T29
1.C.3.3 FSU Campus T29
1.C.3.4 Central Campus T29
1.C.3.5 East Campus T29

4. **All keys and cylinders to be shipped directly to the City of Pembroke Pines Locksmith office. Restricted Product Authorization form required for all orders. All orders must include project # and/or name.**

5. Provide Two (2) each change keys per lock and Six (6) each grand master and master keys. Stamp "DO NOT DUPLICATE".

6. All keys are to be provided in Schlage Everest T29, in the proper keyway for all cylinders ordered.

7. Three control keys to be issued for all orders that require interchangeable core cylinders.

8. **Keying meeting with Contract Hardware Distributor and City of Pembroke Pines Locksmith to be held prior to any factory order being placed, in respect to keys and cylinders.**

2.3 LOCKSETS:

A. Locks shall meet these certifications:

1. Cylindrical Locks - ANSI A156.2 Series 4000, Grade 1 Strength and Operational requirements. Meets A117.1 Accessibility Codes. Cylinders are to be removable core type; TD designation, for Everest T29 Restricted final cores. Latch bolts shall be steel with minimum ½" throw, deadlocking on keyed and exterior functions. ¾" throw anti- friction latchbolt on pairs of fire doors. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame. Locksets to be tested to exceed 3,000,000 cycles. Lock case shall be steel. Lock shall incorporate one-piece spring cage and spindle. Provide 5/8" minimum throw of latch and deadbolt used on pairs of doors. Provide Seven Year Warranty.

   a. Locks shall be Schlage ND series, "RHO" design.

2. Mortise Locksets and Latchsets Provide heavy duty mortise locksets and latchsets that comply to ANSI A156.13, Series 1000, Grade 1 Operational. Functions as listed in Hardware Sets. Locksets shall be manufactured from heavy gauge steel, minimum lock case thickness 1/8", containing components of steel with a zinc dichromate plating for corrosion resistance. Locksets are to have a standard 2 3/4" backset with a full 3/4" throw. Deadbolt shall be a full 1" throw, constructed of stainless steel. Lock trim shall be through-bolted to door

to assure correct alignment a proper operation.

a. locks shall be Schlage L9000 series, 06A lever.

3. Comply with UL requirements for throw of bolts and latch bolts on rated fire openings.
4. **All locksets to be delivered to jobsite with temporary construction cores. Permanent cores to be installed by City of Pembroke Pines Locksmith.**

2.4 ELECTRONIC LOCKSETS:

A. Manufacturers and Products: Schlage AD /NDE series. No Substitute.

ALL ELECTRONIC ACCESS CONTROL LOCKSETS AND CARD READERS TO BE SUPPLIED AND INSTALLED BY SECURITY INTEGRATION DIVISION 28.

1. **General Contractor shall subcontract a licensed (State of Florida) Security integration contractor for all Division 28 requirements. Whom shall furnish; install a fully integrated system. Including but not limited to wiring, card lock, termination & programming. For any questions regarding the integration related information & details contact {TBD}.**
2. **Requirements: Electronic locksets shall comply with the following requirements.**
   a. Cylindrical:
      I. Type: Heavy-duty, bored cylindrical, non-handed, field-reversible.
      II. Backset: 2-3/4-inch (70 mm) standard, with 2-3/8-inch (60 mm), 3- 3/4-inch (95 mm) and 5-inch (127 mm) backset optional.
      III. Latch bolt Throw: 1/2-inch (13 mm) with optional 3/4-inch (19 mm) throw available.
      IV. Chassis: Shall accommodate standard 161 cylindrical lock prep for 1-3/4- inch (44 mm) doors standard, or 1-3/8-inch (35 mm) to 2-3/4-inch (70 mm) thick doors in 1/8-inch (3 mm) increments.
3. Exit Device Trim
   a. Type: Exit device trim, non-handed, field-reversible.
   b. Exit Device Configurations: Exit device lever trim to retract latch bolt for the following exit device applications:
      I. Rim
      II. Surface vertical rod
      III. Mortise
      IV. Concealed vertical rod/cable.
4. Exit Device Compatibility: Provide exit device trim with universal mounting plate enabling operation as follows:
   a. All Von Duprin 98/99 Series exit device configurations.
5. Applicable Standards:

a. Listed, UL 294 - The Standard of Safety for Access Control System Units.
b. Compliant with ANSI Standard A156.25 and A156.2 Series 4000, Grade 1 strength and operational requirements.
c. Compliant with ANSI/BHMA A156.25 Grade 1 Operation and Security Requirement.
d. Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
e. Compliant with ASTM E330 for door assemblies.
f. Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada IC.

6. Lockset Functions: Provide locks with following functions, as scheduled, that are field configurable without taking the lock off the door:
   a. Classroom 70.
   b. Storeroom 80.
   c. Office 50.
   d. Privacy 40.

7. Emergency Override: Provide mechanical key override for Schlage T29 cylinder; cylinders: Refer to "KEYING" article, herein.

8. Levers:
   a. Vandal Resistance: Exterior (secure side) lever designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
   b. Lever trim to be non-handed, and to operate independently of non-locking levers for extended life cycles.
   c. Style: Rhodes
   d. Tactile Warning (Knurling): Where required by authority having jurisdiction. Provide levers on exterior (secure side) of doors serving rooms considered to be hazardous.

9. Power Supply:

   a. Wireless:
      1) Lockset powered by four AA batteries or a 12VDC or 24VDC power supply with an option for eight AA batteries.
      2) Lockset shall have the ability to communicate battery status.

   b. Wired:
      1) Lockset powered by a 12VDC or 24VDC power supply

10. Features: Locksets shall incorporate the following features.

    a. Visual tri-colored LED indicators that indicate activation, additional PIN code credential required, operational systems status, system error conditions and low power conditions.
    b. Visual bi-colored LED indicator on interior that is capable of indicating

secured/unsecured status of device to occupants on interior.
c. Audible feedback that can be enabled or disabled.
d. Onboard processor with memory capacity of 5,000 users, 5,000 event audit history, up to 16-time zones and up to 32 calendar events for offline applications.
e. Tamper-Resistant Screws: Tamper torx screws on inside escutcheon for increased security.

11. Adaptability:
a. Networking Capabilities: Network adaptable without removing device from door. Lockset to have the ability to be upgraded in the field from a standalone battery powered configuration to a wireless networked configuration without being removed from the door.
b. Field changeable Reader Modules: Lockset to have the ability to change credential reader technologies without being removed from door.

12. Switches: Provide locksets with the following switches, standard:

a. Door Position Switch
b. Interior Cover Tamper Guard
c. Mechanical Key Override
d. Request to Exit
e. Request to Enter
f. Lock/Unlock Status (Clutch Position).

13. Credential Reader: Provide magnetic stripe or multi-technology credential reader modules with keypad as indicated in door hardware sets. Multi-tech contactless reader shall be NFC-Compatible and read access control data from both 125 kHz and 13.56 MHz contactless smart cards.
14. Operation:

a. Wireless Transmission:
    I. Modulation: 900 MHz spread spectrum, direct sequence, 10 channels. 2) Encryption: AES-128-bit Key minimum.

b. Wired Transmission 1) RS485

c. Provide electronic lock with the following interface capabilities:
    I. Wireless
        a) Wiegand or Clock & Data via PIM400-TD2 (Panel Interface Module).
        b) RS485 via PIM400-485.
    II. Wired
        a) Wiegand or Clock & Data via PIB300 (Panel Interface Board).
        b) Directly via RS485.

d. Lockset to have real-time bidirectional communication between access

control system and lock.

e. Credential Verification Time: less than 1 second.

f. When Utilized with Partner Integrated Access Control Network Software with Remote Commanding Capability: Lockset shall have ability to be remotely locked down or unlocked within 10 seconds or less, without user interface at the device.

g. Upon Loss of Power to Lockset: Lockset shall have ability to manage access control offline in one of three methods below that can be configured in the field at lockset by handheld programming device and remotely by Partner integrated software:

I. Fail locked (secured)
II. Fail unlocked (unsecured)
III. Fail As-Is

h. Upon Loss of Communication Between Lockset and Network: Lockset shall have ability to manage access control offline in one of four methods below that can be configured in the field at lockset by handheld programming device and remotely by Partner integrated software:

I. Fail locked (secured)
II. Fail unlocked (unsecured)
III. Fail As-Is
IV. Fail to Degraded/cache mode utilizing cache memory with following selectable options:
   a) Grant access up to the last 1,000 unique previously accepted Users
   b) Grant access up to the last 1,000 unique previously accepted facility/site codes
   c) Remove from cache previously stored User IDs or facility/site codes that have not been presented to lock within the last 5 days.

i. Lockset shall have the ability to be configured at door by handheld programming device and remotely by Partner integrated software the length of time device is unlocked upon access grant.

j. Lockset shall have the ability to communicate identifying information such as firmware versions, hardware versions, serial numbers, and manufacturing dates by handheld programming device and remotely by partner integrated software.

2.5 EXIT DEVICES:

A. All devices shall be Von Duprin 98/99 Series in types and functions specified. All devices must be listed under "Panic Hardware" in the accident equipment list of Underwriters Laboratories. All labeled doors with "Fire Exit Hardware" must have

labels attached and be in strict accordance with Underwriters Laboratories.

B. All exit devices shall be tested to ANSI/BHMA A156.3 test requirements by a BHMA certified testing laboratory. A written certification showing successful completion of a minimum of 1,000,000 cycles must be provided.

C. All surface strikes shall be roller type and come complete with a plate underneath to prevent movement. And shall be provided with a dead-latching feature to prevent latchbolt tampering.

D. Power for Von Duprin "QEL" devices will be provided by Division 28. Power transfer; EPT-10 or ETW Hinge, to be supplied by Division 8.

1. Acceptable substitutions: None

2.6 DOOR CLOSERS:

A. All closers shall be LCN 4040XP Series having non-ferrous covers, forged steel arms separate valves for adjusting backcheck, closing and latching cycles and adjustable spring to provide up to 50% increase in spring power. Closers shall be furnished with parallel arm mounted on all doors opening into corridors or other public spaces and shall be mounted to permit 180 degrees door swing wherever wall conditions permit. Furnish with non-hold open arms unless otherwise indicated.

B. Door closer cylinders shall be of high strength cast iron construction to provide low wear operating capabilities of internal parts throughout the life of the installation. All door closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified testing laboratory. A written certification showing successful completion of a minimum of 10,000,000 cycles must be provided.

C. Door closers shall utilize temperature stable fluid capable of withstanding temperature ranges of 120 degrees Fahrenheit to -30 degrees Fahrenheit, without requiring seasonal adjustment of closer speed to properly close the door. Closers for fire-rated doors shall be provided with temperature stabilizing fluid that complies with the standards UBC 7-2 (1997) and UL 10C.

D. Door closers shall incorporate tamper resistant non-critical screw valves of V-slot design to reduce possible clogging from particles within the closer. Closers shall have separate and independent screw valve adjustments for latch speed, general speed, and hydraulic backcheck. Backcheck shall be properly located so as to effectively slow the swing of the door at a minimum of 10 degrees in advance of the dead stop location to protect the door frame and hardware from damage.

E. Low energy operators to be LCN 9550/9540 series at exterior doors. 4630/4640

series acceptable at interior locations where door opening will be mainly mechanical.

2.7 TRIM AND PLATES:

A. Kick plates, mop plates, and armor plates, shall be .050 gauge with 32D finish. Kick plates to be 8" high, mop plates to be 4" high. All plates shall be two (2) inches less full width of door.

B. Push plates, pull plates, door pulls, and miscellaneous door trim shall be shown in the hardware schedule.

2.8 DOOR STOPS:

A. Doorstops shall be furnished for all doors to prevent damage to doors or hardware from striking adjacent walls or fixtures. Wall bumpers equal to Ives WS407 Series are preferred, but where not practical furnish floor stops equal to FS436 or FS438 series. Drywall MUST be reinforced if receiving wall mounted stops.

2.9 THRESHOLDS AND WEATHERSTRIP:

A. Thresholds and weather-strip shall be as listed in the hardware schedule.

2.10 DOOR SILENCERS:

A. Furnish rubber door silencers equal to Ives SR64 for all new interior hollow metal frames, (2) per pair and (3) per single door frame.

PART 3 - EXECUTION

3.1 INSTALLATION:

A. All hardware shall be applied and installed in accordance with the Finish Hardware schedule. Care shall be exercised not to mar or damage adjacent work.

B. Contractor to provide a secure lock-up for hardware delivered to the project but not yet installed. Control the handling and installation of hardware items that are not immediately replaceable, so that the completion of the work will not be delayed by hardware losses both before and after installation.

C. No hardware is to be installed until the hardware manufacturers have provided a pre- installation class. This is to ensure proper installation of the specified products.

3.2 ADJUSTING AND CLEANING:

A. Contractor shall adjust all hardware in strict compliance with manufacturer's instructions. Prior to turning project over to owner, contractor shall clean and make any final adjustments to the finish hardware.

3.3 PROTECTION:

A. Contractor shall protect the hardware, as it is stored on construction site in a covered and dry place.
B. Contractor shall protect exposed hardware installed on doors during the construction phase.

3.4 KEY CABINET:

A. Set up and index one (1) Key Cabinet that allows room for expansion for 150% of the number of keys for the project.

3.5 HARDWARE SCHEDULE:

A. The following schedule is furnished for whatever assistance it may afford the contractor; do not consider it as entirely inclusive. Should any particular door or item be omitted in any scheduled hardware group, provide door or item with hardware same as required for similar purposes. Quantities listed are for each pair of doors or for each single door.

Hardware Group No. 01
For use on Door #(s): 100A, 100B
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
2	EA	MORTISE CYLINDER	20-061 ICX 36-083	626	SCH
2	EA	FSIC CORE	23-030	626	SCH

BALANCE OF HARDWARE BY ALUMINUM DOOR SUPPLIER

Attachment I

Hardware Group No. 02
For use on Door #(s): 158 – Card Reader
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
8	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	PANIC HARDWARE	HH-9947-EO-304L-SNB	626	VON
1	EA	ELEC PANIC HARDWARE	QEL-9947-L-06-CON 24 VDC	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	SET	DOOR SWEEP	139A-S	A	ZER
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	MEETING STILE	328AA	AA	ZER
1	EA	THRESHOLD	566A-223	A	ZER
2	EA	WIRE HARNESS	CON-LENGTH TO SUIT		SCH
1	EA	MULTITECH READER	MT15 12 VDC	BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

WHEN VALID CREDENTIAL IS PRESENTED THIS ALLOWS FOR VALID ENTRY. FREE EGRESS ALWAYS AVAILABLE.

Hardware Group No. 03
For use on Door #(s): 157
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	PANIC HARDWARE	HH-9947-EO-304L-SNB	626	VON
1	EA	PANIC HARDWARE	HH-9947-L-06-304L-SNB	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	SET	DOOR SWEEP	139A-S	A	ZER
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	THRESHOLD	566A-223	A	ZER

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Hardware Group No. 04
For use on Door #(s): 125, 126D, 132A, 156, 159 – Card Reader
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	ELEC PANIC HARDWARE	QEL-HH-99-L-06-299F-CON-SNB 24 VDC	626	VON
1	EA	RIM CYLINDER	20-057 ICX	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	DOOR SWEEP	139A-S	A	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	THRESHOLD	566A-223	A	ZER
1	EA	WIRE HARNESS	CON-LENGTH TO SUIT		SCH
1	EA	MULTITECH READER	MT15 12 VDC	BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

WHEN VALID CREDENTIAL IS PRESENTED THIS ALLOWS FOR VALID ENTRY. FREE EGRESS ALWAYS AVAILABLE.

Hardware Group No. 05
For use on Door #(s): 160 – Card Reader
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU MORTISE LOCK	L9492JEU 06A 09-544 DM CON 12/24 VDC	626	SCH
1	EA	MORTISE CYLINDER	20-061 ICX 36-083	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	LOCK GUARD	LG12	630	IVE
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	DOOR SWEEP	139A-S	A	ZER
1	EA	RAIN DRIP	142AA	AA	ZER
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	THRESHOLD	566A-223	A	ZER
1	EA	WIRE HARNESS	CON-LENGTH TO SUIT		SCH
1	EA	MULTITECH READER	MT15 12 VDC	BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

WHEN VALID CREDENTIAL IS PRESENTED THIS ALLOWS FOR VALID ENTRY. FREE EGRESS ALWAYS AVAILABLE.

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Hardware Group No. 06
For use on Door #(s): 109
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	CLASSROOM LOCK	ND70JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	DOOR SWEEP	139A-S	A	ZER
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	THRESHOLD	566A-223	A	ZER

Hardware Group No. 07
For use on Door #(s): 119
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
4	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	MULT PT CLASSROOM	LM9370J 06A	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	4040XP CUSH	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	SET	DOOR SWEEP	139A-S	A	ZER
1	EA	GASKETING	188FSBK PSA	BK	ZER
1	EA	THRESHOLD	566A-223	A	ZER

Hardware Group No. 08
For use on Door #(s): 108, 132B – Card Reader
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	AUTO FLUSH BOLT	FB41P	630	IVE
1	EA	EU STOREROOM LOCK	ND80JDEU RHO CON 12V/24V DC	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE
2	EA	WIRE HARNESS	CON-LENGTH TO SUIT		SCH
1	EA	MULTITECH READER	MT15 12 VDC	BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

WHEN VALID CREDENTIAL IS PRESENTED THIS ALLOWS FOR VALID ENTRY. FREE EGRESS ALWAYS AVAILABLE.

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Hardware Group No. 09
For use on Door #(s): 107, 134, 140
Provide each PR door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	MANUAL FLUSH BOLT	FB358	626	IVE
1	EA	STOREROOM LOCK	ND80JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
2	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 10
For use on Door #(s): 102A, 102B, 126A, 129A – Card Reader
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU RHO CON 12V/24V DC	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	WIRE HARNESS	CON-LENGTH TO SUIT		SCH
1	EA	MULTITECH READER	MT15 12 VDC	BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

WHEN VALID CREDENTIAL IS PRESENTED THIS ALLOWS FOR VALID ENTRY. FREE EGRESS ALWAYS AVAILABLE.

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Hardware Group No. 11
For use on Door #(s): 106 – Card Reader
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU RHO CON 12V/24V DC	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE
1	EA	VIEWER	U700	626	IVE
1	EA	WIRE HARNESS	CON-LENGTH TO SUIT		SCH
1	EA	MULTITECH READER	MT15 12 VDC	BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

WHEN VALID CREDENTIAL IS PRESENTED THIS ALLOWS FOR VALID ENTRY. FREE EGRESS ALWAYS AVAILABLE.

Hardware Group No. 12
For use on Door #(s): 143 – Card Reader
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	POWER TRANSFER	EPT10 CON	689	VON
1	EA	EU STOREROOM LOCK	ND80JDEU RHO CON 12V/24V DC	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488FSBK PSA	BK	ZER
1	EA	WIRE HARNESS	CON-LENGTH TO SUIT		SCH
1	EA	MULTITECH READER	MT15 12 VDC	BLK	SCE
1	EA	POWER SUPPLY	PS902 120/240 VAC	LGR	SCE

WHEN VALID CREDENTIAL IS PRESENTED THIS ALLOWS FOR VALID ENTRY. FREE EGRESS ALWAYS AVAILABLE.

Hardware Group No. 13
For use on Door #(s): 151
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488FSBK PSA	BK	ZER

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Hardware Group No. 14
For use on Door #(s): 103, 126B, 135, 149
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 15
For use on Door #(s): 111
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488FSBK PSA	BK	ZER

Hardware Group No. 16
For use on Door #(s): 133
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	ND80JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
1	EA	GASKETING	488FSBK PSA	BK	ZER

Hardware Group No. 17
For use on Door #(s): 129B
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	STOREROOM LOCK	ND80JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 CUSH FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

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Hardware Group No. 18
For use on Door #(s): 138
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM LOCK	ND70JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 19
For use on Door #(s): 104, 105, 114, 115, 116, 117, 118, 120, 121, 122, 123, 124, 136, 137, 139, 144, 145, 146, 147, 148, 150, 152
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	ENTRANCE/OFFICE LOCK	ND50JD RHO	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 20
For use on Door #(s): 101, 126C, 130, 131, 141, 153, 155
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PRIVACY LOCK	ND40S RHO	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

Hardware Group No. 21
For use on Door #(s): 113, 142A, 142B, 154
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	PASSAGE SET	ND10S RHO	626	SCH
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

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Hardware Group No. 22
For use on Door #(s): 110, 127, 128
Provide each SGL door(s) with the following:

QTY		DESCRIPTION	CATALOG NUMBER	FINISH	MFR
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM DEADBOLT	B563J	626	SCH
1	EA	FSIC CORE	23-030	626	SCH
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PUSH PLATE	8300 10" 4" X 16"	630	IVE
1	EA	SURFACE CLOSER	1461 REG OR PA AS REQ FC	689	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW B-CS	630	IVE
1	EA	WALL STOP	WS406/407CCV	630	IVE
3	EA	SILENCER	SR64	GRY	IVE

3.6 FINAL ACCEPTANCE TESTING

A. After testing reports, as-built drawings, and required manuals have been submitted for review, the Contractor shall coordinate a date for Final Acceptance Testing.

B. Testing and acceptance of this system will take place in the presence of the Designer or Consultant and the Owner.

C. Acceptance of the system shall require a demonstration of all system components to evaluate their performance and reliability. Prior to this test the system must have been online for a period of sixty (60) days, with an uptime of no less than 99%. Should a major equipment failure occur, the Contractor shall replace the defective component and continue the testing period. Any items discovered during final inspection which require the contractor's attention shall be promptly addressed. These items will then be re- inspected by the Designer or consultant for approval.

D. Upon the completion of acceptable Final Acceptance Testing the Contractor shall submit all finalized project documentation and associated electronic media. Upon approval from the Owner and the Designer or Consultant, the Owner will issue a Letter of Completion to the Contractor indicating the date of such completion. This notice will serve as Client acceptance of this system.

END OF SECTION 087100

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

SECTION 088000 - GLAZING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Glass for windows, doors, interior borrowed lites, storefront framing.
2. Glazing sealants and accessories.

B. Related Requirements:

1. Section 084113 “Aluminum-Framed Storefronts.”

1.3 DEFINITIONS

A. Glass Manufacturers: Firms that produce primary glass, fabricated glass, or both, as defined in referenced glazing publications.

B. Glass Thicknesses: Indicated by thickness designations in millimeters according to ASTM C 1036.

C. IBC: International Building Code.

D. Interspace: Space between lites of an insulating-glass unit.

1.4 COORDINATION

A. Coordinate glazing channel dimensions to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.

1.5 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
2. Review temporary protection requirements for glazing during and after installation.

1.6 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Glass Samples: For each type of glass product specified; 12 inches (300 mm) square.

1. Tinted glass.
2. Clear glass.
3. Laminated Tinted, Wind-Borne Debris – Level “D” Impact Rated glass.
4. Interior Laminated Impact glass.

C. Glazing Accessory Samples: For sealants**,** in 12-inch (300-mm) lengths

D. Glazing Schedule: List glass types and thicknesses for each size opening and location. Use same designations indicated on Drawings.

E. Delegated-Design Submittal: For glass indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.7 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer, glass testing agency and sealant testing agency.

B. Product Certificates: For glass.

C. Product Test Reports: For laminated glass and glazing sealants, for tests performed by a qualified testing agency.

1. For glazing sealants, provide test reports based on testing current sealant formulations within previous 36-month period.

D. Preconstruction adhesion and compatibility test report.

E. Sample Warranties: For special warranties.

1.8 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs glass installers for this Project who are certified under the National Glass Association's Certified Glass Installer Program.

B. Glass Testing Agency Qualifications: A qualified independent testing agency accredited according to the NFRC CAP 1 Certification Agency Program.

C. Sealant Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.

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1.9 DELIVERY, STORAGE, AND HANDLING

A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.

B. Comply with insulating-glass manufacturer's written instructions for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.10 FIELD CONDITIONS

A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.

1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or are below 40 deg F (4.4 deg C).

1.11 WARRANTY

A. Manufacturer's Special Warranty for Coated-Glass Products: Manufacturer agrees to replace coated-glass units that deteriorate within specified warranty period. Deterioration of coated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning coated glass contrary to manufacturer's written instructions. Defects include peeling, cracking, and other indications of deterioration in coating.

1. Warranty Period: 10 years from date of Substantial Completion.

B. Manufacturer's Special Warranty for Laminated Glass: Manufacturer agrees to replace laminated-glass units that deteriorate within specified warranty period. Deterioration of laminated glass is defined as defects developed from normal use that are not attributed to glass breakage or to maintaining and cleaning laminated glass contrary to manufacturer's written instructions. Defects include edge separation, delamination materially obstructing vision through glass, and blemishes exceeding those allowed by referenced laminated-glass standard.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

1. Old Castle Building Envelope.
2. Guardian Industries Corp.
3. Viracon, Inc.
4. Pilkington North America
5. PPG Industries, Inc.
6. ACG Glass Company North America

B. Source Limitations for Glass: Obtain from single source from single manufacturer for each glass type.

1. Obtain tinted glass from single source from single manufacturer.

C. Source Limitations for Glazing Accessories: Obtain from single source from single manufacturer for each product and installation method.

2.2 PERFORMANCE REQUIREMENTS

A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

B. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design glazing.

C. Structural Performance: Glazing shall withstand the following design loads within limits and under conditions indicated determined according to the IBC and ASTM E 1300.

1. Design Wind Pressures: As indicated on Drawings.
2. Maximum Lateral Deflection: For glass supported on all four edges, limit center-of-glass deflection at design wind pressure to not more than 1/50 times the short-side length or 1 inch (25 mm), whichever is less.
3. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.

D. Windborne-Debris-Impact Resistance: Exterior glazing shall comply with enhanced-protection testing requirements in ASTM E 1996 for Wind Zone 4 when tested according to ASTM E 1886. Test specimens shall be no smaller in width and length than glazing indicated for use on Project and shall be installed in same manner as glazing indicated for use on Project. Testing shall be in accordance with the latest edition of the Florida Building Code (FBC).

1. Enhanced LEVEL “D” Large-Missile Test: For all exterior glazing.

E. Safety Glazing: Where safety glazing is indicated, provide glazing that complies with 16 CFR 1201, Category II.

F. Thermal and Optical Performance Properties: Provide glass with performance properties specified, as indicated in manufacturer's published test data, based on procedures indicated below:

1. For monolithic-glass lites, properties are based on units with lites of thickness indicated.
2. For laminated-glass lites, properties are based on products of construction indicated.
3. For insulating glass units, properties are based on units of thickness indicated for overall unit and for each lite.
4. U-Factors: Center-of-glazing values, according to NFRC 100 and based on LBL's WINDOW 5.2 computer program, expressed as Btu/sq. ft. x h x deg F (W/sq. m x K).

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5. Solar Heat-Gain Coefficient and Visible Transmittance: Center-of-glazing values, according to NFRC 200 and based on LBL's WINDOW 5.2 computer program.
6. Visible Reflectance: Center-of-glazing values, according to NFRC 300.

2.3 GLASS PRODUCTS, GENERAL

A. Glazing Publications: Comply with published recommendations of glass product manufacturers and organizations below unless more stringent requirements are indicated. See these publications for glazing terms not otherwise defined in this Section or in referenced standards.

1. GANA Publications: “Laminated Glazing Reference Manual" and "Glazing Manual."
2. AAMA Publications: AAMA GDSG-1, "Glass Design for Sloped Glazing," and AAMA TIR A7, "Sloped Glazing Guidelines."
3. IGMA Publication for Sloped Glazing: IGMA TB-3001, "Guidelines for Sloped Glazing."
4. IGMA Publication for Insulating Glass: SIGMA TM-3000, "North American Glazing Guidelines for Sealed Insulating Glass Units for Commercial and Residential Use."

B. Safety Glazing Labeling: Where safety glazing is indicated, permanently mark glazing with certification label of the SGCC, the SGCC or another certification agency acceptable to authorities having jurisdiction, or manufacturer. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.

C. Thickness: Where glass thickness is indicated, it is a minimum. Provide glass that complies with performance requirements and is not less than the thickness indicated.

1. Minimum Glass Thickness for Exterior Lites: 9/16” laminated.
2. Thickness for Interior Lites: ¼” as indicated on drawings; and laminated impact glass of 9/16” (+/–).

D. Strength: Where annealed float glass is indicated, provide annealed float glass, heat-strengthened float glass, or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where heat-strengthened float glass is indicated, provide heat-strengthened float glass or fully tempered float glass as needed to comply with "Performance Requirements" Article. Where fully tempered float glass is indicated, provide fully tempered float glass.

2.4 GLASS PRODUCTS

A. Clear Annealed Float Glass: ASTM C 1036, Type I, Class 1 (clear), Quality-Q3.

B. Tinted Annealed Float Glass: ASTM C 1036, Type I, Class 2 (tinted), Quality-Q3.

C. Fully Tempered Float Glass: ASTM C 1048, Kind FT (fully tempered), Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

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D. Heat-Strengthened Float Glass: ASTM C 1048, Kind HS (heat strengthened), Type I, Condition A (uncoated) unless otherwise indicated, Type I, Class 1 (clear) or Class 2 (tinted) as indicated, Quality-Q3.

1. Fabrication Process: By horizontal (roller-hearth) process with roll-wave distortion parallel to bottom edge of glass as installed unless otherwise indicated.

2.5 LAMINATED GLASS

A. Laminated Glass: ASTM C 1172. Use materials that have a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after fabrication and installation.

1. Construction: Laminate glass with polyvinyl butyral interlayer, ionomeric polymer interlayer, or cast-in-place and cured-transparent-resin interlayer to comply with interlayer manufacturer's written instructions.
2. Interlayer Thickness: Provide thickness not less than that indicated and as needed to comply with requirements.
3. Interlayer Color: Clear unless otherwise indicated.

B. Windborne-Debris-Impact-Resistant Laminated Glass: Comply with requirements specified above for laminated glass except laminate glass with one of the following to comply with interlayer manufacturer's written instructions:

1. Polyvinyl butyral interlayer.
2. Polyvinyl butyral interlayers reinforced with polyethylene terephthalate film.
3. Ionomeric polymer interlayer.
4. Cast-in-place and cured-transparent-resin interlayer.
5. Cast-in-place and cured-transparent-resin interlayer reinforced with polyethylene terephthalate film.

2.6 GLAZING SEALANTS

A. General:

1. Compatibility: Compatible with one another and with other materials they contact, including glass products, seals of insulating-glass units, and glazing channel substrates, under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.
2. Suitability: Comply with sealant and glass manufacturers' written instructions for selecting glazing sealants suitable for applications indicated and for conditions existing at time of installation.
3. VOC content for sealants used inside the weatherproofing system, not more than 250 g/L when calculated according to 40CFR59, Subpart D.
4. Colors of Exposed Glazing Sealants: As selected by Architect from manufacturer's full range.

B. Glazing Sealant: Neutral-curing silicone glazing sealant complying with ASTM C 920, Type S, Grade NS, Class 50, Use NT.

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1. Products: Subject to compliance with requirements, provide one of the following:

   a. Dow Corning Corporation; 791, 995.
   b. Pecora Corporation; 864NST.
   c. Polymeric Systems, Inc.; PSI-641.
   d. Sika Corporation; Sikasil WS-295.
   e. Tremco Incorporated; Spectrem 2.

2. Applications: Glass to metal locations.

2.7 GLAZING TAPES

A. Back-Bedding Mastic Glazing Tapes: Preformed, butyl-based, 100 percent solids elastomeric tape; nonstaining and nonmigrating in contact with nonporous surfaces; with or without spacer rod as recommended in writing by tape and glass manufacturers for application indicated; and complying with ASTM C 1281 and AAMA 800 for products indicated below:

1. AAMA 804.3 tape, where indicated.
2. AAMA 806.3 tape, for glazing applications in which tape is subject to continuous pressure.
3. AAMA 807.3 tape, for glazing applications in which tape is not subject to continuous pressure.

B. Expanded Cellular Glazing Tapes: Closed-cell, PVC foam tapes; factory coated with adhesive on both surfaces; and complying with AAMA 800 for the following types:

1. AAMA 810.1, Type 1, for glazing applications in which tape acts as the primary sealant.
2. AAMA 810.1, Type 2, for glazing applications in which tape is used in combination with a full bead of liquid sealant.

2.8 MISCELLANEOUS GLAZING MATERIALS

A. General: Provide products of material, size, and shape complying with referenced glazing standard, with requirements of manufacturers of glass and other glazing materials for application indicated, and with a proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers, and Sealers: Types recommended by sealant or gasket manufacturer.

C. Setting Blocks: Elastomeric material with a Shore, Type A durometer hardness of 85, plus or minus 5.

D. Spacers: Elastomeric blocks or continuous extrusions of hardness required by glass manufacturer to maintain glass lites in place for installation indicated.

E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side walking).

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F. Cylindrical Glazing Sealant Backing: ASTM C 1330, Type O (open-cell material), of size and density to control glazing sealant depth and otherwise produce optimum glazing sealant performance.

2.9 FABRICATION OF GLAZING UNITS

A. Fabricate glazing units in sizes required to fit openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with written instructions of product manufacturer and referenced glazing publications, to comply with system performance requirements.

1. Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.

a. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

B. Clean-cut or flat-grind vertical edges of butt-glazed monolithic lites to produce square edges with slight chamfers at junctions of edges and faces.

C. Grind smooth and polish exposed glass edges and corners.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:

1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
2. Presence and functioning of weep systems.
3. Minimum required face and edge clearances.
4. Effective sealing between joints of glass-framing members.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.

B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that leave visible marks in the completed Work.

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3.3 GLAZING, GENERAL

A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets, and other glazing materials, unless more stringent requirements are indicated, including those in referenced glazing publications.

B. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass includes glass with edge damage or other imperfections that, when installed, could weaken glass, impair performance, or impair appearance.

C. Apply primers to joint surfaces where required for adhesion of sealants, as determined by preconstruction testing.

D. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.

E. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.

F. Provide spacers for glass lites where length plus width is larger than 50 inches (1270 mm).

1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
2. Provide 1/8-inch (3-mm) minimum bite of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.

G. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer and according to requirements in referenced glazing publications.

H. Set glass lites in each series with uniform pattern, draw, bow, and similar characteristics.

I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.

J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walk out when installation is subjected to movement.

K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

L. Install butt-joint sealants on interior glazing only, according to manufacturer's instructions and as specified in Section 079200 "Joint Sealants" to produce a tight installation.

3.4 TAPE GLAZING

A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.

B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.

C. Cover vertical framing joints by applying tapes to heads and sills first, then to jambs. Cover horizontal framing joints by applying tapes to jambs, then to heads and sills.

D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.

E. Do not remove release paper from tape until right before each glazing unit is installed.

F. Apply heel bead of elastomeric sealant.

G. Center glass lites in openings on setting blocks, and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.

H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.5 GASKET GLAZING (DRY)

A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.

B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.

C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

D. Installation with Pressure-Glazing Stops: Center glass lites in openings on setting blocks, and press firmly against soft compression gasket. Install dense compression gaskets and pressure-glazing stops, applying pressure uniformly to compression gaskets. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by gasket manufacturer.

E. Install gaskets so they protrude past face of glazing stops.

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3.6 SEALANT GLAZING (WET)

A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealants cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.

B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.

C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

3.7 CLEANING AND PROTECTION

A. Immediately after installation remove non-permanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains.

1. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer. Remove and replace glass that cannot be cleaned without damage to coatings.

C. Remove and replace glass that is damaged during construction period.

D. Wash glass on both exposed surfaces not more than four days before date scheduled for inspections that establish date of Substantial Completion. Wash glass as recommended in writing by glass manufacturer.

3.8 GLASS SCHEDULE

A. Glass Type GL-1: Clear fully tempered float glass.

1. Minimum Thickness: 1/4” tampered glass at interior frames.
2. Safety glazing required.
3. Install at interior glazing, unless otherwise noted on Drawings.

B. Glass Type GL-2: Low-E-coated, tinted, large missile laminated glass.

1. Basis-of-Design Product: Guardian Industries/ Oldcastle Building Envelope.
2. Overall Unit Thickness: 9/16 inch.
3. Minimum Thickness of Outdoor Lite: 1/4 inch (6mm).
4. Outdoor Lite: Tinted heat-strengthened, fully tempered float glass.
5. Outdoor Lite Tint Color: Vitro Solargray
6. **Interlayer: One layer of 0.090 (2.29mm) SentryGlas**
7. Indoor Lite: 1/4 inch (6mm) Vitro Solarban 60 on Clear Low-E #

8. Low-E Coating: Pyrolytic or sputtered on second surface.
9. Winter Nighttime U-Factor: 0.93 maximum.
10. Visible Light Transmittance: 36 percent minimum.
11. Solar Heat Gain Coefficient: **0.41 maximum**.
12. Shading Coefficient: 0.48.
13. Light to Solar Gain: 0.86.
14. Safety glazing required.
15. Nominal weight (estimated): 9.62 lb/sf.
16. Provide frosted glass at windows in restrooms, as noted on drawings.

C. Glass Type GL-**3**: Clear fully tempered laminated float glass for interior installation.
1. Minimum Thickness: two glass lites ¼" tempered each with an interlayer of 0.60 inches.
2. Install glass in Lobby customer service windows and Cashier windows.
3. Safety glazing required.

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SECTION 092216 - NON-STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Non-load-bearing steel framing systems for interior gypsum board assemblies.
2. Suspension systems for interior gypsum ceilings and soffits.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: Provide materials and construction identical to those tested according to ASTM E 119.

B. STC-Rated Assemblies: Provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413.

2.2 FRAMING SYSTEMS

A. Recycled Content of Steel Products: Postconsumer recycled content plus one-half of preconsumer recycled content is not less than 25 percent.

B. Steel Studs and Runners: ASTM C 645. Use either steel studs and runners or dimpled steel studs and runners of equivalent minimum base-metal thickness.

1. Minimum Base-Metal Thickness: As indicated on Drawings.
2. Depth: As indicated on Drawings.

C. Firestop Tracks: Manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:

a. Fire Trak Corp.; Fire Trak System attached to studs with Fire Trak Posi Klip.

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b. Grace Construction Products; FlameSafe FlowTrak System.
c. Metal-Lite, Inc.; The System.

D. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

1. Minimum Base-Metal Thickness: 0.027 inch (0.68 mm).

E. Cold-Rolled Channel Bridging: Steel, 0.053-inch (1.34-mm) minimum base-metal thickness, with minimum 1/2-inch- (13-mm-) wide flanges.

1. Depth: 1-1/2 inches (38 mm).
2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38 by 38 mm), 0.068-inch- (1.72-mm-) thick, galvanized steel.

F. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

1. Minimum Base-Metal Thickness: 0.018 inch (0.45 mm)] [0.033 inch (0.84 mm).
2. Depth: 7/8 inch (22.2 mm).

G. Cold-Rolled Furring Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges.

1. Depth: As indicated on Drawings.
2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum uncoated-steel thickness of 0.033 inch (0.8 mm).
3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.

H. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches (31.8 mm), wall attachment flange of 7/8 inch (22 mm), minimum uncoated-metal thickness of 0.018 inch (0.45 mm), and depth required to fit insulation thickness indicated.

2.3 SUSPENSION SYSTEMS

A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.062-inch- (1.59-mm-) diameter wire, or double strand of 0.048-inch- (1.21-mm-) diameter wire.

B. Hanger Attachments to Concrete:

1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by an independent testing agency.

a. Type: Post-installed, chemical anchor.

2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by

construction as determined by testing according to ASTM E 1190 by an independent testing agency.

C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.16 inch (4.12 mm) in diameter.

D. Flat Hangers: Steel sheet, 1 by 3/16 inch (25 by 5 mm) by length indicated.

E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base-metal thickness of 0.053 inch (1.34 mm) and minimum 1/2-inch- (13-mm-) wide flanges.

1. Depth: As indicated on Drawings.

F. Furring Channels (Furring Members):

1. Cold-Rolled Channels: 0.053-inch (1.34-mm) uncoated-steel thickness, with minimum 1/2-inch- (13-mm-) wide flanges, 3/4 inch (19 mm) deep.
2. Steel Studs and Runners: ASTM C 645**.** Use either steel studs and runners or dimpled steel studs and runners of equivalent minimum base-metal thickness.

a. Minimum Base-Metal Thickness: As indicated on Drawings.
b. Depth: As indicated on Drawings.

3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22 mm) deep.

a. Minimum Base-Metal Thickness: As indicated on Drawings.

2.4 AUXILIARY MATERIALS

A. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

B. Isolation Strip at Exterior Walls: Provide asphalt saturated organic felt.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Installation Standard: ASTM C 754.

1. Portland Cement Plaster Assemblies: Also comply with requirements in ASTM C 1063 that apply to framing installation.
2. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

B. Install supplementary framing, and blocking to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

C. Install bracing at terminations in assemblies.

D. Do not bridge building control and expansion joints with non-load-bearing steel framing members. Frame both sides of joints independently.

3.2 INSTALLING FRAMED ASSEMBLIES

A. Install framing system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

B. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.

C. Install studs so flanges within framing system point in same direction.

D. Install tracks (runners) at floors and overhead supports. Extend framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing around ducts penetrating partitions above ceiling.

1. Slip-Type Head Joints: Where framing extends to overhead structural supports, install to produce joints at tops of framing systems that prevent axial loading of finished assemblies.

2. Door Openings: Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

    a. Install two studs at each jamb unless otherwise indicated.
    b. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch (13-mm) clearance from jamb stud to allow for installation of control joint in finished assembly.
    c. Extend jamb studs through suspended ceilings and attach to underside of overhead structure.

3. Other Framed Openings: Frame openings other than door openings the same as required for door openings unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
4. Fire-Resistance-Rated Partitions: Install framing to comply with fire-resistance-rated assembly indicated and support closures and to make partitions continuous from floor to underside of solid structure.

    a. Firestop Track: Where indicated, install to maintain continuity of fire-resistance-rated assembly indicated.

5. Sound-Rated Partitions: Install framing to comply with sound-rated assembly indicated.
6. Curved Partitions:

    a. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.

b. Begin and end each arc with a stud, and space intermediate studs equally along arcs. On straight lengths of no fewer than two studs at ends of arcs, place studs 6 inches (150 mm) o.c.

E. Direct Furring:

1. Screw to wood framing.
2. Attach to concrete or masonry with stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.

F. Z-Furring Members:

1. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (610 mm) o.c.
2. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than 12 inches (305 mm) from corner and cut insulation to fit.

G. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

3.3 INSTALLING SUSPENSION SYSTEMS

A. Install suspension system components according to spacings indicated, but not greater than spacings required by referenced installation standards for assembly types.

B. Isolate suspension systems from building structure where they abut or are penetrated by building structure to prevent transfer of loading imposed by structural movement.

C. Suspend hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or suspension system.

   a. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.

2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers, install supplemental suspension members and hangers in the form of trapezes or equivalent devices.
3. Do not attach hangers to steel roof deck.
4. Do not attach hangers to permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
5. Do not attach hangers to rolled-in hanger tabs of composite steel floor deck.
6. Do not connect or suspend steel framing from ducts, pipes, or conduit.

D. Fire-Resistance-Rated Assemblies: Wire tie furring channels to supports.

E. Installation Tolerances: Install suspension systems that are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) measured lengthwise on each member that will receive finishes and transversely between parallel members that will receive finishes.

END OF SECTION 092216

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SECTION 092400 - CEMENT PLASTERING (STUCCO)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specification sections, apply to work of this section.

1.2 SECTION INCLUDES

A. Portland Cement Plaster (stucco), included but is not limited to, the following:

1. Exterior three-coat Portland cement plaster.
2. Interior two-coat Portland cement plaster.

B. Stucco Accessories.

1.3 RELATED SECTIONS

A. Section 061000 - Rough Carpentry.
B. Section 099000 - Painting.

1.4 SUBMITTALS

A. Submit product data and manufacturer's instructions for each product, including data showing compliance with requirements, under provisions of Section 013300, "Submittal Procedures".

B. Provide product data on stucco materials and accessories, including characteristics and limitations of products specified.

C. Material Certificates: Submit producer's certificate for each kind of plaster aggregate indicating materials comply with requirements.

D. Test Reports: Provide test reports from an independent laboratory certifying that cement, sand aggregate and other stucco mix components are free from contaminates and low alkalinity.

1.5 PRE-INSTALLATION MEETING

A. Schedule a pre-installation meeting to review the requirements of this specification and existing conditions with Project Consultant and Owner at least seven (7) days prior to commence work. Attending this meeting will be the Contractor's Superintendent, the plastering Sub-Contractor's

Superintendent and/or their lead man who will be present during this work, the Project Consultant and the Owner.

1.6 QUALITY ASSURANCE

A. Applicator: Company specializing in application of stucco work with minimum five (5) years documented experience, with knowledge of ASTM C-926 and ASTM C-1063.

B. Apply cement plaster under provisions of the latest edition of the PCA Plaster (stucco) manual and ASTM C-926-94, except as modified herein.

1.7 ENVIRONMENTAL REQUIREMENTS

A. Do not apply stucco when substrate or ambient air temperature is less than 45 degrees Fahrenheit nor no more than 90 degrees Fahrenheit, with a humidity index of less 75, or up to 95 degrees with a humidity index in excess of 75.

B. Maintain minimum ambient temperature of 45 degrees Fahrenheit during and after installation of plaster for not less than 48 hours.

C. Protect stucco against uneven and excessive evaporation and from blasts of dry air. Apply and cure stucco as required by climatic and job conditions to prevent rapid dryout. Provide suitable coverings, moist curing, and barriers to deflect direct sunlight and wind, or combination thereof.

1.8 PRODUCT OPTIONS

A. Single Source Responsibility: Obtain materials and employ materials from a single source for each type of material required for portland cement plaster to ensure consistency in quality performance and appearance.

B. Standard of Comparison: Materials specified are for clarity of description and as a standard of comparison.

1.9 DELIVERY, STORAGE AND HANDLING

A. Deliver all products in original packages or containers bearing brand name and identification of manufacturer.

B. Store all bag materials inside, under cover and in a manner to keep them dry and protected from contamination and deterioration.

Note: Place sand under cover and in a manner to keep it lightly damp and prevent intrusion of foreign materials.

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PART 2 - PRODUCTS

2.1 MATERIALS

A. Approved Manufacturers of a Portland Stucco System, which contains an integral water retarding agent, conforming to ASTM-C 926.

1. Vulcan Materials Company - Florida Super Stucco Cement.
2. CEMEX - Rinker Stucco Cement.
3. Titan America Stucco Cement.

B. Aggregate (Conforming to C-897):

1. Sand:
   a. Clean, hard, natural sand.
   b. Manufactured within the following limits:

Sieve Size	Percent Retained
No. 4	0
No. 8	0 to 5
No. 16	5 to 30
No. 30	30 to 65
No. 50	65 to 95
No. 100	90 to 100

C. Water for mixing and curing portland cement plaster: Potable, clean, free of contaminants such as; oil, acids, alkali, vegetable matter, salts or other deleterious materials.

D. Glass Fibers: Alkali resistant glass fibers conforming to ASTM C1116 (100 percent virgin polypropylene in microfilament form): Microfiber by Grace Construction Products, or Owner approved equal.

E. Metal Lath: Tilath, as manufactured by Alabama Metal Industries Corporation (AMICO), or United States Gypsum Company (USG). Other Manufacturers: Submit substitution request under provisions of Section 01630, "Product Substitution Procedures".

F. Bonding Agent:

1. Exterior applications and areas exposed to water immersion or to high humidity: A non-re-emulsifiable acrylic emulsion, (to be used integrally mixed).

   a. Products:
      1) Thoroseal/Acryl 60, as manufactured by Harris Specialty Chemicals Inc.
      2) Bonsal Acrylic Additive by W. R. Bonsal Company.

b. Deliver products to job site premixed in the water at specified ratios.

2. **Interior applications ONLY**: In areas not subject to water immersion or high humidity; a latex bonding agent conforming to ASTM-1059 Type II, may be used in lieu of the integral bonding agent per 2.01.I. **(Where exposed to water immersion or high humidity, ensure the bonding agent complies with 2.01.I as noted above.)**

G. Accessories, Beads, and Moldings **(only on wire lath and interior applications)**: Extruded Polyvinylchloride (PVC). Provide in profile and locations shown on drawings.

H. Control and Expansion Joint Moldings (**on wire lath and interior applications**):

1. Equal to Vinyl Corp. Product No. 1575.
2. Conform to ASTM D1784-92 and C1063-94.
3. 0.050 inch thick polyvinylchloride (PVC).
4. Color: off-white.
5. 10 foot lengths.
6. Provide with the following accessories:
   a. Connector clips: Polyvinylchloride (PVC) plastic clips for aligning continuous lengths of molding.
   b. Notch-Lok Connections: Polyvinylchloride back plates for aligning intersecting lengths of moldings.
   c. "+" and "T" Intersections: Factory fabricated intersections used to connect horizontal and vertical joints of moldings.

I. Channels: Cold Rolled Steel, 16 Gage, Asphaltam Coated or Galvanized.

1. Main Runner: 1-1/2 inch (38 mm), 475 pounds/1000 feet.
2. Cross Furring Channels: 3/4 inch (19 mm), 300 pounds/1000 feet.

J. Hangers:

1. Tie Wire: Conform to ASTM A 641 with Class I zinc coated (galvanized), soft tempered steel.
   c. Support of main runners: No. 9 gage.
   d. Support of cross furring: No. 18 gage.
   e. Support of wire lath: No. 18 gage.
2. Rod: Cold Drawn, Mild Steel, Asphaltam Coated or Galvanized, 1/4 inch (6 mm) Diameter.
3. Strap: Flat Mild Steel, Asphaltam Coated or Galvanized, 3/16 inch x 1 inch (5 mm x 25 mm).

K. Metal Lath: Galvanized

1. For Overhead Installation: 3/8 inch rib lath, 3.4 pounds per square yard.
2. For Vertical Stucco Installation: Diamond Mesh, 3.4 pounds per square yard.

L. Paper-backed Wire Fabric Lath: FS-UU-B-690a, Type I, Grade D, Style 2, Asphalt Impregnated Paper Factory-bonded to back; USG Paper backed Metal Lath.

M. Fasteners: Clips, Screws, Nails (stub nails, 3/4 inch minimum length), and Staples, as recommended by the manufacturer of the lath system.

PART 3 - EXECUTION

3.6 EXAMINATION

A. Verify that surfaces and site conditions are ready to receive Work.

B. Verify all surfaces to receive plaster are true and plumb within their allowable tolerance. Chip back concrete as required and modify surfaces where necessary to avoid installing plaster thickness greater than indicated.

C. Concealed Supports, Blocking: Verify items have been installed in proper locations.

D. Mechanical and Electrical: Verify services within walls and soffits have been installed, tested and approved.

3.7 PREPARATION

A. Protect other work and building surfaces from splattering stucco.

B. Exterior Masonry and Concrete Surfaces:

1. Abrade all cast-in-place concrete surface that will receive plaster. Ensure the abraded surface texture of the concrete approaches or matches that of typical masonry texture. Abrasion may be attempted by using a machine that will develop a high water pressure through a nozzle. Surfaces not adequately abraded by this method as determined by the Project Consultant and Owner, or if not attempted, shall be abraded by sand blasted or water blasted. The abraded finish shall be to the satisfaction of the Project Consultant and Owner.
2. Patch all masonry joints and honeycombing in cast-in-place concrete to provide flush, true surfaces to receive plaster.
3. After sand blasting or water blasting, wash concrete surfaces with Tri-Sodium Phosphate to remove form oil and other contaminants.
4. Wash masonry and concrete surfaces by pressure washing (min. 3500 psi pressure) to remove dust, sand and other contaminants within three (3) hours prior to stuccoing that area.
5. On exterior masonry and concrete surfaces, install temporary grounds and screeds as necessary to strike off plaster to true surfaces. The use of permanent corner beads, fabricated control joints, grounds, screeds, recesses, etc. on exterior masonry and cast-in-place concrete surfaces **are not allowed,** except at building structural expansion joints.

C. Wire Lath and Interior Applications:

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1. Install corner beads, control joints, expansion joints and accessories indicated on drawings and noted within this section true and plumb, using maximum lengths available.
2. Anchor securely to substrate.
3. Do not shim or bridge areas that are not plumb, true or straight.
4. Expansion joints: tied to the wire lath and not to substrate.
5. Wire lath: Do not extend through expansion joints.

D. Do not apply plaster until electrician has protected all boxes.

E. Conceal all piping, conduit, etc. which cannot be concealed in walls, columns, or soffits with wire lath and plaster.

F. Application of Applied Bonding Agent.

1. Exterior Surfaces: **DO NOT INSTALL SURFACE APPLIED BONDING AGENTS OF ANY KIND.**
2. Interior Surfaces:

Note: Only on surfaces not subjected to water immersion or high humidity.

a. Clean concrete surfaces of foreign matter. Thoroughly dampen surfaces before using acid solutions, solvent, or detergents to perform cleaning. Wash surfaces with clean water.
b. Apply specified bonding agent with a brush or roller on cast-in-place concrete.
c. Dampen concrete and masonry surfaces prior to the application of plaster and maintain in a moist condition throughout the course of application.
d. Verify the surface is free of visible standing water prior to installing plaster.

3.8 INSTALLATION - LATHING MATERIALS AND ACCESSORIES

A. Installation to conform to ASTM C 1063; except as modified herein.

B. Install main runners at 48 inches on center (maximum) with their supports at 36 inches on center, or install main runners at 36 inches on center (maximum) with their supports at 48 inches on center. Install main runners within 6 inches of walls paralleling, to support ends of cross furring. Where system is exposed to wind up-lift, provide vertical stiff legs equal to main runners or better at 8 feet on center (maximum) each way, or closer if required due to uplift loading.

C. Install cross furring for overhead applications at 16 inches on center (maximum) and for vertical application at 24 inches on center (maximum). Saddle tie furring channels to each main runners with doubled No. 18 tie wire. The span of cross furring: 48 inches on center (maximum).

D. Apply one (1) ply of felt underlayment over substrate where indicated on drawings; weatherlap edges 4 inches minimum. Fasten in place.

E. Apply lath taut, with long dimension perpendicular to supports. Tie lath to supports with No. 18 wire at 6 inches on center for horizontal installation and 9 inches on center for vertical installation.

F. Lap ends of lath a minimum 1 inch to 1-1/4 inch (maximum). Nest ribs of rib lath at end laps. Secure end laps with tie wire. End laps: shall occur over supports.

G. Lap sides of diamond mesh lath together minimum 1/2 inch to 1 inch (maximum). Nest outside ribs of rib lath together and secure with wire.

H. Place strip mesh diagonally at corners of lathed openings. Secure rigidly in place.

I. Where dissimilar materials abut, provide a continuous expansion joint and joint molding. Wire lath and supports: do not extend through the joint. Double furr each side of expansion joints.

J. Place expanded casing beads (Stucco Stop) at termination of stucco finishes and between concrete and wood. Butt and align ends. Secure rigidly in place.

K. Independently support Light fixtures, A.C. vents, etc.

L. Install accessories to required lines and levels.

3.9 CEMENT PLASTER MIXES

A. Exterior Applications - Masonry, concrete and Wire Lath:

1. Tight Coat: (Apply on concrete surfaces only).
   a. One (1) bag of Portland Stucco System.
   b. 2.25 to 4 cubic feet of damp aggregate.
   c. Water: mixed with bonding agent at a rate of one (1) part bonding agent to two (2) parts water.

2. Scratch Coat:
   a. One (1) bag of Portland Stucco System.
   b. 2.25 to 4 cubic feet * of damp aggregate.
   c. One-half (1/2) bag of hydrated lime.
   d. Water [mixed with bonding agent at a rate of one (1) part bonding agent to two (2) parts water (approximately 7 percent solids content).

   * Seven (7) shovels of sand in a No. 2 shovel equals 1 cubic foot of sand, or 7.5 gallons equals 1 cubic foot.

3. Brown Coat:
   a. One (1) bag of Portland Stucco System.
   b. 3 to 5 cubic feet of damp aggregate.
   c. 1/2 pound of fiberglass fibers.

4. Finish Coat:
   a. One (1) bag of Portland Stucco System.
   b. 2.25 to 3 cubic feet of aggregate.
   c. Where finish coat is applied over existing stucco surfaces water shall be mixed with bonding agent at a rate of one (1) part bonding agent to two (2) parts water.

B. Interior Applications:

1. Scratch Coat:
   a. One (1) bag of Portland Stucco System.
   b. 2-1/4 to 4 cubic feet of aggregate.

2. Finish Coat:
   a. One (1) bag of Portland Stucco System.
   b. 2.25 to 3 cubic feet of aggregate.

C. Mixing:

1. Mechanical Mixer:
   a. Provide sufficient horsepower to agitate the stiff stucco mix.
   b. Mixer blades: Clean and free of foreign materials.
   c. Thoroughly clean mixer after each mix.

2. Load materials into the stucco mixer in the following order:
   a. 2/3 of the water.
   b. 1/2 of the aggregate.
   c. All of the Portland Stucco System.
   d. 1/2 of the aggregate (allow to mix two (2) minutes).
   e. Remaining water.

3. Mechanically mix cementitious and aggregate materials for plasters to comply with applicable referenced application standard and with recommendations of plaster manufacturer. Turn each finished mix for at least five minutes.
4. Do not retemper mixes after the initial set has occurred, or if mix has been prepared more than 45 minutes earlier.

3.10 STRESS RELIEF

A. Masonry and Concrete Surfaces:

1. Provide incised control joints thru brown and finish coat or provide recess control incised wide joints indicated on the drawings that are up to 5/8 inch wide by 1/4 inch deep immediately after the initial set of application on masonry and concrete. Ensure control incised joints are made prior to application of a final sprayed-on finish coat if it is called for.
2. Install control joints in locations indicated on drawings and at spacing not exceeding more than 24 feet in any direction.

B. Installed Wire Lath:

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1. Provide control and expansion joints in locations indicated on drawings and spaced the following:
   a. In any direction not to exceed 12 feet on center.
   b. Limit area to 100 square feet.
   c. The short length to the long length ratio: not to exceed 1 to 2-1/2.
   d. Provide an expansion joint where stucco support on wire lath abuts dissimilar material. Wire lath and supports: do not extend through an expansion and control joints.
   e. Metal lath shall be discontinuous behind control and expansion joint accessories.

3.11 PLASTER APPLICATION

A. Apply cement plaster under provisions of PCA Plaster (stucco) Manual and ASTM C-926-94 and as herein modified. The desired time of the complete installation of the three (3) coat stucco is within 48 hours or less. As far as possible, apply each coat in a continuous operation to avoid unsightly jointing.

B. Sequence the work to allow for the continuous application of plaster over all surfaces, and including window and door returns, louvers and other features to provide uniform thickness and finishes.

C. Plaster:

1. Provide Portland cement plaster (stucco), of the composition indicated, to comply with the following requirements:

   a. Dampen masonry and concrete surfaces by fog spraying prior to installation of dash coat and scratch coat. Ensure surface is free of visible water before applying dash or scratch coats.
   b. Over concrete surfaces, apply a dash coat of stucco with a stiff brush or by spraying to develop a rough surface coating on concrete, approximately 1/16 inch thick. Do not over wet the dash coat. After applying dash coat, apply scratch coat after 1 hour, but not more than 4 hours (while the dash coat is still damp).
   c. Install scratch coat by first troweling on a thin tight layer (approximately 1/16 inch thick) to masonry and concrete surfaces with strong pressure, followed immediately with a troweled applied balance of the scratch coat (approximately 3/16 inch thick).
   d. Apply scratch, brown, and skim coat by hand troweling.
   e. Back trowel each coat, applying with heavy pressure to fill voids, eliminate air bubbles, and promote mechanical bond.
   f. When the scratch coat becomes firm, score the entire surface with scarifier tool, by Harrington or Goldlatt before initial set. On vertical surfaces score horizontally. Ensure the tools create a score of sufficient width and depth to permit intrusion of the brown coat.

Note: The use of wire combs or brushes for scoring the scratch coat is not allowed.

g. Strip all exterior corners.
h. Finish coat consists of the following:
   1) A skim coat 1/8 inch thick. Apply skim coat by hand troweling.
   2) Over skim coat apply a troweled or sponge textured finish, or a machine sprayed finish where indicated or specified.

i. Required minimum thickness: With a tolerance of zero to plus 1/8 inch per coat.

   1) Three-coat work on masonry poured concrete and metal lath:

	Vertical Surfaces	Horizontal Surfaces
Scratch coat	1/4 inch	1/4 inch
Brown coat	1/4 inch	1/4 inch
Finish coat	1/8 inch *	1/8 inch *
Total	5/8 inch	5/8 inch

   * Plus any raised texture finishes.

   Note: On wire lath, the scratch coat shall extend 1/4 inch beyond the lath.

   2) Two-coat work on masonry:

	Vertical Surfaces	Horizontal Surfaces
Scratch coat	1/4 inch	1/4 inch
Finish coat	1/8 inch *	1/8 inch *
Total	3/8 inch	3/8 inch

   * Plus any raised texture finishes.

j. Stucco finishes: As indicated on drawings.
k. Stucco surfaces to be straight-edged, with jambs and angles straight and true.

D. Miscellaneous:

1. Ensure all surfaces are clean and free of harmful materials before application of stucco.
2. Apply coating continuously without allowing mix to dry at edges.
3. Fully stucco all exterior exposed or projecting concrete unless otherwise indicated.

3.12 CURING

A. Provide sufficient moisture to all coats to permit continuous hydration of the cementitious materials.

B. Moisture curing of plaster:

1. Lightly mist the stucco using a nursery fogging nozzle or with pressure tank nursery sprayer to maintain lightly damp condition. Do not over wet.
2. The stucco surfaces: Never saturate or directly spray with jetted water.
3. Ensure there is no visible water on the surface when plaster is applied.

C. After applying the scratch coat the second coat (brown coat) can be applied after the scratch coat has become firm to the touch. No dampening of scratch coat is required if brown coat is applied within 12 hours. If the second coat is not applied within 12 hours, moist cure the scratch coat for a minimum of 48 hours or until the second coat is applied. Do not saturate the stucco.

D. Apply the finish coat within 4 hours of the application of the brown coat without moisture curing the brown coat or moist cure the brown coat for a minimum of 48 hours, or until the finish coat is applied.

E. After installing the finish coat, moist cure a minimum of four (4) times a day, every five (5) hours (maximum) during daylight hours and eight (8) hours (maximum) during nighttime, for the following three (3) days after applying finish coat. Maintain finished work in a continuously moist condition indicated by surface having uniform "dark gray" color.

3.13 REPAIRING

A. Sounding Surfaces:

1. Sound out all stucco on masonry and poured concrete by tapping the surface.
2. Mark all hollow sounding surfaces that indicate a non bonding of substrate.

B. Cutting and patching:

1. Cut, patch, point-up, and repair removed plaster as necessary to accommodate other Work and to restore cracks, dents, and imperfections.
2. Remove plaster to eliminate blisters, buckles, excessive crazing, check cracking, dryout, efflorescence, sweat-out and similar defects, and where bond to substrate has failed. Replace plaster matching adjacent surfaces.

3.14 PAINTING

A. Prior to painting plaster, ensure the moisture content of the plaster is less than that recommended by the paint manufacturer and the ph of the plaster is less than 10. Verify the moisture content using an electronic moisture meter and the ph using a ph pencil. Test every 1,000 square feet.

3.15 CLEANING

A. Remove temporary protection and enclosure of other Work.

B. Promptly remove plaster from door frames, windows, and other surfaces which are not to be plastered.

C. Repair floors, walls and other surfaces which have been stained, marred, or otherwise damaged during plastering Work.

D. When plastering Work is completed, remove unused materials, containers and equipment, and clean floors of plaster debris.

3.16 PROTECTION

A. Provide final protection and maintain conditions which ensures plaster Work being without damage or deterioration at time of Substantial Completion.

END OF SECTION 092400

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SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Interior gypsum board.
2. Tile backing panels.
3. Security mesh

B. Related Requirements:

1. Section 092216 "Non-Structural Metal Framing" for non-structural framing and suspension systems that support gypsum board panels.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For the following products:

1. Trim Accessories: Full-size Sample in 12-inch- (300-mm-) long length for each trim accessory indicated.

1.4 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

B. Do not install paper-faced gypsum panels until installation areas are enclosed.

C. Do not install panels that are wet, those that are moisture damaged, and those that are mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.

B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by an independent testing agency.

2.2 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

B. Recycled Content: Provide gypsum panel products with recycled content such that postconsumer recycled content plus one-half of preconsumer recycled content constitutes a minimum of 20 percent by weight.

C. Regional Material for Credit MR 5. Provide products of regional materials. Identify each regional material, including its source, cost, and the fraction by weight that is considered regional.

2.3 MOLD-RESISTANT TYPE X GYPSUM BOARD

A. Gypsum Wallboard ASTM C1396/C1396M, Type X: Water-resistant gypsum wallboard. and exterior gypsum soffit board.
1. Basis of Design: Subject to compliance with project requirements, the design is based on the following: USG Corporation, LLC, USG Sheetrock® Brand EcoSmart Panels Mold Tough® Firecode® X.
   a. Other acceptable manufacturers: National Gypsum Company and Georgia-Pacific.
2. ISO 14040 Environmental Management, Life Cycle Assessment, Principles and Framework:
   a. Carbon emissions per Product Category Rules for North American Gypsum Boards; FPInnovations – Gypsum PCR-2013: v1; Global Warming Potential of 252 kg CO_2 eq./1000 ft^2 for Eastern USA.

b. Water reduction per Product Category Rules for North American Gypsum Boards; FPInnovations – Gypsum PCR-2013: v1 yields a net use of fresh water value of 1.12 m^3/1000 ft^2 for Eastern USA.

3. UL Type Designation "ULIX™"
4. ASTM C1396; 5/8 in. Type X, water-resistant gypsum wallboard and exterior gypsum soffit board: complies.
5. ASTM E136 Noncombustibility: Meets or exceeds criteria.
6. ASTM E84 Surface-Burning Characteristics:
   a. Flame Spread: 15.
   b. Smoke Developed: 0.
   c. Classification: Class A.
7. ASTM C473:
   a. Core Hardness: Meets or Exceeds 11 (ASTM C473 B)
   b. Flexural Strength (lbf).
      1) Parallel: Not less than 46.
      2) Perpendicular: Not less than 147.
   c. Nail Pull Resistance (lbf) ASTM C473 (B): Not less than 87.
8. Thickness: 5/8 inch (12.7 mm).
9. Length: 8′-0″ (2440 mm), 10′-0″ (3050 mm), or 12′-0″ (3660 mm) as suits the project conditions.
10. Widths: 48″ (1220 mm).
11. Weight: 1.85 lb./sq. ft.
12. Long Edges: Tapered.

2.4 TILE BACKING PANELS

A. Fiber-Reinforced Gypsum Panels: ASTM C1278

1. Fiberock Aqua-Tough Tile Backerboard Panels as manufactured by USG or equal.
2. Core: 5/8 inch (15.9 mm), Type X.
3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.

2.5 TRIM ACCESSORIES

A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:

   a. Cornerbead.
   b. Bullnose bead.
   c. LC-Bead: J-shaped; exposed long flange receives joint compound.
   d. Expansion (control) joint.
   e. Drywall Reveals – equal to Fry Reglet Model #DRM 25-25, anodized aluminum.

2.6 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475/C 475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Exterior Gypsum Soffit Board: Paper.
3. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
4. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Board: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.

    a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.

D. Joint Compound for Tile Backing Panels:

1. Fiber-Reinforced Gypsum Panels: As recommended by backing panel manufacturer.
2. Cementitious Backer Units: As recommended by backer unit manufacturer.

2.7 AUXILIARY MATERIALS

A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.

B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.

1. Laminating adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Laminating adhesive shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

D. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
2. Recycled Content of Blankets: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 20 percent by weight.

E. Acoustical Joint Sealant: Manufacturer's standard nonsag, paintable, nonstaining latex sealant complying with ASTM C 834. Product effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.

1. Acoustical joint sealant shall have a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
2. Acoustical joint sealant shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

F. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

G. Vapor Retarder: As specified in Section 072600 "Vapor Retarders."

H. Security Barrier Mesh: Basis-of-Design: Clark Dietrich “Barrier Mesh” BM75;
1. Other acceptable product and manufacturer – AMICO Security Mesh, or other approved equal product and manufacturer.
2. Carbon steel mesh, high-strength 16 gauge with 3/4 inch diamond mesh, weight 47 lbs/100 sq.ft., complying with ASTM F1267 and ASTM A1011.
3. Sheet size: 48”x96”
4. Barrier Mesh shall be galvanized.
5. Provide galvanized clips (BM-Clips) for attaching barrier mesh to metal studs. Clips are 0.020 inches thick,, 2-3/4” long, 1-1/2” wide, install clips at 12” on center.
6. Install Security Barrier Mesh in partitions facing the secure or “attack” side behind gypsum board wall finish where detailed on drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates including welded hollow-metal frames and framing, with Installer present, for compliance with requirements and other conditions affecting performance.

B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

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3.2 APPLYING AND FINISHING PANELS, GENERAL

A. Comply with ASTM C 840 and the manufacturers installation instructions.

B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.

C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch (1.5 mm) of open space between panels. Do not force into place.

D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.

E. Form control and expansion joints with space between edges of adjoining gypsum panels.

F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.

1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. (0.7 sq. m) in area.
2. Fit gypsum panels around ducts, pipes, and conduits.
3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.

G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.

I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

J. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

K. Install security barrier mesh in partitions where indicated on drawings prior to installing gypsum board wall panels. Install security barrier mesh in accordance with the manufacturer’s installation instructions.

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3.3 APPLYING INTERIOR GYPSUM BOARD

A. Install interior gypsum board in the following locations:
   1. Type X Water Resistant, Mold Tough Type: All partition except behind tile walls.
   2. Ceiling Type: As indicated on Drawings.
   3. Type C: Where required for specific fire-resistance-rated assembly indicated.
   4. Fiber-Reinforced Gypsum Panels: Behind tile walls, except in showers.
   5. Cementitious Backer Units: Behind tile walls in showers.

B. Single-Layer Application:

   1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
   2. On partitions/walls, apply gypsum panels vertically (parallel to framing unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.

      a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
      b. At other high walls, install panels horizontally unless otherwise indicated or required by fire-resistance-rated assembly.

   3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
   4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

C. Multilayer Application:

   1. On ceilings, apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches (400 mm) minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.
   2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
   3. On Z-furring members, apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring member. Locate edge joints of base layer over furring members.
   4. Fastening Methods: Fasten base layers and face layers separately to supports with screws.

D. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.

E. Curved Surfaces:

1. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus 12-inch- (300-mm-) long straight sections at ends of curves and tangent to them.
2. For double-layer construction, fasten base layer to studs with screws 16 inches (400 mm) o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced 12 inches (300 mm) o.c.

3.4 APPLYING TILE BACKING PANELS

A. Glass-Mat, Water-Resistant Backing Panels: Comply with manufacturer's written installation instructions and install at locations indicated to receive tile, except at showers. Install with 1/4-inch (6.4-mm) gap where panels abut other construction or penetrations.

B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

3.5 INSTALLING TRIM ACCESSORIES

A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.

C. Interior Trim: Install in the following locations:

1. Cornerbead: Use at outside corners.
2. LC-Bead: Use at exposed panel edges.
3. Reveals: Install in accordance with manufacturer’s detailed instructions.

3.6 FINISHING GYPSUM BOARD

A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

B. Prefill open joints and damaged surface areas.

C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:

1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
2. Level 2: Panels that are substrate for tile.

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3. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

E. Glass-Mat Gypsum Sheathing Board: Finish according to manufacturer's written instructions for use as exposed soffit board.

F. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.

3.7 APPLYING TEXTURE FINISHES

A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.

3.8 PROTECTION

A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

C. Remove and replace panels that are wet, moisture damaged, and mold damaged.

1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

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SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Porcelain tile.
2. Stone thresholds.
3. Waterproof membrane.
4. Crack isolation membrane.
5. Metal edge strips.

B. Related Requirements:

1. Section 079200 "Joint Sealants" for sealing of expansion, contraction, control, and isolation joints in tile surfaces.
2. Section 092900 "Gypsum Board" for cementitious backer units, water-resistant backer board.

1.3 DEFINITIONS

A. General: Definitions in the ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.

B. ANSI A108 Series: ANSI A108.01, ANSI A108.02, ANSI A108.1A, ANSI A108.1B, ANSI A108.1C, ANSI A108.4, ANSI A108.5, ANSI A108.6, ANSI A108.8, ANSI A108.9, ANSI A108.10, ANSI A108.11, ANSI A108.12, ANSI A108.13, ANSI A108.14, ANSI A108.15, ANSI A108.16, and ANSI A108.17, which are contained in its "Specifications for Installation of Ceramic Tile."

C. Module Size: Actual tile size plus joint width indicated.

D. Face Size: Actual tile size, excluding spacer lugs.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1. Review requirements in ANSI A108.01 for substrates and for preparation by other trades.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples for Initial Selection: For tile, grout, and accessories involving color selection.

C. Samples for Verification:

1. Full-size units of each type and composition of tile and for each color and finish required. For ceramic mosaic tile in color blend patterns, provide full sheets of each color blend.
2. Full-size units of each type of trim and accessory for each color and finish required.
3. Stone thresholds in 6-inch (150-mm) lengths.
4. Metal edge strips in 6-inch (150-mm) lengths.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Master Grade Certificates: For each shipment, type, and composition of tile, signed by tile manufacturer and Installer.

C. Product Certificates: For each type of product.

D. Product Test Reports: For tile-setting and -grouting products and certified porcelain tile.

1.7 MAINTENANCE MATERIAL SUBMITTALS

A. Furnish extra materials that match and are from same production runs as products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

1.8 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer is a five-star member of the National Tile Contractors Association or a Trowel of Excellence member of the Tile Contractors' Association of America.

2. Installer's supervisor for Project holds the International Masonry Institute's Foreman Certification.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.

B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.

C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.

D. Store liquid materials in unopened containers and protected from freezing.

1.10 FIELD CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations for Tile: Obtain tile of each type and color or finish from single source or producer.

1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.

B. Source Limitations for Setting and Grouting Materials: Obtain ingredients of a uniform quality for each mortar, adhesive, and grout component from single manufacturer and each aggregate from single source or producer.

1. Obtain setting and grouting materials, except for unmodified Portland cement and aggregate, from single manufacturer.

C. Source Limitations for Other Products: Obtain each of the following products specified in this Section from a single manufacturer:

1. Stone thresholds.
2. Waterproof membrane.
3. Crack isolation membrane.
4. Cementitious backer units.
5. Metal edge strips.

2.2 PRODUCTS, GENERAL

A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.

1. Provide tile complying with Standard grade requirements unless otherwise indicated.

B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.

C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.

D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.

E. Ceramic Floor Tile shall have a Dynamic Coefficient of Friction (DCOF) of not less than 0.42 Wet.

2.3 TILE PRODUCTS

A. Refer to Finishes Plans sheets A10.0 and A10.1 for Ceramic Tile locations and patterns.

1. Joints for all rectified tiles shall be 1/16” maximum joints with matching grout color.
2. Non-rectified tiles to have 1/8” grout joints, with grout color as selected by Architect.
3. Exterior Tile Floor to have ¼” grout joints with grout color as selected by Architect.
4. Window Sills shall be filled Travertine.

2.4 THRESHOLDS

A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.

1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch (1.5 mm) above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch (12.7 mm) or less above adjacent floor surface.

B. Marble Thresholds: ASTM C 503/C 503M, with a minimum abrasion resistance of 10 according to ASTM C 1353 or ASTM C 241/C 241M and with honed finish.

1. Description: Uniform, fine- to medium-grained white stone with gray veining.

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2.5 WATERPROOF MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.10 and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

2.6 CRACK ISOLATION MEMBRANE

A. General: Manufacturer's standard product that complies with ANSI A118.12 for standard performance and is recommended by the manufacturer for the application indicated. Include reinforcement and accessories recommended by manufacturer.

2.7 SETTING MATERIALS

A. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02.

1. Cleavage Membrane: Asphalt felt, ASTM D 226/D 226M, Type I (No. 15); or polyethylene sheeting, ASTM D 4397, 4.0 mils (0.1 mm) thick.
2. Reinforcing Wire Fabric: Galvanized, welded-wire fabric, 2 by 2 inches (50.8 by 50.8 mm) by 0.062-inch (1.57-mm) diameter; comply with ASTM A 185/A 185M and ASTM A 82/A 82M, except for minimum wire size.
3. Expanded Metal Lath: Diamond-mesh lath complying with ASTM C 847.

    a. Base Metal and Finish for Interior Applications: Uncoated or zinc-coated (galvanized) steel sheet, with uncoated steel sheet painted after fabrication into lath.
    b. Base Metal and Finish for Exterior Applications: Zinc-coated (galvanized) steel sheet.
    c. Configuration over Studs and Furring: Flat.
    d. Configuration over Solid Surfaces: Self-furring.
    e. Weight: 2.5 lb/sq. yd. (1.4 kg/sq. m)

4. Latex Additive: Manufacturer's standard water emulsion, serving as replacement for part or all of gaging water, of type specifically recommended by latex-additive manufacturer for use with field-mixed portland cement and aggregate mortar bed.

B. Dry-Set Portland Cement Mortar (Thinset): ANSI A118.1.

1. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.1.

C. Latex-Portland Cement Mortar (Thinset): ANSI A118.4.

1. Provide prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
2. For wall applications, provide mortar that complies with requirements for nonsagging mortar in addition to the other requirements in ANSI A118.4.

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D. Medium-Bed, Latex-Portland Cement Mortar: Comply with requirements in ANSI A118.4. Provide product that is approved by manufacturer for application thickness of 5/8 inch (16 mm).

1. Provide product capable of prepackaged, dry-mortar mix containing dry, redispersible, vinyl acetate or acrylic additive to which only water must be added at Project site.
2. Provide prepackaged, dry-mortar mix combined with acrylic resin or styrene-butadiene-rubber liquid-latex additive at Project site.

2.8 GROUT MATERIALS

A. Sand-Portland Cement Grout: ANSI A108.10, consisting of white or gray cement and white or colored aggregate as required to produce color indicated.

B. Standard Cement Grout: ANSI A118.6.

C. Water-Cleanable Epoxy Grout: ANSI A118.3 with a VOC content of 65g?L or less.

2.9 MISCELLANEOUS MATERIALS

A. Trowelable Underlayments and Patching Compounds: Latex-modified, Portland cement-based formulation provided or approved by manufacturer of tile-setting materials for installations indicated.

B. Vapor-Retarder Membrane: Polyethylene sheeting, ASTM D 4397, 4.0 mils (0.1 mm) thick.

C. Metal Edge Strips: Height to match tile and setting-bed thickness, metallic designed specifically for locations required on the drawings.

1. Schluter or equal.
2. At walls and wall/floor joints where detailed - Aluminum Square and L-Shaped profile edge strips.

D. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.

E. Grout Sealer: Manufacturer's standard product for sealing grout joints and that does not change color or appearance of grout.

1. Grout sealers shall comply with requirements of FloorScore certification.

2.10 MIXING MORTARS AND GROUT

A. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.

B. Add materials, water, and additives in accurate proportions.

C. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
2. Verify that concrete substrates for tile floors installed with adhesives bonded mortar bed or thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.

    a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
    b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.

3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with adhesives or thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.

B. Where indicated, prepare substrates to receive waterproofing by applying a reinforced mortar bed that complies with ANSI A108.1A and is sloped 2% (1:50) toward drains.

C. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.

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3.3 CERAMIC TILE INSTALLATION

A. Comply with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of the ANSI A108 series "Specifications for Installation of Ceramic Tile" that are referenced in TCNA installation methods, specified in tile installation schedules, and apply to types of setting and grouting materials used.

1. For the following installations, follow procedures in the ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:

    a. Tile floors in wet areas.
    b. Tile floors consisting of tiles 8 by 8 inches (200 by 200 mm) or larger.

B. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.

C. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.

D. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.

E. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.

F. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize the use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.

1. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets so joints between sheets are not apparent in finished work.
2. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
3. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.

G. Joint Widths: Unless otherwise indicated, install tile with the following joint widths:

1. Rectified Tile: 1/16 inch.
2. Porcelain Tile: 1/8 inch (3.17 mm).

H. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.

I. Stone Thresholds: Install stone thresholds in same type of setting bed as adjacent floor unless otherwise indicated.

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1. At locations where mortar bed (thickset) would otherwise be exposed above adjacent floor finishes, set thresholds in latex-portland cement mortar (thinset).
2. Do not extend cleavage membrane waterproofing or crack isolation membrane under thresholds set in dry-set portland cement or latex-portland cement mortar. Fill joints between such thresholds and adjoining tile set on cleavage membrane waterproofing or crack isolation membrane with elastomeric sealant.

J. Metal Edge Strips: Install at locations indicated and where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with or below top of tile and no threshold is indicated.

K. Grout Sealer: Apply grout sealer to cementitious grout joints in tile floors according to grout-sealer manufacturer's written instructions. As soon as grout sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.

3.4 TILE BACKING PANEL INSTALLATION

A. Install panels and treat joints according to ANSI A108.11 and manufacturer's written instructions for type of application indicated.

3.5 WATERPROOFING INSTALLATION

A. Install waterproofing to comply with ANSI A108.13 and manufacturer's written instructions to produce waterproof membrane of uniform thickness that is bonded securely to substrate.

B. Allow waterproofing to cure and verify by testing that it is watertight before installing tile or setting materials over it.

3.6 CRACK ISOLATION MEMBRANE INSTALLATION

A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.

B. Allow crack isolation membrane to cure before installing tile or setting materials over it.

3.7 ADJUSTING AND CLEANING

A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.

B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.

1. Remove grout residue from tile as soon as possible.
2. Clean grout smears and haze from tile according to tile and grout manufacturer's written instructions but no sooner than 10 days after installation. Use only cleaners recommended

by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.8 PROTECTION

A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.

B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.

C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

3.9 INTERIOR CERAMIC TILE INSTALLATION SCHEDULE

A. Interior Floor Installations, Concrete Subfloor:

1. Tile Installation. Bonded Mortar Bed Installation – 1st Floor Toilets: TCNA F112; bonded mortar bed.

    a. Ceramic Tile Type: Porcelain.
    b. Cementitious Bond Coat: Latex- portland cement mortar ANSI A118.4 or better.
    c. Bonded Mortar Bed:
    d. Waterproof membrane: ANSI A118.10.
    e. Grout: Epoxy Grout ANSI A118.3 or ISO RG.

B. Interior Wall Installations, Metal Studs or Furring:

1. Ceramic Tile Installation TCNA W244F; thinset mortar on fiber-cement backer board.

    a. Ceramic Tile Type: Porcelain.
    b. Thinset Mortar: Latex- portland cement mortar.
    c. Grout: Epoxy Grout ANSI A118.3 or ISO RG.

2. Ceramic Tile Installation TCNA W223; organic adhesive on cement plaster or concrete masonry.

    a. Ceramic Tile Type: Porcelain.
    b. Organic Adhesive: ANSI A136.1 Type I.
    c. Grout: Epoxy Grout ANSI A118.3 or ISO RG.

END OF SECTION 093013

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SECTION 095113 - ACOUSTICAL PANEL CEILINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes acoustical panels and exposed suspension systems for ceilings.

B. Related Requirements:
   1. Section 092900 “Gypsum Board.”
   2. Section 095426 “Suspended Wood Ceilings.”

C. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete.

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. Samples: For each exposed product and for each color and texture specified, 6 inches (150 mm) in size.

C. Samples for Initial Selection: For components with factory-applied color finishes.

D. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of size indicated below.

   1. Acoustical Panel: Set of 6-inch- (150-mm-) square Samples of each type, color, pattern, and texture.
   2. Exposed Suspension-System Members, Moldings, and Trim: Set of 6-inch- (150-mm-) long Samples of each type, finish, and color.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Reflected ceiling plans, drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:

1. Suspended ceiling components.
2. Structural members to which suspension systems will be attached.
3. Size and location of initial access modules for acoustical panels.
4. Items penetrating finished ceiling including the following:

    a. Lighting fixtures.
    b. Air outlets and inlets.
    c. Speakers.
    d. Sprinklers.
    e. Access panels.

5. Perimeter moldings.

B. Qualification Data: For testing agency.

C. Product Test Reports: For each acoustical panel ceiling, for tests performed by manufacturer and witnessed by a qualified testing agency.

D. Evaluation Reports: For each acoustical panel ceiling suspension system and anchor and fastener type, from ICC-ES.

E. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

A. Maintenance Data: For finishes to include in maintenance manuals.

1.7 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. Acoustical Ceiling Panels: Full-size panels equal to 2 percent of quantity installed.
2. Suspension-System Components: Quantity of each exposed component equal to 2 percent of quantity installed.

1.8 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to NVLAP for testing indicated.

B. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

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1. Build mockup of typical ceiling area as shown on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.9 DELIVERY, STORAGE, AND HANDLING

A. Deliver acoustical panels, suspension-system components, and accessories to Project site in original, unopened packages and store them in a fully enclosed, conditioned space where they will be protected against damage from moisture, humidity, temperature extremes, direct sunlight, surface contamination, and other causes.

B. Before installing acoustical panels, permit them to reach room temperature and a stabilized moisture content.

C. Handle acoustical panels carefully to avoid chipping edges or damaging units in any way.

1.10 FIELD CONDITIONS

A. Environmental Limitations: Do not install acoustical panel ceilings until spaces are enclosed and weatherproof, wet work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical panel ceiling installation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: Comply with ASTM E 1264 for Class A materials.
2. Smoke-Developed Index: 50 or less.

B. Fire-Resistance Ratings: Comply with ASTM E 119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL's "Fire Resistance Directory" or from the listings of another qualified testing agency.

2.2 ACOUSTICAL PANELS, GENERAL

A. Low-Emitting Materials: Acoustical panel ceilings shall comply with the testing and product requirements of the California Department of Health Services' "Standard Practice for the

Testing of Volatile Organic Emissions from Various Sources Using Small-Scale Environmental Chambers."

B. Source Limitations:

1. Acoustical Ceiling Panel: Obtain each type from single source from single manufacturer.
2. Suspension System: Obtain each type from single source from single manufacturer.

C. Source Limitations: Obtain each type of acoustical ceiling panel and supporting suspension system from single source from single manufacturer.

D. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 20 percent by weight.

E. Glass-Fiber-Based Panels: Made with binder containing no urea formaldehyde.

F. Acoustical Panel Standard: Provide manufacturer's standard panels of configuration indicated that comply with ASTM E 1264 classifications as designated by types, patterns, acoustical ratings, and light reflectances unless otherwise indicated.

1. Mounting Method for Measuring NRC: Type E-400; plenum mounting in which face of test specimen is 15-3/4 inches (400 mm) away from test surface according to ASTM E 795.

G. Acoustical Panel Colors and Patterns: Match appearance characteristics indicated for each product type.

1. Where appearance characteristics of acoustical panels are indicated by referencing pattern designations in ASTM E 1264 and not manufacturers' proprietary product designations, provide products selected by Architect from each manufacturer's full range that comply with requirements indicated for type, pattern, color, light reflectance, acoustical performance, edge detail, and size.

2.3 ACOUSTICAL PANELS TYPICAL CEILINGS

A. Acoustic Ceiling Tile 2 FT x 2 FT.

1. Armstrong “Ultima” #1941 panels.
2. Classification: Provide fire-resistance-rated panels complying with ASTM E 1264 for type, form, and pattern as follows:

a. Type and Form: Type IV, mineral base with painted finish; Form 2
b. Pattern: E.

3. Color: White.
4. LR: Not less than 0.80.
5. NRC: Not less than 0.75.
6. CAC: Not less than 35.
7. Edge/Joint Detail: Beveled Tegular
8. Thickness: 7/8 inch.

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9. Modular Size: 24 by 24 inches (610 by 610 mm).

B. Broad Spectrum Antimicrobial Fungicide and Bactericide Treatment: Provide acoustical panels treated with manufacturer's standard antimicrobial formulation that inhibits fungus, mold, mildew, and gram-positive and gram-negative bacteria and showing no mold, mildew, or bacterial growth when tested according to ASTM D 3272 and evaluated according to ASTM D 3274 or ASTM G 21.

2.4 METAL SUSPENSION SYSTEMS, GENERAL

A. Recycled Content: Postconsumer recycled content plus one-half of preconsumer recycled content not less than 25 percent.

B. Metal Suspension-System Standard: Provide manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635/C 635M.

1. High-Humidity Finish: Comply with ASTM C 635/C 635M requirements for "Coating Classification for Severe Environment Performance" where high-humidity finishes are indicated.

C. Attachment Devices: Size for five times the design load indicated in ASTM C 635/C 635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.

1. Anchors in Concrete: Anchors of type and material indicated below, with holes or loops for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to five times that imposed by ceiling construction, as determined by testing according to ASTM E 488 or ASTM E 1512 as applicable, conducted by a qualified testing and inspecting agency.

a. Type: Postinstalled expansion anchors.
b. Corrosion Protection: Carbon-steel components zinc plated to comply with ASTM B 633, Class Fe/Zn 5 (0.005 mm) for Class SC 1 service condition.
c. Corrosion Protection: Stainless-steel components complying with ASTM F 593 and ASTM F 594, Group 1 Alloy 304 or 316 for bolts; Alloy 304 or 316 for anchor.
d. Corrosion Protection: Components fabricated from nickel-copper-alloy rods complying with ASTM B 164 for UNS No. N04400 alloy.

2. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hangers of type indicated and with capability to sustain, without failure, a load equal to 10 times that imposed by ceiling construction, as determined by testing according to ASTM E 1190, conducted by a qualified testing and inspecting agency.

D. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:

1. Zinc-Coated, Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.

2. Stainless-Steel Wire: ASTM A 580/A 580M, Type 304, nonmagnetic.
3. Nickel-Copper-Alloy Wire: ASTM B 164, nickel-copper-alloy UNS No. N04400.
4. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635/C 635M, Table 1, "Direct Hung") will be less than yield stress of wire, but provide not less than 0.106-inch- (2.69-mm-) diameter wire.

E. Hanger Rods: Mild steel, zinc coated or protected with rust-inhibitive paint.

F. Angle Hangers: Angles with legs not less than 7/8 inch (22 mm) wide; formed with 0.04-inch- (1-mm-) thick, galvanized-steel sheet complying with ASTM A 653/A 653M, G90 (Z275) coating designation; with bolted connections and 5/16-inch- (8-mm-) diameter bolts.

2.5 METAL SUSPENSION SYSTEM

A. Ceilings - General

1. Prelude 15/16 inch face width.

a. Structural Classification: Heavy-duty system.
b. End Condition of Cross Runners: butt-edge type.
c. Face Design: Flat, flush.
d. Material: Hot dipped galvanized steel, ASTM A653
e. Finish: White.

2.6 METAL EDGE MOLDINGS AND TRIM

A. Armstrong wall angles.

B. Roll-Formed, Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations that comply with seismic design requirements; formed from sheet metal of same material, finish, and color as that used for exposed flanges of suspension-system runners.

1. Provide manufacturer's standard edge moldings that fit acoustical panel edge details and suspension systems indicated and that match width and configuration of exposed runners unless otherwise indicated.
2. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.

2.7 ACOUSTICAL SEALANT

A. Acoustical Sealant for Concealed Joints: See Section 079200 “Joint Sealants” for type..

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PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, including structural framing to which acoustical panel ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.

B. Examine acoustical panels before installation. Reject acoustical panels that are wet, moisture damaged, or mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Measure each ceiling area and establish layout of acoustical panels to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width panels at borders, and comply with layout shown on reflected ceiling plans.

3.3 INSTALLATION

A. General: Install acoustical panel ceilings to comply with ASTM C 636/C 636M and seismic design requirements indicated, according to manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

1. Fire-Rated Assembly: Install fire-rated ceiling systems according to tested fire-rated design.

B. Suspend ceiling hangers from building's structural members and as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
2. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices.
4. Secure wire hangers to ceiling-suspension members and to supports above with a minimum of three tight turns. Connect hangers directly either to structures or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger

involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.

6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
8. Do not attach hangers to steel deck tabs.
9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
10. Space hangers not more than 48 inches (1200 mm) o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches (200 mm) from ends of each member.
11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards and publications.

C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers, without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.

D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical panels.

1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
2. Screw attach moldings to substrate at intervals not more than 16 inches (400 mm) o.c. and not more than 3 inches (75 mm) from ends, leveling with ceiling suspension system to a tolerance of 1/8 inch in 12 feet (3.2 mm in 3.6 m). Miter corners accurately and connect securely.
3. Do not use exposed fasteners, including pop rivets, on moldings and trim.

E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

F. Install acoustical panels with undamaged edges and fit accurately into suspension-system runners and edge moldings. Scribe and cut panels at borders and penetrations to provide a neat, precise fit.

1. Arrange directionally patterned acoustical panels as follows:

    a. As indicated on reflected ceiling plans.
    b. Install panels with pattern running in one direction parallel to long axis of space.
    c. Install panels in a basket-weave pattern.
2. For reveal-edged panels on suspension-system runners, install panels with bottom of reveal in firm contact with top surface of runner flanges.
3. Paint cut edges of panel remaining exposed after installation; match color of exposed panel surfaces using coating recommended in writing for this purpose by acoustical panel manufacturer.

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3.4 CLEANING

A. Clean exposed surfaces of acoustical panel ceilings, including trim, edge moldings, and suspension-system members. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095113

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SECTION 095426 - SUSPENDED WOOD CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Wood veneer panels.

B. Linear wood veneer Planks.

C. Wood grilles.

D. Metal suspension system.

1.02 REFERENCE STANDARDS

A. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.

B. ASTM A580/A580M - Standard Specification for Stainless Steel Wire; 2018.

C. ASTM A492 - Standard Specification for Stainless Steel Rope Wire; 1995 (Reapproved 2019).

D. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2022.

E. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.

F. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.

G. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.

H. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019.

I. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.

J. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.

K. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2022.

L. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2022.

M. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).

N. CISCA (WC) - Wood Ceilings Technical Guidelines; 2009.

1.03 ADMINISTRATIVE REQUIREMENTS

A. Coordination: Coordinate work of this section with installation of mechanical and electrical components and with other construction activities affected by work of this section.

B. Preinstallation Meeting: Convene one week before starting work of this section.

C. Sequence work to ensure ceilings are not installed until building is enclosed, dust generating activities have terminated, and overhead work is completed.

1.04 SUBMITTALS

A. See Section 013300 - Administrative Requirements for submittal procedures.

B. Shop Drawings: Indicate grid layout and related dimensioning, attachment of wood ceiling components to grid, accessory attachments, junctions with other ceiling finishes, and mechanical and electrical items installed in the ceiling.

C. Product Data: Provide data on wood ceiling components and suspension system components.

D. Samples: Two samples each, 6 inches long, of suspension system main runner, cross runner, and perimeter molding.

E. Test Reports: Certified test data from an independent test agency verifying that panels meet specified requirements for fire, acoustical, and seismic performance.

F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

G. Designer's qualification statement.

H. Manufacturer's qualification statement.

I. Installer's qualification statement.

J. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
   1. See Section 016100 - Product Requirements for additional provisions.
   2. Wood Ceiling Components: Provide a quantity equal to 2 percent of total product installed.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

B. Installer Qualifications: Company specializing in performing the work of this section.
   1. Minimum 3 years documented experience.
   2. Approved by wood ceiling manufacturer.

1.06 MOCK-UPS

A. Provide 4 feet by 8 feet mock-up including suspension members, trim, and wood ceiling components.

B. See Section 014300 - Quality Requirements for additional requirements.

C. Locate where directed.

D. Mock-up may remain as part of the work.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Deliver wood ceiling components to project site in original, unopened packages.

B. Store in fully enclosed space, flat, level and off the floor.

C. Allow wood materials to acclimate to installed space in accordance with manufacturer’s recommendations.

D. Protect from sunlight, excessive heat, cold, moisture, and relative humidity variations outside of tolerances specified for project conditions in compliance with AWI/AWMAC/WI (AWS).

1.08 FIELD CONDITIONS

A. Do not install suspended wood ceiling system until wet construction work is complete and permanent heat and air conditioning is installed and operating.

B. Maintain room temperature between 60 degrees F (16 degrees C) and 75 degrees F (24 degrees C) and relative humidity between 35 to 55 percent before, during, and after installation.

PART 2 PRODUCTS

2.01 SUSPENDED WOOD CEILING ASSEMBLIES

A. Refer to Reflected Ceiling Plans on drawings for additional ceiling assemblies’ information.

B. Wood Panel Ceiling System: Panels, suspension members, trim, and accessories as required to provide a complete system.

C. Wood Panel Ceiling Assembly Type WPC-1:
   1. Ceiling Units: True Wood Linear Planks, Item No. 1666:
      a. Linear Planks are screw attached to heavy duty DWSS grid.
   2. Layout: As indicated on drawings.
   3. Drywall Suspension system: Flat.

2.02 PERFORMANCE REQUIREMENTS

A. Design for maximum deflection of 1/360 of span.

B. Design to support imposed loads of indicated elements without eccentric loading of supports. Where supported elements may induce rotation of ceiling system components, provide stabilizing reinforcement.

C. Surface Burning Characteristics: Flame spread index of 25 or less, smoke developed index of 50 or less, when tested in accordance with ASTM E84.

D. Wood-Based Materials:
   1. Solid Wood: Clear, dry, sound, plain sawn, selected for compatible species, grain and color, no defects.
   2. Composite Wood Panels: Containing no urea-formaldehyde resin binders.

2.03 COMPONENT PRODUCTS

A. Wood Planks:
   1. Wood Veneer Linear Acoustic Planks: Manufacturer's standard core with wood veneer face and integrated acoustical backer.
      a. Classification: ASTM E1264 Type XX composite wood panel.
         1) Provide MDF core with no added urea formaldehyde (NAUF).
      b. Certification: FSC certified.
      c. Panel Width(s): 4 1/2" x 8' (3 3/4" actual).
      d. Panel Thickness: 3/4 inch (19 mm).
      e. NRC: [0.35] [40], determined in accordance with ASTM E1264.
      f. Backing: Black fabric spanning the reveal opening and overlapping panels.
      a. Surface Veneer Species: [Dark Cherry] [Light Cherry] [Walnut] [Maple] [Light Bamboo] [Beech] [Red Oak] [Dark Bamboo].
         1) Factory Finish: Clear sealer.
      g. Panel Weight: Approximately 3.0 psf (14.65 kg/sq m):
      h. Products:
         1) USG Corporation; True Wood Linear Planks: www.usg.com/ceilings/#sle.
         2) Other manufacturers may submit their products for review and approval in accordance with contract conditions.

B. Metal Suspension Systems:
   1. See Section 095100 - Acoustical Ceilings - USG.
   2. Metal Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with [hold down clips],[perimeter moldings],[seismic clips],[splices],[stabilizer bars] as required.
      a. Materials:
         1) Steel Grid: ASTM A653/A653M G40 galvanized coating, unless otherwise indicated.
   3. Grid Suspension Systems: Heavy Duty G40 galvanized steel grid system of main and cross tees, suspended from structure above.
      a. Indexed Support Bars: Designed for wall-to-wall system only.
      b. Products:

1) USG Corporation; DWSS Drywall Suspension System - Flat Ceilings: www.usg.com/#sle.
2) Substitutions: Not permitted.

C. Moldings and Trim:
1. Edge Molding, Expansion Joints, and Splices: Same material, thickness, and finish as metal pan panels, unless otherwise indicated.
2. Perimeter (Wall) Moldings: Same metal and finish as grid.
a. Size: As required for installation conditions.
b. Angle Moldings: L-shaped, for mounting at same elevation as face of grid.

2.04 ACCESSORIES

A. General: Manufacturer's standard accessories for installation method indicated, [above-ceiling accessibility],[seismic requirements].

B. Support Channels, Carriers, and Hangers: Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.

C. Suspension Wire: Size and type as required for application, seismic requirements, and ceiling system flatness requirement specified.
1. Concealed Suspension:
a. Suspension Wire: Steel, annealed, galvanized finish, 12 gage, 0.0808 (2.05 mm) diameter.
2. Exposed (To View) Suspension:
a. Suspension Wire: Stainless steel, 18 gage, 0.0403 (1.02 mm) diameter, complying with ASTM A580/A580M.
b. Suspension Rope: 1/32 inch (0.8 mm) stainless steel rope wire complying with ASTM A492, with [loop and crimp-end],[turnbuckle] connection.

D. Unopposed Tee Attachment Clip: Manufacturer's standard clip designed to create code-compliant cross tee connections when a cross tee is installed in a main tee without another cross tee directly opposite.

E. Touch-Up Paint for Exposed Grid Surfaces: Flat black paint suitable for galvanized material and the environment for the installation.

F. Touch-Up Paint For Concealed Items: Zinc rich type, as recommended by ceiling system manufacturer.

2.05 FABRICATION

A. Shop fabricate wood ceiling components to the greatest extent possible.

B. Shop fabricate wood ceiling components to accommodate mechanical and electrical items.

C. Fabricate access doors components to allow access to ceiling plenum as required, or shown, from linear panels and grid.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify existing conditions before starting work.

B. Verify that layout of hangers will not interfere with other work.

C. Verify that field measurements are as indicated on shop drawings.

D. Do not install ceiling until after interior wet work is dry.

E. Start of installation constitutes acceptance of project conditions.

3.02 PREPARATION

A. Coordinate the location of hangers with other work.

B. Install after major above-ceiling work is complete.

C. Lay out wood ceiling components in pattern according to reflected ceiling plan and as indicated on shop drawings.

D. Acclimate wood ceiling materials by removing from packaging in installation area a minimum of 72 hours prior to installation.

3.03 INSTALLATION - SUSPENSION SYSTEM

A. Install in accordance with ASTM C636/C636M and manufacturer's instructions and as supplemented in this section.

B. Install hangers and inserts coordinated with overhead work. Provide additional hangers and supports as required.

C. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.

D. Lay out system to a balanced grid design with edge units no less than 50 percent of plank, length.

E. Locate system on room axis according to reflected ceiling plan.

F. Suspension System, Non-Seismic: Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.

G. Where ducts. facility services, or equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.

H. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.

I. Support fixture loads using supplementary hangers located within 6 inches (152 mm) of each corner, or support components independently.

J. Do not eccentrically load system or induce rotation of runners.

K. Form expansion joints as detailed. Form to accommodate plus or minus 1 inch (25 mm) movement. Maintain visual closure.

L. Install unopposed tee attachment clips at appropriate locations to enable installation of acoustical units in an ashlar pattern.

M. Edge Moldings: Install at intersection of ceiling and vertical surfaces and penetrations, using components of maximum length, set level. Provide edge moldings at junction with other ceiling finishes. Miter corners. Provide preformed edge closures to match bullnosed cornered partitions.
   1. Use longest practical lengths.
   2. Overlap and rivet corners.

3.04 INSTALLATION - WOOD PLANKS

A. Install planks in accordance with manufacturer's instructions.

B. Fit wood components in place, free from damaged edges or other defects detrimental to appearance and function.

C. Install planks in uniform plane, and free from twist, warp, and dents.

D. Install planks; with 1-inch reveal between planks.

E. Cut to fit perimeter edge trim.

F. Field-cut exposed ends at trimmed perimeter edges square along a perimeter grid member. Attach flush to planks.

G. Field-cut exposed, untrimmed ends square, finish to match plank faces.

H. Install as indicated to secure wood planks tight to the grid system.

I. Fabricate access panels in accordance with manufacturer's instructions.

3.05 TOLERANCES

A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet (3 mm in 3 m).

3.06 CLEANING

A. Clean and touch up minor finish damage. Remove and replace components that cannot be successfully cleaned and repaired.

END OF SECTION

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SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Resilient base.
2. Resilient molding accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each exposed product and for each color and texture specified, not less than 12 inches (300 mm) long.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. FloorScore Compliance: Resilient base shall comply with requirements of FloorScore certification.

2.2 VINYL BASE

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Burke Mercer Flooring Products, Division of Burke Industries Inc.
2. Flexco.
3. Johnsonite; A Tarkett Company.
4. Roppe Corporation, USA.

B. Product Standard: ASTM F 1861, Type TV (vinyl, thermoplastic).

1. Group: I (solid, homogeneous).
2. Style and Location:

a. Style B, Cove: Provide in areas with resilient flooring.

C. Minimum Thickness: 0.125 inch (3.2 mm).

D. Height: 4 inches (102 mm).

E. Lengths: Coils in manufacturer's standard length.

F. Outside Corners: Job formed or preformed.

G. Inside Corners: Job formed or preformed.

H. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

1. Use adhesives shat comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. VCT and Asphalt Tile Adhesives: Not more than 50 g/L.
b. Rubber Floor Adhesives: Not more than 60 g/L.

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare horizontal surfaces according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
4. Moisture Testing: Proceed with installation only after substrates pass testing according to manufacturer's written recommendations, but not less stringent than the following:

a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.

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b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have maximum 75 percent relative humidity level.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install resilient products until they are the same temperature as the space where they are to be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.2 RESILIENT BASE INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient base.

B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.

C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.

D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.

E. Do not stretch resilient base during installation.

F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.

G. Preformed Corners: Install preformed corners before installing straight pieces.

H. Job-Formed Corners:

1. Outside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches (76 mm) in length.

   a. Form without producing discoloration (whitening) at bends.

2. Inside Corners: Use straight pieces of maximum lengths possible and form with returns not less than 3 inches (76 mm) in length.

   a. Miter or cope corners to minimize open joints.

3.3 RESILIENT ACCESSORY INSTALLATION

A. Comply with manufacturer's written instructions for installing resilient accessories.

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B. Resilient Molding Accessories: Butt to adjacent materials and tightly adhere to substrates throughout length of each piece. Install reducer strips at edges of floor covering that would otherwise be exposed.

3.4 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.

B. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

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SECTION 096519 - RESILIENT TILE FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid vinyl floor tile.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For each type of floor tile. Include floor tile layouts, edges, columns, doorways, enclosing partitions, built-in furniture, cabinets, and cutouts.

1. Show details of special patterns.

C. Samples: Full-size units of each color and pattern of floor tile required.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Fire-Test-Response Characteristics: For resilient tile flooring, as determined by testing identical products according to ASTM E 648 or NFPA 253 by a qualified testing agency.

1. Critical Radiant Flux Classification: Class I, not less than 0.45 W/sq. cm.

B. FloorScore Compliance: Resilient tile flooring shall comply with requirements of FloorScore certification.

2.2 SOLID VINYL FLOOR TILE

A. Refer to drawings, finish schedule for products.

B. Tile Standard: ASTM F 1700.

1. Class: Class I, monolithic vinyl tile.

2. Type: Per tile selected.

C. Thickness: 0.100 inch (2.5 mm).

D. Size: As shown on the drawings.

E. Colors and Patterns: As selected by Architect from full range of industry colors.

2.3 INSTALLATION MATERIALS

A. Trowelable Leveling and Patching Compounds: Latex-modified, portland cement based or blended hydraulic-cement-based formulation provided or approved by floor tile manufacturer for applications indicated.

B. Adhesives: Water-resistant type recommended by floor tile and adhesive manufacturers to suit floor tile and substrate conditions indicated.

1. Use adhesives that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):

a. Vinyl Tile Adhesives: 50 g/L or less.

C. Floor Polish: Provide protective, liquid floor-polish products recommended by floor tile manufacturer.

1. ***If the specified and approved product manufacturer does not require or recommend floor polish, none will be required.***

PART 3 - EXECUTION

3.1 PREPARATION

A. Prepare substrates according to floor tile manufacturer's written instructions to ensure adhesion of resilient products.

B. Concrete Substrates: Prepare according to ASTM F 710.

1. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
2. Remove substrate coatings and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, using mechanical methods recommended by floor tile manufacturer. Do not use solvents.
3. Alkalinity and Adhesion Testing: Perform tests recommended by floor tile manufacturer. Proceed with installation only after substrate alkalinity falls within range on pH scale recommended by manufacturer in writing, but not less than 5 or more than 9 pH.
4. Moisture Testing: Proceed with installation only after substrates pass testing according to floor tile manufacturer's written recommendations, but not less stringent than the following:

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a. Perform anhydrous calcium chloride test according to ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. (1.36 kg of water/92.9 sq. m) in 24 hours.
b. Perform relative humidity test using in situ probes according to ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level.

C. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.

D. Do not install floor tiles until they are the same temperature as the space where they are to be installed.

E. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient floor tile.

3.2 FLOOR TILE INSTALLATION

A. Comply with manufacturer's written instructions for installing floor tile.

B. Lay out floor tiles from center marks established with principal walls, discounting minor offsets, so tiles at opposite edges of room are of equal width. Adjust as necessary to avoid using cut widths that equal less than one-half tile at perimeter.

1. Lay tiles square with room axis in pattern indicated.

C. Match floor tiles for color and pattern by selecting tiles from cartons in the same sequence as manufactured and packaged, if so numbered. Discard broken, cracked, chipped, or deformed tiles.

1. Lay tiles with grain running in one direction lengthwise of the room.

D. Scribe, cut, and fit floor tiles to butt neatly and tightly to vertical surfaces and permanent fixtures including built-in furniture, cabinets, pipes, outlets, and door frames.

E. Extend floor tiles into toe spaces, door reveals, closets, and similar openings. Extend floor tiles to center of door openings.

F. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on floor tiles as marked on substrates. Use chalk or other nonpermanent marking device.

G. Install floor tiles on covers for telephone and electrical ducts, building expansion-joint covers, and similar items in finished floor areas. Maintain overall continuity of color and pattern between pieces of tile installed on covers and adjoining tiles. Tightly adhere tile edges to substrates that abut covers and to cover perimeters.

H. Adhere floor tiles to flooring substrates using a full spread of adhesive applied to substrate to produce a completed installation without open cracks, voids, raising and puckering at joints, telegraphing of adhesive spreader marks, and other surface imperfections.

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3.3 CLEANING AND PROTECTION

A. Comply with manufacturer's written instructions for cleaning and protecting floor tile.

B. Floor Polish: If required for the product specified and approved, Remove soil, adhesive, and blemishes from floor tile surfaces before applying liquid floor polish.

1. Apply three coats using polish recommended by Owner.

C. Cover floor tile until Substantial Completion.

END OF SECTION 096519

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SECTION 099000 - PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Surface preparation.

B. Field application of primers, paints, stains, and other coatings for exterior and interior items and surfaces.

1.2 SYSTEM DESCRIPTION

A. Paint exposed surfaces, except where these Specifications indicate that the surface or material is not to be painted or is to remain natural. If an item or a surface is not specifically mentioned, paint the item or surface the same as similar adjacent materials or surfaces. If a color of finish is not indicated, Project Consultant will select from standard colors and finishes available.
   1. Painting includes field painting of exposed bare and covered pipes and ducts (including color coding), hangers, exposed steel and iron supports, and surfaces of mechanical and electrical equipment that do not have a factory-applied final finish.
   2. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

B. Do not paint prefinished items, concealed surfaces, finished metal surfaces, operating parts, and labels.
   1. Prefinished items include the following factory-finished components:
      (a) Architectural woodwork.
      (b) Acoustical wall panels.
      (c) Toilet enclosures.
      (d) Metal lockers.
      (e) Prefinished folding or accordion walls.
      (f) Elevator entrance doors and frames.
      (g) Elevator equipment.
      (h) Finished mechanical and electrical equipment.
      (i) Light fixtures.
   2. Concealed surfaces include walls or ceilings in the following generally inaccessible spaces:
      (a) Foundation spaces.
      (b) Furred areas.
      (c) Ceiling plenums.
      (d) Pipe spaces.
      (e) Duct shafts.
      (f) Elevator shafts.
   3. Finished metal surfaces include the following:
      (a) Anodized aluminum.
      (b) Stainless steel.
      (c) Chromium plate.
      (d) Copper and copper alloys.
      (e) Bronze and brass.
   4. Operating parts include moving parts of operating equipment and the following:
      (a) Valve and damper operators.
      (b) Linkages.
      (c) Sensing devices.

(d) Motor and fan shafts.

5. Labels: Do not paint over UL, FMG, or other code-required labels or equipment name, identification, performance rating, or nomenclature plates.

1.3 REFERENCES

A. American Society for Materials and Testing (ASTM).
1. D16-Terminology for Paint, Related Coatings, Materials, and Applications.
2. D3960-Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings.
3. D4262-pH of Chemically Cleaned or Etched Concrete Surfaces.
4. D4263-Indicating Moisture in Concrete by the Plastic Sheet Method.

B. Environmental Protection Agency (EPA)

C. Factory Mutual Global (FMG).

D. NACE International the Corrosion Society.

E. National Fire Protection Association (NFPA): NFPA 30-Flammable and Combustible Liquids Code.

F. Painting and Decorating Contractors Association (PDCA) P4-Responsibility for Inspection and Acceptance of Surfaces Prior to Painting and Decorating.

G. Society of Protective Coatings (SSPC) SP6-Commercial Abrasion Blast.

H. Underwriter's Laboratory (UL).

1.4 DEFINITIONS

A. General: Standard coating terms defined in ASTM D16 apply to this Section.
1. Flat: Lusterless or matte finish with a gloss range below 15 when measured at an 85 degree meter.
2. Eggshell: Low-sheen finish with a gloss range between 20 and 35 when measured at a 60 degree meter.
3. Semi-gloss: Medium-sheen finish with a gloss range between 35 and 70 when measured at a 60 degree meter.
4. Full gloss: High-sheen finish with a gloss range more than 70 when measured at a 60 degree meter.

1.5 SUBMITTALS

A. Product Data: For each paint system indicated. Include block fillers and primers.
1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each coating material.
3. Low Emitting Materials:
(a) Submit manufacturer's Material Safety Data Sheet Indicating VOC limits of all products.

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B. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative Samples of the actual substrate.
   1. Provide stepped Samples, defining each separate coat, including block fillers and primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
   2. Provide a list of materials and applications for each coat of each Sample. Label each Sample for location and application.
   3. Submit Samples on the following substrates for Architect's review of color and texture only:
      (a) Concrete: 4 inch square samples for each color and finish.
      (b) Concrete Unit Masonry: 4 by 8-inch samples of masonry, with mortar joint in the center, for each finish and color.
      (c) Painted Wood: 8 inch square samples for each color and material on hardboard.
      (d) Stained or Natural Wood: 4 by 8 inch samples of natural or stained-wood finish on representative wood surfaces.
      (e) Ferrous Metal: 3 inch square samples of flat metal and 6-inch long samples of solid metal for each color and finish.

C. LEED Submittal:
   1. Product Data for Credit EQ 4.2: For paints, including printed statement of VOC content and chemical components.

1.6 QUALITY ASSURANCE

A. Applicator Qualifications: Paint applicator shall be licensed in the State of Florida or in Broward County and use state or county journeymen. Provide a legible copy of license and, when applicable a journeyman's certification attesting to qualification requirements.
   1. Certifications: Paint applicator shall provide a certification attesting to having worked on projects similar in scope to this project for a minimum of 5 years. Paint applicator not providing such documentation or not having the required experience will be removed from the project and replaced by the Contractor.

B. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

C. Benchmark Samples (Mockups): Provide a full-coat benchmark finish sample for each type of coating and substrate required. Comply with procedures specified in PDCA P5. Duplicate finish of approved sample Submittals.
   1. Architect will select one room or surface to represent surfaces and conditions for application of each type of coating and substrate.
      (a) Wall Surfaces: Provide samples on at least 100 sq. ft.
      (b) Small Areas and Items: Project Consultant will designate items or areas required.
   2. Apply benchmark samples, according to requirements for the completed Work, after permanent lighting and other environmental services have been activated. Provide required sheen, color, and texture on each surface.
      (a) After finishes are accepted, Project Consultant will use the room or surface to evaluate coating systems of a similar nature.

D. Final approval of colors will be from benchmark samples.

E. Conform to ASTM for interpretation of terms used in this Section.

F. Labels: Do not paint over Underwriter's Laboratories (UL), Factory Mutual (FM) or other code required labels or equipment name, identification, performance rating, or nomenclature plates.

G. Regulatory Requirements: Conform to applicable code for flame/fuel/smoke rating requirements for finishes.

H. Single Source Responsibility: Provide primers, paints, stains and other coatings for exterior and interior items and surfaces by the same manufacturer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label and the following information:
1. Product name or title of material.
2. Product description (generic classification or binder type).
3. Manufacturer's stock number and date of manufacture.
4. Contents by volume, for pigment and vehicle constituents.
5. Thinning instructions.
6. Application instructions.
7. Color name and number.
8. VOC content.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 degrees F and a maximum temperature of 90 degrees F. Maintain storage containers in a clean condition, free of foreign materials and residue.
1. Keep storage area neat and orderly. Remove oily rags and waste daily.

C. Container Labeling: Include manufacturer's name, type of paint, brand name, brand code, coverage, surface preparation, drying time, cleanup, color designation, and instructions for mixing.

D. Store and mix materials in 1 area only.

E. Comply with health and fire regulations. Take precautionary measures to prevent fire hazards and spontaneous combustion.

1.8 PROJECT CONDITIONS

A. Allow sufficient time for stucco and plaster to moist cure in accordance with Section 09220-Portland Cement Plaster (Stucco). The pH factor and moisture level of all areas to receive primer or paint shall be tested and confirmed.
1. pH factor shall be below 10.
2. Moisture content shall be below 80.
3. Provide a written record of each such test.
4. "Hot" primer shall not be permitted until the pH is below 10.

B. Comply with manufacturer's recommendations as to environmental conditions under which coatings and coating systems can be applied.

C. Do not do any painting if the relative humidity exceeds 90 percent.

D. Do not apply finish in areas where dust is being generated.

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E. Cover or otherwise protect finished work of other trades and surfaces not being painted concurrently or not to be painted.

F. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 degrees F above the dew point; or to damp or wet surfaces.
1. Painting may continue during inclement weather if surfaces and areas to be painted are enclosed and heated within temperature limits specified by manufacturer during application and drying periods.

G. Provide continuous ventilation to maintain surface and ambient temperatures 24 hours before, during and 48 hours after painting.

H. Provide lighting levels of 50 foot candles at mid-height at substrate surface.

1.9 WARRANTY

A. Provide a written guarantee, co-signed jointly and severalty by the Contractor, painting subcontractor, and materials manufacturers, against cracking, peeling flaking, chalking and mildew on interior surfaces, and additionally against erosion and unreasonable fading or exterior surfaces, for 6 years; agreeing to repair and repaint surfaces affected by such defects, at no cost to the Owner, including necessary removal or protection of other work, without limit, within 30 days after notification by the Owner, and to perform such work based on the provisions of this section, including extension of the guarantee to cover new work.

1.10 EXTRA STOCK

A. Provide “Home Store” data (where painter purchased the paints used on the project) include all paint records and the following Home Store information:
1. Name.
2. Address.
3. Telephone number.
4. Store manager name.
5. List of paints purchased by name and type.

B. Provide five (5) one-gallon containers of each color and surface texture of respective finish paints used on the project.

C. Label each container with color, texture and room locations, in addition to the manufacturer’s label.

D. Deliver and store extra stock at the time of substantial completion.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Paints General: Subject to compliance with the specified requirements, provide products by one of the following manufacturers:
1. (Basis of Design) Sherwin-Williams Company.
2. Benjamin Moore & Co.
3. MAB Paints.
4. PPG Architectural Finishes, Inc.

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2.2 PAINT MATERIALS, GENERAL

A. Material Compatibility: Provide block fillers, primers, and finish-coat materials that are compatible with one another and with the substrates indicated under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.

B. Material Quality: Provide manufacturer's best-quality paint material of the various coating types specified that are factory formulated and recommended by manufacturer for application indicated. Paint-material containers not displaying manufacturer's product identification will not be acceptable.

1. Proprietary Names: Use of manufacturer's proprietary product names to designate colors or materials is not intended to imply that products named are required to be used to the exclusion of equivalent products of other manufacturers.

C. Colors: As selected by Project Consultant from manufacturer's full range.

D. Millage noted below is minimum acceptable dry film thickness per coat application.

E. VOC Content of Field-Applied Interior Paints and Coatings: Provide products that comply with the following limits for VOC content, exclusive of colorants added to a tint base, when calculated according to 40 CFR 59, Subpart D (EPA Method 24); these requirements do not apply to paints and coatings that are applied in a fabrication or finishing shop:

1. Flat Paints, Coatings, and Primers: VOC content of not more than 50 g/L.
2. Nonflat Paints, Coatings, and Primers: VOC content of not more than 150 g/L.
3. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: VOC not more than 250 G/L.
4. Floor Coatings: VOC not more than 100 g/L.
5. Shellacs, Clear: VOC not more than 730 g/L.
6. Shellacs, Pigmented: VOC not more than 550 g/L.
7. Flat Topcoat Paints: VOC content of not more than 150 g/L.
8. Nonflat Topcoat Paints: VOC content of not more than 150 g/L.
9. Anti-Corrosive and Anti-Rust Paints Applied to Ferrous Metals: VOC not more than 250 g/L.
10. Floor Coatings: VOC not more than 100 g/L.
11. Shellacs, Clear: VOC not more than 730 g/L.
12. Shellacs, Pigmented: VOC not more than 550 g/L.
13. Primers, Sealers, and Undercoaters: VOC content of not more than 200 g/L.
14. Dry-Fog Coatings: VOC content of not more than 400 g/L.
15. Zinc-Rich Industrial Maintenance Primers: VOC content of not more than 340 g/L.
16. Pre-Treatment Wash Primers: VOC content of not more than 420 g/L.

F. Chemical Components of Field-Applied Interior Paints and Coating: Provide topcoat paints and anti-corrosive and anti-rust paints applied to ferrous metals and comply with the following chemical restrictions; these requirements do not apply to paints and coating that are applied in a fabrication or finishing shop:

1. Aromatic Compounds: Paints and coatings shall not contain more than 1.0 percent by weight of total aromatic compounds (hydrocarbon compounds containing one or more benzene rings).
2. Restricted Components: Paints and coating shall not contain any of the following:
   (a) Acrolein.
   (b) Acrylonitrile.
   (c) Antimony.
   (d) Benzene.
   (e) Butyl benzyl phthalate.
   (f) Cadmium.

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(g) Di (2-ethylhexyl) phthalate.
(h) Di-n-butyl phthalate.
(i) Di-n-octyl phthalate.
(j) 1,2-dichlorobenzene.
(k) Diethyl phthalate.
(l) Dimethyl phthalate.
(m) Ethylbenzene.
(n) Formaldehyde.
(o) Hexavalent chromium.
(p) Isophorone.
(q) Lead.
(r) Mercury.
(s) Methyl ethyl ketone.
(t) Methyl isobutyl ketone.
(u) Methylene chloride.
(v) Naphthalene.
(w) Toluene (methylbenzene).
(x) 1,1,1-trichloroethane.
(y) Vinyl chloride.

2.3 CONCRETE UNIT MASONRY BLOCK FILLERS

A. Concrete Unit Masonry Block Filler: Factory-formulated high-performance latex block fillers.
1. Sherwin-Williams; PrepRite Block Filler (B25W25): Applied at a dry film thickness of not less than 8 mils per coat.
(a) Meets GS-11.
(b) Meets FSPMA MP-33.1 Block Filler, Latex-Base, Interior-Exterior Flat, White.

2.4 EXTERIOR PRIMERS

A. Exterior Stucco and Concrete: Alkali-resistant acrylic-latex primer for exterior application.
1. Sherwin-Williams; Loxon Acrylic Primer (A24W300): Applied at a dry film thickness of not less than 3.2 mils per coat.
2. Refer to specification Section 099600 Exterior Textured Coatings.

B. Exterior Wood Primer for Acrylic Enamels: Factory-formulated alkyd or latex wood primer for exterior application.
1. Sherwin-Williams; A-100 Exterior Oil Stain Blocking Primer (Y24W20): Applied at a dry film thickness of not less than 2.3 mils per coat.
or
2. Sherwin-Williams; A-100 Exterior Latex Primer (B42W41/B42W43): Applied at a dry film thickness of not less than 1.4 mils per coat.

C. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.
1. Sherwin-Williams; Pro-Cryl Universal Primer (B66-310 Series): Applied at a dry film thickness of not less than 2.0 mils per coat (acrylic-based).
(a) Meets GS-11.
(b) Meets FSPMA MP-26.3 “Recommended Primer” under Sherwin-Williams DTM Acrylic Gloss Coating (B66 Series).

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D. Exterior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer for exterior application.
1. Sherwin-Williams; Pro-Cryl Universal Primer (B66-310 Series): Applied at a dry film thickness of not less than 2.0 mils per coat.
(a) Meets GS-11.
(b) Meets FSPMA MP-26.3 "Recommended Primer" under Sherwin-Williams DTM Acrylic Gloss Coating (B66 Series).

2.5 INTERIOR PRIMERS

A. Interior Gypsum Board Primer: Factory-formulated latex-based primer for interior application.
1. Sherwin-Williams; Promar 200 Low VOC Interior Latex Primer (B26W02600): Applied at a dry film thickness of not less than 1.0 mils per coat.
(a) Meets GS-11.

B. Interior Wood Primer for Acrylic-Enamel: Factory-formulated acrylic-latex-based interior wood primer.
1. Sherwin-Williams; Premium Wall and Wood Interior Latex Primer (B28W08111): Applied at a dry film thickness of not less than 1.8 mils per coat.
(a) Meets GS-11.

C. Interior Ferrous-Metal Primer: Factory-formulated quick-drying rust-inhibitive alkyd-based metal primer.
1. Sherwin-Williams; ProCryl Universal Primer (B66-310 Series): Applied at a dry film thickness of not less than 2.0 mils per coat.

D. Interior Zinc-Coated Metal Primer: Factory-formulated galvanized metal primer.
1. Sherwin-Williams; ProCryl Universal Primer (B66-310 Series): Applied at a dry film thickness of not less than 2.0 mils per coat.
(a) Meets GS-11.

E. Interior Unit Masonry: Factory-formulated primer for Epoxy finish.
1. Sherwin-Williams; Loxon Masonry Interior/Exterior Primer (A24W8300): Applied at a dry film thickness of not less than 2.1 mils per coat.
(a) Meets GS-11.

2.6 EXTERIOR FINISH COATS

A. Exterior Low-Luster Acrylic Paint: Factory-formulated low-sheen (eggshell) acrylic-latex paint for exterior application.
1. Sherwin-Williams; A-100 Exterior Latex Satin (A82 Series): Applied at a dry film thickness of not less than 1.5 mils per coat.

B. Exterior Semigloss Acrylic Enamel: Factory-formulated semigloss waterborne acrylic-latex enamel for exterior application.
1. Sherwin-Williams; Sher-Cryl HPA Acrylic Coating (B66-350 Series–Semi-Gloss) Applied at a dry film thickness of not less than 2.4 mils per coat.

C. Exterior Full-Gloss Acrylic Enamel for Ferrous and Other Metals: Factory-formulated full-gloss waterborne acrylic-latex enamel for exterior application.
1. Sherwin-Williams; Sher-Cryl HPA Acrylic Coating (B66-300 Series-Gloss): Applied at a dry film thickness of not less than 2.4 mils per coat.
(a) Meets GS-11.

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(b) Meets FSPMA MP-26.3 Acrylic-Base Gloss Enamel, Metal Surfaces, Whites and Tints.

D. Exterior Wood Stain System: Semi-Transparent Finish, water based for exterior application.
1. First Coat: Sherwin-Williams; WoodScapes Semi-Transparent Stain, A15 Series.
2. Second Coat: Sherwin-Williams; WoodScapes Semi-Transparent Stain, A15 Series (100-350 sq ft/gal).

2.7 INTERIOR FINISH COATS

A. Interior Flat Acrylic Paint: Factory-formulated flat acrylic-emulsion latex paint for interior application.
1. Sherwin-Williams; Harmony Interior Acrylic Flat (B05-1000 Series): Applied at a dry film thickness of not less than 1.8 mils per coat.
(a) Meets GS-11.

B. Interior Low Luster Acrylic Paint: Factory-formulated eggshell latex based interior paint.
1. Sherwin-Williams; Harmony Interior Acrylic Eg-Shel (B09-1000 Series): Applied at a dry film thickness of not less than 1.7 mils per coat.
(a) Meets GS-11.

C. Interior Semi-gloss Acrylic Enamel: Factory-formulated semi-gloss acrylic-latex enamel for interior application.
1. Sherwin-Williams; Harmony Interior Acrylic Semi-Gloss (B10-1000 Series): Applied at a dry film thickness not less than 1.8 mils per coat.
(a) Meets GS-11.

2.8 INTERIOR WOOD STAINS AND VARNISHES

A. Open-Grain Wood Filler: Factory-formulated paste wood filler applied at spreading rate recommended by manufacturer.
1. Sherwin-Williams; Sher-Wood Natural Filler (D70T1).

B. Interior Wood Stain: Factory-formulated alkyd-based penetrating wood stain for interior application applied at spreading rate recommended by manufacturer.
1. S-W Minwax 250 VOC Wood Stain

C. Interior Waterborne Clear Satin Varnish: Factory-formulated clear satin acrylic-based polyurethane varnish applied at spreading rate recommended by manufacturer.
1. 2 Coats-Sherwin-Williams; Wood Classics Waterborne Polyurethane Varnish-Satin (A68 Series): Applied at a dry film thickness of not less than 0.8 mils per coat.

D. Interior Waterborne Stain Full-Gloss Varnish:
1. 2 Coats-Sherwin-Williams; Wood Classics Waterborne Polyurethane Varnish-Gloss (A68 Series): Applied at a dry film thickness of not less than 0.8 mils per coat.

PART 3 EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with applicator present, for compliance with requirements for paint application. Comply with procedures specified in PDCA P4.

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1. Proceed with paint application only after unsatisfactory conditions have been corrected and surfaces receiving paint are thoroughly dry.
2. Start of painting will be construed as Applicator's acceptance of surfaces and conditions within a particular area.

B. Coordination of Work: Review other Sections in which primers are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible primers.

3.2 PREPARATION

A. General: Remove hardware and hardware accessories, plates, machined surfaces, lighting fixtures, and similar items already installed that are not to be painted. If removal is impractical or impossible because of size or weight of the item, provide surface-applied protection before surface preparation and painting.
1. After completing painting operations in each space or area, reinstall items removed using workers skilled in the trades involved.

B. Cleaning: Before applying paint or other surface treatments, clean substrates of substances that could impair bond of the various coatings. Remove oil and grease before cleaning.
1. Schedule cleaning and painting so dust and other contaminants from the cleaning process will not fall on wet, newly painted surfaces.

C. Surface Preparation: Clean and prepare surfaces to be painted according to manufacturer's written instructions for each particular substrate condition and as specified.
1. Provide pull tests on existing painted surfaces where a different coating will be applied. Verify with the manufacturer that the coatings are compatible.
2. Provide barrier coats over incompatible primers or remove and reprime.
3. Cementitious Materials: Prepare concrete, concrete unit masonry, cement plaster, and mineral-fiber-reinforced cement panel surfaces to be painted. Remove efflorescence, chalk, dust, dirt, grease, oils, and release agents. Roughen as required to remove glaze. If hardeners or sealers have been used to improve curing, use mechanical methods of surface preparation.
   (a) Use abrasive blast-cleaning methods if recommended by paint manufacturer.
   (b) Determine alkalinity pH and moisture content of surfaces by performing appropriate tests. If surfaces are sufficiently alkaline to cause the finish paint to blister and burn, correct this condition by approved curing methods in Section 09220-Porland Cement (Stucco). Do not paint surfaces if moisture content exceeds that permitted in manufacturer's written instructions.
   (c) Clean concrete floors to be painted with a 5 percent solution of muriatic acid or other etching cleaner. Flush the floor with clean water to remove acid, neutralize with ammonia, rinse, allow to dry, and vacuum before painting.
4. Wood: Clean surfaces of dirt, oil, and other foreign substances with scrapers, mineral spirits, and sandpaper, as required. Sand surfaces exposed to view smooth and dust off.
   (a) Scrape and clean small, dry, seasoned knots, and apply a thin coat of white shellac or other recommended knot sealer before applying primer. After priming, fill holes and imperfections in finish surfaces with putty or plastic wood filler. Sand smooth when dried.
   (b) Prime, stain, or seal wood to be painted immediately on delivery. Prime edges, ends, faces, undersides, and back sides of wood, including cabinets, counters, cases, and paneling.
   (c) If transparent finish is required, backprime with non-yellowing varnish.
   (d) Backprime paneling on interior partitions where masonry, plaster, or other wet wall construction occurs on backside.

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(e) Seal tops, bottoms, and cutouts of unprimed wood doors with a heavy coat of varnish or sealer immediately on delivery.

5. Ferrous Metals: Clean ungalvanized ferrous-metal surfaces that have not been shop coated; remove oil, grease, dirt, loose mill scale, and other foreign substances. Use solvent or mechanical cleaning methods that comply with the Steel Structures Painting Counsel's recommendations.
   (a) Blast steel surfaces clean as recommended by paint system manufacturer and according to SSPC-SP 6/NACE No. 3.
   (b) Treat bare and sandblasted or pickled clean metal with a metal treatment wash coat before priming.
   (c) Touch up bare areas and shop-applied prime coats that have been damaged. Wire-brush, clean with solvents recommended by paint manufacturer, and touch up with same primer as the shop coat.
6. Galvanized Surfaces: Clean galvanized surfaces with nonpetroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment or “passivators” from galvanized sheet metal fabricated from coil stock by mechanical methods SSPC-SP 7.

D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.
1. Maintain containers used in mixing and applying paint in a clean condition, free of foreign materials and residue.
2. Stir material before application to produce a mixture of uniform density. Stir as required during application. Do not stir surface film into material. If necessary, remove surface film and strain material before using.
3. Use only thinners approved by paint manufacturer and only within recommended limits.

E. Tinting: Tint each undercoat a lighter shade to simplify identification of each coat when multiple coats of same material are applied. Tint undercoats to match the color of the finish coat, but provide sufficient differences in shade of undercoats to distinguish each separate coat.

3.3 APPLICATION

A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied.
1. Paint colors, surface treatments, and finishes are indicated in the paint schedules.
2. Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions detrimental to formation of a durable paint film.
3. Provide finish coats that are compatible with primers used.
4. The term "exposed surfaces" includes areas visible when permanent or built-in fixtures, grilles, convector covers, covers for finned-tube radiation, and similar components are in place. Extend coatings in these areas, as required, to maintain system integrity and provide desired protection.
5. Paint surfaces behind movable equipment and furniture the same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment and furniture with prime coat only.
6. Paint interior surfaces of ducts with a flat, nonspecular black paint where visible through registers or grilles.
7. Paint back sides of access panels and removable or hinged covers to match exposed surfaces.
8. Finish exterior doors on tops, bottoms, and side edges the same as exterior faces.
9. Finish interior of wall and base cabinets and similar field-finished casework to match exterior.
10. Sand lightly between each succeeding enamel or varnish coat.

B. Scheduling Painting: Apply first coat to surfaces that have been cleaned, pretreated, or otherwise prepared for painting as soon as practicable after preparation and before subsequent surface deterioration.

1. The number of coats and film thickness required are the same regardless of application method. Do not apply succeeding coats until previous coat has cured as recommended by manufacturer. If sanding is required to produce a smooth, even surface according to manufacturer's written instructions, sand between applications.
2. Omit primer over metal surfaces that have been shop primed and touchup painted.
3. If undercoats, stains, or other conditions show through final coat of paint, apply additional coats until paint film is of uniform finish, color, and appearance. Give special attention to ensure that edges, corners, crevices, welds, and exposed fasteners receive a dry film thickness equivalent to that of flat surfaces.
4. Allow sufficient time between successive coats to permit proper drying. Do not recoat surfaces until paint has dried to where it feels firm, and does not deform or feel sticky under moderate thumb pressure, and until application of another coat of paint does not cause undercoat to lift or lose adhesion.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

1. Brushes: Use brushes best suited for type of material applied. Use brush of appropriate size for surface or item being painted.
2. Rollers: Use rollers of carpet, velvet-back, or high-pile sheep's wool as recommended by manufacturer for material and texture required.
3. Spray Equipment: Use airless spray equipment with orifice size as recommended by manufacturer for material and texture required.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate to achieve dry film thickness indicated. Provide total dry film thickness of the entire system as recommended by manufacturer.

E. Mechanical and Electrical Work: Painting of mechanical and electrical work is limited to items exposed in equipment rooms and occupied spaces.

F. Mechanical items to be painted include, but are not limited to, the following:

1. Uninsulated metal piping.
2. Uninsulated plastic piping.
3. Pipe hangers and supports.
4. Tanks that do not have factory-applied final finishes.
5. Visible portions of internal surfaces of metal ducts, without liner, behind air inlets and outlets.
6. Duct, equipment, and pipe insulation having "all-service jacket" or other paintable jacket material.
7. Mechanical equipment that is indicated to have a factory-primed finish for field painting.

G. Electrical items to be painted include, but are not limited to, the following:

1. Switchgear.
2. Panelboards.
3. Electrical equipment that is indicated to have a factory-primed finish for field painting.

H. Block Fillers: Apply block fillers to concrete masonry block at a rate to ensure complete coverage with pores filled.

I. Prime Coats: Before applying finish coats, apply a prime coat, as recommended by manufacturer, to material that is required to be painted or finished and that has not been prime

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coated by others. Recoat primed and sealed surfaces where evidence of suction spots or unsealed areas in first coat appears, to ensure a finish coat with no bleed-through or other defects due to insufficient application of sealer or primer.

J. Pigmented (Opaque) Finishes: Completely cover surfaces as necessary to provide a smooth, opaque surface of uniform finish, color, appearance, and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections will not be acceptable.

K. Transparent (Clear) Finishes: Use multiple coats to produce a glass-smooth surface film of even luster. Provide a finish free of laps, runs, cloudiness, color irregularity, brush marks, orange peel, nail holes, or other surface imperfections.
1. Provide satin finish for final coats.

L. Stipple Enamel Finish: Roll and redistribute paint to an even and fine texture. Leave no evidence of rolling, such as laps, irregularity in texture, skid marks, or other surface imperfections.

M. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 FIELD QUALITY CONTROL

A. Owner reserves the right to invoke the following test procedure at any time and as often as Owner deems necessary during the period when paint is being applied:
1. Owner will engage a qualified independent testing agency to sample paint material being used. Samples of material delivered to Project will be taken, identified, sealed, and certified in the presence of Contractor.
2. Testing agency will perform appropriate tests as required by Owner
3. Owner may direct Contractor to stop painting if test results show material being used does not comply with specified requirements. Contractor shall remove noncomplying paint from Project site, pay for testing, and repaint surfaces previously coated with the noncomplying paint. If necessary, Contractor may be required to remove noncomplying paint from previously painted surfaces if, on repainting with specified paint, the 2 coatings are incompatible.

3.5 CLEANING

A. Cleanup: At the end of each workday, remove empty cans, rags, rubbish, and other discarded paint materials from Project site.
1. After completing painting, clean glass and paint-spattered surfaces. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

B. Remove all spilled, splashed or splattered paint from all surfaces. Leave entire project in a clean condition.

C. Place scrapings, empty cans, consumed brushes, etc. in plastic bags and dispose of in the proper manner by the Contractor. Place used mineral spirits and other hazardous liquids in an appropriate container and is the responsibility of the Contractor to properly dispose of in full compliance of E.P.A. rules and regulations.

D. Do not mar surface finish by cleaning.

E. Leave entire project in a clean condition.

3.6 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.
1. After work of other trades is complete, touch up and restore damaged or defaced painted surfaces. Comply with procedures specified in PDCA P1.

3.7 EXTERIOR PAINT SCHEDULE (provide the following finish systems):

A. Stucco and Concrete Wall: Unless specialty finish is noted:
1. Low-Luster Acrylic Paint:
(a) Primer: Exterior stucco and concrete primer.
(b) Finish: 2 coats Exterior low-luster acrylic paint.

B. Concrete Unit Masonry:
1. Low-Luster Acrylic Paint:
(a) Block Filler: Concrete unit masonry block filler.
(b) Finish: 2 coats Exterior low-luster acrylic paint.
2. Semi-gloss Acrylic-Enamel:
(a) Block Filler: Concrete unit masonry block filler.
(b) Finish: 2 coats Exterior semi-gloss acrylic enamel.

C. Ferrous-Metal: Primer is not required on shop-primed items.
1. Semi-Gloss Acrylic-Enamel:
(a) Primer: Exterior ferrous-metal primer.
(b) Finish: 2 coats Exterior semi-gloss acrylic enamel for ferrous and other metals.

D. Zinc-Coated Metal:
1. Semi-Gloss Acrylic-Enamel:
(a) Primer: Exterior galvanized metal primer.
(b) Finish: 2 coats Exterior semi-gloss acrylic enamel for ferrous and other metals.

E. Wood Painted;
1. Low-Luster Acrylic Paint:
(a) Primer: Exterior concrete and masonry primer.
(b) Finish: 2 coats Exterior low-luster acrylic paint.

F. Wood Exposed or Stained;
1. Varnish over Stain System:
(a) First Coat: Stain, exterior, water based, semitransparent.
(b) Second Coat: Stain, exterior, Water based, semitransparent.

3.8 INTERIOR PAINT SCHEDULE

A. Concrete Unit Masonry:
1. Semi-gloss Acrylic-Enamel:
(a) Block Filler: Concrete unit masonry block filler.
(b) Finish: 2 coats Interior low-luster acrylic enamel.

B. Gypsum Board:
1. Low-Luster Acrylic-Enamel:
(a) Primer: Interior gypsum board primer.
(b) Finish: 2 coats Interior eg-shel acrylic enamel.
2. Flat Acrylic Enamel:
(a) Primer: Interior gypsum board primer.
(b) Finish: 2 coats Interior flat acrylic enamel.

C. Wood Painted:
1. Semi-gloss Acrylic-Enamel:
(a) Primer: Interior wood primer for acrylic-enamel and semi-gloss alkyd-enamel finishes.
(b) Finish: 2 coats Interior semi-gloss acrylic enamel.

D. Ferrous-Metal:
1. Semi-Gloss Acrylic-Enamel:
(a) Primer: Interior ferrous-metal primer.
(b) Finish: 2 coats Interior semi-gloss acrylic enamel.

E. Zinc-Coated Metal:
1. Semi-Gloss Acrylic-Enamel:
(a) Primer: Interior zinc-coated metal primer.
(b) Finish: 2 coats Interior semi-gloss acrylic enamel.

3.9 INTERIOR STAIN AND NATURAL-FINISH WOODWORK SCHEDULE

A. Stained Woodwork:
1. Waterborne Clear Satin-Varnish: Wipe wood filler before applying stain.
(a) Filler: Open-grain wood filler.
(b) Stain: Interior wood stain.
(c) Finish: 2 coats Interior waterborne clear satin varnish.
2. Waterborne Stain Full-Gloss Varnish Finish: Wipe filler before applying stain.
(a) Filler: Open-grain wood filler.
(b) Stain: Interior wood stain.
(c) Finish: 2 coats Interior waterborne clear gloss varnish.

B. Natural-Finish Woodwork:
1. Waterborne Clear Satin-Varnish: Wipe wood filler before applying stain.
(a) Filler: Open-grain wood filler.
(b) Finish: 2 coats Interior waterborne clear satin varnish.
2. Waterborne Full-Gloss Varnish: Wipe filler before applying stain.
(a) Filler: Open-grain wood filler.
(b) Finish: 2 coats Interior waterborne clear gloss varnish.

END OF SECTION 099000

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SECTION 100000 – MISCELLANEOUS SPECIALTIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Residential Type Refrigerators
2. Food Waste Disposal
3. Built-In Microwave Ovens

B. Related Requirements:

1. Division 26 – Electrical for connection of equipment.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, finishes, and accessories for each product.
2. Include electrical characteristics for motorized units.

B. Shop Drawings: For visual display units.

1. Include brochures, product data sheets, etc. for review.
2. Include wiring diagrams for power and control wiring.

1.4 INFORMATIONAL SUBMITTALS

A. Sample Warranties: For special warranties, if any.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For Food Waste Disposal to include in maintenance manuals.

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1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver factory-fabricated visual display units completely assembled in one piece. If dimensions exceed maximum manufactured unit size, or if unit size is impracticable to ship in one piece, provide two or more pieces with joints in locations indicated on approved Shop Drawings.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain product from single source from single manufacturer.

2.2 Refrigerators

A. Full-sized refrigerators equal to LG Electronics.

1. Side-by-side refrigerator Model: LG #LRSXS2706V, 27 cu ft stainless steel with water and ice through the door.
   a. Quantity: 3 required.
   b. Size: (without handles) 34”D x 70-1/4”H x 36”W (44-1/4”W with door open 90 deg. with handle.

2.3 Food Waste Disposer

A. Manufacturer: InSinkErator or approved equal; 2 required.

B. Model: “Evolution Excel”
1. Continuous feed.
2. On/Off Wall switch.
3. Motor: Single Phase, 1 HP, 120 Volts, 60Hz, 1725 RPM, 10.2 Amps.
4. Permanently lubricated upper and lower bearings.
5. Finish: Stainless Steel, Light Gray.
6. “Sound Seal Plus” Technology.

2.4. Microwave

A. Over-the-Range Micorwaves equal to LG Electronics.
1. 2.0 cu. ft. “print proof” stainless steel, 1050 watts.
2. Bottom controls.
3. Size: 30”W x 17” x16” (nominal).
4. Install where shown on the drawings.
5. Quantity: 2 required.

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. Examine roughing-in for electrical power systems to verify actual locations of connections before installation of motorized, sliding visual display units.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Comply with manufacturer’s written instructions for surface preparations.

B. Clean substrates of substances, such as dirt, mold, and mildew that could impair the proper installation of the Food Waster Disposer.

3.3 INSTALLATION

A. General: Install items indicated on Drawings, in accordance with Manufacturer’s written instructions.

3.4. CLEANING AND PROTECTION

A. Clean products according to manufacturer's written instructions.

END OF SECTION 100000

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SECTION 101423.16 - ROOM-IDENTIFICATION PANEL SIGNAGE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes room-identification signs that are directly attached to the building.

B. Accessible: In accordance with the accessibility standard.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For room-identification signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.

1. Include representative Samples of available typestyles and graphic symbols.

D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

1. Room-Identification Signs: Full-size Sample.
2. Full-size Samples, if approved, will be returned to Contractor for use in Project.

E. Product Schedule: For room-identification signs. Use same designations indicated on Drawings or specified.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer and manufacturer.

B. Sample Warranty: For special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For signs to include in maintenance manuals.

1.6 SUSTAINABLE DESIGN SUBMITTALS

A. Sign location plan showing location, type, and total number of signed for each of the following:

Description on Sign	Remarks
No Smoking within 25 feet	No smoking within 25 feet (or max. extent allowable by local codes) of all entrances, operable windows, and building air intakes.
Green Vehicles	Green Vehicles Only

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer of products.

1.8 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.

1. Failures include, but are not limited to, the following:

a. Deterioration of finishes beyond normal weathering.
b. Deterioration of embedded graphic image.
c. Separation or delamination of sheet materials and components.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in Florida Building Code, Accessibility and ICC A117.1.

2.2 ROOM-IDENTIFICATION SIGNS

A. Room-Identification Sign: Sign with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
1. Solid-Sheet Sign: Photopolymer sheet with raised graphics.

a. Sheet Thickness: 0.125 inch (3.18 mm).
b. Surface-Applied, Raised Graphics: Applied polymer characters.
c. Color(s): Custom colors as selected by Architect.

2. Sign-Panel Perimeter: Finish edges smooth.

a. Edge Condition at Vertical Edges and Horizontal Edges: Square cut.
b. Corner Condition in Elevation: Rounded to 1/2" radius.

3. Mounting: 5/16” Tamperproof screws.

4. Text and Typeface: Accessible raised characters and Braille, typeface as selected by Architect from manufacturer's full range and variable content as scheduled. Finish raised characters to contrast with background color, and finish Braille to match background color.

2.3 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish stainless-steel devices unless otherwise indicated.
3. Exposed Metal-Fastener Components, General:

a. Fabricated from same basic metal and finish of fastened sign unless otherwise indicated.
b. Fastener Heads: Use flathead screws and bolts with tamper-resistant slots unless otherwise indicated.

4. Sign Mounting Fasteners:

a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly unless otherwise indicated.
b. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, and installed in predrilled holes.

2.4 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.

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4. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.

B. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

C. Subsurface-Etched Graphics: Reverse etch back face of clear face-sheet material. Fill resulting copy with manufacturer's standard enamel. Apply opaque manufacturer's standard background color coating over enamel-filled copy.

D. Signs with Changeable Message Capability: Fabricate signs to allow insertion of changeable messages as follows:

1. For snap-in changeable inserts beneath removable face sheet, furnish one suction or other device to assist in removing face sheet. Furnish initial changeable insert. Subsequent changeable inserts are by Owner.
2. For slide-in changeable inserts, fabricate slot without burrs or constrictions that inhibit function. Furnish initial changeable insert. Subsequent changeable inserts are by Owner.
3. For frame to hold changeable sign panel, fabricate frame without burrs or constrictions that inhibit function. Furnish initial sign panel. Subsequent changeable sign panels are by Owner.

2.5 GENERAL FINISH REQUIREMENTS

A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Install signs so they do not protrude or obstruct according to the accessibility standard.
3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.

B. Accessibility: Install signs in locations on walls according to the accessibility standard.

C. Mounting Methods:

1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.

    a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
    b. Thin or Hollow Surfaces: Place sign in position and flush to surface, install washers and nuts on studs projecting through opposite side of surface, and tighten.

2. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.

3.2 ADJUSTING AND CLEANING

A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.

B. Remove temporary protective coverings and strippable films as signs are installed.

C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101423.16

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SECTION 102113.17 - PHENOLIC-CORE TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Phenolic-core toilet compartments configured as toilet enclosures and urinal screens.

B. Related Requirements:
1. Section 061000 "Rough Carpentry" for blocking.
2. Section 102800 "Toilet, Bath, and Laundry Accessories" for toilet tissue dispensers, grab bars, purse shelves, and similar accessories mounted on toilet compartments.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for toilet compartments.

B. Shop Drawings: For toilet compartments.

1. Include plans, elevations, sections, details, and attachment details.
2. Show locations of cutouts for compartment-mounted toilet accessories.
3. Show locations of centerlines of toilet fixtures.
4. Show locations of floor drains.

C. Samples for Initial Selection: For each type of toilet compartment material indicated.

1. Include Samples of hardware and accessories involving material and color selection.

D. Samples for Verification: For the following products, in manufacturer's standard sizes unless otherwise indicated:

1. Each type of material, color, and finish required for toilet compartments, prepared on 6-inch- (152-mm-) square Samples of same thickness and material indicated for Work.
2. Each type of hardware and accessory.

E. Product Schedule: For toilet compartments, prepared by or under the supervision of supplier, detailing location and selected colors for toilet compartment material.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of toilet compartment.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.6 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. Door Hinges: One hinge(s) with associated fasteners.
2. Latch and Keeper: One latch(es) and keeper(s) with associated fasteners.
3. Door Bumper: One door bumper(s) with associated fasteners.
4. Door Pull: One door pull(s) with associated fasteners.
5. Fasteners: Ten fasteners of each size and type.

1.7 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

1.8 QUALITY ASSURANCE

A. Manufacturer Qualifications: Approved manufacturer listed in this section, with minimum (5) years' experience in the manufacture of toilet compartments.

B. Installers Qualifications: Experienced Installer regularly engaging in installation of toilet compartments for minimum (3) years.

C. Source Limitations: Obtain compartment components and accessories from single manufacturer.

1.9 DELIVERY, STORAGEM AND HANDLING

A. Do not deliver toilet compartments to site until building is enclosed and HVAC systems are in operation.
1. Deliver toilet compartments in manufacturer's original packaging.
2. Store in an upright condition.

1.10 WARRANTY

A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:
   1. Phenolic Core Toilet Partitions: Against delamination: 3 years.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Surface-Burning Characteristics: Comply with ASTM E 84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

   1. Flame-Spread Index: **25** or less.
   2. Smoke-Developed Index: 450 or less.

B. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities for toilet compartments designated as accessible.

2.2 PHENOLIC-CORE TOILET COMPARMENTS

A. Basis-of-Design manufacturer: Subject to compliance with requirements, provide products of Bobrick Washroom Equipment, Inc., North Hollywood, CA 91605
   1. Contact Information: (818) 764-1000; Email info@bobrick..com; Website www.bobrick.com.
   2. Other acceptable manufacturer's.
      a. Bradley Corporation, Mills Metals Divison, Menomonee Falls, WI 53051.
      b. Other manufacturer approved as equal by Consultant prior to receipt of bids.

B. Toilet-Enclosure Style: Overhead braced Floor anchored – Bobrick, DuraLine Series 1180.

C. Urinal-Screen Style: Wall hung Floor anchored – Bobrick, DuraLine Series Model 1185, 48" x 18" wide minimum.

D. Door, Panel, and Pilaster Construction: Solid phenolic-core panel material with melamine facing on both sides fused to substrate during panel manufacture (not separately laminated), and with eased and polished edges and no-sightline system. Provide minimum 3/4-inch- (19-mm-) thick doors and pilasters and minimum 1/2-inch- (13-mm-) thick panels.

E. Pilaster Shoes**:** Formed from Type 304 stainless-steel sheet, not less than 0.031-inch (0.79-mm) nominal thickness and 4 inches high, with No. 4 satin brushed finish. Provide concealed retainer clips to attached to pilaster.

F. Urinal-Screen Post: Manufacturer's standard post design of monolithic phenolic urinal screen cutout at bottom to form a post; with shoe matching that on the pilaster. Do not extend post to the ceiling.

G. Brackets (Fittings):
1. Full-Height (Continuous) U-brackets: Manufacturer's standard design; stainless steel.

H. Phenolic-Panel Finish:

1. Facing Sheet Finish: One color and pattern in each room.
2. Color and Pattern: As selected from manufacturer's full range of colors.
3. Edge Color: Through-color matching facing sheet color.

2.3 HARDWARE AND ACCESSORIES

A. Hardware and Accessories: Manufacturer's heavy-duty operating hardware and accessories.

1. Hinges: Manufacturer's minimum 0.062-inch- (1.59-mm-) thick stainless-steel continuous, cam type that swings to a closed or partially open position, allowing emergency access by lifting door. Mount with through-bolts.
2. Latch and Keeper: Manufacturer's heavy-duty surface-mounted cast-stainless-steel latch unit designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through-bolts.
3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless-steel hook and rubber-tipped bumper, sized to prevent in-swinging door from hitting compartment-mounted accessories. Mount with through-bolts.
4. Door Bumper: Manufacturer's heavy-duty rubber-tipped cast-stainless-steel bumper at out-swinging doors. Mount with through-bolts.
5. Door Pull: Manufacturer's heavy-duty cast-stainless-steel pull at out-swinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through-bolts.

B. Overhead Bracing: Manufacturer's standard continuous, extruded-aluminum head rail with anti-grip profile and in manufacturer's standard finish.

C. Anchorages and Fasteners: Manufacturer's standard exposed fasteners of stainless steel, finished to match the items they are securing, with theft-resistant-type heads. Provide sex-type bolts for through-bolt applications. For concealed anchors, use stainless-steel, hot-dip galvanized-steel, or other rust-resistant, protective-coated steel compatible with related materials.

2.4 MATERIALS

A. Phenolic Core: Compressed cellulose impregnated with phenolic resins. Provide smooth maternal, without creases or ripples.

B. Aluminum: ASTM B 221.

C. Stainless-Steel Sheet: ASTM A 240 or A 666, 300 Series, stretcher-leveled standard of flatness.

D. Stainless-Steel Castings: ASTM A 743/A 743M.

E. Zink Aluminum Magnesium and Copper Alloy (Zamac): ASTM B 86.

2.5 FABRICATION

A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

C. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at bottoms of posts. Provide shoes at posts to conceal anchorage.

D. Door Size and Swings: Unless otherwise indicated, provide 24-inch- (610-mm-) wide in-swinging doors for standard toilet compartments and 36-inch- (914-mm-) wide out-swinging doors with a minimum 32-inch- (813-mm-) wide clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and conditions, with Installer present, for compliance with requirements for fastening, support, alignment, operating clearances, and other conditions affecting performance of the Work.

1. Confirm location and adequacy of blocking and supports required for installation.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

a. Pilasters and Panels: 1/2 inch (13 mm).
b. Panels and Walls: 1 inch (25 mm).

2. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.

a. Locate bracket fasteners so holes for wall anchors occur in masonry or tile joints.

b. Align brackets at pilasters with brackets at walls.

B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches (44 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels, and adjust so tops of doors are parallel with overhead brace when doors are in closed position.

C. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.3 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

END OF SECTION 102113.17

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

SECTION 102800 – TOILET ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. General Public-use washroom.
2. Underlavatory guards.
3. Custodial accessories.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include the following:

1. Construction details and dimensions.
2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
3. Material and finish descriptions.
4. Features that will be included for Project.
5. Manufacturer's warranty.

B. Samples: Full size, for each accessory item to verify design, operation, and finish requirements.

1. Approved full-size Samples will be returned and may be used in the Work.

C. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

1. Identify locations using room designations indicated.
2. Identify products using designations indicated.

1.4 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1.6 QUALITY ASSURANCE

A. Source Limitations: For products listed together in the same Part 2 articles, obtain products from single source from single manufacturer.

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

1.7 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.8 WARRANTY

A. Special Mirror Warranty: Manufacturer's standard form in which manufacturer agrees to replace mirrors that develop visible silver spoilage defects and that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch (0.8-mm) minimum nominal thickness unless otherwise indicated.

B. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.

C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch (0.9-mm) minimum nominal thickness.

D. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 (Z180) hot-dip zinc coating.

E. Galvanized-Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).

H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

I. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

2.2 GENERAL, PUBLIC-USE WASHROOM ACCESSORIES

A. Bobrick is specified as a standard of equality, unless otherwise noted.

B. Toilet Tissue (Roll) Dispenser:

1. Bobrick B-2892 or equal.
2. Description: Double-roll dispenser up to 10” diameter with a 3” diameter core, with key lock.
3. Mounting: Surface mounted.
4. Operation: Non-control delivery with theft-resistant spindle.
5. Capacity: Designed for 5-inch- (127-mm-) diameter tissue rolls.
6. Material and Finish: 18-1, Type 304 Stainless steel, No. 4 finish (satin).
7. Location: One (1) at each water closet.

C. Surface Mounted Paper Towel and Waste Receptacle:

1. Bobrick B-43699 or equal.
2. Description: Surface mounted unit with removable waste receptacle.
3. Mounting: Fully recessed.
   a. Framed rough opening 12 5/8” w x 26 5/8” H x 3-3/4” min. deep.
4. Minimum Waste-Receptacle Capacity: 3 gal. leak proof; 18-8, type 304 heavy gauge stainless steel, all welded construction.
5. Material and Finish: 18-8, type 304 Stainless steel, No. 4 finish (satin).
6. Liner: Reusable, vinyl waste-receptacle liner.
7. Lockset: Tumbler type for door.
8. Locations: where shown on the drawings.

D. Liquid-Soap Dispenser:
1. Bobrick B-2111 or equal
2. Description: Surface mounted, vertical tank, vandal resistant.
3. Material: Stainless steel, 18-8, Type 304, 22 gauge
4. Clear acrylic re-fill indicator
5. Locations: One at each lavatory and sink

E. Grab Bar: Toilets and Showers

1. Bobrick B-6806 Series or equal.
2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.

a. Finish: Smooth, No. 4 finish (satin).
4. Outside Diameter: 1-1/2 inches (38 mm).
5. Configuration and Length: As indicated on Drawings.
6. Location: Where shown on Drawings at each accessible toilet and each shower.

F. Sanitary-Napkin Disposal Unit:

1. Equal to Bobrick. B-254 or equal.
2. Mounting: Surface Mounted
3. Door or Cover: Self-closing panel disposal-opening cover and hinged face panel with tumbler lockset.
4. Receptacle: Removable.
5. Material and Finish: 18-8, Type 304 Stainless steel, No. 4 finish (satin), all welded construction.
6. Location: provide one at each water closet in Women's restrooms.

G. Mirror Unit:

1. Bobrick B-165 Series Framed Mirrors or equal. Frame: Stainless-steel angle, 0.05 inch (1.3 mm) thick. Corners: Welded and ground smooth. Hangers: Produce rigid, tamper- and theft-resistant installation, using method indicated below.
2. Wall bracket of galvanized steel, equipped with concealed locking devices requiring a special tool to remove.
3. Size: as indicated on Drawings.

H. Robe Hook: (3 required)

1. Bobrick B-6717 or equal.
2. Description: Single-prong unit.
3. Material and Finish: Stainless steel, No. 7 finish (polished).
4. Location: In each restroom and at each shower.

2.3 UNDERLAVATORY GUARDS

A. Underlavatory Guard:

1. Description: Insulating pipe covering for supply and drain piping assemblies that prevent direct contact with and burns from piping; allow service access without removing coverings.
2. Material and Finish: Antimicrobial, molded plastic, white.

2.4 CUSTODIAL ACCESSORIES

A. Mop and Broom Holder:

1. AJW UJ41 Series or equal
2. Description: Unit with shelf, hooks, holders, and rod suspended beneath shelf.
3. Length: 36 inches (914 mm).
4. Hooks: Three.

5. Mop/Broom Holders: Four, spring-loaded, rubber hat, cam type.
6. Material and Finish: Stainless steel, No. 4 finish (satin).

    a. Shelf: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel.
    b. Rod: Approximately 1/4-inch- (6-mm-) diameter stainless steel.
7. Locations: One (1) in each Janitor's Room.

2.5 FABRICATION

A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F 446.

3.2 ADJUSTING AND CLEANING

A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.

B. Remove temporary labels and protective coatings.

C. Clean and polish exposed surfaces according to manufacturer's written recommendations.

END OF SECTION 102800

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

SECTION 104400 - FIRE PROTECTION SPECIALTIES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Extent of fire extinguisher and cabinet work is indicated on the Drawings and include, but is not limited to, the following:
   1. Portable fire extinguisher and mounting assembly.
   2. Fire extinguisher cabinets.
   3. Attachment hardware.

1.2 REFERENCES

A. (National Association of Architectural Metal Manufacturers) NAAMM “Metal Finishes Manual”.

B. NFPA 10-Standard for Portable Fire Extinguishers.

C. Underwriters Laboratory (UL).

1.3 SUBMITTALS

A. Product Data: Submit manufacturer’s technical data and installation instructions for all portable fire extinguishers required. For fire extinguisher cabinets and fire hose cabinets include rough-in dimensions and details showing mounting methods, relationship to surrounding construction, style and materials.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturers: Subject to compliance with the specified requirements, provide products by one of the following manufacturers:
   1. J.L. Industries.
   2. Larsen’s Manufacturing Co.
   3. Potter-Roemer.

2.2 FIRE EXTINGUISHERS

A. General: Provide fire extinguisher for each extinguisher cabinet and other locations indicated, in colors and finishes selected by Project Consultant from manufacturer’s standard.

B. Abbreviations indicated below to identify extinguisher types related to UL classification and rating system and not necessarily to type and amount of extinguishing material contained in extinguisher. Comply with NFPA-10.

1. Cosmic 5E: Multi-Purpose Dry Chemical type for class A, B, and C fires (2A-10B:C). Steel shell with polyester/export paint finish UL-rated, 5 pound nominal capacity, 1 extinguisher per cabinet and and/or bracket not in a cabinet.

2.3 FIRE EXTINGUISHER CABINETS

A. General: Provide fire extinguisher cabinets of suitable size for housing fire extinguishers of types and capacities required.

1. Fire Extinguisher Cabinets on Interior of building: Larsen's Model #SS-2409-6R semi-recessed is the Basis-Of-Design.

B. Construction: Stainless steel box; weld all joints and grind smooth. Miter and weld perimeter doorframes.

C. Cabinet Type: Suitable for mounting conditions indicated for surface mounting on exterior and semi-recessed type cabinet on interior in non-fire-rated walls.

D. Door Material and Construction: Manufacturer's standard door construction coordinated with cabinet type.

1. Stainless Steel Trims and Door.
2. Surface Mounted Style cabinet on Exterior with full acrylic glazing in door panel.
3. Semi-recessed Trim Style and Depth – 2 1/2" rolled edge with clear acrylic full glazing panel on Interior.
4. Door Hardware: Provide manufacturer's standard door operating hardware of proper type for cabinet type, trim style, and door material and style indicated. Provide either level handle with cam action latch, or door pull, exposed or concealed, and friction latch. Provide concealed or continuous type hinge permitting door to open 180 degrees.
   a. On exterior surface mounted cabinets provide with Larsen-Loc option with pull handle and instructions label.

E. Dimensions: Provide cabinets with inside dimensions as follows:

1. Fire Extinguisher Cabinets: 24 inch H x 9-1/2 inch W x 5-1/2 inch D at exterior surface mounted units; and 24 inch H x 9-1/2 inch W x 6 inch D at semi-recessed units.

2.4 FIRE EXTINGUISHER BRACKETS

A. Provide standard wall bracket as manufactured by fire extinguisher manufacturer, sized to accommodate fire extinguisher for this project. Provide 1 bracket per

required fire extinguisher and provide bracket for interior extinguishers not in cabinets.

2.5 FACTORY FINISHING OF FIRE EXTINGUISHER CABINETS

A. General: Comply with NAAMM "Metal Finishes Manual" for finishes designations and application recommendations except as otherwise indicated. Protect cabinets with plastic or paper covering prior to shipment.

B. Finishes: Provide cabinets constructed of #4 Finish 304 Stainless Steel.
1. Preparation: Clean surfaces of dirt, grease, and loose rust or mill scale. Apply finish to all surfaces of fabricated and assembled units, whether exposed or concealed when installed, except those surfaces indicated to receive another finish.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install items included in this section in locations and at heights to comply with applicable regulations.

B. Prepare recesses in wall for fire extinguisher cabinets as required by type and size of cabinet and style of trim, and to comply with manufacturer's instructions.

C. Securely fasten mounting brackets and fire extinguisher cabinets to structure, square and plumb, to comply with manufacturer's instructions.

D. All extinguishing equipment shall have annual maintenance performed and be certified according to requirements of NFPA 10 no more than 1 month prior to occupancy.

3.2 IDENTIFICATION

A. Identify fire extinguisher in cabinet with lettering spelling "FIRE EXTINGUISHER" die cut into the cabinet door.
1. Color of letting: Red.

B. Identify bracket-mounted extinguishers with red letter decals spelling "FIRE EXTINGUISHER" applied to wall surface. Letter size, style, and location to be selected by Project Consultant.

END OF SECTION 104400

Attachment I

SECTION 122413 - ROLLER WINDOW SHADES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Manually operated roller shades with single rollers.

B. Related Requirements:

1. Section 061000 "Rough Carpentry" for wood blocking and grounds for mounting roller shades and accessories.
2. Section 079200 "Joint Sealants" for sealing the perimeters of installation accessories for light-blocking shades with a sealant.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components and profiles, features, finishes, and operating instructions for roller shades.

B. Shop Drawings: Show fabrication and installation details for roller shades, including shadeband materials, their orientation to rollers, and their seam and batten locations.

C. Samples: For each exposed product and for each color and texture specified, 10 inches (250 mm) long.

D. Samples for Initial Selection: For each type and color of shadeband material.

1. Include Samples of accessories involving color selection.

E. Samples for Verification: For each type of roller shade.

1. Shadeband Material: Not less than **10 inches (250 mm)** square. Mark interior face of material if applicable.
2. Roller Shade: Full-size operating unit, not less than 16 inches (400 mm) wide by 36 inches (900 mm) long for each type of roller shade indicated.
3. Installation Accessories: Full-size unit, not less than 10 inches (250 mm) long.

F. Product Schedule: For roller shades.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

B. Product Certificates: For each type of shadeband material.

C. Product Test Reports: For each type of shadeband material, for tests performed by manufacturer and witnessed by a qualified testing agency.

1.5 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For roller shades to include in maintenance manuals.

1.6 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. Roller Shades: Full-size units equal to 5 percent of quantity installed for each size, color, and shadeband material indicated, but no fewer than four units.

1.7 QUALITY ASSURANCE

A. Installer Qualifications: Fabricator of products.

B. Mockups: Build mockups to verify selections made under Sample submittals, to demonstrate aesthetic effects, and to set quality standards for fabrication and installation.

1. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Deliver roller shades in factory packages, marked with manufacturer, product name, and location of installation using same designations indicated on Drawings.

1.9 FIELD CONDITIONS

A. Environmental Limitations: Do not install roller shades until construction and finish work in spaces, including painting, is complete and dry and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.

B. Field Measurements: Where roller shades are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication and indicate measurements on Shop Drawings. Allow clearances for operating hardware of operable glazed units through entire operating range. Notify Architect of installation conditions that vary from Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain roller shades from single source from single manufacturer.

2.2 MANUALLY OPERATED SHADES WITH SINGLE ROLLERS

A. Acceptable manufacturers:
   1. Basis-of-Design: Draper Inc.
   2. Other acceptable manufacturers:
      a. Hunter Douglas
      b. MechoShade Systems, Inc.
   3. Other manufacturer may submit their products for review by the Architect and Owner prior to bidding.

B. Chain-and-Clutch Operating Mechanisms: With continuous-loop bead chain and clutch that stops shade movement when bead chain is released; permanently adjusted and lubricated.

   1. Bead Chains: Nickel-plated metal.

      a. Loop Length: Full length of roller shade.
      b. Limit Stops: Provide upper and lower ball stops.
      c. Chain-Retainer Type: Clip, jamb mount.

   2. Spring Lift-Assist Mechanisms: Manufacturer's standard for balancing roller shade weight and for lifting heavy roller shades.

      a. Provide for shadebands that weigh more than **10 lb (4.5 kg)** or for shades as recommended by manufacturer, whichever criterion is more stringent.

C. Rollers: Corrosion-resistant steel or extruded-aluminum tubes of diameters and wall thicknesses required to accommodate operating mechanisms and weights and widths of shadebands indicated without deflection. Provide with permanently lubricated drive-end assemblies and idle-end assemblies designed to facilitate removal of shadebands for service.

   1. Roller Drive-End Location: Right or left side of interior face of shade.
   2. Direction of Shadeband Roll: Regular, from back (exterior face) of roller.
   3. Shadeband-to-Roller Attachment: Manufacturer's standard method.

D. Mounting Hardware: Brackets or endcaps, corrosion resistant and compatible with roller assembly, operating mechanism, installation accessories, and mounting location and conditions indicated.

E. Roller-Coupling Assemblies: Coordinated with operating mechanism and designed to join up to three inline rollers into a multiband shade that is operated by one roller drive-end assembly.

F. Shadebands:

1. Shadeband Material: Light-blocking fabric.
2. Shadeband Bottom (Hem) Bar: Steel or extruded aluminum.

a. Type: Enclosed in sealed pocket of shadeband material.
b. Color and Finish: As selected by Architect from manufacturer's full range.

G. Installation Accessories:

1. Front Fascia: Aluminum extrusion that conceals front and underside of roller and operating mechanism and attaches to roller endcaps without exposed fasteners.

a. Shape: L-shaped.
b. Height: Manufacturer's standard height required to conceal roller and shadeband assembly when shade is fully open, but not less than **3 inches (76 mm)**.

2. Endcap Covers: To cover exposed endcaps.

3. Installation Accessories Color and Finish: As selected from manufacturer's full range.

2.3 SHADEBAND MATERIALS

A. Shadeband Material Flame-Resistance Rating: Comply with **NFPA 701**. Testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency. Greenguard certification

B. Fabric: Sheer fabric, stain and fade resistant. Specifications are based on Phifer SW2710 10% open

1. Source: Roller shade manufacturer.
2. Type: 36% fiberglass, 64% vinyl on fiberglass in an twill weave.
3. Thickness: 0.025 in (0.42 mm)
4. Weight: 10.40 **oz./sq. yd.**
5. Roll Width: 63”, 98” and 126 inches.
6. Orientation on Shadeband: Up the bolt.
7. Features: Microban Protection; Green Guard Gold; Lead Free RoHS; REACH Compliant.
8. Color: As selected by Architect from manufacturer's full range.

2.4 ROLLER SHADE FABRICATION

A. Product Safety Standard: Fabricate roller shades to comply with WCMA A 100.1, including requirements for flexible, chain-loop devices; lead content of components; and warning labels.

B. Unit Sizes: Fabricate units in sizes to fill window and other openings as follows, measured at 74 deg F (23 deg C):

1. Between (Inside) Jamb Installation: Width equal to jamb-to-jamb dimension of opening in which shade is installed less 1/4 inch (6 mm) per side or 1/2-inch (13-mm) total, plus or minus 1/8 inch (3.1 mm). Length equal to head-to-sill or -floor dimension of opening in which shade is installed less 1/4 inch (6 mm), plus or minus 1/8 inch (3.1 mm).

C. Shadeband Fabrication: Fabricate shadebands without battens or seams to extent possible, except as follows:

1. Vertical Shades: Where width-to-length ratio of shadeband is equal to or greater than 1:4, provide battens and seams at uniform spacings along shadeband length to ensure shadeband tracking and alignment through its full range of movement without distortion of the material.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, operational clearances, and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ROLLER SHADE INSTALLATION

A. Install roller shades level, plumb, and aligned with adjacent units according to manufacturer's written instructions.

1. Opaque Shadebands: Located so shadeband is not closer than **2 inches (51 mm)**to interior face of glass. Allow clearances for window operation hardware.

B. Roller Shade Locations: At all exterior windows.

3.3 ADJUSTING

A. Adjust and balance roller shades to operate smoothly, easily, safely, and free from binding or malfunction throughout entire operational range.

3.4 CLEANING AND PROTECTION

A. Clean roller shade surfaces, after installation, according to manufacturer's written instructions.

B. Provide final protection and maintain conditions, in a manner acceptable to manufacturer and Installer, that ensure that roller shades are without damage or deterioration at time of Substantial Completion.

C. Replace damaged roller shades that cannot be repaired, in a manner approved by Architect, before time of Substantial Completion.

3.5 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain motor-operated roller shades.

END OF SECTION 122413

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Attachment I

SECTION 123661.19 - QUARTZ AGGLOMERATE COUNTERTOPS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Quartz agglomerate countertops.
2. Quartz agglomerate backsplashes.
3. Quartz agglomerate end splashes.

B. Related Requirements:

1. Section 064116 “Plastic Laminate Faced Architectural Cabinets”
2. Section 224000 “Plumbing Fixtures”

1.3 ACTION SUBMITTALS

A. Product Data: For countertop materials.

B. Shop Drawings: For countertops. Show materials, finishes, edge and backsplash profiles, methods of joining, and cutouts for plumbing fixtures.

1. Show locations and details of joints.
2. Show direction of directional pattern, if any.

C. Samples for Initial Selection: For each type of material exposed to view.

D. Samples for Verification: For the following products:

1. Countertop material, 6 inches (150 mm) square.
2. Wood trim, 8 inches (200 mm) long.
3. One full-size quartz agglomerate countertop, with front edge, 8 by 10 inches (200 by 250 mm), of construction and in configuration specified.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For fabricator.

1.5 CLOSEOUT SUBMITTALS

A. Maintenance Data: For quartz agglomerate countertops to include in maintenance manuals. Include Product Data for care products used or recommended by Installer and names, addresses, and telephone numbers of local sources for products.

1.6 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom-fabricate countertops similar to that required for this Project, and whose products have a record of successful in-service performance.

B. Installer Qualifications: Fabricator of countertops.

C. Mockups: Build mockups to demonstrate aesthetic effects and to set quality standards for fabrication and execution.

1. Build mockup of typical countertop as shown on Drawings.
2. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 FIELD CONDITIONS

A. Field Measurements: Verify dimensions of countertops by field measurements before countertop fabrication is complete.

1.8 COORDINATION

A. Coordinate locations of utilities that will penetrate countertops or backsplashes.

PART 2 - PRODUCTS

2.1 QUARTZ AGGLOMERATE COUNTERTOP MATERIALS

A. Quartz Agglomerate: Solid sheets consisting of quartz aggregates bound together with a matrix of filled plastic resin and complying with ICPA SS-1, except for composition.

1. Manufacturers: WilsonArt Quartz, Corian Quartz, or approved equal.
2. Colors and Patterns: **As selected by Architect from manufacturer's full range**.

B. Plywood: Exterior softwood plywood complying with DOC PS 1, Grade C-C Plugged, touch sanded.

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2.2 COUNTERTOP FABRICATION

A. Fabricate countertops according to quartz agglomerate manufacturer's written instructions and the AWI/AWMAC/WI's "Architectural Woodwork Standards."

1. Grade: Premium

B. Configuration:

1. Front: Straight, slightly eased at top.
2. Backsplash: Straight, slightly eased at corner
3. End Splash: Matching backsplash

C. Countertops: 1/2-inch- (12.7-mm-) thick, quartz agglomerate with front edge built up with same material.

D. Backsplashes: [1/2-inch- (12.7-mm-)] [3/4-inch- (19-mm-)] thick, quartz agglomerate.

E. Fabricate tops with shop-applied edges and backsplashes unless otherwise indicated. Comply with quartz agglomerate manufacturer's written instructions for adhesives, sealers, fabrication, and finishing.

1. Fabricate with loose backsplashes for field assembly.

F. Joints: Fabricate countertops without joints.

G. Joints: Fabricate countertops in sections for joining in field.

1. Joint Locations: Not within 18 inches (450 mm) of a sink or cooktop and not where a countertop section less than 36 inches (900 mm) long would result, unless unavoidable.
2. Joint Type: Bonded, 1/32 inch (0.8 mm) or less in width.
3. Joint Type: Grouted, 1/16 inch (1.5 mm) in width.
4. Joint Type: Sealant filled, 1/16 inch (1.5 mm) in width.
5. Splined Joints: Accurately cut kerfs in edges at joints for insertion of metal splines to maintain alignment of surfaces at joints. Make width of cuts slightly more than thickness of splines to provide snug fit. Provide at least three splines in each joint.

H. Cutouts and Holes:

1. Undercounter Plumbing Fixtures: Make cutouts for fixtures using template or pattern furnished by fixture manufacturer. Form cutouts to smooth, even curves.

    a. Provide vertical edges, slightly eased at juncture of cutout edges with top and bottom surfaces of countertop and projecting 3/16 inch (5 mm) into fixture opening.
    b. Provide vertical edges, rounded to 3/8-inch (10-mm) radius at juncture of cutout edges with top surface of countertop, slightly eased at bottom, and projecting 3/16 inch (5 mm) into fixture opening.
    c. Provide 3/4-inch (20-mm) full bullnose edges projecting 3/8 inch (10 mm) into fixture opening.

2. Counter-Mounted Plumbing Fixtures: Prepare countertops in shop for field cutting openings for counter-mounted fixtures. Mark tops for cutouts and drill holes at corners of cutout locations. Make corner holes of largest radius practical.
3. Fittings: Drill countertops in shop for plumbing fittings, undercounter soap dispensers, and similar items.

2.3 INSTALLATION MATERIALS

A. Adhesive: Low VOC Product recommended by quartz agglomerate manufacturer. Complying with sustainability requirements of the project.

B. Sealant for Countertops: Comply with applicable requirements in Section 079200 "Joint Sealants."

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates to receive quartz agglomerate countertops and conditions under which countertops will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of countertops.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

A. Install countertops level to a tolerance of 1/8 inch in 8 feet (3 mm in 2.4 m), 1/4 inch (6 mm) maximum. Do not exceed 1/64-inch (0.4-mm) difference between planes of adjacent units.

B. Fasten countertops by screwing through corner blocks of base units into underside of countertop. Predrill holes for screws as recommended by manufacturer. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with quartz agglomerate manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

C. Fasten subtops to cabinets by screwing through subtops into cornerblocks of base cabinets. Shim as needed to align subtops in a level plane.

D. Secure countertops to subtops with adhesive according to quartz agglomerate manufacturer's written instructions. Align adjacent surfaces and, using adhesive in color to match countertop, form seams to comply with quartz agglomerate manufacturer's written instructions. Carefully dress joints smooth, remove surface scratches, and clean entire surface.

E. Bond joints with adhesive and draw tight as countertops are set. Mask areas of countertops adjacent to joints to prevent adhesive smears.

1. Install metal splines in kerfs in countertop edges at joints **where indicated**. Fill kerfs with adhesive before inserting splines and remove excess immediately after adjoining units are drawn into position.
2. Clamp units to temporary bracing, supports, or each other to ensure that countertops are properly aligned and joints are of specified width.

F. Install backsplashes and end splashes by adhering to wall and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears.

G. Install aprons to backing and countertops with adhesive. Mask areas of countertops and splashes adjacent to joints to prevent adhesive smears. Fasten by screwing through backing. Predrill holes for screws as recommended by manufacturer.

H. Complete cutouts not finished in shop. Mask areas of countertops adjacent to cutouts to prevent damage while cutting. Make cutouts to accurately fit items to be installed, and at right angles to finished surfaces unless beveling is required for clearance. Ease edges slightly to prevent snipping.

1. Seal edges of cutouts in particleboard subtops by saturating with varnish.

I. Apply sealant to gaps at walls; comply with Section 079200 "Joint Sealants."

END OF SECTION 123661.19

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SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Protecting existing vegetation to remain.
2. Removing existing vegetation.
3. Clearing and grubbing.
4. Stripping and stockpiling topsoil.
5. Stripping and stockpiling rock.
6. Removing above- and below-grade site improvements.
7. Disconnecting, capping or sealing, and removing site utilities.
8. Temporary erosion and sedimentation control.

B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for temporary erosion- and sedimentation-control measures.

1.3 DEFINITIONS

A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.

D. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; and free of weeds, roots, toxic materials, or other nonsoil materials.

E. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.

F. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.

G. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.5 MATERIAL OWNERSHIP

A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.6 INFORMATIONAL SUBMITTALS

A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.

1. Use sufficiently detailed photographs or video recordings.
2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.

B. Topsoil stripping and stockpiling program.

C. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

D. Burning: Documentation of compliance with burning requirements and permitting of authorities having jurisdiction. Identify location(s) and conditions under which burning will be performed.

1.7 QUALITY ASSURANCE

A. Topsoil Stripping and Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.

B. Rock Stockpiling Program: Prepare a written program to systematically demonstrate the ability of personnel to properly follow procedures and handle materials and equipment during the Work. Include dimensioned diagrams for placement and protection of stockpiles.

1.8 FIELD CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.

B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.

1. Do not proceed with work on adjoining property until directed by Architect.

C. Salvageable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises as directed.

D. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

E. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.

F. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earthwork."

1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed.

C. Protect existing site improvements to remain from damage during construction.

1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction and a sediment and erosion control plan, specific to the site that complies with EPA 832/R-92-005 or authorities having jurisdiction, whichever is more stringent.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.

3.3 TREE AND PLANT PROTECTION

A. Protect trees and plants scheduled to remain on-site.

B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations.

3.4 EXISTING UTILITIES

A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.

1. Verify that utilities have been disconnected and capped before proceeding with site clearing.

B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed.

1. Arrange with utility companies to shut off indicated utilities.
2. Owner will arrange to shut off indicated utilities when requested by Contractor.

C. Locate, identify, and disconnect utilities indicated to be abandoned in place.

D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

1. Notify Architect and Owner not less than three days in advance of proposed utility interruptions.
2. Do not proceed with utility interruptions without Architect's written permission.

E. Excavate for and remove underground utilities indicated to be removed.

F. Removal of underground utilities is included in earthwork sections; and in applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security, and utilities sections.

3.5 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
2. Grind down stumps and remove roots larger than 2 inches (50 mm) in diameter, obstructions, and debris to a depth of 24 inches below exposed subgrade.
3. Use only hand methods or air spade for grubbing within protection zones.
4. Chip removed tree branches and dispose of off-site.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

B. Strip topsoil to depth of 6 inches (150 mm) in a manner to prevent intermingling with underlying subsoil or other waste materials.

1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than 2 inches (50 mm) in diameter; trash, debris, weeds, roots, and other waste materials.

3.7 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.

1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

B. Burning tree, shrub, and other vegetation waste is permitted according to burning requirements and permitting of authorities having jurisdiction. Control such burning to produce the least smoke or air pollutants and minimum annoyance to surrounding properties. Burning of other waste and debris is prohibited.

C. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials, and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000

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SECTION 312000 - EARTHWORK

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. Excavating

B. Filling

C. Backfilling

D. Compacting

E. Site grading

F. Soil compaction control

G. Dewatering – if required

H. Other required earthwork operations

1.2 RELATED SECTIONS

1. Geotechnical Engineering for Municipal Building Parking Lot and Canopy prepared by All State Engineering & Testing Consultants, Inc. dated August 28, 2023, are found at the end of this section. The report includes results of Percolation Tests and Soil Borings.

B. Section 313116 – Termite Control

1.3 QUALITY ASSURANCE

A. Job Conditions

1. Bench Marks and Monuments: Protect existing benchmarks, monuments and other reference points. If disturbed or destroyed, replace as directed at no cost to Owner.
2. Disposition of Utilities: Protect active utilities.
3. Remove or plug inactive or abandoned utilities encountered in excavating utilities are located less than 18 inches from cleared surfaces, they must be relocated.
4. Provide dewatering and drainage as required.

1.4 BENCH MARKS

A. Bench Marks Contractor: Employ an experienced and competent State of Florida licensed surveyor to establish the bench marks, determine all lines and grades.

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1.5 FINISHED GRADES

A. Finished Grades: Finished grades mean the final grade of elevations as indicated on drawings. Slope uniformly between grades shown. Provide vertical curves or rounding at abrupt changes in the grades indicated.

1.6 TRENCH SAFETY

A. Trench Safety: Comply with the Trench Safety Act, Sections 553.60 through 553.64 Florida Statutes. Where projects include trenching which exceeds a depth of five (5) feet comply with the trench safety standards as required by Section 553.63 and 553.64 Florida Statute.

PART 2 - PRODUCTS

2.1 FILL

A. "Satisfactory Fill Materials" include materials classified in ASTM D2487-90 as GW, GP, SW and SP properly worked by Contractor to obtain optimum moisture and compaction, and 10% maximum passing #200 sieve.

1. For Buildings:

a. Within 2 feet of the surface of indicated grade, limit rock size to 2 inches.
b. Below 2 feet of the surface of indicated grade limit rock size to 3 inches, see Geotechnical Report prepared by PSI, Inc. Reference Geotechnical Engineering for Municipal Building Parking Lot and Canopy prepared by All State Engineering & Testing Consultants, Inc., 8300 South Palm Drive, Pembroke Pines, Florida, dated August 28, 2023.

B. "Unsatisfactory Materials" include materials other than "Satisfactory Fill Materials." Materials of any classification determined by testing laboratory as too wet or too soft for providing a stable foundation for structure, paving, and walks will be classified as "unsatisfactory".

PART 3 - EXECUTION

3.1 JOB CONDITIONS

A. Condition of Premises; Accept site as found. Excavate, fill, compact, and backfill site as indicated in soils report and specified in this section.

B. Protection

1. Adjacent Structures and Property:

a. Take precautions to guard against movement, settlement, injury or loss to existing structures or to equipment and furnishings housed therein arising directly or indirectly in connection with this contract according to General Conditions.
b. Provide and place bracing or shoring as necessary or proper according to General Conditions.
c. Be responsible for the safety and support of such structures and facilities and be liable for any movement or settlement, damage, or injury caused by or resulting therefrom.

1) If, at any time, the safety of any adjacent structures or facilities appears to be in doubt, cease operations and take immediate precautions to support such structures and facilities and notify owner at once.
2) Resume operations only after permission has been granted by owner.

2. Adjacent Sidewalks and Streets:

a. Take precautions to guard against movement, settlement, or collapse of any sidewalks, curbs, or street passages on adjoining sites and be liable for any such movement, settlement, or collapse according to General Conditions

1) Repair such damage promptly when so ordered at no cost to the Board.
2) Install necessary shoring, including sheet piling as may be required, to protect banks, adjacent paving, structures, and utilities during excavations.
3) Be responsible for any damage to existing structures, equipment, and furnishings due directly or indirectly to construction operations. Except where removal is needed by site grading or location of new buildings, use every possible precaution to prevent injuries to landscaping, drives, curbs, and walks on or next to site of the work and replace at no expense to the Board, any of the above destroyed.

3. Existing Landscaping, Drives, Curbs and Walks: Except where removal is required by site grading or location of new buildings, take every possible precaution to prevent injuries or loss to individual trees, groups of trees, and other existing landscaping, drives, curbs and walks on or next to the site of the work according to General Conditions, and replace any such damaged or destroyed at no cost to the Board.

3.2 SITE CONDITIONS

A. Determine location and nature of work, character of equipment, and facilities needed for performance of work, general, and local conditions prevailing at site, and other matters affecting work under this contract.

B. Subsurface data, including soil borings, ground water elevations, or conditions, if provided are presented only as information available indicating conditions found and limited to exact locations and shall not be interrupted as an indication of conditions that may actually develop during construction.

1. Make deductions of subsurface conditions that may affect methods or cost of construction and agree that no claim for damages or other compensation shall be made, except as are provided

for in the agreement, should conditions be found during construction different from those as calculated or anticipated by the Contractor.

2. The Owner will not be held responsible for variations found to exist between the subsurface data referred to above and actual field conditions that may develop during construction.

C. Where existing grades, utility lines, or substructures are shown on drawings, the Board assumes no responsibility for correctness of existing conditions indicated.

1. Contractor shall locate indicated existing utility lines or substructures that may be affected by this Project, and shall be responsible for any damage or injury they may sustain as a result from working on or near these existing utilities or substructures not specified to be removed or demolished.

D. Benchmarks and Monuments:

1. Maintain existing benchmarks, monuments, and other reference points, and if disturbed or destroyed, replace at no additional cost to the owner.

3.3 FIELD QUALITY CONTROL

A. Public Safety: Accomplish work in a manner providing for the safety of the public and workers and the protection of the property.

B. Construction: Do not close, obstruct, or store material or equipment in streets, sidewalks, alleys, or passageways without a permit according to local ordinances, regulations, codes, and the Board's approval.

C. Interference: Conduct operations with minimum interference with roads and other facilities.

D. Removal:

1. Unless otherwise noted or specified to be relocated or stored, materials removed become property of Contractor and shall be removed completely away from site.
2. Do not store or allow debris to accumulate on site.
3. If Contractor fails to remove excess debris promptly, the Board reserves the right to remove the debris at Contractor's expense.

E. Temporary Structures: Remove temporary structures when no longer required.

F. Repair:

1. Clean up, repair or replace, at no cost to the Board, property damages arising in connection with this Contract.
2. Patch and repair work shall match existing and be performed in a neat and professional manner by worker skilled in the trade involved.
3. This applies to damage to the newly graded areas within the building area limits and damage to adjacent properties by eroded materials.

G. Erosion Repair:

1. Take every precaution and temporary measure to prevent damage from erosion of freshly graded areas.

a. Repair and reestablish grades to required elevations and slopes where settlement or washing occurs before acceptance of work at no cost to the Owner.
b. This applies to damage to the newly graded areas within the building area limits and damage to adjacent properties by eroded materials.

3.4 LOCATIONS AND ELEVATIONS

A. Contractor shall be responsible for surveys, measurements, any layouts required for proper execution of the work.

1. Lay out lines and grades from existing survey control system and as shown on drawings.

3.5 CLEARING AND GRUBBING

A. Within limits of areas designated for building area, grading and site construction work, remove trees, brush, stumps, wood debris, and other deleterious materials not required to remain as part or finished work.

B. Remove grass, plants, vegetarian, and organic material from same area.

C. Burning materials is not allowed on the site.

D. Remove accumulated material daily or as necessary to prevent fire hazard condition.

3.6 STRIPPING

A. Strip turf, organic material, surface litter, rubble and overburden for entire depth of root system of grass or other vegetarian within areas indicated on Site Plan.

B. Stockpile topsoil on site.

C. Remove full depth of muck or organic material from beneath building and five (5) feet beyond footing. Clean potholes, larger than 6 inches in any horizontal direction, in rock filled with muck of organic material.

3.7 EXCAVATION

A. Begin excavation after stripping, clearing, and grubbing has been completed.

B. Excavate to grades required to accommodate the proposed construction.

C. Excavations for structures shall conform to dimensions and elevations indicated for each building.

1. Extend excavations a sufficient distance from walls and footings to allow for placing and removal of forms and installation of services.
2. Excavation below general machine excavation for footings and foundations shall be hand worked.
3. Bottoms of footings shall be on level plains.

F. Excavate in such a manner that quick and efficient drainage of storm water will occur.

G. Remove all "unsatisfactory materials" encountered from the building areas.

H. Classify excavated materials. Separately stockpile suitable soils for use as backfill materials. If sufficient quantities of excavated materials meeting requirements for backfill are not available on site, provide materials meeting these requirements.

3.8 DEWATERING – IF REQUIRED

A. Dewater excavation for inspection and for construction. Concrete or fill shall not be placed in water. Concrete less than eight (8) hours of age shall not be subjected to ground water pressure.

1. Keep excavations free of water while backfilling or construction takes place.
2. Dispose of water resulting from dewatering operations according to city, county, state, and federal regulations.
3. Conduct operations to insure storm water runoff sediment is not discharged to the adjacent lakes, waterways, sewers, streets, and adjacent properties.

3.9 FILLING AND BACKFILLING

A. Filling and Backfilling:

1. Materials: "Satisfactory Fill Materials" shall be used in fills and backfills.
2. Place "Satisfactory Fill Material" in horizontal layers not exceeding 12 inches in loose depth.

   a. Compact as specified in this section.
   b. Do not place materials on muddy surfaces.

B. Reconditioning of Subgrade:

1. Where approved compacted subgrades are disturbed by the Contractor's subsequent operations or adverse weather, scarify and compact the subgrade as specified to required density before further construction occurs.
2. Use power driven hand tampers for recompaction over underground utilities.

C. Backfilling:

1. Do not begin backfilling until construction below finished grade has been accepted, underground utilities systems have been inspected, tested and accepted, forms have been removed, and excavation cleaned of trash and debris.
2. Bring backfill to indicated finished grade
3. Backfill materials and compaction shall be as specified.
4. Do not place backfill in wet areas.
5. Do not operate heavy equipment for spreading and compacting fill closer to foundation or retaining walls than a distance equal to height of backfill above top of footage.
6. Compact the area remaining by power-driven hand tampers suitable for material being compacted.
7. Place backfill carefully around pipes to avoid damage to the pipes.

D. Protection:

1. Settlement or washing occurring in backfilled areas before acceptance of work shall be repaired and grades reestablished to required elevation and slope.

3.10 STABILIZATION AND COMPACTION

A. Prepare the site in accordance with Subsoil Investigation prepared by All State Engineering & Testing Consultants, Inc, dated august 28, 2023 included herein.

B. Densities under buildings, pavements, and sidewalks: Taken on existing soil in each lift at a minimum rate of one (1) per 2500 square feet.

C. Densities under buildings and structure footings and foundations: Taken at each isolated area and at 75 feet o.c. in continuous compacted areas.

D. All excavations and compaction work: Monitored by a qualified Geotechnical Engineer or Soils Technician, who will be selected and retained by the Contractor. Coordinate work schedule with and cooperate with this Engineer or his Representative who maintains field logs of this work. Submit field log to the Owner's Project Representative upon its completion.

3.11 COMPACTION

A. Compact existing earth surfaces (exclude rock) after excavation, demucking and backfilling required levels with "Suitable Backfill Materials".

1. Compact with equipment suited for soil compaction.
2. Moisten or aerate material, as necessary, to provide moisture content to facilitate obtaining specified compaction with equipment being used.
3. Compact each layer to not less than percentage of maximum density specified below, determined according to ASTM D1557, Method D;
4. Insure compaction of previously prepared fill areas has been maintained before placing new layers.

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LOCATION	PERCENTAGE
a. Understructures and building slabs, including footings, each layer.	98%
b. Under pavements and sidewalk areas each layer.	98%
c. Under landscaped areas, each layer including physical education fields.	95%

3.12 DISPOSAL OF EXCESS EXCAVATED MATERIALS

A. Excess “Satisfactory Fill Materials” and “Unsatisfactory Materials” shall become the property of the Contractor.

1. Remove from Site.

3.13 CLEANING

A. Remove trash and unsuitable materials from the site on a daily basis.

END OF SECTION 312000

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All State Engineering & Testing Consultants, Inc.
TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMISTS-DRILLING-ENVIRONMENTAL SERVICES

August 28, 2023

City of Pembroke Pines Public Service Dept
8300 South Palm Drive
Pembroke Pines, 33025

RE: **Geotechnical Engineering for Municipal Building Parking Lot and Canopy**
8300 South Palm Drive
Pembroke Pines, 33025

To Whom It May Concern,

This letter presents the results of All State Engineering & Testing Consultants, Inc. (ASETC) Geotechnical Engineering Study for the above referenced project. The purpose of the geotechnical engineering study was to evaluate the site subsurface conditions and provide foundation recommendations for the project.

Project Description
Our understanding of the site is based on our observations during our subsurface investigation. Information you provided to us indicates the project consists of the construction of parking and aluminum entrance canopy for a municipal building.

Test Method and Subsurface Investigation
The borings was conducted in accordance with procedures outlined for Standard Penetration Test and split spoon sampling of soils by ASTM Method D-1586 as described below.

Two (2) feet long, two (2) inches O.D. split spoon sampler was driven into the ground by successive blows with a 140 lbs hammer dropping thirty (30) inches. The soil sampler was driven two (2) feet at a time (continuous method) then extracted for visual examination and classification of the soil samples.

The number of blows required for one (1) foot penetration of the sample is designated as "N" (known as the standard Penetration Resistance Value). The N Value provides an indication of the relative density of non-cohesive soils and the consistency of cohesive soils. A general evaluation of soils is made from the established correlation between "N" and the relative density or consistency of soils. This dynamic method of soil testing has been widely accepted by foundation engineers and architects to conservatively evaluate the bearing capacity of soils.

The subsurface investigation consisted of performing one (1), 20-ft deep Standard Penetration Test (SPT) borings (B-1). The boring was performed on August 16, 2023.

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Attachment I

Based on the information obtained from the SPT borings,
Boring B-1 comprised of
0'-0" to 3'-0" Gray and White Sand, with N-Values ranging from 10 to 11;
3'-0" to 5'-0" White Quartz Sand, with N-Values ranging from 10 to 14;
5'-0" to 9'-0" Dark Brown Hard Pan Sand with Cemented Lime Sand, with N-Values ranging from 14 to 33;
9'-0" to 15'-0" Tan Lime Sand with Rock Fragments, with N-Values ranging from 33 to 52,
15'-0" to 20'-0" Lime Rock with Cemented Lime Sand, with N-Values ranging from 52 to 56.

Groundwater Conditions
The groundwater table was encountered 5'-6" below the existing ground surface during the performance of the borings. The groundwater elevation is expected to change with seasonal and tidal fluctuations, and during storm/hurricane events. The possibility of groundwater level fluctuations should be considered when developing the design and construction plans for the project.

Foundation Evaluation and Recommendations - Shallow Foundation
Site Preparation Procedures
The site preparation work is expected to include site clearing, subgrade leveling, the placement and compaction of fill and backfill material, and proofrolling.

The site clearing should be performed in all the areas of proposed foundation construction and support of on-grade site features. Site clearing should encompass removing all unsuitable materials such as topsoil, organics, trash, and any other deleterious materials. Upon clearing, proofrolling of the areas of proposed construction or support of on-grade features should be performed. Any soft area observed during proofrolling should be removed and replaced with approved fill material.

We recommend excavate entire building area plus 5'-0" outside the perimeter of construction and remove all unsuitable subsurface material to the necessary depth. We recommend a minimum excavation depth of 2'-0" below existing surface grade

Any fill and backfill materials should be placed in lifts which do not exceed twelve (12) inches. The fill and backfill materials are to be compacted to field dry densities of not less than **98%** of their Maximum Dry Density as determined by the Modified Proctor Compaction Test (ASTM D-1557). The fill and backfill materials should consist of inorganic granular soils, free from deleterious materials, and should be pre-approved by our firm.

The footing and slab subgrades should be compacted to field dry densities of not less than **98%** of their Maximum Dry Density as determined by the Modified Proctor Compaction Test (ASTM D-1557).

Based on the proposed construction, our evaluation of the site subsurface conditions, the Site Preparation Procedures given above having been achieved and verified, we confirm that spread footings and single column pads may be appropriately designed for a ***safe soil bearing capacity of 2000 lb/ft²***.

Limitations
Regardless of the thoroughness of our geotechnical exploration there is always a possibility that conditions on the subject project may be different from those at the test locations. With this being said, ASETC reserves the right to amend/supplement this report upon discovery of new information. Should any subsoil conditions different from those reported in our boring logs be encountered during construction, All State Engineering and Testing Consultants, Inc. should be notified immediately.

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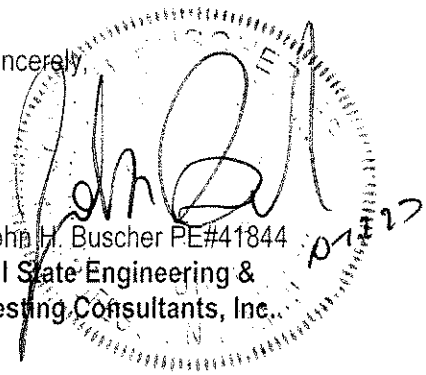
The conclusions provided by All State Engineering & Testing Consultants, Inc. are based solely on the information presented in this report. As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

We appreciate the opportunity to have been of service to you. Please feel free to contact us if there are any questions or comments pertaining to this report.

Sincerely,



John H. Buscher PE#41844
All State Engineering &
Testing Consultants, Inc.

ATTACHMENT 1.0 – BORING LOG

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DRAFT DOCUMENT FOR COMMISSION REVIEW

ATTACHMENT 1.0 – BORING LOG

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

ALL STATE ENGINEERING

All State Engineering & Testing Consultants, Inc.

TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMIST-DRILLING-ENIVIRONMENTAL SERVICES

12949 West Okeechobee Rd. Unit C-4. Hialeah Gardens. Florida 33018 / Phone: 305-888-3373. Fax: 305-888-7443

SPT SOIL BORING REPORT

CLIENT:	City of Pembroke Pines Public Service Dept	Page:	1 of 1
CLIENT ADDRESS:	8300 South Palm Drive, Pembroke Pines, 33025	Report #:	1
PROJECT:	Municipal Building Addition	Boring #:	B-1
PROJECT ADDRESS:	8300 South Palm Drive, Pembroke Pines, 33025	Date:	8/16/23
BORING LOCATION:	Northeast Area of Property	Driller:	TH

DEPTH (FEET)	DESCRIPTION OF MATERIALS	Sample No.	Hammer blows on sampler		"N" Value
1	0'-0" to 3'-0" Gray and White Sand	0'-2'	4	5	11
2			6	5	
3		2'-4'	5	5	10
4	3'-0" to 5'-0" White Quartz Sand		5	6	
5		4'-6'	6	7	14
6	5'-0" to 9'-0" Dark Brown Hard Pan Sand with Cemented Lime Sand		7	7	
7		6'-8'	9	12	26
8			14	14	
9		8'-10'	15	16	33
10	9'-0" to 15'-0" Tan Lime Sand with Rock Fragments		17	17	
11		10'-12'	17	19	37
12			18	18	
13		12'-14'	21	23	47
14			24	22	
15		14'-16'	23	26	52
16	15'-0" to 20'-0" Lime Rock with Cemented Lime Sand		26	28	
17		16'-18'	28	27	56
18			29	29	
19		18'-20'	25	27	53
20			26	26	
21	**End of Boring @ 20'-0"**	20'-22'			0
22					
23		22'-24'			0
24					
25		24'-26'			0
26					
27		26'-28'			0
28					
29		28'-30'			0
30					

WATER TABLE: 5'-6" below surface

Respectfully Submitted:

John H. Buscher PE # 41844
All State Engineering &
Testing Consultants, Inc.

10-17-23

As a mutual protection to clients, the public and ourselves, all reports are submitted as the confidential property of clients, and authorization for publication of statements, conclusions or extracts from or regarding our reports is reserved pending our written approval.

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

All State Engineering & Testing Consultants, Inc.
TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMISTS-DRILLING-ENVIRONMENTAL SERVICES
12949 W Okeechobee Rd. Unit 4 . Hialeah Gardens, FL 33018 Office: 305-888-3373 Fax: 305-888-7443 info@allstateengineering.com

PERCOLATION TEST

USUAL OPEN HOLE - CONSTANT HEAD

DATE:	August 16, 2023	**Test Number:**	P-1
CLIENT:	City of Pembroke Pines Public Service Dept.		
CLIENT ADDRESS:	8300 South Palm Drive, Pembroke Pines, 33025		
PROJECT:	Municipal Building Addition		
PROJECT ADDRESS:	8300 South Palm Drive, Pembroke Pines, 33025		
LOCATION OF TEST:	North Area of Property		

INTERVAL	ELAPSED TIME (MINUTES)	GPM
1	1:00	8
2	1:00	8
3	1:00	8
4	1:00	8
5	1:00	8
6	1:00	8
7	1:00	8
8	1:00	8
9	1:00	8
10	1:00	8

DEPTH OF HOLE : 15 feet **DIA. OF HOLE :** 0.5 feet **PERC. RATE:** 8.0 GPM

DEPTH OF WATER TABLE BELOW GROUND SURFACE : 6 feet

SATURATED HOLE DEPTH : 9 feet **STABILIZED FLOW RATE:** 0.017824

k-VALUE: 1.60E-04

SUBSURFACE INVESTIGATION

Depth Below Ground Surface	Soil Description
0'-0" to 3'-0"	Gray and White Sand
3'-0" to 5'-0"	White Quartz Sand
5'-0" to 9'-0"	Brown Hard Pan Sand with Cemented Lime Sand
9'-0" to 15'-0"	Tan Lime Sand with Rock Fragments

Field Technician: TH
Typed by: GO

Respectfully Submitted

John H. Buscher PE # 41844 10-17-23
All State Engineering &Testing
Consultants, Inc.

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Attachment I

ALL STATE ENGINEERING

All State Engineering & Testing Consultants, Inc.

TESTING LABORATORIES-ENGINEERS-INSPECTION SERVICES-CHEMISTS-DRILLING-ENVIRONMENTAL SERVICES
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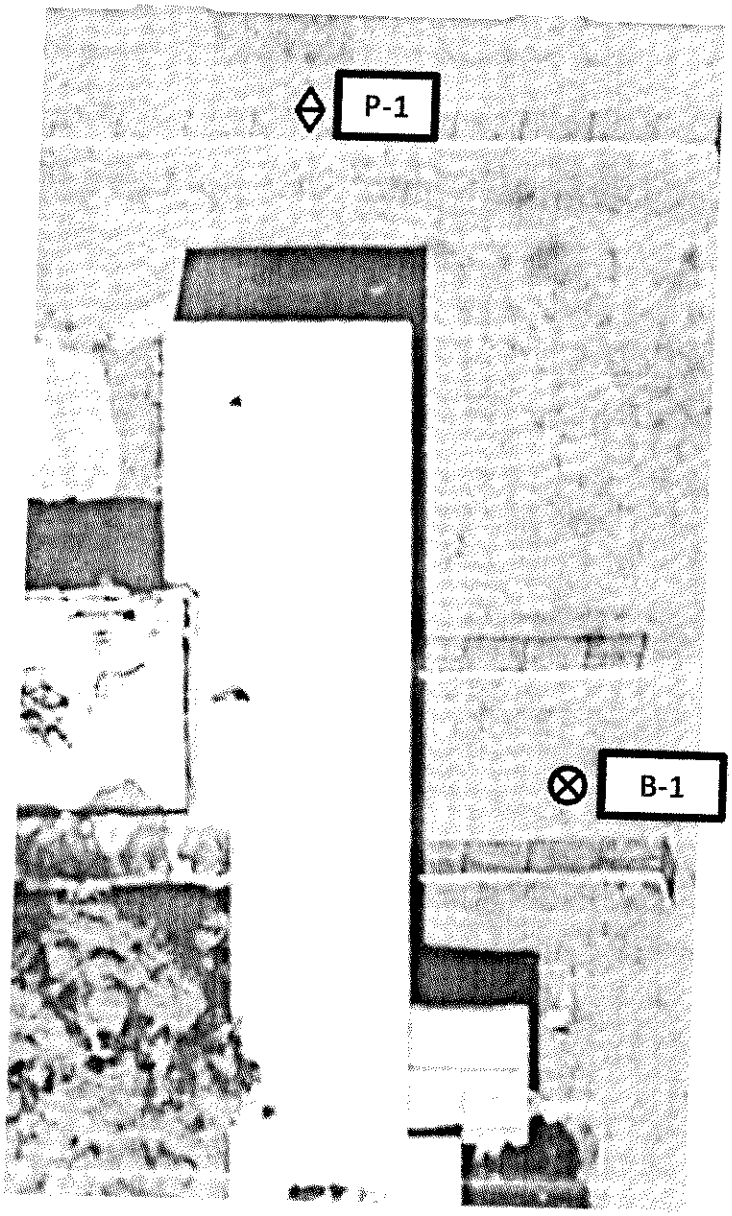
Boring Location Map
8300 South Palm Drive, Pembroke Pines, 33025



Legend
- ⊗ Boring Location
- ⟠ Percolation Location

N

DRAFT DOCUMENT FOR COMMISSION REVIEW

Attachment I

SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Soil treatment.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. Include construction details, material descriptions, dimensions of individual components, and profiles for termite control products.
2. Include the EPA-Registered Label for termiticide products.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer.

B. Product Certificates: For each type of termite control product.

C. Soil Treatment Application Report: After application of termiticide is completed, submit report for Owner's records and include the following:

1. Date and time of application.
2. Moisture content of soil before application.
3. Termiticide brand name and manufacturer.
4. Quantity of undiluted termiticide used.
5. Dilutions, methods, volumes used, and rates of application.
6. Areas of application.
7. Water source for application.

D. Sample Warranties: For special warranties.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products and who is accredited by manufacturer.

1.7 FIELD CONDITIONS

A. Soil Treatment:

1. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with requirements of the EPA-Registered Label and requirements of authorities having jurisdiction.
2. Related Work: Coordinate soil treatment application with excavating, filling, grading, and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs before construction.

1.8 WARRANTY

A. Soil Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work consisting of applied soil termiticide treatment will prevent infestation of subterranean termites, including Formosan termites (Coptotermes formosanus). If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain termite control products from single source from single manufacturer.

2.2 SOIL TREATMENT

A. Termiticide: EPA-Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.

1. Products: Subject to compliance with requirements, provide one of the following:
   a. BASF Corporation, Agricultural Products; Termidor.

b. Bayer Environmental Science; Premise Pre-Construction.
c. FMC Corporation, Agricultural Products Group; Dragnet SFR.
d. Syngenta; Demon MAX.

2. Service Life of Treatment: Soil treatment termiticide that is effective for not less than five years against infestation of subterranean termites.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of soil per termiticide label, interfaces with earthwork, slab and foundation work, landscaping, utility installation, and other conditions affecting performance of termite control.

B. Proceed with application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. General: Prepare work areas according to the requirements of authorities having jurisdiction and according to manufacturer's written instructions before beginning application and installation of termite control treatment(s). Remove extraneous sources of wood cellulose and other edible materials, such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil within and around foundations.

B. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended in writing by termiticide manufacturer.

1. Fit filling hose connected to water source at the site with a backflow preventer, according to requirements of authorities having jurisdiction.

3.3 APPLYING SOIL TREATMENT

A. Application: Mix soil treatment termiticide solution to a uniform consistency. Distribute treatment uniformly. Apply treatment at the product's EPA-Registered Label volume and rate for maximum specified concentration of termiticide to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction.

1. Repaired Slabs-on-Grade: Treat soil materials before concrete slab repairs and any new footings are placed.

B. Post warning signs in areas of application.

C. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

3.4 PROTECTION

A. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.

B. Protect termiticide solution dispersed in treated soils and fills from being diluted by exposure to water spillage or weather until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.

3.5 MAINTENANCE SERVICE

A. Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of termite-control-treatment Installer. Include semiannual maintenance as required for proper performance according to the product's EPA-Registered Label and manufacturer's written instructions. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.

B. Continuing Maintenance Proposal: Provide from termite-control-treatment Installer to Owner, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

1. Include annual inspection for termite activity and effectiveness of termite treatment according to manufacturer's written instructions.

END OF SECTION 313116

POLK BUILDING

Attachment J

NEIGHBORING PROPERTIES: SOUTHWEST HAMMOCKS AND R&R VILLAGE FOR VETERANS