BID NUMBER 10316

SOUTHERN UNIVERSITY AND A&M COLLEGE
BATON ROUGE CAMPUS
REQUEST FOR BID (BID # 10316)
FEBRUARY 23, 2024-10:30 AM
EXTERIOR WINDOWS & CANOPY REPAIRS
Location: Laboratory School

Architect Firm: DOMAIN Architecture
Contacts: Austin Duhon.....aduhon@domainbr.com
Ingrid Wiilliams....iwilliams@domainbr.com
225-216-3770

MANDATORY PRE—BID CONFERENCE AND SITE VISIT:	JANUARY 31, 2024 @ 10:30 AM Physical Plant Department Benjamin H. Kraft Building 515 James L. Hunt Street Southern University Baton Rouge Campus Site Telephone No. 225-771-4741
DEADLINE TO SUBMIT INQUIRIES:	FEBRUARY 7, 2024 **by 5:00 PM**
SUBMIT INQUIRIES TO:	**Linda Antoine** Email: linda_antoine@subr.edu
DEADLINE TO RESPOND TO INQUIRIES	FEBRUARY 12, 2024 **by 5:00 PM**

Note: Responses to inquiries/Addenda are pasted on LaPAC (LA Procurement Website)

LA State Procurement website:
https://wwwcfprd.doa.louisiana.gov/OSP/LaPAC/Agency/outMain.cfm
It is the responsibility of the vendor to check LAPAC for addenda.

DEADLINE TO SUBMIT BID:	**FEBRUARY 23, 2024**
SUBMIT BID TO:	Linda Antoine, Director Southern University Purchasing Department-P. O. Box 9534 or James L. Prestage Drive J. S. Clark Adm. Bldg. Annex, 1st Floor Baton Rouge, LA 70813 **Telephone No. 225-771-2804 or 771-4580**

ADVERTISEMENT
REQUEST FOR BID
BID #10316
EXTERIOR WINDOWS & CANOPY REPAIRS
SOUTHERN UNIVERSITY AND A&M COLLEGE
LABORATORY SCHOOL
FEBRUARY 23, 2024-10:30 AM

Sealed bids will be received by Southern University, Baton Rouge, Louisiana, in the Purchasing Office, 8100 James L. Prestage Drive, J. S. Clark Administration Building Annex, South Entrance, First Floor East. Bidders are solely responsible for ensuring timely delivery of their bids. The Southern University Purchasing Department is not responsible for any delays caused by bidders' chosen means of delivery. Failure to meet the bid deadline submittal date and time shall result in rejection of bid.

MAIL OR HAND-DELIVER BID TO PURCHASING DEPARTMENT NO LATER THAN 10:30 AM-FEBRUARY 23, 2024

Mandatory Pre-Bid Conference & Site Visit: January 31, 2024 @ 10:30 am
Site Visit Location: 515 Benjamin Kraft Physical Plant Building
515 James L. Hunt Street (Southern University Campus)
Baton Rouge, La 70813
Site Visit Telephone Number: 225-771-4741

Participants shall be in attendance by 10:30 a.m. and sign-in on sheet provided by the Purchasing Department.

Bidders shall visit the site and be familiarized with the local conditions under which the work is to be performed. No additional compensation will be granted because of unusual difficulties, which may be encountered in the execution of any portion of the work.

Inquiries will be accepted until February 7, 2024 by 5:00 p.m. Inquiries shall be submitted to Linda Antoine at linda_antoine@subr.edu

Responses to inquiries will be posted on LaPAC-LA State Procurement website by February 12, 2024 by 5:00 p.m.

Any person requiring special accommodations should notify the Purchasing Office of the type(s) of accommodation required not less than seven (7) days before the bid opening date.

All bids must be accompanied by bid security equal to **five (5%) percent of the sum of the base bid and all alternates, if applicable** and must be in the form of a certified/official check, cashier's check or bid bond, made payable to Southern University and A & M College. Surety represents that it is listed on the current U.S. Department of the Treasury Financial Management Service list of approved bonding companies and that is listed thereon as approved for amount equal to or greater than the amount for which it obligates itself in this instrument. No bid bond indicating an obligation of less than five percent (5%) by any method is acceptable.

The successful bidder shall be required to furnish a **Performance and Payment Bond** written by a company licensed to do business in Louisiana, in an amount equal to 100% of the contract amount and who is currently on the U.S. Department of the Treasury Financial Management Service List.

Bidders shall include the following on envelope of choice: company's name, address, Louisiana contractor's license number, bid number, bid opening date and time.

Bids may be withdrawn by written, telegraphic fax notice or email and received at the address or email address designated in the Invitation to Bid prior to the time set for bid opening, as recorded by date stamp at the Purchasing Office. Bids received after closing time will be returned unopened. Evidence of authority to submit the bid shall be required in accordance with R.S. 38:2212(a)(1)(c) and/or R.S. 39:1594(c)(2)(d).

The Southern University System is a participant in the Louisiana for the Small Entrepreneurships Program (the Hudson Initiative) and the Louisiana Initiative for Veterans and Service-Connected Disabled Veterans-Owned Business Small Entrepreneurships. Bidders are encouraged to consider participation. A list of certified vendors and additional information can be obtained from website http://www.ledsmallbiz.com. Potential participants may also register at this website.

ALL BID SPECIFICATIONS CAN BE OBTAINED BY ACCESSING THE LA STATE PROCUREMENT WEBSITE
https://wwwcfprd.doa.louisiana.gov/osp/lapac/pubMain.cfm.

Any questions concerning bid documents, please contact Mary Jane Spruel, Assistant Director of Purchasing at (225) 771-2800 or email to Maryjane_spruel@subr.edu

The University reserves the right to reject all bids and to waive any informalities incidental thereto. Bids will be accepted only from contractors who are licensed under Louisiana R.S. 39:2150-2173 for the classification of: 72000000 Building and Construction, and Maintenance Services; 72100000 Building and Construction, and Maintenance and Repair Services; 72131600 Commercial or Industrial Construction.

SOUTHERN UNIVERSITY & A&M COLLEGE
AN EQUAL OPPORTUNITY EMPLOYER
Linda A. Antoine, Director of Purchasing
DATES ADVERTISED:
JANUARY 24 & JANUARY 31, 2024 & FEBRUARY 7, 2024

TO: **Southern University and A&M College**
Post Office Box 9534
James J. Prestage Dr-J.S. Clark Adm. Bldg. Annex
Baton Rouge, LA 70813

BID FOR: Bid Number 10516
Exterior Windows & Canopy Repairs
Laboratory School
Southern University and A&M College
Baton Rouge Campus

The undersigned bidder hereby declares and represents that she/he: a) has carefully examined and understands the Bidding Documents, b) has not received, relied on, or based his bid on any verbal instructions contrary to the Bidding Documents or any addenda, c) has personally inspected and is familiar with the project site, and hereby proposes to provide all labor, materials, tools, appliances and facilities as required to perform, in a workmanlike manner, all work and services for the construction and completion of the referenced project, all in strict accordance with the Bidding Documents prepared by: ***Purchasing Department 1/19/2024***

Bidders must acknowledge all addenda. The Bidder acknowledges receipt of the following **ADDENDA:** (Enter the number the Designer has assigned to each of the addenda that the Bidder is acknowledging) **N/A**_____.

TOTAL BASE BID: For all work required by the Bidding Documents (including any and all unit prices designated "Base Bid" * but not alternates) the sum of:

_____Dollars ($ _____)

ALTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices designated as alternates in the unit price description. ***(N/A)***

Alternate No. 1 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
_____Dollars ($ _____)

Alternate No. 2 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:
_____Dollars ($ _____)

Alternate No. 3 *(Owner to provide description of alternate and state whether add or deduct)* for the lump sum of:

_____Dollars ($_____)

NAME OF BIDDER: _____

ADDRESS OF BIDDER:_____

_____

EMAIL_____

PHONE_____

LOUISIANA CONTRACTOR'S LICENSE NUMBER: _____

PRINT NAME OF AUTHORIZED SIGNATORY OF BIDDER: _____

TITLE OF AUTHORIZED SIGNATORY OF BIDDER: _____

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER: _____

DATE: _____

Completion Time: _____ consecutive calendar days, or within the time that may be extended as stipulated in the contract.
Liquidated Damages: **$150 per day.**
5% Bid Security: XX YES (shall be included with bid)
(check here) _____ Bid Security included. Bid Security shall be total of 5% for base bid and alternates.
Successful bidder will be notified by letter to secure Performance and Payment Bond up to 100% of cost.
(check here) _____ Board Resolution included or Secretary of State Registration

A CORPORATE RESOLUTION OR WRITTEN EVIDENCE of the authority of the person signing the bid for the public work as prescribed by LA R.S. 38:2212(B)(5) or Secretary of State verification.
BID SECURITY in the form of a bid bond, certified check or cashier's check as prescribed by LA RS 38:2218.A is attached to and made a part of this bid.
The Unit Price Form shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the form. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

LOUISIANA UNIFORM PUBLIC WORK BID FORM
UNIT PRICE FORM

TO: **Southern University and A&M College**
Post Office Box 9534
James J. Prestage Dr-J. S. Clark Administration Bldg. Annex
Baton Rouge, LA 70813
(Owner to provide name and address of owner)

BID FOR: **Bid Number 10316**
(Owner to provide name of project and other identifying information)

UNIT PRICES: This form shall be used for any and all work required by the Bidding Documents and described as unit prices. Amounts shall be stated in figures and only in figures.

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

DESCRIPTION:	☐ Base Bid or ☐ Alt.# ___			
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION *(Quantity times Unit Price)*

Wording for "DESCRIPTION" is to be provided by the Owner.
All quantities are estimated. The contractor will be paid based upon actual quantities as verified by the Owner.

Bid Form #: SU 004

JOB SITE VISIT

NAME OF PROJECT: EXTERIOR WINDOWS & CANOPY REPAIRS
BUILDING: LABORATORY SCHOOL
SOUTHERN UNIVERSITY AND A & M COLLEGE
BATON ROUGE, LOUISIANA
SITE VISIT DATE: JANUARY 31, 2024 @ 10:30 AM
LATE ARRIVALS CANNOT PARTICIPATE IN THE BID PROCESS

It is the responsibility of the bidder to inspect job site, verify any measurements and/or supplies needed prior to submitting a bid price on this project. Each bidder shall fully acquaint himself with conditions relating to construction and labor so that he may fully understand the facilities, difficulties and restrictions attending the execution of work under this contract. If vendor finds conditions that disagree with the physical layout as described in the bid, or any other features of the specifications that appear to be in error, same shall be noted on proposal. Failure to do so will be interpreted that bid is as specified. No consideration or allowance will be granted the Contractor for failure to visit the site or for any alleged misunderstanding of the materials to be furnished or the work to be done.

JOB SITE VISIT LOCATION:

Benjamin H. Kraft Building (Physical Plant Department)
515 James L. Hunt Street
Southern University Baton Rouge Campus
Site telephone numbers: (225) 771-4741, 771-4742 or 771-4743

The signed statement certifies the vendor's name listed below has visited the proposed site and is familiar with all conditions surrounding fulfillment of the specifications for this project.

*COMPANY*_____

*BY*_____

*DATE*_____

Note: *Questions not answered at Site Visit or any additional questions shall be submitted in writing to the Director of Purchasing, Linda A. Antoine at linda_antoine@subr.edu.*

Note: Responses to inquiries/Addenda are pasted on LaPAC (LA Procurement Website)
LA State Procurement website:
https://wwwcfprd.doa.louisiana.gov/OSP/LaPAC/Agency/outMain.cfm
It is the responsibility of the vendor to check LAPAC for addenda.

JOB SITE VERIFIED BY DESIGNATED SOUTHERN UNIVERSITY EMPLOYEE:

_____

SIGNATURE

Return this sheet with bid for information purpose

SOUTHERN UNIVERSITY AND A&M COLLEGE
BATON ROUGE CAMPUS
REQUEST FOR BID

PROJECT: *EXTERIOR WINDOWS & CANOPY REPAIRS*
LOCATION: *LABORATORY SCHOOL*
BID DUE DATE: FEBRUARY 23, 2024
BID # 10316

Bids submitted are subject to provisions of but not limited to La.R.S.38 Purchasing Rules and Regulations; Executive Orders; and the General Terms and Conditions, listed in this Invitation for Bid. Southern University reserves the right to award items separately, grouped or on an all or none basis and to reject any or all bids and waive any informalities.

BIDS MAY BE SENT BY MAIL OR HAND-DELIVERED TO:

Bids should be mailed to:
Southern University
Purchasing Department
Post Office Box 9534
Baton Rouge, Louisiana 70813

As an alternative, bids may be hand delivered to:
Southern University
Purchasing Department
1st Floor East-James L. Prestage Drive
J. S. Clark Administration Building
Baton Rouge, Louisiana 70813

MANDATORY PRE-BID CONFERENCE & SITE VISIT: JANUARY 31, 2024 @ 10:30 AM

INQUIRIES:
No negotiations, decisions, or actions will be executed by any bidder as a result or any oral discussion with any University employee or State Consultant. Only those transactions which are in writing, sent to **Linda A. Antoine, Director of Purchasing, will be considered as valid.**

INSTRUCTIONS TO BIDDERS

1. **Bid Forms**
   All written bids, unless otherwise provided for, must be submitted on, and in accordance with forms provided and properly signed in ink. Bids submitted in the following manner will not be accepted:
   Bid containing no signature indicating intent to be bound
   (1) Bid filled out in pencil
   (2) Bid not submitted on University standard forms
   Bids must be received at the address specified in the Invitation for Bid prior to bid opening time in order to be considered. .

2. **Envelope (if mailed)**
   Bidders are requested to submit bid package in a sealed envelope of your choice that is clearly marked identifying the ***company's name, complete address, bid number, time and date of bid opening, and license number, if applicable.***
   Bidder is responsible for means of delivery of bid.
   Louisiana Contractors License Number shall be placed on the outside of the envelope.

3. **Standards of Quality**
   Any product or service bid shall conform to all applicable federal, state and local laws, regulations and the specifications contained in the IFB. Unless otherwise specified in the IFB, any manufacturer's name, trade name, brand name, or catalog numbers used in the specifications is for the purpose of describing the quality level, performance and characteristics required. Bidder must specify the brand and model number of the product offered in his/her bid. Bids not specifying brand and model numbers will be considered as offering the exact product(s) specified in the IFB.

4. **Descriptive Information**
   Bidders proposing an equivalent brand or model should submit information with bid (such as illustrations, descriptive literature, technical data) sufficient for the University to evaluate quality, suitability and compliance with the specifications in the IFB. Failure to submit descriptive information may cause bid to be rejected. Any change made to a manufacturer's published specification submitted for a product should be verifiable by the manufacturer. If item(s) bid do not fully comply with specifications (including brand and/or product number), bidder must state in what respect the item(s) deviate. Failure to note exceptions on the bid form will not relieve the successful bidder(s) from supplying the actual products requested.

5. **ON-CAMPUS ATTENDANCE REQUIREMENTS (COVID-19)**

Document will be included with the successful vendor's contact.

The Center for Disease and Control (CDC) recommends social distancing and wearing masks to prevent the spread of the Corona Virus (COVID-19).

6. **Prices**
Unless otherwise specified by the Purchasing Department, bid prices must be complete, including transportation, prepaid by bidder to destination. In the event of extension errors, the unit price shall prevail.

7. **Payment Terms**
Payment is to be made within thirty (30) days after receipt of properly executed invoice, or delivery and acceptance, whichever is later. Delinquent payment penalties are governed by **L.R.S. 39:1695**.

8. **Deliveries**
Bids may be rejected if the delivery or completion time indicated is longer than that specified in the IFB.

9. **Vendor Invoices**
Invoices or AIA payment form shall reference the Southern University purchase/release order number, vendor's packing list/delivery ticket, ticket number, shipping/delivery date, etc. Invoices are to be itemized and billed in accordance with the order and should show the amount of any prompt payment discount and submitted on the vendor's own invoice form. Invoices submitted by the vendor's supplier will not be accepted. Terms are net 30.

10. **Tax Information/State of Louisiana**
Vendor is responsible for including all applicable taxes in the bid prices. Southern University is exempt from all Louisiana state and local sales and use taxes. By accepting an award, resident and non-resident firms acknowledge their responsibility for the payment of all taxes duly accessed by the State of Louisiana and its political subdivisions for which they are liable, including but not limited to: franchise taxes, privilege taxes, sales taxes, use taxes, ad valorem taxes, etc. In accordance with Act Number 1029 of the 1991 Regular Session, effective September 1, 1991 state agencies will no longer be required to pay state sales tax.

11. **New Products**
Unless specifically called for, all products for purchases must be new (never previously used) and the current model and/or packaging. The manufacturer's standard warranty will apply unless otherwise specified in the IFB.

12. **Contract Renewals, Multi-Year Contracts (if applicable)**
Upon agreement of Southern University and the contractor, an open-ended requirements contract may be extended for two (2) additional twelve (12) month periods at the same prices, terms and conditions. In such cases, the total contract term cannot exceed thirty six (36) months.

13. **Contract Cancellation**
Southern University has the right to cancel any contract, in accordance with Purchasing Rules and Regulations, for cause, including but not limited to, the following: (1) failure to deliver within time specified in the contract; (2) failure of the product or service to meet specifications, conform to sample quality or to be delivered in good condition;(3) misrepresentations by the contractor;(4) fraud, collusion, conspiracy or other unlawful means of obtaining any contract with the state; (5) conflict of contract provisions with constitutional or statutory provision of state or federal law; (6) any other breach of contract.

14. **AWARD AND EXECUTION OF CONTRACT:**
The owner shall incur no obligation to the contractor until the contract between the owner and contractor is duly executed. If the contractor is notified of the acceptance of the bid within thirty (30) days of the opening bid date, contractor agrees to execute and deliver to owner, Performance and Payment Bond and Certificate of Insurance, a copy of which is attached to the Contract Documents, within ten (10) working days after notice from the Owner that the instrument is ready for signature.

15. **Fiscal Funding Clause (Renewal Contracts Only)**
In accordance with LA R.S.39:1615 (c) and (e), any contract entered into by the State of Louisiana and Southern University shall include the following Fiscal Funding Clause:
C. Termination due to unavailability of funds in succeeding years. When funds are not appropriated to support continuation of performance in a subsequent year of a multiyear contract, the contract for such subsequent year shall be terminated. When a contract is terminated under these conditions, no additional funds shall be paid to the contractor as a result of such action. **E.** With respect to all multiyear contracts, there shall be no provisions for a penalty to the state for the cancellation or early payment of the contract. The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the contract by the legislature. All proposers should be aware that our legislative process is such that it is often impossible to give prior notice of the non-appropriation of funds.

Document will be included with the successful vendor's contact.

16. **Default of Contactor**
Failure to deliver within the time specified in the bid will constitute a default and may cause cancellation of the contract. Where the state had determined the contractor to be in default, the state reserves the right to purchase any or all products or services covered by the contract on the open market and to charge the contractor with cost in excess of the contract price. Until such assessed charges have been paid, no subsequent bid from the defaulting contractor will be considered.

17. **Order of Priority**
In the event there is a conflict between the Instructions to Bidders the General Terms and Conditions will govern.

18. **Applicable Law**
All contracts will be construed in accordance with and governed by the laws of State of Louisiana. Vendors shall be in compliance with applicable laws of the State of Louisiana and Federal Laws where applicable, to include licenses, fees and permits. Vendors are responsible for the cost of licenses, fees and permits.

19. **Certification of No Suspension or Debarment ($25,000 or more)**
By signing and submitting this bid, bidder certifies that its company, any subcontractors, or principals thereof, are not suspended or debarred under federal or state laws or regulations. A list of parties who have been suspended or debarred by federal agencies is maintained by the General Services Administration and can be viewed on the internet at www.sam.gov.
__x__**Federal Funded** __**Non-Federal Funded**

20. **E-VERIFY** (verification of employees)
Contractor acknowledges and agrees to comply with the provisions of La R.S. 38:2212.10 and federal law pertaining to E-Verify in the performance of services under this contract.

21. **Prohibited Contractual Arrangements**
Per Louisiana R.S. 42:1113.a, no public servant, or member of such public servant's immediate family, or legal entity in which he is a controlling interest shall bid on or enter into any contract, subcontract, or other transaction that is under the supervision or jurisdiction of the agency of such public servant. See statute for complete law, exclusions and provisions.

22. **Discriminatory Boycotts of Israel**
This section applies to procurements with a value of $100,000 or more and for vendors with five (5) or more employees
Prohibition of Discriminatory Boycotts of Israel
In accordance with R.S. 39:1602.1, for any contract for $100,000 or more and for any contractor with five or more employees, the Contractor certifies that neither it nor its subcontractors are engaged in a boycott of Israel, and that the Contractor and any subcontractors shall, for the duration of this contract, refrain from a boycott of Israel. The State reserves the right to terminate this contract if the Contractor, or any Subcontractor, engages in a boycott of Israel during the term of this contract.

23. **Mutual Indemnification**
Each party hereto agrees to indemnify, defend and hold the other, its officers, directors, agents and employees harmless from and against any and all losses, liabilities and claims, including reasonable attorney's fees arising out of or resulting from the willful act, fault, omission, or negligence of the indemnifying party or of its employees, contractors, or agents in performing its obligations under this agreement, provided however, that neither party hereto shall be liable to the other for any consequential damages arising out of its willful act, fault, omission, or negligence.

24. **Fair Labor Standards Act**
Contractor shall be in compliance with the **Fair Labor Standards Act 29 USC 201-6;** Establishes minimum wage, overtime pay, equal pay, recordkeeping, and child labor standards for employees or in the production of goods for interstate commerce. **By signing and submitting this bid, bidder certifies that its company, any subcontractors, or principals thereof** is in accordance with said compliance. **United States Department of Labor website: www.dol.gov/esa**

25. **Davis-Bacon Act ($2,000 or more)**
Contractor shall be in compliance with the **Davis-Bacon Act, 40 USC 276A-7;** ensures that laborers and mechanics employed pursuant to federally funded construction contracts, subcontracts and construction under Federal grants, will be paid wages as determined by the U.S. Secretary of Labor. **By signing and submitting this bid, bidder certifies that its company, any subcontractors, or principals thereof** is in accordance with said compliance. **United States Department of Labor website: www.dol.gov/esa**

_____x**Federal Funded** _____**Non-Federal Funded**

26. **Small Business Entrepreneurship Programs**
The Southern University System is a participant in the Louisiana for the Small Entrepreneurships Program (the Hudson Initiative) and the Louisiana Initiative for Veterans and Service-Connected Disabled Veterans-Owned Business Small Entrepreneurships. Bidders

Document will be included with the successful vendor's contact.

are encouraged to consider participation. A list of certified vendors and additional information can be obtained from website http://www.ledsmallbiz.com. Potential participants may also register at this website. Businesses include minority and women.

27. **Public Works Projects (R.S. 38:2227)**
In accordance with the provisions of R.S. 38:2227; in awarding public works projects, any public entity is authorized to reject a proposal or bid, or not award the contract, to a business in which any individual with an ownership interest of ten percent (10%) or more, has been convicted, or has entered a plea of guilty or nolo contenere to any state felony or equivalent federal felony crime.

28. **Tobacco-Free Policy**
The use of tobacco products on any Southern University campus is prohibited by students, staff, faculty or visitors in all campus buildings, facilities, or property owned or leased by Southern University System and outside areas of the campus where non-smokers cannot avoid exposure to smoke; on campus grounds, facilities, or vehicles that are the property of the University; and at lectures, conferences, meetings, and social and cultural events held on school property or school grounds. The sale or free distribution of tobacco products, including merchandise on campus or at school events is prohibited.

29. **Equal Opportunity Employer**
Southern University and A&M College Systems of the State of Louisiana is an equal opportunity employer and looks to its contractors, sub-contractors, vendors, and suppliers to take affirmative action to effect this commitment in its operations. By submitting and signing this bid, the bidder certifies that he agrees to adhere to the mandates dictated by Title VI and VII of the Civil Rights Act of 1964, as amended; the Vietnam Era Veterans' Readjustment Assistance Act of 1974; Section 303 of the Rehabilitation Act of 1973; Section 202 of Executive Orderll24b,as amended; and the Americans with Disabilities Act of 1990. Bidder agrees that he will not discriminate in the rendering of services to and/or employment of individuals because of race, color, religion, sex, age, national origin, handicap, disability, veteran status, or any other non-merit factor. Bidder further agrees to keep informed of and comply with all Federal, State, and local laws, ordinances, and regulations which affect his employees or prospective employees. Any person who is a "Qualified Individual with a Disability" as defined by 42 USC 12131 of the American with Disabilities Act who has submitted a bid on this procurement and who desires to attend the bid opening, must notify this office in writing no later than seven (7) working days prior to the bid opening date of their need for special accommodations. If the requested accommodations cannot be reasonably provided, the individual will be so informed prior to the bid opening.

30. **Code of Ethics**
The contractor acknowledges that Chapter 15 of Title 42 of the Louisiana Revised Statutes (R.S. 42:1101 et. seq., Code of Governmental Ethics) applies to the Contracting Party in the performance of services called for in this contract. The contractor agrees to immediately notify the state if potential violations of the Code of Governmental Ethics arise at any time during the term of this contract.

31. **Vendor Forms/SU Signature Authority**
The terms and conditions of the SU solicitation and purchase order/contract shall solely govern the purchase agreement, and shall not be amended by any vendor contract, form, etc. The University's chief procurement officer, or designee, is delegated sole authority to execute any vendor contracts, forms, etc. Departments are prohibited from signing any vendor forms.

32. **Prosecution of Work**
The work is to be done when Southern University is in operation. The contractor shall, therefore, plan the repairs and installation in specifications so as not to interfere with normal operations of the facility and shall exert effort to expedite completion of the work once it has started. It is intended that the work shall be done during normal working hours, however, should work require overtime (Saturday, Sunday and/or night working hours), the cost must be borne by the contractor at no extra compensation from the Owner (Southern University).

33. **On-Campus Attendance Requirements (COVID-19)**
The Center for Disease and Control (CDC) recommends social distancing and wearing of masks to prevent the spread of the Coronavirus (COVID19). Persons visiting Southern University are required to wear a mask/face covering and stay at least 6 feet between yourself and others, even when you wear a face covering.

34. **Termination of the Contract for Convenience**
The State/University may terminate the contract at any time by giving thirty (30) days written notice to the Contractor of such termination or negotiating with the Contractor an effective date. The Contractor shall be entitled to payment for deliverables in progress, to the extent work has been performed satisfactorily.

35. **Termination for Cause**
The State may terminate this Contract for cause based upon the failure of the Contractor to comply with the terms and/or conditions of the Contract; provided that the State shall give the Contractor written notice specifying the Contractor's failure. If within thirty (30) days after receipt of such notice, the Contractor shall not have either corrected such failure or thereafter proceeded diligently to complete such correction, then the State may, at its option, place the Contractor in default and the Contract shall terminate on the date specified in such notice. The Contractor may exercise any rights available to it under Louisiana law to terminate for cause upon the

failure of the Owner to comply with the terms and conditions of this contract; provided that the Contractor shall give the State written notice specifying the State's failure and a reasonable opportunity for the Owner to cure the defect.

36. **Auditors**
It is hereby agreed that the Legislative Auditor of the State of Louisiana and/or the Office of the Governor, Division of Administration auditors shall have the option of auditing all accounts of contractor which relate to this contract.

37. **Awarded Products/Unauthorized Substitutions**
Only those awarded brands and numbers stated in the SU contract are approved for delivery, acceptance, and payment purposes. Any substitutions require prior approval of the Purchasing Office. Unauthorized product substitutions are subject to rejection at time of delivery, post-return at vendor's expense, and non-payment.

38. **Acceptance**
Upon written notice by the Owner, a Notice by Owner of Acceptance of Work will be executed and forwarded to the Contractor for recording with the Clerk of Court in the parish in which the work has been performed and shall furnish a clear Lien Certificate from the Clerk of Court (to the owner along with final invoice) forty-five (45) days after recordation of acceptance. Final payment of ten percent (10%) will be made at this time.

39. **Guarantee**
It is the intention of the specifications to secure a first-class permanent material and construction and to this end, Contractor will be held responsible for and must correct defects discovered in the work within one (1) year from acceptance. Should any materials or methods be called for, of such nature to render this guarantee impossible, written notice to this effect should be given Owner (Southern University) before signing contract and/or beginning of work; failure to do this will be construed as agreement to the strictest terms of the guarantee.

40. **Clean-Up**
The Contractor will be directed during the progress of work to remove and properly dispose of the resultant and debris. Upon completion, Contractor shall remove all equipment, unused materials and debris and will leave the premises in a clean and first-class condition.

41. **Examination of Site**
Each bidder will visit the site of the proposed project and will fully acquaint himself with conditions relating to construction and labor so that he may fully understand the facilities, difficulties and restrictions attending the execution of work under this contract. No consideration or allowance will be granted the Contractor for failure to visit the site or for any alleged misunderstanding of the materials to be furnished or the work to be done.

42. ***Anti-Kickback Clause***
The Contractor hereby agrees to adhere to the mandate dictated by The Copeland "Anti-Kickback" ACT which provides that each Contractor or Subgrantee shall be prohibited from inducing, by any means, any person employed in the completion of work, to give up any part of the compensation to which he is otherwise entitled.

43. ***Clean Air Act***
The Contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders or requirements issued under Section 306 of the CLEAN AIR ACT which prohibits the use under non-exempt contracts, grants or loans of facilities included on the EPA list of Violating Facilities.

44. ***Clean Water Act***
The Contractor hereby agrees to adhere to the provisions which require compliance with all applicable standards, orders or requirements issued under Section 508 of the Clean Water Act which prohibits the use under non-exempt federal contracts, grants or loans of facilities included on the EPA list of Violating Facilities.

45. **Energy Policy and Conservation Act**
The Contractor hereby recognizes the mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act (P.L. 94-163).

46. ***Anti-Lobbying and Debarment Act***
The Contractor will be expected to comply with federal statutes in the Anti-Lobbying Act and The Debarment Act.

47. ***Signature Authority***
A CORPORATE RESOLUTION OR WRITTEN EVIDENCE OF THE AUTHORITY OF THE PERSON SIGNING THE BID FOR THE PUBLIC WORK AS PRESCRIBED BY LOUISIANA REVISED STATUTE 38:2212 (B)(5)
A copy of the applicable signature authority document/Board Resolution or LA Secretary of State Registration must be submitted with bid.

Document will be included with the successful vendor's contact.

48. ***ADITIONAL REQUIREMENTS***

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE PLANS; THE PROJECT SPECIFICATIONS, AND HALL COMPLY WITH APPLICALBE LOCAL AND STATE BUILDING CODES AS WELL AS ANY AND ALL REGULATORY AGENCY REQUIREMENTS AND LAWS, INCLUDING BUT NOT LIMIOTED TO OSHA, ETC. GENERAL NOTES SHALL APPLY TO ALL DRAWINGS.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER/ARCHITECT, IF APPLICABLE, OF ALL CONFLICTS OR DISCRENPENSIES PRESENTED IN THESE PLANS PRIOR TO THE START OF WORK.
3. ALL WORK WHETHER SHOWN OR IMPLIED, UNLESS SPECIFICALLY QUESTIONED SHALL BE CONSIDERED UNDERSTOOD IN ALL RESPECTS BY THE GENERAL CONTRATOR AND WHO WILL BE RESPOSIBLE FOR ANY MISINTERPRETATIONS AND CONSEQUENCES THEREOF.
4. ANY UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
5. ENGINEER/ARCHITECT SHALL BE NOTIFIED IMMEDIATELY OF ALL IDENTIFIED EXISTING UTILITIES NOT INDENTIFIED IN THE PLANS.
6. OWNER SHALL PROVIDE WATER FOR CLEANING OPERATIONS FROM ANY FIRE HYDRANT AT NO COST TO THE CONSULTANT.

THIS DOCUMENT IS FOR INFORMATION PURPOSES

Document will be included with the successful vendor's contact.

INSURANCE REQUIREMENTS

Southern University and A&M College

BID # 10316

The Contractor shall purchase and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, employees or subcontractors.

A. MINIMUM SCOPE AND LIMITS OF INSURANCE

1. **Workers Compensation**
   Workers Compensation insurance shall be in compliance with the Workers Compensation law of the State of the Contractor's headquarters. Employers Liability is included with a minimum limit of $500,000 per accident/per disease/per employee. If work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act, or other maritime law coverage shall be included and the Employers Liability limit increased to a minimum of **$1,000,000. A.M. Best's insurance company rating requirement may be waived for workers compensation coverage only.**

2. **Commercial General Liability**
   Commercial General Liability insurance, including Personal and Advertising Injury Liability, shall have a minimum limit per occurrence of **$1,000,000 and a minimum general aggregate of $2,000,000.** The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

3. **Automobile Liability**
   Automobile Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles.

B. DEDUCTIBLES AND SELF-INSURED RETENTIONS

Any deductibles or self-insured retentions must be declared to and accepted by the Agency. The Contractor shall be responsible for all deductibles and self-insured retentions.

C. OTHER INSURANCE PROVISIONS

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverage

   a. The Agency, its officers, agents, employees and volunteers shall be named as an additional insured as regards negligence by the contractor. ISO Form CG 20 10 (current form approved for use in Louisiana), or equivalent, is to be used when applicable. The coverage shall contain no special limitations on the scope of protection afforded to the Agency.

   b. The Contractor's insurance shall be primary as respects the Agency, its officers, agents, employees and volunteers. Any insurance or self-insurance maintained by the Agency shall be excess and non-contributory of the Contractor's insurance.

   c. Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Agency, its officers, agents, employees and volunteers.

   d. The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the policy limits.

2. Workers Compensation and Employers Liability Coverage
   The insurer shall agree to waive all rights of subrogation against the Agency, its officers, agents, employees and volunteers for losses arising from work performed by the Contractor for the Agency.

3. All Coverage

   a. Coverage shall not be canceled, suspended, or voided by either party (the Contractor or the insurer) or reduced in coverage or in limits except after 30 days written notice has been given to the Agency. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy.

   b. Neither the acceptance of the completed work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

   c. The insurance companies issuing the policies shall have no recourse against the Agency for payment of premiums or

for assessments under any form of the policies.

d. Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Agency, its officers, agents, employees and volunteers.

D. ACCEPTABILITY OF INSURERS

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be placed with insurers with a A.M. Best's rating of **A-:VI or higher**. This rating requirement may be waived for workers compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another Certificate of Insurance as required in the contract.

E. VERIFICATION OF COVERAGE

Contractor shall furnish the Agency with Certificates of insurance reflecting proof of required coverage. The Certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by the Agency before work commences and upon any contract renewal thereafter.

In addition to the Certificates, Contractor shall submit the declarations page and the cancellation provision endorsement for each insurance policy. The Agency reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain such insurance as above provided, this contract, at the election of the Agency, may be suspended, discontinued or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

F. SUBCONTRACTORS

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the Certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Agency reserves the right to request copies of subcontractor's Certificates at any time.

G. WORKERS COMPENSATION INDEMNITY

In the event Contractor is not required to provide or elects not to provide workers compensation coverage, the parties hereby agree that Contractor, its owners, agents and employees will have no cause of action against, and will not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Workers Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its owners, agents and employees. The parties further agree that Contractor is a wholly independent contractor and is exclusively responsible for its employees, owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

Maritime (Jones Act and LHWCA) needed when work is performed over navigable bodies of water

H. INDEMNIFICATION/HOLD HARMLESS AGREEMENT

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees, and volunteers, from and against any and all claims, damages, expenses, and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants, and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits, or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits, or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent.

NOTE: SUCCESFUL BIDDER WILL BE REQUIRED TO PROVIDE A CERTIFICATE OF INSURANCE WITH SOUTHERN UNVERSITY AS THE CERTIFICATE HOLDER
SOUTHERN UNIVERSITY AND A&M COLLEGE
PO BOX 9534
BATON ROUGE, LA 70813
225-771-4587

Project Manual

Bid & Construction Documents

Exterior Window & Canopy Repairs

SOUTHERN LAB
SOUTHERN UNIVERSITY LABORATORY SCHOOL

Southern University A & M College
129 Swan Street, Baton Rouge, Louisiana 70813

August 31, 2023

Domain Project No. C22-0071

DOMAIN APAC
ARCHITECTURE

8316 Kelwood Avenue, Baton Rouge, LA 70806
Ph (225) 216-3770 / Fax (225) 216-3771

pages

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ADVERTISEMENT FOR BIDS

Sealed bids will be received for the State of Louisiana by the Division of Administration and shall be directed to the Office of Facility Planning and Control, 1201 North Third Street, Claiborne Office Building, Suite 7-160, Baton Rouge, Louisiana, 70802 or P.O. Box 94095, Baton Rouge, Louisiana, 70804-9095. The deadline for receipt of bids is 2:00 PM on **Tuesday, October ??, 2023**, at which time bids will be opened and read aloud in a public meeting in the Claiborne Office Building, Conference Room 1-145.

The Office of Facility Planning and Control is currently closed to the public. Bidders wishing to hand-deliver a bid shall contact FPC at (225) 342-0820 from the lobby of the Claiborne Building prior to 1:45 pm on the specified date of bid opening. A representative of FPC will then meet with the bidder in the lobby to receive the bid. After 1:45 pm, bidders shall submit bids directly to room 1-145. All persons attending the public bid opening are required to wear a mask/face covering upon entering the Claiborne Building.

ANY PERSON REQUIRING SPECIAL ACCOMMODATIONS SHALL NOTIFY FACILITY PLANNING AND CONTROL OF THE TYPE(S) OF ACCOMMODATION REQUIRED NOT LESS THAN SEVEN (7) DAYS BEFORE THE BID OPENING.

FOR: **Exterior Canopy and Window Repairs**
Southern University Lab School
Baton Rouge, Louisiana

PROJECT NUMBER:

Complete Bidding Documents for this project are available in electronic form. They may be obtained free of charge by contacting-
Letterman's Printing & Graphics, email: ??????; or log on to ???????
Printed copies are not available from the Architect. Arrangement can be made to obtain printed copies by most reprographic firms. Plan holders are responsible for their own reproduction costs. Questions about this procedure shall be directed to the Designer at:

Domain Architecture
8316 Kelwood Avenue
Baton Rouge, LA 70806
Telephone: 225-216-3770

All bids shall be accompanied by bid security in an amount of five percent (5.0%) of the sum of the base bid and all alternates. The form of this security shall be as stated in the Instructions to Bidders included in the Bid Documents for this project.

The successful Bidder shall be required to furnish a Performance and Payment Bond written as described in the Instructions to Bidders included in the Bid Documents for this project.

A PRE-BID CONFERENCE WILL BE HELD
at 10:00 AM on Thursday, ???? ??, 2023
at Southern University Lab School, Main Lobby, 129 Swan Avenue, Baton Rouge, LA 70813.

Bids shall be accepted from Contractors who are licensed under LA. R.S. 37:2150-2192 for the classification of **Building Construction**. Bidder is required to comply with provisions and requirements of LA R.S. 38:2212(B)(5). No bid may be withdrawn for a period of forty-five (45) days after receipt of bids, except under the provisions of LA. R.S. 38:2214.

The Owner reserves the right to reject any and all bids for just cause. In accordance with La. R.S. 38:2212(B)(1), the provisions and requirements of this Section and those stated in the bidding documents shall not be waived by any entity.

When this project is financed either partially or entirely with State Bonds or financed in whole or in part by federal or other funds which are not readily available at the time bids are received, the award of this Contract is contingent upon the granting of lines of credit, or the sale of bonds by the Bond Commission or the availability of federal or other funds. The State shall incur no obligation to the Contractor until the Contract Between Owner and Contractor is fully executed.

DOCUMENT 00 20 00 - INSTRUCTIONS TO BIDDER

1.1 BID DOCUMENTS AND SECURING OF BID DOCUMENTS

A. Digital set of Bid Documents are provided to an invited Prime Bidder.

B. In developing the project bid, the Prime Bidder shall serve the interest of the Owner by obtaining competitive bids from subcontractors and material suppliers.

1.2 BID FORM

A. Use the Bid Form provided by the Owner.

B. Submit bid using the Bid Form provided, properly executed and with all items filled out. Do not change the wording of the Bid Form, and do not add words to the wording of the Bid Form. Unauthorized conditions, limitations, or provisions attached to the proposal shall be cause for rejection of the proposal. Alterations by erasure or interlineation must be explained or noted in the bid over the signature of the bidder.

C. Deliver completed Bid Form and required attachments, properly addressed to the Owner on or before the date, time and address indicated in the Invitation to Bid.

1.3 BONDS

A. Bid security is not required.

B. Prior to signing the Contract, the Owner will require the Contractor to secure and post a Labor and Materials Payment Bond and a Performance Bond, each in the amount of 100% of the Contract Sum, and each on forms provided in the Project Manual. Bonds shall be issued by Sureties rated A-1 by A.M. Best, and as acceptable to the Owner. Include the costs of such bonds in the proposed Contract Sum.

1.4 EXAMINATION OF BID DOCUMENTS AND SITE OF WORK

A. Before submitting a bid, each bidder shall carefully examine the Bid Documents, and visit the site of the work.

B. Each bidder and sub-bidder shall be personally responsible for being fully informed prior to bidding as to existing conditions and limitations under which the work is to be performed, and each bidder shall include in the bid a sum to cover costs of all items required to perform the work as set forth in the Bid Documents.

C. No allowance will be made to any bidder because of lack of such examination or knowledge. The submission of a bid will be construed as conclusive evidence that the bidder has made such examination.

1.5 EXECUTION OF AGREEMENT

A. The form of Agreement which the successful prime bidder, as Contractor, will be required to execute will be provided by the Owner.

B. The bidder to whom the Contract is awarded by the Owner shall, within 15 days after notice of award and receipt of Agreement forms from the Owner, sign and deliver to the Owner all required copies.

C. At or prior to delivery of the signed Agreement, the Contractor shall deliver to the Owner the Labor and Materials Payment Bond, the Performance Bond, and the policies of insurance or insurance certificates as required by the Contract Documents. All bonds and policies of insurance shall be approved by the Owner before the successful bidder may proceed with the work.

1.6 APPROVAL OF MATERIALS

A. Materials entering into the construction of this project must conform to the requirements set forth herein.

B. Substitute materials of equal quality to those specified will be considered and, if found satisfactory, will be approved by the Architect in an addendum to be issued to bidders prior to receipt of bids, provided representative samples or data on such materials are submitted to the Architect no later than 8 days before the date set for opening of proposals.

C. The approval of substitute materials of equal quality to those specified shall not preclude the approval of materials equal to those specified after receipt of bids, and Contractors shall, therefore, quote on unapproved materials entirely at their own risk. Subcontractors and manufacturers are urged, wherever possible, to submit materials to the Architect for approval under the terms outlined above; failing to do so, they shall run the risk of having the material rejected.

1.7 CONSTRUCTION TIME AND LIQUIDATED DAMAGES

A. The Agreement will include a stipulation that the work be completed in a period stipulated in the construction documents following receipt of Notice to Proceed.

B. The Agreement will also include a stipulation that liquidated damages will be established in the amount indicated in the construction documents, per calendar day for each calendar day after the completion date that the work is not fully completed, and a certificate of occupancy issued.

1.8 TIME OF CONSTRUCTION AND NOTICE TO PROCEED

A. The time period for construction is indicated in the construction documents.

B. Notice to Proceed: It is anticipated that the Notice to Proceed will be issued as soon as possible after the award of the contract. The Contractor to whom the project is awarded shall be prepared to immediately begin work.

1.9 CONTRACTOR'S LICENSE

A. Primary contractors, subcontractors, and specialty contractors, whether engaged by the main contractor or by the Owner direct, must be qualified by the State Licensing Board for Contractors, State of Louisiana, as provided for under Act No. 233 of 1956, State of Louisiana. Only the bids of contractors and/or subcontractors meeting the requirements of this Act will be considered.

1.10 SUBMISSION OF POST-BID INFORMATION

A. Upon request by the Owner and Architect, the bidder to whom the Contract is selected to be awarded shall within 7 days thereafter, submit the following:
   1. A Schedule of Values indicating costs for each major item of work included in the bid.
   2. A list of names of the sub-contractors or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for such portions of the work as may be designated, the names of the sub-contractors proposed for the principal portions of the work. The bidder will be required to establish to the satisfaction of the Architect and the Owner, the reliability and the responsibility of the proposed sub-contractors to furnish and perform the work described in the section of the specifications pertaining to such proposed sub-contractors respective trades. Prior to the award of the Contract, the Architect will notify the bidder in writing if either the Owner or the Architect, after due investigation, has reasonable and substantial objection to any person or organization on such list. If the Owner or Architect has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the bidder may, at the bidder's option, withdraw his/her bid without forfeiture of bid security. If the bidder submits an acceptable substitute with an increase in his/her bid price to cover the difference in cost occasioned by such substitution the Owner may, at the Owner's discretion, accept the increased bid price or the Owner may disqualify the bidder. Sub-contractors and other persons and organizations proposed by the bidder and accepted by the Owner and the Architect must be used on the work for which they were proposed and accepted, and shall not be changed except with the written approval of the Owner and the Architect.

End of Document 00 20 00 - Instructions to Bidders

Document 00 70 00 - General Conditions

American Institute for Architects, AIA Document A201, 2017 edition, General Conditions of the Contract for Construction, is included in this project by reference.

This document is available for review at the Architect's office.

SUPPLEMENTARY CONDITIONS

These Supplementary Conditions modify, change, delete from or add to the General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition. Where any Article of the General Conditions is modified or any Section, Paragraph, Subparagraph or Clause thereof is modified or deleted by these supplements, the unaltered provisions of that Section, Article, Paragraph, Subparagraph or Clause shall remain in effect.

Articles, Sections, Paragraphs, Subparagraphs or Clauses modified or deleted have the same numerical designation as those occurring in the General Conditions.

ARTICLE 1

GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

1.1.1. The Contract Documents
In Section 1.1.1 delete the third sentence, and add the following sentence:
The Contract Documents shall include the Bid Documents as listed in the Instructions to Bidders and any modifications made thereto by addenda.

1.1.8 Initial Decision Maker
Delete all after the words, "shall not show partiality to the Owner or Contractor".

1.5 OWNERSHIP AND USE OF DRAWINGS, SPECIFICATIONS AND OTHER INSTRUMENTS OF SERVICE [REFER TO *La R.S. 38:2317*]

1.5.1 Delete the first sentence of the paragraph.

1.5.1 In the third sentence: delete the remainder after the word "publication".

1.7 DIGITAL DATA USE AND TRANSMISSION

In the first sentence after the words, "in digital form" delete ". The parties will use AIA Document E203 2013, Building Information Modeling and Digital Data Exhibit".

1.8 BUILDING INFORMATION MODELS USE AND RELIANCE

Delete Section 1.8.

ARTICLE 2
OWNER

2.2 EVIDENCE OF THE OWNER'S FINANCIAL ARRANGEMENTS

Delete Section 2.2.

2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

2.3.1 In the first sentence, delete: all before "the Owner shall secure…"

Delete Section 2.3.2 and substitute the following:

2.3.2 The term Architect, when used in the Contract Documents, shall mean the prime Designer (Architect, Engineer, or Landscape Architect), or his authorized representative, lawfully licensed to practice architecture, engineering, or landscape architecture in the State of Louisiana, identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number.

2.3.3 Delete the words: "to whom the Contractor has no reasonable objection and".

ARTICLE 3
CONTRACTOR

3.4 LABOR AND MATERIALS

3.4.2 Delete Section 3.4.2.

Delete Section 3.4.3 and substitute with the following:

3.4.3 Contractor and its employees, officers, agents, representatives, and Subcontractors shall conduct themselves in an appropriate and professional manner, in accordance with the Owner's requirements, at all times while working on the Project. Any such individual who behaves in an inappropriate manner or who engages in the use of inappropriate language or conduct while on Owner's property, as determined by the Owner, shall be removed from the Project at the Owner's request. Such individual shall not be permitted to return without the written permission of the Owner. The Owner shall not be responsible or liable to Contractor or any Subcontractor for any additional costs, expenses, losses, claims or damages incurred by Contractor or its Subcontractor as a result of the removal of an individual from the Owner's property pursuant to this Section. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

3.5 WARRANTY

3.5.2 Replace reference to "Section 9.8.4" with "Section 9.8.6".

3.7 PERMITS, FEES, NOTICES, AND COMPLIANCE WITH LAWS (La R.S. 40:1724[A])

3.7.1 Delete Section 3.7.1.

3.7.2 In Section 3.7.2, replace the word "public" with the word "State".

Delete Section 3.7.5 and substitute the following:

3.7.5 If, during the course of the Work, the Contractor discovers human remains, unmarked burial or archaeological sites, burial artifacts, or wetlands, which are not indicated in the Contract Documents, the Contractor shall follow all procedures mandated by State and Federal law, including but not limited to La R.S. 8:671 et seq., the Office of Coastal Protection and Restoration, and Sections 401 & 404 of the Federal Clean Water Act. Request for adjustment of the Contract Sum and Contract Time arising from the existence of such remains or features shall be submitted in writing to the Owner pursuant to the Contract Documents.

3.8 ALLOWANCES

Delete Sections 3.8.1, 3.8.2, and 3.8.3 in their entirety and add the following new Section 3.8.1:

3.8.1 Allowances shall not be made on any of the Work.

3.9 SUPERINTENDENT

3.9.1 Add the following to the end of the paragraph:
Important communications shall be confirmed in writing. Other communications shall be similarly confirmed on written request in each case.

3.10 CONTRACTOR'S CONSTRUCTION AND SUBMITTAL SCHEDULES

3.10.1 Add the following: For projects with a contract sum greater than $1,000,000.00, the Contractor shall include with the schedule, for the Owner's and Architect's information, a network analysis to identify those tasks which are on the critical path, i.e., where any delay in the completion of these tasks will lengthen the project timescale, unless action is taken. A revised schedule shall be submitted with each Application and Certificate for Payment. No payment shall be made until this schedule is received.

3.10.3 In the first sentence, delete the word "general".

After the first sentence, add the following:
If the Work is not on schedule, as determined by the Architect, and the Contractor fails to take action to bring the Work on schedule, then the Contractor shall be deemed in default under this Contract and the progress of the Work shall be deemed unsatisfactory. Such default may be considered grounds for termination by the Owner for cause in accordance with Section 14.2.

Add the following Sections:

3.10.4 Add the following: Submittal by the contractor of a schedule or other documentation showing a completion date for his Work prior to the completion date stated in the contract shall not impose any obligation or responsibility on the Owner or Architect for the earlier completion date.

3.10.5 In the event the Owner employs a commissioning consultant, the Contractor shall cooperate fully in the commissioning process and shall require all subcontractors and others under his control to cooperate. The purpose of such services shall be to ensure that

all systems perform correctly and interactively according to the provisions of the Contract Documents.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

Add the following: This requirement is of the essence of the contract. The Architect shall determine the value of these documents and this amount shall not be approved for payment to the Contractor until all of the listed documents are delivered to the Architect in good order, completely marked with field changes and otherwise complete in all aspects.

ARTICLE 4
ARCHITECT

4.2 ADMINISTRATION OF THE CONTRACT

4.2.1 In the first sentence, delete the phrase: "the date the Architect issues the final Certificate for Payment" and replace with the phrase "final payment is due, and with the Owner's concurrence, from time to time during the one year period for correction of Work described in Section 12.2."

4.2.2 In the first sentence, after the phrase: "become generally familiar with"; insert the following: "and to keep the Owner informed about".

In the first sentence, after the phrase "portion of the Work completed", insert the following: "to endeavor to guard the Owner against defects and deficiencies in the Work,"

4.2.4 In the first sentence, delete all after "The Owner and Contractor", and add the following "may communicate directly with each other, when deemed necessary by the Owner, and the Owner will notify the Architect of any decision."

4.2.10 Add the following sentence to the end of Section 4.2.10: There shall be no restriction on the Owner having a Representative.

4.2.11 Add the following sentence to the end of Section 4.2.11:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

4.2.14 Insert the following sentence between the second and third sentences of Section 4.2.14:

If no agreement is made concerning the time within which interpretation required of the Architect shall be furnished in compliance with this Section 4.2, then delay shall not be recognized on account of failure by the Architect to furnish such interpretation until 15 days after written request is made for them.

ARTICLE 5
SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

Delete Section 5.2.1, and substitute the following:

5.2.1 Unless otherwise required by the Contract Documents, the Contractor shall furnish at the Pre-Construction Conference, to the Owner and the Architect, in writing, the names of the persons or entities (including those who are to furnish materials or equipment fabricated to a special design) proposed for each of the principal portions of the Work. No Contractor payments shall be made until this information is received.

Delete Section 5.2.2, and substitute the following:

5.2.2 The Contractor shall be solely responsible for selection and performance of all subcontractors. The Contractor shall not be entitled to claims for additional time and/or an increase in the contract sum due to a problem with performance or nonperformance of a subcontractor.

Delete Sections 5.2.3 and 5.2.4 and substitute the following:

5.2.3 The Contractor shall notify the Architect and the Owner when a subcontractor is to be changed and substituted with another subcontractor.

5.4 CONTINGENT ASSIGNMENT OF SUBCONTRACTS

Delete Sections 5.4, 5.4.1, 5.4.2 and 5.4.3

ARTICLE 7
CHANGES IN THE WORK

7.1 GENERAL

Add the following Sections:

7.1.4 As part of the pre-construction conference submittals, the Contractor shall submit the following prior to the Contractor's initial request for payment:

7.1.4.1 Fixed job site overhead cost itemized with documentation to support daily rates.

7.1.4.2 Bond Premium Rate with supporting information from the General Contractor's carrier.

7.1.4.3 Labor Burden by trade for both Subcontractors and General Contractor. The Labor Burden shall be supported by the Worker's Compensation and Employer's Liability Insurance Policy Information Page. Provide for all trades.

7.1.4.4 Internal Rate Charges for all significant company owned equipment.

7.1.5 If the General Contractor fails to submit the aforementioned documentation as part of the pre-construction submittals, then pay applications shall not be processed until such time as the Owner receives this information.

7.2 CHANGE ORDERS

Delete Section 7.2.1, and substitute the following Sections:

7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, the Architect, and the Contractor issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time. Any reservation of rights, stipulation, or other modification made on the change order by the contractor shall have no effect.

7.2.2 "Cost of the Work" for the purpose of Change Orders shall be the eligible costs required to be incurred in performance of the Work and paid by the Contractor and Subcontractors which eligible costs shall be limited to:

7.2.2.1 Actual wages paid directly to labor personnel, with a labor burden markup exclusively limited to applicable payroll taxes, worker's compensation insurance, unemployment compensation, and social security taxes for those labor personnel performing the Work. Wages shall be the basic hourly labor rate paid an employee exclusive of fringe benefits or other employee costs. The labor burden percentage for the "Cost of the Work" is limited to categories listed herein. Employer-provided health insurance, fringe benefits, employee training (whether a requirement of employment or not), vacation pay, etc., are examples of ineligible labor burden costs which ***shall not*** be included, as these costs are already compensated by the Overhead and Profit markup.

Supervision shall not be included as a line item in the "Cost of the Work", except when the change results in a documented delay in the critical path, as described in Section 7.2.7.

7.2.2.2 Cost of all materials and supplies necessary and required to perform the Work, identifying each item and its individual cost, including taxes. Incidental consumables are not eligible costs and shall not be included.

7.2.2.3 Cost of each necessary piece of machinery and equipment required to perform the Work, identifying each item and its individual cost, including taxes. Incidental small tools of a specific trade (i.e., shovels, saws, hammers, air compressors, etc.,) and general use vehicles, such as pickup trucks even for moving items around the site, fuel for these general use vehicles, travel, lodging, and/or meals are not eligible and shall not be included.

7.2.2.4 Eligible Insurance costs shall be limited to documented increases in "Builder's Risk" insurance premium / costs only. Commercial General Liability, Automobile Liability, and all other required insurances, where referenced in the Contract shall be considered part of normal overhead. These costs are already compensated by the Overhead and Profit markup.

7.2.2.5 Cost for the General Contractor Performance and Payment Bond premium, where the documented cost of the premiums have been increased due to the Change Order.

7.2.3 Overhead and Profit - The Contractor and Subcontractor shall be due home office fixed overhead and profits on the Cost of the Work, but shall not exceed a total of 16% of the direct cost of any portion of Work.

The credit to the Owner resulting from a change in the Work shall be the sum of those items above, including overhead and profit. Where a change results in both credits to the Owner and extras to the Contractor for related items, overhead and profit shall be computed for credits to the Owner and extras to the Contractor. The Owner shall receive full credit for the computed overhead and profit on credit change order items.

7.2.4 The cost to the Owner resulting from a change in the Work shall be the sum of: Cost of the Work (as defined at Section 7.2.2) and Overhead and Profit (as defined at Section 7.2.3), and shall be computed as follows:

7.2.4.1 When all of the Work is General Contractor Work; 8% markup on the Cost of the Work.

7.2.4.2 When the Work is all Subcontract Work; 8% markup on the Cost of the Work for Subcontractor's Overhead and Profit, plus 8% markup on the Cost of the Work, not including the Subcontractor's Overhead and Profit markup, for General Contractor's Overhead and Profit.

7.2.4.3 When the Work is a combination of General Contractor Work and Subcontract Work; that portion of the direct cost that is General Contract Work shall be computed per Section 7.2.4.1 and that portion of the direct cost that is Subcontract Work shall be computed per Section 7.2.4.2.

Premiums for the General Contractor's bond may be included, but after the markup is added to the Cost of the Work.
Premiums for the Subcontractor's Bond shall not be included.

7.2.4.4 Subcontract cost shall consist of the items in Section 7.2.2 above plus Overhead and Profit as defined in Section 7.2.3.

7.2.5 Before a Change Order is prepared, the Contractor shall prepare and deliver to the Architect the following information concerning the Cost of the Work, not subject to waiver, within a reasonable time after being notified to prepare said Change Order:

A detailed, itemized list of labor, material and equipment costs for the General Contractor's Work including quantities and unit costs for each item of labor, material and equipment.

An itemized list of labor, material and equipment costs for each Subcontractor's and/or Sub-Subcontractor's Work including quantities and unit costs for each item of labor, material and equipment.

7.2.6 After a Change Order has been approved, no future requests for extensions of time or additional cost shall be considered for that Change Order.

7.2.7 Extended fixed job-site costs are indirect costs that are necessary to support the work in the field. Examples of fixed job-site costs are field office rental, salaries of field office staff, field office utilities, and telephone.

Extended fixed job-site costs or equitable adjustment may be included in a Change Order due to a delay in the critical path, with the exception of weather related delays. In the event of a delay in the critical path, the Contractor shall submit all changes or adjustments to the Contract Time **within twenty-one (21) days** of the event giving rise to the delay. The Contractor shall submit documentation and justification for the adjustment by performing a critical path analysis of its most recent schedule in use prior to the change, which shows an extension in critical path activities.

The Contractor shall notify the Architect in writing that the Contractor is making a claim for extended fixed job-site overhead as required by Section 15.1.2. The Contractor shall provide proof that the Contractor is unable to mitigate financial damages through Alternate Work within this Contract or replacement work. "Replacement Work" is that work which the Contractor is obligated to perform under any construction contract separate from this Contract. Reasonable proof shall be required by the Architect that the delays affected the Completion Date.

7.2.8 "Cost of the Work" whether General Contractor cost or Subcontractor cost shall not apply to the following:

7.2.8.1 Salaries or other compensation of the Contractor's personnel at the Contractor's principal office and branch offices.

7.2.8.2 Any part of the Contractor's capital expenses, including interest on the Contractor's capital employed for the Work.

7.2.8.3 Overhead and general expenses of any kind or the cost of any item not specifically and expressly included above in Cost of the Work.

7.2.8.4 Cost of supervision refer to section 7.2.2.1, with exception as provided in Section 7.2.7.

7.2.9 When applicable as provided by the Contract, the cost to Owner for Change Orders shall be determined by quantities and unit prices. The quantity of any item shall be as

submitted by the Contractor and approved by the Architect. Unit prices shall cover cost of Material, Labor, Equipment, Overhead and Profit.

7.3 CONSTRUCTION CHANGE DIRECTIVES

7.3.3 In the first sentence after "following methods" insert: ", but not to exceed a specified amount".

7.3.4 From .1 of the list, delete all after "Costs of labor, including" and substitute the following "social security, old age and employment insurance, applicable payroll taxes, and workers' compensation insurance;"

Delete the following from .4 of the list: "permit fees,"

Delete Section 7.3.9 and substitute the following:

7.3.9 Pending final determination of the total costs of a Construction Change Directive to the Owner, amounts not in dispute for such changes in the Work shall be included in Applications for Payment accompanied by a Change Order indicating the parties' agreement with part or all of such costs.

ARTICLE 8
TIME

8.1 DEFINITIONS

Add the following:

8.1.5 The Contract Time shall not be changed by the submission of a schedule that shows an early completion date unless specifically authorized by change order.

8.2 PROGRESS AND COMPLETION

Add to Section 8.2.1 the following:

Completion of the Work must be within the Time for Completion stated in the Agreement, subject to such extensions as may be granted under Section 8.3. The Contractor agrees to commence Work not later than fourteen (14) days after the transmittal date of Written Notice to Proceed from the Owner and to substantially complete the project within the time stated in the Contract. The Owner will suffer financial loss if the project is not substantially complete in the time set forth in the Contract Documents. The Contractor and the Contractor's Surety shall be liable for and shall pay to the Owner the sum stated in the Contract Documents as fixed, agreed and liquidated damages for each consecutive calendar day (Saturdays, Sundays and holidays included) of delay until the Work is substantially complete. The Owner shall be entitled to the sum stated in the Contract Documents. Such Liquidated Damages shall be withheld by the Owner from the amounts due the Contractor for progress payments.

Delete Section 8.2.2.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 In the first sentence after the words "Owner pending" delete the words "mediation and binding dispute resolution" and add the word "litigation", and delete the last word "determine" and add the following: "recommend, subject to Owner's approval of Change Order. If the claim is not made within the limits of Article 15, all rights for future claims for that month are waived."

ARTICLE 9
PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

Delete Section 9.1.2.

Delete Section 9.2 and substitute the following:

9.2 SCHEDULE OF VALUES

At the Pre-Construction Conference, the Contractor shall submit to the Owner and the Architect a Schedule of Values prepared as follows:

9.2.1 The attached Schedule of Values Format shall be used. If applicable, the cost of Work for each section listed under each division, shall be given. The cost for each section shall include Labor, Materials, Overhead and Profit.

9.2.2 The Total of all items shall equal the Total Contract Sum. This schedule, when approved by the Architect, shall be used as a basis for the Contractor's Applications for Payment and it may be used for determining the cost of the Work in deductive change orders, when a specific item of Work listed on the Schedule of Values is to be removed. Once the Schedule of Values is submitted at the Pre-Construction Conference, the schedule shall not be modified without approval from the Owner and Architect.

9.3 APPLICATIONS FOR PAYMENT

Delete Sections 9.3.1, 9.3.1.1, and 9.3.1.2 and substitute the following:

9.3.1 Monthly, the Contractor shall submit to the Architect a Facility Planning and Control – Application and Certification for Payment form, supported by any additional data substantiating the Contractor's right to payment as the Owner or the Architect may require. Application for Payment shall be submitted on or about the first of each month for the value of labor and materials incorporated into the Work and of materials, suitably stored, at the site as of the twenty-fifth day of the preceding month, less normal retainage as follows, per La R.S. 38:2248:

9.3.1.1 Projects with Contract price up to $500,000.00 – 10% of the Contract price.

9.3.1.2 Projects with Contract price of $500,000.00, or more – 5% of the Contract price.

9.3.1.3 No payment shall be made until the revised schedule required by Section 3.10.1 is received.

9.3.1.4 The normal retainage shall not be due the Contractor until after substantial completion and expiration of the forty-five day lien period and submission to the Architect of a clear lien certificate, consent of surety, and invoice for retainage.

Delete Section 9.3.2 and substitute the following:

9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. Payments for materials or equipment stored on the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, including applicable insurance.

9.5 DECISIONS TO WITHHOLD CERTIFICATION

Section 9.5.1.7: Delete the word "repeated".

Delete Section 9.5.4.

9.6 PROGRESS PAYMENTS

Delete Section 9.6.1 and substitute the following:

9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment within twenty days except for projects funded fully or in part by a Federal reimbursement program. For such projects the Owner will make payment in a timely manner consistent with reimbursement.

9.6.2 Delete the phrase: "no later than seven days" from the first sentence.

After the end of the second sentence, add the following:

La R.S. 9:2784 (A) and (C) require a Contractor or Subcontractor to make payment due to each Subcontractor and supplier within fourteen (14) consecutive days of the receipt of payment from the Owner. If not paid, a penalty in the amount of ½ of 1% per day is due, up to a maximum of 15% from the expiration date until paid. The contractor or subcontractor, whichever is applicable, is solely responsible for payment of a penalty.

9.6.4 Delete the first two sentences of Section 9.6.4 and add the following to the end of the Section:

Pursuant to La. R.S. 38:2242 and La. R.S. 38:2242.2, when the Owner receives any claim of nonpayment arising out of the Contract, the Owner shall deduct 125% of such claim from the Contract Sum. The Contractor, or any interested party, may deposit security, in accordance with La. R.S. 38:2242.2, guaranteeing payment of the claim with the recorder of mortgages of the parish where the Work has been done. When the Owner receives

original proof of such guarantee from the recorder of mortgages, the claim deduction will be added back to the Contract Sum.

Delete Section **9.7 FAILURE OF PAYMENT**.

Delete Section 9.8 and substitute the following:

9.8 SUBSTANTIAL COMPLETION

9.8.1 Substantial Completion is the stage in the progress of the Work when the Work is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use. The Architect shall determine if the project is substantially complete in accordance with this Section.

9.8.2 When the Contractor considers that the Work is Substantially Complete, the Contractor shall prepare and submit to the Architect a comprehensive list of items to be completed or corrected prior to final payment. Failure to include an item on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

9.8.3 Upon receipt of the Contractor's list, the Architect shall make an inspection to determine whether the Work is substantially complete. A prerequisite to the Work being considered as substantially complete is the Owner's receipt of the executed Roofing Contractor's and Roofing Manufacturer's guarantees, where roofing Work is part of the Contract. Prior to inspection by the Architect, the Contractor shall notify the Architect that the project is ready for inspection by the State Fire Marshal's office. If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use, the Contractor shall, before the Work can be considered as Substantially Complete, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.

9.8.4 When the Architect determines that the project is Substantially Complete, he shall prepare a punch list of exceptions and the dollar value related thereto. The monetary value assigned to this list will be the sum of the cost estimate for each particular item of Work the Architect develops based on the mobilization, labor, material and equipment costs of correcting the item and shall be retained from the monies owed the contractor, above and beyond the standard lien retainage. The cost of these items shall be prepared in the same format as the schedule of values. At the end of the forty-five day lien period payment shall be approved for all punch list items completed up to that time. After that payment, none of the remaining funds shall be due the contractor until all punch list items are completed and are accepted by the Architect. If the dollar value of the punch list exceeds the amount of funds, less the retainage amount, in the remaining balance of the Contract, then the Project shall not be considered as substantially complete. If funds remaining are less than that required to complete the Work, the Contractor shall pay the difference.

9.8.5 When the preparation of the punch list is complete the Architect shall prepare a Recommendation of Acceptance incorporating the punch list and submit it to the Owner.

Upon approval of the Recommendation of Acceptance, the Owner may issue a Notice of Acceptance of Building Contract which shall establish the Date of Substantial Completion. The Contractor shall record the Notice of Acceptance with the Clerk of Court in the Parish in which the Work has been performed. If the Notice of Acceptance has not been recorded seven (7) days after issuance, the Owner may record the Acceptance at the Contractor's expense. All additive change orders must be processed before issuance of the Recommendation of Acceptance. The Owner shall not be responsible for payment for any Work associated with change orders that is not incorporated into the contract at the time of the Recommendation of Acceptance.

9.8.6 Warranties required by the Contract Documents shall commence on the date of Acceptance of the Work unless otherwise agreed to in writing by the Owner and Contractor. Unless otherwise agreed to in writing by the Owner and Contractor, security, maintenance, heat, utilities, damage to the Work not covered by the punch list and insurance shall become the Owner's responsibility on the Date of Substantial Completion.

9.8.7 If all punch list items have not been completed by the end of the forty-five (45) day lien period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within forty-five (45) days after notification, the Surety has not completed the punch list, through no fault of the Architect or Owner, the Owner may, at his option, contract to have the balance of the Work completed and pay for such Work with the unpaid funds remaining in the Contract sum. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts. If the surety fails to complete the punch list within the stipulated time period, the Owner may not accept bonds submitted, in the future, by the surety.

9.9 PARTIAL OCCUPANCY OR USE

Delete Section 9.9.1 and substitute the following:

9.9.1 Partial Occupancy is that stage in the progress of the Work when a designated portion of the Work is sufficiently complete in accordance with the Contract Documents so the Owner can occupy or utilize the designated portion of the Work for its intended use. The Owner may occupy or use any substantially completed portion of the Work so designated by separate agreement with the Contractor and authorized by public authorities having jurisdiction over the Work. Such occupancy or use may commence provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, if any, security, maintenance, heat, utilities, damage to the Work and insurance, and have agreed in writing concerning the period for correction of the Work and commencement of warranties required by the Contract Documents. When the Contractor considers the designated portion substantially complete the Contractor shall prepare and submit a list to the Architect as provided under Section 9.8.2. Consent of the Contractor to partial occupancy or use shall not be unreasonably withheld.

9.10 FINAL COMPLETION AND FINAL PAYMENT

Delete Section 9.10.4 and replace with the following:

9.10.4 The making of final payment shall not constitute a waiver of Claims by the Owner for the following:

9.10.4.1 Claims, security interests, or encumbrances arising out of the Contract and unsettled;

9.10.4.2 failure of the Work to comply with the requirements of the Contract Documents irrespective of when such failure is discovered;

9.10.4.3 terms of special warranties required by the Contract Documents; or

9.10.4.4 audits performed by the Owner, after final payment.

ARTICLE 10
PROTECTION OF PERSONS AND PROPERTY

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.2 In the first sentence, between the words: "bearing on" and "safety", add the words: "the health and,"

10.3 HAZARDOUS MATERIALS

10.3.1 In the second sentence after (PCB) add: "or lead".

10.3.2 After the first sentence, delete all remaining sentences.

Add at the end: "The Contract time shall be extended appropriately."

Delete Section 10.4 and substitute the following:

10.4 EMERGENCIES

In an emergency affecting the safety of persons or property, the Contractor shall notify the Owner and Architect immediately of the emergency, simultaneously acting at his discretion to prevent damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency Work shall be determined as provided in Article 15 and Article 7.

ARTICLE 11
INSURANCE AND BONDS

AIA A101 – 2017 Exhibit A is not a part of these documents. Delete all of Sections 11.1, 11.2, 11.3, 11.4, and 11.5, and substitute the following:

INSURANCE REQUIREMENTS FOR NEW CONSTRUCTION, ADDITIONS AND RENOVATIONS

11.1 CONTRACTOR'S LIABILITY INSURANCE

The Contractor shall purchase and maintain without interruption for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the Work hereunder by the Contractor, its agents, representatives, employees or subcontractors. The duration of the contract shall be from the inception of the contract until the date of final payment.

11.2 MINIMUM SCOPE AND LIMITS OF INSURANCE

11.2.1 Worker's Compensation

Worker's Compensation insurance shall be in compliance with the Worker's Compensation law of the Contractor's headquarters. Employers Liability is included with a minimum limit of $1,000,000 per accident/per disease/per employee. If Work is to be performed over water and involves maritime exposure, applicable LHWCA, Jones Act or other maritime law coverage shall be included. A.M. Best's insurance company rating requirement may be waived for Worker's compensation coverage only.

11.2.2 Commercial General Liability

Commercial General Liability insurance, including Personal and Advertising Injury Liability and Products and Completed Operations Liability, shall have a minimum limit per occurrence based on the project value. The Insurance Services Office (ISO) Commercial General Liability occurrence coverage form CG 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. Claims-made form is unacceptable.

The aggregate loss limit must apply to each project. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The State project number, including part number, and project name shall be included on this endorsement.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

Type of Construction	**Projects up to $1,000,000**	**Projects over $1,000,000 up to $10,000,000**	**Projects over $10,000,000**
New Buildings:			
Each Occurrence Minimum Limit	$1,000,000	$2,000,000	$4,000,000
Per Project Aggregate	$2,000,000	$4,000,000	$8,000,000
Renovations:	**The building(s) value for the Project is $2,839,591.00.**		
Each Occurrence Minimum Limit	$1,000,000**	$2,000,000**	$4,000,000**
Per Project Aggregate	2 times per occur limit**	2 times per occur limit**	2 times per occur limit**

**While the minimum Combined Single Limit of $1,000,000 is required for any renovation, the limit is calculated by taking 10% of the building value and rounding it to the nearest $1,000,000 to get the insurance limit. Example: Renovation on a $33,000,000 building would have a calculated $3,000,000 combined single limit of coverage (33,000,000 times .10 = 3,300,000 and then rounding down to $3,000,000). If the calculated limit is less than the minimum limit listed in the above chart, then the amount needed is the minimum listed in the chart. Maximum per occurrence limit required is $10,000,000 regardless of building value. The per project aggregate limit is then calculated as twice the per occurrence limit.

11.2.3 Automobile Liability

Automobile Liability Insurance shall have a minimum combined single limit per occurrence of $1,000,000. ISO form number CA 00 01 (current form approved for use in Louisiana), or equivalent, is to be used in the policy. This insurance shall include third-party bodily injury and property damage liability for owned, hired and non-owned automobiles.

11.2.4 Excess Umbrella

Excess Umbrella Insurance may be used to meet the minimum requirements for General Liability and Automobile Liability only.

11.2.5 Builder's Risk

11.2.5.1 Builder's Risk Insurance shall be in an amount equal to the amount of the construction contract including any amendments and shall be upon the entire Work included in the contract. The policy shall provide coverage equivalent to the ISO form number CP 10 20, Broad Form Causes of Loss (extended, if necessary, to include the perils of wind, earthquake, collapse, vandalism/malicious mischief, and theft, including theft of materials whether or not attached to any structure). The policy must include architects' and engineers' fees necessary to provide plans, specifications and supervision of Work for the repair and/or replacement of property damage caused by a covered peril, not to exceed 10% of the cost of the repair and/or replacement.

11.2.5.2 Flood coverage shall be provided by the Contractor on the first floor and below for all projects, except as otherwise noted. The builder's risk insurance policy, sub-limit for flood coverage shall not be less than ten percent (10%) of the total contract cost per occurrence. If flood is purchased as a separate policy, the limit shall be ten percent (10%) of the total contract cost per occurrence (with a max of $500,000 if NFIP). Coverage for roofing projects shall **not** require flood coverage.

11.2.5.3 A Specialty Contractor may provide an installation floater in lieu of a Builder's Risk policy, with the similar coverage as the Builder's Risk policy, upon the system to be installed in an amount equal to the amount of the contract including any amendments. Flood coverage is not required.

11.2.5.4 The policy must include coverage for the Owner, Contractor and any subcontractors as their interests may appear.

11.2.6 Pollution Liability *(required when asbestos or other hazardous material abatement is included in the contract)*

Pollution Liability insurance, including gradual release as well as sudden and accidental, shall have a minimum limit of not less than $1,000,000 per claim. A claims-made form will be acceptable. A policy period inception date of no later than the first day of anticipated Work under this contract and an expiration date of no earlier than 30 days after anticipated completion of all Work under the contract shall be provided. There shall be an extended reporting period of at least 24 months, with full reinstatement of limits, from the expiration date of the policy if the policy is not renewed. The policy shall not be cancelled for any reason, except non-payment of premium.

11.2.7 Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and accepted by the Owner. The Contractor shall be responsible for all deductibles and self-insured retentions.

11.3 OTHER INSURANCE PROVISIONS

11.3.1 The policies are to contain, or be endorsed to contain, the following provisions:

11.3.1.1 Worker's Compensation and Employers Liability Coverage

11.3.1.1.1 To the fullest allowed by law, the insurer shall agree to waive all rights of subrogation against the Owner, its officers, agents, employees and volunteers for losses arising from Work performed by the Contractor for the Owner.

11.3.1.2 Commercial General Liability Coverage

11.3.1.2.1 The Owner, its officers, agents, employees and volunteers are to be added as additional insureds as respects liability arising out of activities performed by or on behalf of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor. ISO Form CG 20 10 (for ongoing work) AND CG 20 37 (for completed work) (current forms approved for use in Louisiana), or equivalent, are to be used.

11.3.1.2.2 The Contractor's insurance shall be primary as respects the Owner, its officers, agents, employees and volunteers for any and all losses that occur under the contract. The coverage shall contain no special limitations on the scope of protection afforded to the Owner, its officers, officials, employees or volunteers. Any insurance or self-insurance maintained by the Owner shall be excess and non-contributory of the Contractor's insurance.

11.3.1.3 Builder's Risk

The policy must include an endorsement providing the following:

In the event of a disagreement regarding a loss covered by this policy, which may also be covered by a State of Louisiana self-insurance or commercial property policy through the Office of Risk Management (ORM), Contractor and its insurer agree to follow the following procedure to establish coverage and/or the amount of loss:

Any party to a loss may make written demand for an appraisal of the matter in disagreement. Within 20 days of receipt of written demand, the Contractor's insurer and either ORM or its commercial insurance company shall each select a competent and impartial appraiser and notify the other of the appraiser selected. The two appraisers shall select a competent and impartial umpire. The appraisers shall then identify the policy or policies under which the loss is insured and, if necessary, state separately the value of the property and the amount of the loss that must be borne by each policy. If the two appraisers fail to agree, they shall submit their differences to the umpire. A written decision by any two shall determine the policy or policies and the amount of the loss. Each insurance company agrees that the decision of the appraisers and the umpire if involved shall be binding and final and that neither party will resort to litigation. Each of the two parties shall pay its chosen appraiser and bear the cost of the umpire equally.

11.3.1.4 All Coverages

11.3.1.4.1 All policies must be endorsed to require 30 days written notice of cancellation to the Agency. Ten-day written notice of cancellation is acceptable for non-payment of premium. Notifications shall comply with the standard cancellation provisions in the Contractor's policy. In addition, Contractor is required to notify Agency of policy cancellations or reductions in limits.

11.3.1.4.2 Neither the acceptance of the completed Work nor the payment thereof shall release the Contractor from the obligations of the insurance requirements or indemnification agreement.

11.3.1.4.3 The insurance companies issuing the policies shall have no recourse against the Owner for payment of premiums or for assessments under any form of the policies.

11.3.1.4.4 Any failure of the Contractor to comply with reporting provisions of the policy shall not affect coverage provided to the Owner, its officers, agents, employees and volunteers.

11.3.2 Acceptability of Insurers

All required insurance shall be provided by a company or companies lawfully authorized to do business in the jurisdiction in which the Project is located. Insurance shall be

placed with insurers with an A.M. Best's rating of **A-: VI or higher**. This rating requirement may be waived for Worker's compensation coverage only.

If at any time an insurer issuing any such policy does not meet the minimum A.M. Best rating, the Contractor shall obtain a policy with an insurer that meets the A.M. Best rating and shall submit another certificate of insurance within 30 days.

11.3.3 Verification of Coverage

Contractor shall furnish the Owner with Certificates of Insurance reflecting proof of required coverage. The Certificates for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The Certificates are to be received and approved by the Owner before Work commences and upon any contract renewal or insurance policy renewal thereafter. The Certificate Holder must be listed as follows:

State of Louisiana
Name of Owner
Owner Address
City, State, Zip
Attn: Project # _____

The Owner reserves the right to request complete certified copies of all required insurance policies at any time.

Upon failure of the Contractor to furnish, deliver and maintain required insurance, this contract, at the election of the Agency, may be suspended, discontinued, or terminated. Failure of the Contractor to purchase and/or maintain any required insurance shall not relieve the Contractor from any liability or indemnification under the contract.

If the Contractor does not meet the insurance requirements at policy renewal, at the option of the Owner, payment to the Contractor may be withheld until the requirements have been met, OR the Owner may pay the renewal premium and withhold such payment from any monies due the Contractor, OR the contract may be suspended or terminated for cause.

11.3.4 Subcontractors

Contractor shall include all subcontractors as insureds under its policies OR shall be responsible for verifying and maintaining the certificates provided by each subcontractor. Subcontractors shall be subject to all of the requirements stated herein. The Owner reserves the right to request copies of subcontractor's certificates at any time.

If Contractor does not verify subcontractors' insurance as described above, Owner has the right to withhold payments to the Contractor until the requirements have been met.

11.3.5 Worker's Compensation Indemnity

In the event Contractor is not required to provide or elects not to provide Worker's compensation coverage, the parties hereby agree the Contractor, its Owners, agents and

employees shall have no cause of action against, and shall not assert a claim against, the State of Louisiana, its departments, agencies, agents and employees as an employer, whether pursuant to the Louisiana Worker's Compensation Act or otherwise, under any circumstance. The parties also hereby agree that the State of Louisiana, its departments, agencies, agents and employees shall in no circumstance be, or considered as, the employer or statutory employer of Contractor, its Owners, agents and employees. The parties further agree that Contractor is a wholly independent Contractor and is exclusively responsible for its employees, Owners, and agents. Contractor hereby agrees to protect, defend, indemnify and hold the State of Louisiana, its departments, agencies, agents and employees harmless from any such assertion or claim that may arise from the performance of this contract.

11.3.6 Indemnification/Hold Harmless Agreement

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the State of Louisiana, all State Departments, Agencies, Boards and Commissions, its officers, agents, servants, employees and volunteers, from and against any and all claims, damages, expenses and liability arising out of injury or death to any person or the damage, loss or destruction of any property which may occur, or in any way grow out of, any act or omission of Contractor, its agents, servants and employees, or any and all costs, expenses and/or attorney fees incurred by Contractor as a result of any claims, demands, suits or causes of action, except those claims, demands, suits or causes of action arising out of the negligence of the State of Louisiana, all State Departments, Agencies, Boards, Commissions, its officers, agents, servants, employees and volunteers.

Contractor agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent. The State of Louisiana may, but is not required to, consult with the Contractor in the defense of claims, but this shall not affect the Contractor's responsibility for the handling and expenses of all claims.

11.4 PERFORMANCE AND PAYMENT BOND

11.4.1 The Owner shall have the right to require the Contractor to furnish bonds covering faithful performance of the Contract and payment of obligations arising thereunder as stipulated in bidding requirements or specifically required in the Contract Documents on the date of execution of the Contract.

11.4.2 Upon the request of any person or entity appearing to be a potential beneficiary of bonds covering payment of obligations arising under the Contract, the Contractor shall promptly furnish a copy of the bonds or shall authorize a copy to be furnished.

11.4.3 Recordation of Contract and Bond [La R.S. 38:2241 thru 38:2241.1]

The Owner shall record within thirty (30) days the Contract Between Owner and Contractor and Performance and Payment Bond with the Clerk of Court in the Parish in which the Work is to be performed.

ARTICLE 12
UNCOVERING AND CORRECTION OF WORK

12.2 CORRECTION OF WORK

12.2.1 Before Substantial Completion

At the end of the paragraph, add the following sentences:
"If the Contractor fails to correct Work identified as defective within a thirty (30) day period, through no fault of the Designer, the Owner may hold the Contractor in default. If the Owner finds the Contractor in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the nonconforming Work, through no fault of the Architect or Owner, the Owner may contract to have nonconforming Work corrected and hold the Surety and Contractor responsible for the cost, including architectural fees and other indirect costs. If the Surety fails to correct the Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may elect not to accept bonds submitted in the future by the Surety. Finding the Contractor in default shall constitute a reason for disqualification of the Contractor from bidding on future state contracts.

12.2.2 After Substantial Completion

12.2.2.1 At the end of the paragraph delete the last sentence and add the following sentences:
"If the Contractor fails to correct nonconforming Work, or Work covered by warranties, within a thirty (30) day period, through no fault of the Architect or Owner, the Owner may hold the Contractor in default. If the Owner finds the Contractor is in default, the Surety shall be notified. If within thirty (30) days after notification, the Surety has not corrected the non-conforming or warranty Work, through no fault of the Architect or Owner, the Owner may contract to have the nonconforming or warranty Work corrected and hold the Surety responsible for the cost including architects fees and other indirect costs. Corrections by the Owner shall be in accordance with Section 2.4. If the Surety fails to correct the nonconforming or warranty Work within the stipulated time period and fails to meet its obligation to pay the costs, the Owner may not accept bonds submitted, in the future, by the Surety."

ARTICLE 13
MISCELLANEOUS PROVISIONS

13.1 GOVERNING LAW

Delete all after the word "located".

13.2 SUCCESSORS AND ASSIGNS

13.2.1 In the second sentence, delete "Except as … 13.2.2"

Delete Section 13.2.2.

13.3 RIGHTS AND REMEDIES

Add the following Section 13.3.3:

13.3.3 The Nineteenth Judicial Court in and for the Parish of East Baton Rouge, State of Louisiana shall have sole jurisdiction and venue in any action brought under this contract.

13.4 TESTS AND INSPECTIONS

In Section 13.4.1, delete the second sentence and substitute the following:

The Contractor shall make arrangements for such tests, inspections and approvals with the Testing Laboratory provided by the Owner, and the Owner shall bear all related costs of tests, inspections and approvals.

Delete the last two sentences of Section 13.4.1.

13.5 INTEREST

Delete Section 13.5.

ARTICLE 14
TERMINATION OR SUSPENSION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

Delete Section 14.1.1.4.

In Section 14.1.3, after the word "profit," delete the words "on Work not executed" and substitute the following: "for Work completed prior to stoppage".

14.2 TERMINATION BY THE OWNER FOR CAUSE

Add the following Section:

14.2.1.5 failure to complete the punch list within the lien period as provided in 9.8.7.

14.2.3 Add the following sentence:

"Termination by the Owner shall not suspend assessment of liquidated damages against the Surety."

Add the following Section:

14.2.5 If an agreed sum of liquidated damages has been established, termination by the Owner under this Article shall not relieve the Contractor and/or Surety of his obligations under

the liquidated damages provisions and the Contractor and/or Surety shall be liable to the Owner for per diem liquidated damages.

14.4 TERMINATION BY THE OWNER FOR CONVENIENCE

In Section 14.4.3, delete all after "incurred by reason of the termination," and add "along with reasonable profit on the Work not executed."

ARTICLE 15
CLAIMS AND DISPUTES

15.1 CLAIMS

Delete Section 15.1.2, **Time Limit on Claims,** (See La R.S. 38:2189, and 38:2189.1).

15.1.3.1 Add the following to the end of the paragraph:
"A Reservation of Rights and similar stipulations shall not be recognized under this contract as having any effect. A party must make a claim as defined herein within the time limits provided."

15.1.4.2 In the first sentence of the Section, delete "Initial Decision Maker's" and replace with "Architect's". In the second sentence of the Section, delete "the decision of the Initial Decision Maker" and replace with: "his/her decision".

Delete Section 15.1.6.2 and substitute the following:

15.1.6.2 If adverse weather conditions are the basis for a claim for additional time, the Contractor shall document that weather conditions had an adverse effect on the scheduled construction. An increase in the contract time due to weather shall not be cause for an increase in the contract sum. At the end of each month, the Contractor shall make one Claim for any adverse weather days occurring within the month. The Claim must be accompanied by sufficient documentation evidencing the adverse days and the impact on construction. Failure to make such Claim within **twenty-one (21) days** from the last day of the month shall prohibit any future claims for adverse days for that month. No additional adverse weather days shall be granted after the original or extended contract completion date, except those adverse weather days associated with a National Weather Service named storm or federally declared weather related disaster directly affecting the project site.

Add the following Section:

15.1.6.3 The following are considered reasonably anticipated days of adverse weather on a monthly basis:

January	11 days	July	6 days
February	10 days	August	5 days
March	8 days	September	4 days
April	7 days	October	3 days
May	5 days	November	5 days
June	6 days	December	8 days

The Contractor shall ask for total adverse weather days. The Contractor's request shall be considered only for days over the allowable number of days stated above.

Note: Contract is on a calendar day basis.

15.2 INITIAL DECISION

15.2.1 In the second sentence, delete the word "will" and replace with: "shall always".

In the second sentence, delete the phrase: ", unless otherwise indicated in the Agreement."

In the third sentence, delete the word "mediation" and replace with: "litigation".

At the end of the third sentence, add: "arising prior to the date final payment is due".

Delete the fourth sentence.

15.2.5 In the middle of the first sentence, delete all after the phrase: "rejecting the Claim".

In the second sentence, delete the phrase: "and the Architect, if the Architect is not serving as the Initial Decision Maker,".

In the third sentence, delete all after: "binding on the parties" and add the following: "except that the Owner may reject the decision or suggest a compromise or both".

Delete Section 15.2.6.

Delete Section 15.2.6.1.

15.3 MEDIATION

Delete Section 15.3.

15.4 ARBITRATION

Delete Section 15.4.

Specifications

SECTION 01 01 00 - BASIC REQUIREMENTS

PART 1 - GENERAL

1.1 GENERAL SUMMARY OF THE WORK

A. General Description: The Work described in these Contract Documents is for exterior and interior renovations in an existing school campus facility that will remain in operation.

B. Construction Documents:
   1. Contractor to whom the project is awarded, shall be provided with digital set of construction documents, drawings and project manual including addenda. The Contractor shall be responsible for costs in making copies for use during construction.
   2. In addition, Contractor shall provide complete printed sets of documents as follows:
      a. One set at project site for reference during project meetings.
      b. One set for record drawings.

C. The Work will be constructed under a single prime contract.

1.2 CONTRACTOR USE OF FACILITY

A. Owner's Property - The Campus Facility: Owner occupies and uses the existing campus facility and adjacent building facilities.
   1. Conduct construction operations to minimize disturbance and disruption.
   2. Do not enter existing adjacent building facilities that are not part of the work unless approved in advance by Owner.

B. Staging Area: An area near the work area will be assigned to the Contractor for his use. Restore and clean staging area to original condition including replenishing lawns and landscaping.

C. Contractor is responsible for security and safety of his materials, equipment and temporary facilities as well as protection of Owner's existing facilities.

D. Safety Plan: Contractor's responsibility. Contractor to maintain safety plan, first aid kit on jobsite, safety measures, precautions and contingencies.

E. Fire Suppression: Contractor may use building fire extinguishers. If used, Contractor to re-charge them.

F. Owner's Facility Rules and Requirements.
   1. Stay within assigned areas. Avoid conflict with Owner's operations.
   2. Obtain permission in advance to work weekends.
   3. School sites are drug and tobacco-free zones, both inside buildings and on campus grounds.
   4. No firearms, knives or weapons of any kind is permitted on school property.
   5. Contractor and workers are not permitted to talk with and/or communicate with school personnel and students. Contractor's workers who violate this will be directed to leave the jobsite, and not permitted to return to the project.

a. For coordination purposes, Contractor and his superintendent is permitted to communicate with assigned school personnel, such as the School Principal, Assistant Principal and custodian.

G. Parking: Contractor to park at assigned spaces.

1.3 OWNER'S USE OF FACILITY

A. Owner's Occupancy: Existing adjacent property and buildings are to remain in Owner's use. Do not obstruct Owner's roads and drives.

B. Utilities Services: Do not interrupt utility services to the adjacent occupied spaces. Coordinate with the Owner if temporary modifications to the lighting, power, or air-conditioning systems will cause such interruption, provide advance written notice a minimum of 72 hours before the outage.

1.4 COORDINATION

A. Coordinate scheduling, submittals, and Work to assure efficient and orderly sequence of installation of interdependent construction elements.

B. Verify utility requirement characteristics of operating equipment are compatible with building utilities.

1.5 PROTECTION OF INSTALLED WORK

A. Protect installed Work and existing facilities to remain. Repair, replace and restore damage(s) at no cost to Owner.

B. Before beginning of construction operations, inspect and photograph driveways and access to construction area jobsite. Portions of driveway, landscaping and existing improvements damaged by construction operations shall be repaired and replaced at Contractor's expense.

1.6 PROJECT MEETINGS

A. Pre-construction Conference: The Owner and Architect will schedule a pre-construction conference after notice of award. Contractor shall be responsible for his subcontractors are in attendance. At this meeting, submit to the Architect and Owner the following:
1. Schedule of Values
2. List of subcontractors and material suppliers.
3. Proposed Construction Progress Schedule.

B. Progress Meetings: Schedule and administer meetings throughout progress of the Work at monthly intervals coordinated with preparation of payment request. Require each entity to be properly represented to review adherence to schedule with respect to material delivery, work sequencing, hours of work and relevant matters in relationship to the progress schedule. Record minutes of the meeting, update the construction progress schedule, and submit with payment request.

1.7 SUBSTITUTIONS

A. Architect's Approval Required: Consideration will be given to submittals for substitutions only when such proposals are accompanied by complete technical data and information showing compliance to specified requirements. No substitutions are allowed without the Architect's approval.

B. "Approved Equal" and "or Equal": Substitution under this category must be submitted in accordance with requirements indicated in Instruction to Bidders.

C. Contractor shall verify and coordinate compatibility with related construction, accommodation to space/area provided, and clearances for service access for substitution items.

1.8 SUBMITTAL PROCEDURES AND SHOP DRAWINGS

A. Procedures:
1. Identification: Identify each submittal with Project (name as appears on the Contract), Contractor, Subcontractor or supplier; and pertinent Contract Document references.
2. Contractor's Approval: Apply date and Contractor's stamp with authorized original hand signature on each copy, certifying that review, verification of Products required, field dimensions, adjacent construction Work and coordination of information is in accordance with the requirements of the Work and Contract Documents. Identify variations from Contract Documents and Product or system limitations which may be detrimental to successful performance of the completed Work. Prior to submittal of shop drawings to the Architect, Contractor shall check shop drawings and affix thereto a stamp indicating his checking and approval with signature (initials are not acceptable) by an authorized officer of the firm on each copy. Shop drawings marked "approved as noted" by the Contractor are assumed to be approved for fabrication or placing orders. Contractor’s stamp shall contain the message “Checked and Approved, name of the firm, and date.
3. Revise and resubmit submittals as required; identify changes made since previous submittal.
4. Number of Copies: Number of copies Contractor requires for the Contractor’s own use, plus 2 copies which will be retained by Architect.
5. Scheduling Submittals: Allow Architect 10 working days for Architect's review. Delays caused by tardiness of poor scheduling of submittals is the Contractor's responsibility.
6. Grouping: Submit associated items in groups to avoid rejection of a single item that may impact upon the rest of the group.
7. It is the Contractor's responsibility for proper distribution to subcontractors of shop drawings and advise them of the number of prints required for complete job use.

B. Shop Drawings:
1. Draw to scale sufficiently large showing pertinent features and method of connection. Reproductions or duplications of Architect's drawings is not acceptable.
2. Submit in the form of blue or black line on white background.

C. Product Data: Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information unique to this project.

D. Samples: Submit samples to illustrate the characteristics of the Product to be used.

E. Manufacturer's Instructions: When specified in individual specification Sections, submit manufacturers' printed instructions for delivery, storage, assembly and installation.

F. Certificates: When specified in individual specification Sections, submit manufacturers' certificate attesting to requirements specified. Indicate material or Product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.

1.9 TEMPORARY FACILITIES

A. Temporary Utilities:
   1. Water: Connect to existing water source for construction operations. Provide necessary hose extensions. Ensure no leaks occur at connections. Remove connections at the end of work.
   2. Electricity and Lighting: Temporarily connect to existing power service nearby. Power consumption shall not disrupt Owner's use of service elsewhere. Owner to pay for power consumed at these connections.
      a. Electricity: Provide temporary service extensions to power outlets for construction operations, branch wiring, distribution boxes, flexible power cords and fixtures as required.
      b. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations and traffic conditions.

B. Communications - Jobsite: Contractor and superintendent shall be accessible by communications contact during entire period of construction operations.
   1. Do not use Owner’s telephone(s) at the facility.
   2. Provide, maintain and pay for cellular phone communications during construction at the project site.

C. Drinking Water: Existing drinking fountains may be used.

D. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.
   1. Do not use existing restrooms in the school buildings.

E. Field Office: Not required.

F. Storage: Provide temporary storage enclosures for proper storage of building materials.

G. Temporary Fencing: Provide temporary fencing to secure areas of work. One of the following at Contractor’s option -
   1. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.76-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 rails.
   2. Portable Chain-Link Fencing: Minimum 2-inch (50-mm) 9-gage, 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 concrete or galvanized steel bases for supporting posts.

H. Dumpster: Contractor is responsible for collecting, removal and disposal selectively demolished materials, debris and trash generated by construction.
   1. Do not use Owner's dumpsters and trash receptacles.
   2. Provide and locate dumpster on site at Owner's approved location. Regularly remove contents and clean area so that Owner's property is maintained in a clean and neat condition at all times.

I. Haul off and remove construction debris at the end of each day, more often if required to avoid trash build up.

J. Removal: Remove temporary facilities and materials at the end of the project. Repair damage caused by installation or use of temporary work. Restore and clean existing facilities and areas used during construction to original condition.

1.10 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged, and unless otherwise indicated, that are new at time of installation.
   1. Provide 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. Where products are accompanied by the term "as selected," Architect will make selection.
   4. Where products are accompanied by the term "match sample," sample to be matched is Architect's.

B. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft. Comply with manufacturer's written instructions.
   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 ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
   5. Store products to allow for inspection and measurement of quantity or counting of units.
   6. Store materials in a manner that will not endanger Project structure.
   7. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.

8. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
9. Protect stored products from damage.

C. Storage: Provide a secure location and enclosure at Project site for storage of materials and equipment.

1.11 EXECUTION REQUIREMENTS

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.

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 damage or loading in excess of that expected during normal conditions of occupancy.

E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.

F. Anchors and Fasteners: Provide as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
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.

G. 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.

H. Hazardous Materials: Use products, cleaners, and installation materials that do not contain hazardous materials.

1.12 PROGRESS AND FINAL CLEANING

A. Progress Cleaning:
1. Keep areas free of waste materials, debris, and rubbish.
2. Maintain site in a clean and orderly condition at all times.
3. Clean site daily, and more often when waste materials and debris interfere with other operations.

B. Final Cleaning
1. Remove waste and surplus materials, rubbish, and construction facilities from the site.

2. Clean surfaces and areas, new and existing, affected by Work and restore to condition before if damaged.
3. Restore site areas affected by work.

1.13 PROJECT RECORD DOCUMENTS

A. Maintain on site, one set of Contract Documents to be utilized for record documents. Identify on this set by indicating "Record Documents - Job Set." Record actual revisions to the Work. Record information concurrent with construction progress.

B. Record Documents: Legibly mark each item to record actual construction with ink or color pencil. Submit to Architect before Final Application for Payment.

1.14 CONTRACT CLOSEOUT PROCEDURES

A. Submit written statement when Work is complete in accordance with Contract Documents and ready for Architect inspection.

B. The following items must be submitted prior to, or together with, final Application for Payment:
1. Record Drawings
2. Lien Certificate
3. Consent of Surety
4. Operating and Maintenance Manuals

C. Submit final Application for Payment identifying total adjusted Contract Sum/Price, previous payments, and amount remaining due.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION (not used)

END OF SECTION 01 01 00

SECTION 01 23 00 - ALTERNATES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes administrative and procedural requirements for alternates.

1.2 DEFINITIONS

A. Alternate: An amount proposed by bidders and stated on the Bid Form for certain work defined in the Bidding Requirements that may be added to the Base Bid amount if Owner decides to accept a corresponding change either in the amount of construction to be completed or in the products, materials, equipment, systems, or installation methods described in the Contract Documents.
   1. The cost for each alternate is the net addition to the Contract Sum to incorporate alternate into the Work. No other adjustments are made to the Contract Sum.
   2. Do not include bid amounts for indicated Alternate Bid items in Base Bid.

1.3 PROCEDURES

A. Coordination: Modify or adjust affected adjacent work to completely integrate work of the alternate into Project.
   1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to or required for a complete installation whether or not indicated as part of alternate.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Repair damaged sections of insulation at existing chilled water lines on the roof of Canopy 1

END OF SECTION 01 23 00

SECTION 01 29 00 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.

1.2 SCHEDULE OF VALUES

A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
   1. Submit the Schedule of Values to Architect at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

B. Format and Content: Use the Schedule of Values form included with this Project Manual.

   8. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a change in the Contract Sum.

1.3 APPLICATIONS FOR PAYMENT

A. Each Application for Payment shall be consistent with previous applications and payments as certified by Architect and paid for by Owner.
   1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.

B. Payment Application Times: Progress payments shall be submitted to Architect by the 25th of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.

C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment.
   1. Submit payment applications on original AIA G702 and G703 forms; or AIA licensed software of these forms. Non-AIA payment application forms or non-AIA licensed software that are similar are not acceptable.
   2. At Contractor’s option, Payment Application forms by FPC may be used.

D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
   1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
   2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.

E. Transmittal: Submit 2 signed original copies of each Application for Payment to Architect by a method ensuring receipt.

F. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
   1. List of subcontractors.
   2. Schedule of Values.
   3. Contractor's Construction Schedule (preliminary if not final).
   4. List of Contractor's staff assignments.

G. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
   1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
   2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work.

H. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
   1. Lien-free Certificate from Clark of Court’s office.
   2. AIA Document G707, "Consent of Surety to Final Payment."
   3. And when requested by the Owner, provide one or more of the following:-
      a. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
      b. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
      c. Evidence that claims have been settled.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

SCHEDULE OF VALUES

The Contractor is to use the following format.
The total Contract Cost is to be itemized in each Subsection listed (as applicable)

	Item Cost	Cost
DIVISION 01 – GENERAL REQUIREMENTS		
01 00 00 General Requirements		
Bond & Insurance		
Mobilization & Set up		
General conditions, project superintendent		
Temporary Facilities, Equipment rental		
Demobilization & cleanup		
DIVISION 01 – GENERAL REQUIREMENTS	SUB-TOTAL	0
DIVISION 2 - EXISTING CONDITIONS		
02 41 15 Selective Demolition		
02 80 00 Abatement		
Abatement Mobilization & Set up; containment, chambers, etc.		
Abatement & Remediation		
Abatement Demobilization & Clean up		
Abatement close-out report & documentation		
DIVISION 2 - EXISTING CONDITIONS	SUB-TOTAL	0
DIVISION 6 - WOOD, PLASTICS & COMPOSITES		
06 10 00 Rough Carpentry		
DIVISION 6 - WOOD, PLASTICS & COMPOSITES	SUB-TOTAL	0
DIVISION 7 - THERMAL & MOISTURE PROTECTION		
07 55 00 Spray-applied Roof System		
07 60 00 Sheet Metal Flashing and Trim		
07 90 00 Sealants		
DIVISION 7 - THERMAL & MOISTURE PROTECTION	SUB-TOTAL	0
DIVISION 8 - OPENINGS		
08 11 13 Hollow Metal Doors and Frames		
08 41 13 Aluminum Storefront Framing		
08 71 00 Door Hardware		
08 80 00 Glazing		
DIVISION 8 - OPENINGS	SUB-TOTAL	0
DIVISION 9 - FINISHES		
09 51 00 Acoustical Ceiling System		
09 65 00 Resilient Base		

SCHEDULE OF VALUES

The Contractor is to use the following format.
The total Contract Cost is to be itemized in each Subsection listed (as applicable)

		Item Cost	Cost
09 90 00 Painting			
	DIVISION 9 - FINISHES	SUB-TOTAL	0
DIVISION 23 - HVAC			
23 09 00 HVAC Controls			
	DIVISION 23 - HVAC	SUB-TOTAL	0
DIVISION 26 – ELECTRICAL			
26 50 00 Lighting			
	DIVISION 26 – ELECTRICAL	SUB-TOTAL	0
DIVISION 32 SITE IMPROVEMENTS			
32 12 16 Asphalt Paving			
32 13 13 Concrete Pavement			
32 90 00 Landscape Work			
	DIVISION 32 SITE IMPROVEMENTS	SUB-TOTAL	0
		GRAND TOTAL	0

SECTION 01 73 29 - CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes procedural requirements for cutting and patching.
   1. Cut and patch in-place construction to accommodate new construction. Include also, temporary removal, storage and re-installation of in-place components as required to accomplish the work.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.

B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

1.3 QUALITY ASSURANCE

A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.

B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.

C. Miscellaneous Elements: Do not cut and patch elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.

D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

PART 2 - PRODUCTS

2.1 MATERIALS

A. General: Comply with requirements specified in other Sections of these Specifications.

B. Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
   1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
   1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
   2. Make corrections to unsafe or unsatisfactory conditions.

3.2 PREPARATION

A. Temporary Support: Provide temporary support of Work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to avoid interruption of services to occupied areas.

E. Temporary Removal, Storage and Re-Installation of Existing Components:
   1. Carefully remove these components, including shims, fasteners, clips, anchoring devices and related accessories.
   2. Store components to prevent damage and deterioration in enclosed storage facility or a location acceptable to Architect.
   3. Prepare and repair substrates and completed construction receive re-installation of these components. Plug holes from removed fasteners and anchor devices with similar substrate material such as wood plugs, non-shrink grout, plaster, etc. Provide blocking and construction compatible with existing materials for securing of these components. Patch and level for exposed final finish to match existing adjacent surfaces.
   4. Provide new shims, fasteners, clips, anchoring devices and related accessories for final installation of these components.
   5. Clean, rehabilitate and re-finish these components.

3.3 PERFORMANCE

A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
   1. Cut existing construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.

B. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, using methods least likely to damage elements retained or adjoining construction.

1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
3. Mechanical and Electrical: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.

C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
   1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
   2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
   3. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition.

END OF SECTION 01 73 29

SECTION 02 41 15 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Selective demolition includes removal of existing items indicated and required for installation of new work, salvage, relocation and protection of existing facilities.

B. Related Sections:
   1. 028000 series sections relating to abatement.

1.2 DEFINITIONS

A. Remove: Detach items from existing construction and legally dispose of them off-site, unless indicated to be removed and salvaged or removed and reinstalled.

B. Remove and Salvage: Detach items from existing construction and deliver them to Owner.

C. Remove and Reinstall: Detach items from existing construction, prepare them for reuse, and reinstall them where indicated.

D. Existing to Remain: Existing items of construction that are not to be removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 MATERIALS OWNERSHIP

A. Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, demolished materials shall become Contractor's property and shall be removed from Project site.

1.4 PROJECT CONDITIONS

A. Owner will occupy portions of this facility and campus adjacent to work and selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.

B. Maintain access to existing walkways, and other adjacent occupied or used facilities.
   1. Do not close or obstruct walkways, or other occupied or used facilities without written permission from authorities having jurisdiction.

C. Owner assumes no responsibility for condition of areas to be selectively demolished.

D. Hazardous Materials: Hazardous materials are present in building to be selectively demolished as part of this project. A report on the presence of hazardous materials is on file for review and use. Examine report to become aware of locations where hazardous materials are present.
   1. Hazardous material remediation is specified elsewhere in these Contract Documents.
   2. Do not disturb hazardous materials or items suspected of containing hazardous materials except under procedures specified elsewhere in these Contract Documents.

E. Storage or sale of removed items or materials on-site will not be permitted.

F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
   1. Maintain fire-protection facilities in service during selective demolition operations.

PART 2 - PRODUCTS

2.1 REPAIR MATERIALS

A. Provide repair materials that are identical to existing materials.
   1. If identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
   2. Use materials whose installed performance equals or surpasses that of existing materials.

B. Comply with material and installation requirements specified in individual Specification Sections.

2.2 MATERIALS - SALVAGE

A. Do not reuse materials removed from the existing construction in connection with demolition work, except items which are specifically shown or specified to be reused and/or relocated.

B. Remove and deliver equipment and material selected to remain the property of the Owner to a location on the grounds designated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify interior electrical, low voltage, fire Alarm devices and other utilities attached to ceilings and walls and other building components to be removed and disposed of are properly disconnected, service capped.

B. Review existing conditions and correlate with requirements indicated to determine extent of selective demolition required.

C. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.

D. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written report to Architect.

E. Engage a professional engineer to survey condition of building to determine whether removing any element might result in structural deficiency or unplanned collapse of any portion of structure or adjacent structures during selective demolition operations.

F. Perform surveys as the work progresses, to determine that asbestos-containing materials and suspected asbestos containing materials, both described and/or hidden have been removed in their entirety.

G. Coordinate demolition of existing items with installation of new materials to avoid water penetration into the existing building. Do not start demolition when there is a threat of inclement weather before the end of the work day.

3.2 UTILITY SERVICES

A. Existing Utilities: Maintain services indicated to remain and protect them against damage during selective demolition operations.

B. Do not interrupt existing utilities serving occupied or operating facilities unless authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to authorities having jurisdiction.

3.3 PREPARATION

A. Dangerous Materials: Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with selective demolition operations.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
   1. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
   2. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
   3. Cover and protect furniture, furnishings, and equipment that have not been removed.

D. Temporary Enclosures: Provide temporary enclosures for protection of existing building and 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 not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

E. Temporary Shoring: Provide and maintain shoring, bracing, or structural support to preserve stability and prevent movement, settlement, or collapse of construction to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

3.4 POLLUTION CONTROLS

A. Dust Control: Use water mist, temporary enclosures, and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations.
   1. Do not use water when it may damage existing construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
   2. Wet mop floors to eliminate trackable dirt and wipe down walls and doors of demolition enclosure. Vacuum carpeted areas.
   3. To avoid inadvertent generation of dust in occupied portions of the building, bag to contain and seal debris to transport construction waste and related materials from work areas through occupied portions of the building.

B. Disposal: Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

C. Coordinate subparagraph below with use of stairs, or building entries.
   1. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

D. Cleaning: Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

3.5 SELECTIVE DEMOLITION

A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
   1. Proceed with selective demolition systematically, from higher to lower level. Complete selective demolition operations above each floor or tier before disturbing supporting members on the next lower level.
   2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
   3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
   4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain fire watch and portable fire-suppression devices during flame-cutting operations.
   5. Maintain adequate ventilation when using cutting torches.
   6. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
   7. Dispose of demolished items and materials promptly.
   8. Return elements of construction and surfaces that are to remain to condition existing before selective demolition operations began.

9. Remove each item completely including straps, hangers, clips, fasteners, shims, blocking and accessories.
10. Coordinate and allow Owner to remove and store movable items such as furniture, plaques, signage, bulletin boards, fire extinguishers and similar items.
11. Prepare and repair substrates receive new construction. Plug holes from removed fasteners and anchors with similar substrate material such as wood plugs, non-shrink grout, plaster, etc. Provide blocking and construction compatible with existing materials for securing new construction to tie to existing. Patch and level.

B. Existing Facilities: Comply with building manager's requirements for using and protecting elevators, stairs, walkways, loading docks, building entries, and other building facilities during selective demolition operations.

C. Removed and Reinstall Assemblies and Items: Comply with the following:
1. Clean and repair items to functional condition adequate for intended reuse. Paint equipment to match new equipment.
2. Protect items from damage during transport and storage.
3. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.

D. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.6 SPECIFIC SELECTIVE DEMOLITION ITEMS

A. Doors and Frames: Remove indicated doors and frames completely, including hardware and door frame anchoring devices. Clean, repair and prepare opening to satisfactorily receive new door frame and door.
1. Rework and provide blocking and backup to wall construction for properly securing the new door and frame assembly.

B. Ceilings: Remove acoustical ceiling panels. Remove damaged gypsum board substrate and suspension grid.
1. Existing hangers and suspension assembly, where sound and undamaged, are to remain for new replacement ceilings. Examine and verify that the existing connections and items are in good and secure condition for supporting new ceiling. Provide corrective action to existing unsatisfactory items.
2. Exercise care in salvaging and protecting ductwork, piping, conduits, ceiling grilles, light fixtures, and other ceiling items. Temporary remove and store these items for ceiling work as required. Reinstall all these existing items with the new ceiling system.

C. Electrical Items:
1. Remove light fixtures where indicated.
2. Rework existing service and existing device boxes for connection to new fixtures.

3.7 PATCHING AND REPAIRS

A. General: Promptly repair damage to adjacent construction caused by selective demolition operations.

B. Patching: Comply with Division 1 Section "Cutting and Patching."

C. Repairs: Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
   1. Completely fill holes and depressions in existing masonry walls that are to remain with an approved masonry patching material applied according to manufacturer's written recommendations.

D. Finishes: Restore exposed finishes of patched areas and extend restoration into adjoining construction in a manner that eliminates evidence of patching and refinishing.

3.8 DISPOSAL OF DEMOLISHED MATERIALS

A. General: Promptly dispose of demolished materials. Do not allow demolished materials to accumulate on-site.

B. Burning: Do not burn demolished materials.

C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

END OF SECTION 02 41 15

SECTION 02 80 10 – ENVIRONMENTAL SUMMARY OF WORK

PART 1.0 - GENERAL

The project name is the Environmental Abatement and Selected Demolition associated with the Exterior Windows & Canopy Repairs, Southern University Laboratory School, 129 Swan Avenue, Baton Rouge, Louisiana 70813. The Project involves, but not limited to the removal and disposal of the asbestos-containing materials associated with the Exterior Windows, Door and Transom Caulking and the Designated Flooring tile and mastic removal located within the Southern Laboratory School. Additionally, the Contractor shall coordinate with the General Contractor and the Third-Party Air Monitoring Firm for the Work.

RELATED DOCUMENTS:

1.1 CONTRACT DOCUMENTS: Related requirements and conditions that are indicated on the Contract Documents include but are not necessarily limited to the following.

Applicable codes and regulations.
Notices and permits.
Existing site conditions and restrictions on use of the site.
Requirements for Owner occupancy during the Contractor Work.

Domain Design Architects Construction Documents for the Renovations to the Southern University Laboratory School, 129 Swan Avenue, Baton Rouge, Louisiana.

1.2 SUMMARY BY REFERENCES: Work of the Contract can be summarized by references to this Scope of Work. Work of the Contract is also unavoidably affected or influenced by governing regulations, natural phenomenon including weather conditions and other forces outside the Contract Documents.

1.3 SUMMARY OF SITE CONDITIONS: The Contractor shall verify site conditions, scope of work, and requirements of the Project. The Contractor is responsible for obtaining all permits prior to beginning Work.

1.4 SCOPE OF WORK AND PHASING: The Scope of Work includes the safe removal and disposal of asbestos-containing materials within the Southern University Laboratory School, 129 Swan Avenue, Baton Rouge, Louisiana 70813. The Project involves, but not limited to the removal and disposal of the asbestos-containing materials associated with the Windows, Door and Transom Caulking and the Designated Flooring tile and mastic removal located within the Southern Laboratory School. Additionally, the Contractor shall coordinate with the General Contractor for the installation of the Barrier wall and the Third-Party Air Monitoring Firm for the Work.

The Contractor shall recycle materials when possible. Utilities are available on Site, but

the Contractor is responsible for supplying necessary electrical power and water to the Work Areas to complete the Work; including assisting the air monitoring firm to do their Work.

Scope of Work described as follows:

SOUTHERN UNIVERSITY LABORATORY SCHOOL EXTERIOR WINDOWS & CANOPY SHEET NOTES:

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, INCLUDING THE DRAWING SHEETS AND SHEET NOTES, SPECIFICATION SECTIONS, AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THIS PROJECT AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE: ALL ASBESTOS-CONTAINING MATERIALS, DESIGNATED LEAD-CONTAINING COATINGS AND PAINTS SHALL BE REMOVED BY THIS CONRACTOR.

2. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT WILL REMAIN ENERGIZED THROUGH OUT FOR THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK FOR THE CONTRACTORS' USE AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL RENOVATION CONTRACTOR IN ADVANCE, PRIOR TO DISCONNECTING POWER TO THE WORK AREA AND PRIOR TO PERFORMING WORK. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT /TAGOUT ELECTRICAL TO THE WORK AREAS.

3. THE CONTRACTOR SHALL RELOCATE BUILDING FURNISHINGS, EQUIPMENT AND MATERIALS PRIOR TO INSTALLING BARRIERS AND SEALING THE BUILDING INTERIOR FROM THE EXTERIOR WORK AREA. THE CONTRACTOR SHALL SEAL WINDOWS, DOORS, AND TRANSOMS FROM THE INSIDE TO PERMIT REMOVAL OF THE WINDOWS, TRANSOMS DOORS AND ASSOCIATED FRAMES FROM THE BUILDING EXTERIOR. NOTE: THE CONTRACTOR SHALL INSTALL THE PROPER BARRIERS, (CONTAINMENT AS NECESSARY) AND DEMARCATION PRIOR TO THE REMOVAL OF THESE MATERIALS TO ENSURE PAINT CHIPS AND CAULKING MATERIALS ARE CONTAINED WITHIN THE EXTERIOR WORK AREA IN ACCORDANCE WITH SECTION 02 82 10.

4. THE CONTRACTOR SHALL REMOVE THE DESIGNATED FLOOR TILE, BASE AND MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE ALL FLOOR TILE WORK SHALL BE PERFORMED WITHIN A NEGATIVE PRESSURE CONTAINMENT. THE CONTRACTOR SHALL REMOVE WALL MOUNTED HVAC, SHELVES AND CABINETS PRIOR TO FLOOR TILE AND MASTIC REMOVAL AND DISPOSE OF AS CONSTRUCTION DEBRIS.

5. THE CONTRACTOR SHALL REMOVE THE CEILING AS NECESSARY TO INSTALL THE BARRIER WALL. THE CONTRACTOR SHALL SUPPORT AND STABILIZE THE CEILING SYSTEM GRID, SALVAGE THE GRID COMPONENTS AND TILES FOR REUSE. THE CONTRACTOR SHALL PROTECT THE BUILDING AT ALL TIME DURING THE REMOVAL AND DISPOSAL OF THE PERIMETER WINDOW WALL SYSTEM.

6. THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXTERIOR WINDOW BARS AND METAL PROTECTION BARRIERS FROM THE WINDOWS AND WALL. THE CONTRACTOR SHALL NOTE; IF THE WALL BECOMES DAMAGED BY THE REMOVAL FORCES OF THE

WINDOW BAR AND METAL PROTECTION BARRIER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF THE WALL REPAIR.

7. THE CONTRACTOR SHALL PROTECT THE DOOR THRESHOLDS, FLOOR TILE AND TILE BED MATERIALS AND DOOR AND WINDOW LINTELS AT ALL TIME DURING THE REMOVAL OF THE DOOR, TRANSOM FRAME AND RELATED CAULK. IF THE THRESHOLD, WALL, OR LINTEL BECOMES DAMAGED BY THE FORCES OF THE FRAME REMOVAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPAIR OF REPLACEMENT.

8. THE CONTRACTOR SHALL REMOVE THE GLAZING AND FRAME CAULK FROM THE WINDOW AND TRANSOM ASSEMBLY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. IF ALL CAULKING MATERIALS HAVE BEEN REMOVED, THE CONTRACTOR MAY DISPOSE THE WINDOW AND FRAME AS CONSTRUCTION DEBRIS. THE CONTRACTOR SHALL SEAL OPENINGS CREATED BY THIS REMOVAL WITH A MINIMUM ½ INCH PLYWOOD SECURED TO FURRING STRIPS.

9. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE DOOR AND RELATED TRANSOMS AND FRAMES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. IF ALL CAULKING MATERIALS HAVE BEEN REMOVED, THE CONTRACTOR MAY DISPOSE THE DOOR AND FRAME AS CONSTRUCTION DEBRIS. THE CONTRACTOR SHALL SEAL OPENINGS CREATED BY THIS REMOVAL WITH A MINIMUM ½ INCH PLYWOOD SECURED TO FURRING STRIPS.

10. THE CONTRACTOR SHALL REMOVE THE CAULKING DEBRIS AND PAINT CHIPS EXISTING LOOSE ON THE GROUND AND WITHIN THE LANDSCAPING FOR AN EIGHT (8) FOOT PATH ALONG THE BUILDING PERIMETER AND DISPOSE OF MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40 AND 02 83 10.

11. THE CONTRACTOR SHALL SAND AND SMOOTH DAMAGED PAINT SURFACES FROM LINTELS AND METAL SURFACES SCHEDULED TO REMAIN AND DISPOSE OF AS LEAD-CONTAINING PAINT IN ACCORDANCE WITH SECTION 02 83 10. THE CONTRACTOR SHALL PREPARE, AND PRIME LINTELS SURFACES WITH AN APPROVED METAL PRIMER.

ALTERNATE NO. 1: CANOPY PIPING INSULATION REMOVAL AND REPAIR:
THE CONTRACTOR SHALL REMOVE THE JACKETED CANOPY PIPING INSULATION AND DISPOSE OF THE MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. PERMENANTLY SEAL THE OPEN ENDS OF THE PIPING INSULATION THAT IS SCHEDULED TO REMAIN. APPROX. 1,200 LF; OF SIX (6) AND EIGHT (8) INCH O.D. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL PIPING INSULATION & DEBRIS MATERIALS EXISTING ON THE CANOPY ROOF.

GENERAL ENVIRONMENTAL NOTES:

1. THE CONTRACTOR SHALL ISOLATE THE WORK AREAS, POST WARNING SIGNS, LOCKOUT AND TAG THE ELECTRICAL SYSTEM AS DESCRIBED IN SECTION 02 82 10, ESTABLISH DECONTAMINATION FACILITIES, AND PERFORM ALL PREABATEMENT ACTIVITIES AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

2. THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING EQUIPPED WITH GROUND FAULT INTERRUPTER (GFI) DEVICES TO ALL WORK AREAS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. CONNECTIONS FOR TEMPORARY

POWER FROM PERMANENT SERVICES ARE TO BE PERFORMED BY A QUALIFIED ELECTRICIAN. THE CONTRACTOR SHALL NOTE SHUTDOWNS AND TIEINS SHALL BE SCHEDULED WITH LSU IN ADVANCE; THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO PERFORMING SHUTDOWNS OR TIE-INS.

3. THE CONTRACTOR SHALL ENSURE THAT ALL EMPLOYEES UTILIZE PROPER PROCEDURES FOR RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION PROCEDURES AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

4. THE CONTRACTOR SHALL INSTALL AND ERECT SUFFICIENT SCAFFOLDING AND/OR WORK PLATFORMS TO ACCESS ALL AREAS AND COMPLETE ALL TASKS RELATED TO THE ENVIRONMENTAL ABATEMENT AND SELECTED DEMOLITION IN A MANNER THAT ALLOWS FOR THE RENOVATION OF THE BUILDING. INSTALLATION, ERECTION AND USE OF SCAFFOLDING AND WORK PLATFORMS AND MANLIFTS SHALL BE PERFORMED IN STRICT COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS, AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40; INCLUDING BUT NOT LIMITED TO DAILY INSPECTIONS OF SCAFFOLDING AND WORK PLATFORMS AND SAFETY TRAINING MEETINGS AND 100% TIE-OFF FOR ALL WORKERS.

5. THE CONTRACTOR SHALL INSTALL RIGID BARRIER WALLS AND CAULK AND SEAL CONNECTIONS TO EXISTING WALLS, FLOOR, AND DECK AS REQUIRED AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. REFER TO DETAILS FOR RIGID BARRIER WALLS. THE CONTRACTOR SHALL REMOVE ALL RIGID BARRIER WALLS AFTER RECEIPT OF WRITTEN APPROVAL FROM THE ENVIRONMENTAL CONSULTANT. ALL MATERIALS USED SHALL BE FIRE RETARDANT.

6. THE CONTRACTOR SHALL PROTECT THE ELECTRICAL SYSTEM SERVICE, SERVICE CONDUITS AND PANELS, UTILITY PIPING SYSTEMS, ROOF STORM WATER, DRAINS AND PIPING SYSTEMS DURING THE ENVIRONMENTAL PHASE OF THE WORK. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL RENOVATION CONTRACTOR PRIOR TO REMOVAL OF ANY BUILDING UTILITY AND SYSTEM COMPONENT.

7. THE CONTRACTOR SHALL UTILIZE PROPER ENGINEERING CONTROLS AND CONDUCT PERSONNEL MONITORING THROUGHOUT THE ENVIRONMENTAL PHASE OF THE PROJECT IN ACCORDANCE WITH SECTION 02 82 10.

8. THE CONTRACTOR SHALL INSTALL HEPA-FILTERED EXHAUST SYSTEMS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.
9. THE CONTRACTOR SHALL INSTALL AUTOMATIC AIR PRESSURE DIFFERENTIAL RECORDING INSTRUMENTS IN THE WORK AREAS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

10. THE CONTRACTOR SHALL MAINTAIN EMERGENCY EXITS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.
11. BEFORE COMMENCING WORK WITHIN THE WORK AREA, THE CONTRACTOR SHALL INSPECT THE WORK ENCLOSURE FOR BREACHES AND LEAKS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL SEAL PROPERLY ANY LEAKS BEFORE BEGINNING WORK.

12. AFTER THE WORK AREAS HAVE BEEN PREPARED, THE CONTRACTOR SHALL REQUEST A FORMAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT AND ASSIST THE ENVIRONMENTAL CONSULTANT IN THEIR EFFORTS TO SMOKE TEST/INSPECT THE CONTAINMENT FOR LEAKS. THE CONTRACTOR SHALL NOT

COMMENCE REMOVAL OR OTHER DISTURBANCE OF ASBESTOS-CONTAINING MATERIALS, UNTIL THE ENVIRONMENTAL CONSULTANT HAS INSPECTED AND APPROVED THE SITE PREPARATION WORK.

13. THE CONTRACTOR SHALL SCHEDULE WASTE DISPOSAL IN ADVANCE WITH THE GENERAL RENOVATION CONTRACTOR.

14. THE CONTRACTOR SHALL ENSURE THAT ALL BUILDING COMPONENTS AND EQUIPMENT SCHEDULED TO REMAIN FOR THE BUILDING RENOVATION AND/OR SALVAGE AND FOR THE PROTECTION OF THE BUILDING IS CLEANED OF ALL ASBESTOS MATERIALS AND PROTECTED DURING THE ENVIRONMENTAL REMOVAL PHASE.

15. THE CONTRACTOR SHALL SEAL ALL OPENINGS THROUGH WALLS, SLAB/DECK AND ROOF THAT EXIST OR WILL BE CREATED BY THE REMOVAL PROCESS TO PROTECT THE BUILDING AND THE SAFETY OF WORKERS AND THE INTEGRITY OF THE CONTAINMENT.

16. THE CONTRACTOR SHALL FIELD VERIFY THE QUANTITY OF ASBESTOS-CONTAINING MATERIALS TO BE REMOVED AND DISPOSED OF THE QUANTITY OF MECHANICAL AND ELECTRICAL EQUIPMENT AND PIPING TO BE CLEANED AND DISPOSED OF AND QUANTITY OF WALLS, FLOORS, AND MOVEABLE OBJECTS TO BE REMOVED AND DISPOSED OF. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL RENOVATION CONTRACTOR PRIOR TO THE REMOVAL OF ANY BUILDING COMPONET, EQUIPMENT OR CONTENTS. SALVAGE MATERIALS WHEREVER POSSIBLE. OWNER HAS FIRST RIGHT OF REFUSAL

17. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE GENERAL NOTES AND THE SHEET NOTES ARE A PART OF THE SCOPE OF WORK FOR THIS PROJECT AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS.

18. FINAL AIR TESTING SHALL BE PERFORMED PURSUANT TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 40 CFR PART 763 (APPENDIX A) USING TRANSMISSION ELECTRON MICROSCOPY (TEM), AGGRESSIVE DISTURBANCE PROCEDURES, CONTINUOUS AIR CIRCULATION, AND HEPA-FILTERED EXHAUST.

19. THE CONTRACTOR SHALL MAINTAIN PROPER FEDERAL AND STATE LICENSING TO CONDUCT HAZARDOUS MATERIAL REMOVAL AND DISPOSAL AS DESCRIBED WITHIN THESE DOCUMENTS.

The Contractor is responsible for obtaining all permits necessary to perform the Work and prior to the removal and disposal of regulated asbestos-containing materials. Contractor is responsible for the necessary provisions for delivering continuous clean air to the Work Area during the activities related to the work activities associated with the actual removal and disposal of asbestos-containing materials. At this time, there are no materials to be salvaged by the Owner. The Contractor shall certify that he is licensed under the provisions of LA R.S. 37:2150 through 37:2192 and state his license number on the proposal.

The Contractor shall be responsible for proper and safe disposal of all materials designated and record keeping and reporting in accordance with applicable federal,

state, and local regulations.

1.5 WORK INCLUDED: Special coordination will be required by this Contractor to protect against damage to building components scheduled to be reused, adjacent property damage and disruption of operations of adjacent buildings and building occupants and uninvolved Site improvements. Additionally, the Contractor shall coordinate with and assist the third-party Air Monitoring Firm, (described as the Owner's Representative throughout these documents), with his duties to monitor and clear the Work Area.

This Contractor shall plan his work and the work of his subcontractors and suppliers in a manner to avoid conflict with the demolition Work and to effect timely sequencing of his work within the overall schedule.

A. RESPONSIBILITIES: Responsibilities are delineated as follows:

Utilities to perform Work - By this Contractor.

Asbestos Abatement and Disposal - By this Contractor

Third Party Daily Monitoring and Clearance – Third-Party Paid by the Owner (Owner's Representative/Designer)

Selective Demolition and to access Materials – By this Contractor

Fire Security – By this Contractor.

Security – The Contractor shall keep the Site secure for the duration of the Project. The Contractor shall coordinate with the Designer and the Architect.

B. FIRE SECURITY: The Contractor shall ensure that no activity that requires a flame or heat exceeding the flash point of any onsite material will be permitted. Smoking within the building will not be permitted at any time. A space outside the building envelope can be designated for smoking.

C. COORDINATION: The Contractor shall designate a key person, who shall be responsible for the coordination of the Contractor's Work with the Designer, the Third-Party Air Monitoring and Inspection Firm (Owners Representative during the Asbestos-Containing Materials Removal and Disposal) and others as required.

1.6 PLAN OF ACTION:

The Contractor shall submit a plan of the procedures proposed for use in complying with the requirements of this project. Include in the plan the location and layout of decontamination areas, the sequencing of work, methods to be used to assure the safety of Contractor Employees and visitors to the site, disposal plan including location

of approved disposal site, and a detailed description of the methods to be employed to control pollution.

1.7 INSPECTION:

Prior to commencement of work, the Contractor shall inspect areas in which work will be performed. Prepare a listing of damage to structure, surfaces, equipment or surrounding properties which could be misconstrued as damage resulting from the work. Photograph or videotape existing conditions as necessary to document conditions. Submit to Owner's Representative prior to starting work.

1.8 PROJECT MEETINGS:

Meetings will be held prior to the commencement of the Work, weekly and upon completion of the Work.

1.9 POTENTIAL ASBESTOS HAZARDS:

The disturbance or dislocation of asbestos-containing materials may cause the release of asbestos fibers to be released into the building's atmosphere, thereby creating a potential health hazard to workmen and building occupants. Apprise all workers, supervisory personnel, subcontractors, and consultants who will be at the job site of the seriousness of the hazard and of proper work procedures to be followed.

1.10 CODES AND REGULATIONS

General Applicability of Codes and Regulation, and Standards: Except to the extent that more explicit or more stringent requirements are written directly into the Contract Documents, all applicable codes, regulations, and standards have the same force and effect (and are made a part of the contract documents by reference) as if copies directly into the contract documents, or as if published copies are bound herewith.

Contractor Responsibility: The Contractor shall assume full responsibility and liability for the compliance with all applicable Federal, State, and local regulations pertaining to work practices, hauling, disposal, and protection of workers, visitors to the site, and persons occupying areas adjacent to the site. The Contractor is responsible for providing medical examinations and maintaining medical records of personnel as required by the applicable Federal, State, and local regulations. The Contractor shall hold the Owner and Owner's Representative harmless for failure to comply with any applicable work, hauling, disposal, safety, health, or other regulation on the part of himself, his employees, or his subcontractors.

1.11 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only. The latest publication shall apply.

A. Environmental Protection Agency (EPA): Regulations for Asbestos (Code of Federal Regulation, Tile 40, Part 61), National Emission Standard for Hazardous

Air Pollutants (NESHAP), Guidance for Controlling Friable Asbestos Containing Materials in Buildings, Asbestos Hazard Emergency Response Act (AHERA) (40 CFR, Part 763) (if required).

B. Occupational Safety and Health Administration (OSHA): Asbestos Regulations (Code of Federal Regulations Title 29, Part 1901, Sections 1915.001 and 1926.1101), 1910 Section 12000 Hazard Communication, Section 145 Signs and Tags, and Section 2 Access to Employee Exposure and Medical Records (if required).

C. National Institute for Occupational Safety and Health (NIOSH): Respiratory Protection, A Guide for the Employee.

D. American National Air Standards Institute (ANSI): Z86.1-1973, Commodity Specification for Air.

E. Commercial Laboratories with Polarized Light Microscopy Capabilities for bulk asbestos identification.

F. A Guide to Respiratory Protection for the Asbestos Abatement Industry. EPA-560-OPTS-86-001.

G. Environmental Protection Agency (EPA): EPA 402-K-01-001 Mold Remediation in Schools and Commercial Buildings, Including Resources and References List; and Investigating Evaluating and Remediation Moisture and Mold Problems, Table 1 and Table 2, Appendices A, B, & C, Publication # 402-K-01-001 (March 2001).

H. U.S. Department of Labor, Occupational Safety and Health Administration (OSHA) Publication: Molds and Fungi.

I. Standard and Reference Guide for Professional Water Damage Restoration, (IICRC S500), Institute of inspection, Cleaning and Restoration Certification Standard.

J. National Institute for Occupational Safety and Health (NIOSH): Respiratory Protection, A Guide for the Employee.

K. ACR 2002, Assessment, Cleaning and Restoration of HVAC Systems, National Air Duct Cleaners Association.

L. State of Louisiana, ACT 880, Louisiana Mold Licensing

M. American National Standards Institute (ANSI): Z86.1-1973, Commodity Specification for Air.

1.12 NOTIFICATIONS, PERMITS, AND LABELS:

A. The Contractor shall provide the required written pre-notification to LADEQ, EPA and any other regional, state, and local authority having jurisdiction on the project.

B. The Contractor shall erect OSHA-specified warning signs around the work areas at every point of potential entry from the outside, including the entrance to the Decontamination Facility's Clean Room. The warning signs shall be a bright color so that they shall be noticed easily. The size of the sign and its lettering shall be no less than OSHA requirements.

C. The Contractor shall post warning signs around the workspace at every point of potential entry from the outside, including the entrance to the Decontamination Facility's Clean Room (if required). The signs shall comply with 29 CFR 1926.1101 and 29 CFR 1915.1001 and with State and local regulations.

D. The Contractor shall also provide OSHA, NESHAP, and DOT-required labels (as required) for all plastic bags and drums utilized to transport contaminated material from the work areas to the disposal landfill.

1.13 LICENSES:

A. For all projects over $50,000 ($1.00 or more for hazardous material removal), the Contractor shall certify that he is licensed under the provisions of LA R.S. 37:2150 through 37:2192 and state his license number on the proposal.

1.14 SUBMITTALS:

The Contractor shall furnish electronically, and one (1) copy of the following items clearly labeled and identified as stated:

A. Submittal No. 01: Copies of written pre-notification forms filed with the Louisiana DEQ, Fire Department, USEPA Region 6, OSHA, and any other required agencies (as required).

B Submittal No. 02: Signed documentation of asbestos abatement training and education for all proposed workers, including respirator use, training certification, copies of OSHA-specified medical exams, and respirator approval certification.

C. Submittal No. 03: A copy of the Contractor's State of Louisiana, Department of Industrial Relations, Division of Occupational Safety and Health, Certificate of Registration for Asbestos Related Work, and a copy of Contractor's Certification issued by the Contractor's State Licensing Board; copies of any other permits, licenses, manifests, or patents which are required or will be used.

D. Submittal No. 04: Names and qualifications of proposed waste hauler, testing laboratory, and copies of their applicable licenses, including State of Louisiana registration number for hauling waste; proposed sites for disposal of materials and letter from the sites authorizing haulers to dispose there.

E. Submittal No. 5: Names, addresses, and telephone numbers, and accreditations of each Air Monitoring Firm and environmental laboratory which will analyze Contractor's OSHA compliance personnel air samples, dialing monitoring and Clearance Sampling.

1.15 SUBMITTALS DURING THE WORK: Submit electronically the following items to the Environmental Consultant:

A. Security and safety logs, showing names of any persons entering the work area, date and time of entry and exit. Record any accident, emergency evacuation, and any other safety or health incident. If requested, these logs shall be provided to the Environmental Consultant daily.

B. Waste disposal certificates, (including bills of lading) and weight tickets. Copies (reproductions) shall be submitted on a weekly basis, with completed original certificates submitted upon receipt from the landfill.

C Third Party Monitoring and clearance reports, OSHA-compliance personnel air monitoring results, as conducted by the Contractor.

D. Re-notifications to required agencies if there are schedule changes.

E. The Submittals described within paragraphs 1.14 and 1.15 shall be submitted to the Owners Representative within three (3) weeks from the date of field completion of the Work.

1.16 STOP WORK:

If the Designer presents a written stop work order the Contractor shall immediately stop all work. Do not re-commence work until authorized in writing by Designer.

Standby time and testing costs required to resolve violations shall be at the Contractor’s expense. Stop Work Orders may be issued for, but shall not be limited to the following:

A. Failure to apply properly and continuously specified removal work procedures.

B. Failure to maintain specified work area isolation, sealing, and protective systems.

C. Failure to apply sufficient amended water before, during, and after removal and cleanup of asbestos-containing or mold-containing materials, including the packaging of waste and demolition materials.

D. Loss of specified differential pressures and/or adequate flow of air through the Decontamination Facility (if required).

E. Failure to use proper respiratory protection equipment (as required).

F. Failure to maintain any required records or to conduct OSHA-required personal exposure monitoring tests and/or make results promptly available to the Environmental Consultant.

G. Work stoppage as a result of a lack of phasing coordination.

1.17 ASBESTOS-CONTAINING MATERIALS: Asbestos-containing materials are known to be present at the work site. The Contractor is responsible for the safe removal of these materials:

Window and Transom Caulk	2% - 3% Chrysotile
Door and Transom Frame Caulk	2% - 3% Chrysotile
Floor Tile and Related Mastic	4-6% Chrysotile
Window Building Structure Paint	4000ppm lead.

1.18 CONTRACTORS USE OF PREMISES:

General: The Contractor shall limit his use of the premises to the work indicated, to allow for Owner occupancy and use by the public.

A. Confine operations at the site to the areas permitted under the Contract. Portions of the site beyond areas on which work is indicated are not to be disturbed. Conform to site rules and regulations affecting the work while engaged in project construction. No material or vehicle shall be stored within ten (10) feet of the drip line of any Live Oak Tree.

B. Keep existing driveways and entrances serving the premises clear and available to Owner and his employees at all times. Do not use these areas for parking or storage sheds to the areas for parking or storage of materials.

C. Do not unreasonably encumber the site with materials or equipment. Confine stockpiling of materials and location of storage sheds to the areas indicated. If additional storage is necessary, obtain and pay for such storage off site.

D. Lock automotive type vehicles, such as passenger cars and trucks and other mechanized or motorized construction equipment, when parked and unattended, so as to prevent unauthorized use. Do not leave such vehicles or equipment unattended with the motor running or ignition key in place or accessible to unauthorized persons.

1.19 CONTRACTORS TEMPORARY FACILITIES:

The Contractor shall maintain temporary facilities necessary to perform the Work. And make all precautions necessary to protect the existing Site during the construction period.

A. Keep Site free from accumulation of waste, rubbish, or construction debris.

B. Smoking or open fires will not be permitted within the building enclosure or on the premises.

C. Contractor shall supply temporary toilets for his personnel and Site visitors.

1.20 OWNER OCCUPANCY:

The Owner and General Contractor will occupy portions of this Site, adjacent parking areas and drives during the entire period of construction. Cooperate fully with the Owner or his representative during construction operations to minimize conflicts and to facilitate Owner usage. Perform the work so as not to interfere with the Owner's operation and renovation work.

END OF SECTION 02 80 10

SECTION 02 82 10 - REMOVAL OF ASBESTOS-CONTAINING MATERIALS

PART 1.0 - GENERAL

1.1 DESCRIPTION OF WORK:

A. The work specified within this section includes the removal of asbestos-containing materials described herein. The Contractor shall utilize only trained and qualified workers in the removal, handling, and disposal of these materials. Contractor's work practices and methods shall comply will all applicable Federal, State, and local regulations.

B. The Contractor shall furnish all labor, materials, equipment, medical records, testing, insurance, patents, and incidentals, which are necessary or required to complete the work safely.

C. The Scope of Work includes the safe removal and disposal of the asbestos-containing and record keeping in accordance with Federal and State regulations.

D. The Contractor shall coordinate with the Third-Party Air Monitoring and Inspection Firm (Owner’s Representative), for the duration of the Work.

E. Coordinate with Owner's design team, Environmental Project Designer and Architect, and General Contractor who will establish special procedures for removal and salvage.

1.2 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referenced in text by basic designation only. The latest publication shall apply.

A. Environmental Protection Agency (EPA):

Regulations for Asbestos (Code of Federal Regulations, Title 40, Part 61), National Emission Standard for Hazardous Air Pollutants (NESHAP), Guidance for Controlling Friable Asbestos Containing Materials in Buildings, Asbestos Hazard Emergency Response Act (AHERA) (40 CFR, Part 763).

B. Occupational Safety and Health Administration (OSHA): Asbestos Regulations (Code of Federal Regulations Title 29, Part 1901, Sections 1915.1001 and 1926.1101), 1910 Section 1200 Hazard Communication, Section 145 Signs and Tags, and Section 2 Access to Employee Exposure and Medical Records.

C. National Institute for Occupational Safety and Health (NIOSH): Respiratory Protection, A Guide for the Employee.

D. American National Standards Institute (ANSI): Z86.1-1973, Commodity Specification for Air.

E. Louisiana Administrative Codes (LAC), Title 33, Part III, Chapters 27 and 51, and Louisiana Department of Environmental Quality (LADEQ) and Louisiana Emissions Standard for Hazardous Air Pollutants (LESHAP).

1.3 DEFINITIONS:

A. Refer to Section 02 80 10 for terms and definitions used in these Contract Documents.

1.4 SUBMITTALS:

A. Refer to Section 02 80 10 for Contractor submittal requirements.

1.5 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION:

A. Refer to this Section for Contractor respiratory and personnel protection and decontamination requirements.

1.6 WASTE DISPOSAL:

A. Refer to Sections 02 82 40 for Contractor waste disposal requirements.

PART 2.0 – PRODUCTS

The Contractor shall note that where no manufacturer or model number are given, any product meeting performance or design criteria, or referenced trade association standard may be used and Pre-Bid Approval is not required.

2.1 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with operations of the building occupants.

C. The unloading and temporary storage sites, and transfer routes, must be approved in advance by the Designer.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved landfill.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner, including fees regarding the use of these patents.

2.2 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply at a minimum with these specifications, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and Decontamination Facilities, all lumber and plywood shall be fire-retardant. Flame-resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire-retardant, and shall bear manufacturer's stamp of Underwriters Laboratory (UL) Classification.

Any equipment used that prevents the analysis of air samples by Phase Contrast Microscopy will be unacceptable and will not be allowed to be used.

1. HEPA-Filtered Exhausts - Air inside each work area shall be exhausted to the atmosphere (building exterior) through a High Efficiency Particulate Air (HEPA) filter. HEPA-filtered portable exhaust units shall be provided for each work area, of sufficient total capacity to provide at least six (6) complete air changes per hour, an inward velocity through all openings to the work area of at least 200ppm, and a static pressure of at least 0.025 inches water column.

The HEPA filter shall be preceded by replaceable pre-filters, and the unit must be designed such that it cannot be operated unless the HEPA filters are in place. The units must also be designed with lights or alarms, which indicate that the filters are properly installed and functional, and which determine when the filters must be changed.

Flexible hoses (ducts) of sufficient length must be provided to allow the units to discharge outside of the buildings. Exhaust with other types of particulate cleaning systems (such as electrostatic precipitators) shall not be allowed.

2. Plastic Sheeting and Bags - These shall be polyethylene or equivalent. Both transparent and opaque plastic shall be required, as specified within the contract documents. Flame-resistant polyethylene shall be used.

3. Encapsulates - Encapsulating or lock-down agents shall be penetrating sealants. Due to subsequent renovation plans, the Contractor shall lock down all surfaces with a water-based and water-soluble encapsulate pre-approved by the Designer. The water-based, water-soluble encapsulate shall be able to do following:

a. Withstand most impact or abrasion and protect the encapsulated surface.

b. Be one of those demonstrating effective performance under the tests conducted by an independent testing laboratory, pre-approved by the Owner's Representative.

c. Shall have high flame-retardant characteristics less than 25 when tested in accordance with ASTM E-84 procedures, and a low toxic fume and smoke emission rating.

d. Shall not be noxious or toxic to application workers, or subsequent users of the building.

e. Shall have some permeability to water vapor to prevent condensation accumulation and shall resist solution by common cleaning agents.

f. Shall have acceptable weathering and aging characteristics.

It is the Contractor's responsibility to ensure that encapsulates will be compatible with all replacement materials (if required). The Contractor shall coordinate this requirement with the Designer.

4. Wetting Agent or Surfactant – This item shall be 50% polyoxyethylene ether and 50% polyoxyethylene ester, or equivalent, mixed in the proportion of one ounce surfactant per five gallons of water. The material must be odorless, non-flammable, non-toxic, non-irritating, and non-carcinogenic. It shall be applied using a low-pressure sprayer recommended by the surfactant manufacturer.

5. Tape and Glue - These items shall be capable of sealing plastic joints, and attaching plastic to finished surfaces without damage when they are removed. The bonding strength and resulting seal integrity must not be affected by mist of water, encapsulating agent, or any other materials to be used in the Work Area.

6. Warning Signs and Labels - These items shall comply with 29 CFR 1926.1101 (K), and with all other federal, state, or local codes and regulations.

7. Waste Containers and Transportation - These items shall be bags as noted in Subparagraph 2 above, drums or other closed containers, suitable for loading, temporary storage, transit, and unloading of contaminated waste without rupture or otherwise causing spillage or exposure to persons or emissions to the atmosphere. Transportation methods shall comply with the provisions of EPA Title 40, Part 61, Subparts A and B, Part 262, and with any hazardous or special waste regulations for temporary storage, transport, and disposal if such codes are enforced in states or cities where the waste will be generated, stored, transported or disposed of. All containers shall be labeled in accordance

with 29 CFR 1926.58K(2) and 49 CFR, Parts 171 and 172, Hazardous Substances: Final Rule.

8. Respiratory Protection Devices - These items shall be NIOSH-approved, and shall comply with all provisions of 29 CFR 1926.1101. Fit testing procedures must comply with 29 CFR 1926.1101, Appendix C. Provide documentation of fit-testing procedure.

9. Electrical Equipment – All electrical items shall be Underwriters Laboratory listed and approved, and shall have ground fault circuit interrupt protection, which has been installed by a qualified electrician.

10. Ladders or Scaffolds - These items shall be approved and be of sufficient dimensions and quantities so that all work surfaces can be easily and safely accessed by the Owner's Representative, workers, and other inspectors. Scaffold joints and ends shall be sealed with tape to prevent incursion of asbestos fibers or particulate. The use of aluminum ladders inside the work area is prohibited.

11. Hand Power Tools - These items shall be equipped with HEPA-filtered local exhaust ventilation if used to drill out, into, or otherwise disturb ACM.

12. Brushes - All brushes shall have nylon bristles. Wire brushes are excluded from use due to their potential to shred asbestos fibers into small fibers. Wire brushes may be used on pipe joint applications upon prior written approval by the Designer.

2.3 USE OF EXISTING EQUIPMENT

The Contractor is responsible for the maintenance and repair of all existing equipment, which he, or anything associated with his work, damages, impacts, or otherwise disturbs. All existing equipment must be returned to the Owner in its original state. Any repair of equipment to return it to its original state is the sole responsibility of the Contractor. All costs associated with testing, inspection, maintenance, and repair must be borne by the Contractor.

A. Electricity: The Contractor is responsible for providing his own electricity to the Work Area. Power is available at the Site. All costs associated with testing, inspection, coordination, provision, and total usage of electricity are the responsibility of the Contractor. Contractor shall clean and protect the existing power panels used to obtain power for this project.

B. Water: The Contractor is responsible for providing water to the Work Areas. Water is available within the building and all costs associated with testing, inspection, coordination of water are the sole responsibility of the Contractor.

PART 3.0 - EXECUTION

3.1 GENERAL:

A. The requirements and sequences described herein are parameters for execution of the abatement work and do not include necessarily all abatement requirements. The Contractor shall be responsible for all items that may be necessary to complete the abatement work in accord with the approved Work Plan, Scope of Work, and all applicable regulations. All deviations from the Work Plan must be pre-approved in writing by the Designer.

B. All building interior removal work shall be performed using full containment, protection with HEPA-filtered exhaust ventilation, and decontamination facilities.

3.2 PREABATEMENT PREPARATIONS: The Contractor shall prepare the work areas using plans pre-approved by the Owner's Representative and Designer. Following is a general sequence of performance steps and procedures to ensure that proper containment and protection systems are installed prior to any work, which could generate airborne asbestos fibers or particulate.

A. Post access restriction signs; seal all openings into each work area; clean, decontaminate, protect, and cover all fixed items; and erect or install containment barriers, scaffolding, and decontamination facilities and HEPA-exhaust systems as described herein.

B. The Contractor shall be responsible for providing his own water and electricity to each the work area. Utility connections are available in the building for the Contractor's use. The Contractor is responsible for coordinating the provision of utilities to the Work Areas. Provision of utilities to the Work Areas and Air Monitoring Firms' use shall be borne by the Contractor.

C. Provide temporary power and lighting equipped with ground fault interrupter (GFI) devices are required for each work area and affected non-work areas.

D. Obtain Owner's Representative's approval, in writing, of all completed preparation work.

3.3 ISOLATION OF ELECTRICAL SYSTEMS AND INSTALLATION OF TEMPORARY POWER AND LIGHTING:

A. The scope of the required electrical isolation and protection work includes isolation and protection of electrical equipment, which is in the area from which asbestos must be removed, and which could possibly become a hazard through contact or water spray short-circuiting. Care must be taken when working near electrical panels. The Contractor shall provide labor to monitor, inspect, and service temporary power circuits, lighting, and equipment as required by local codes and regulations. Contractors must provide "Lock Out" systems on all

electrical panels or equipment, which will be shutoff during the removal process. If electrical panels, transformers, or control centers cannot be deactivated/de-energized, the Contractor shall ensure that these electrical panels, transformers, control centers, or fire protection panels are isolated utilizing rigid critical barriers, fire retardant 6-mil polyethylene sheeting, and ventilated as required.

B. The electrical isolation work includes the installation of temporary lighting and power protected by ground fault interrupter (GFI) devices in accordance with applicable codes.

C. Temporary light shall be provided by the Contractor in each Work Areas where abatement is performed. A qualified electrician shall initially inspect the (removal work areas) for the condition of electrical conduit and junction boxes. All temporary electrical work shall comply with NFPA 70 National Electric Code. The purpose of this inspection is to assist the Contractor in the preparation and performance of his work, and to provide for the safety of work crews.

D. The Contractor shall be required to furnish, without additional expense, all transportation, labor, and materials necessary to maintain the electrical systems for safe operation, and to maintain service in areas abutting work area in compliance with local codes.

E. All materials and workmanship shall conform with the latest editions of the following codes, standards, and specifications issued by the following authorities:

1. National Electrical Code (NEC) - most recent edition.

2. National Bureau of Standards, Handbook H30, National Electrical Safety Code.

3. State and Local Codes, and all other authorities having jurisdiction.

4. Underwriter Laboratories (UL).

5. National Board of Fire Underwriters.

6. Occupational Safety and Health Administration (OSHA).

F. Temporary lighting and power systems shall comply with all Federal, State, and local regulations. Temporary lighting levels shall meet these requirements.

G. When switching circuits at panels, the Contractor's licensed electrician shall review the existing conditions. The Contractor shall not shutdown any circuits without the advanced notification and approval.

H. Contractor costs associated with the isolation of electrical systems and installation of temporary power and lighting shall be borne by the Contractor.

I. Extension cords shall be the 3-wire type; shall be protected from damage; and shall not be fastened with staples, hung from nails, or suspended from wires.

Splices shall have soldered wire connection with insulation equal to the cable. Worn or frayed cords shall not be used.

J. Safe lighting equipment shall be provided with a preference for floodlights rather than indiscriminate use of unprotected lamps strung on temporary wiring. Exposed bulbs shall be guarded to prevent accidental contact. Temporary wiring shall be properly insulated and substantially supported. Circuits shall be properly designed and fused. All temporary lighting inside the work area shall be weather proofed.

K. Receptacles for attachment plugs shall be an approved, concealed contact type. Where different voltages, frequencies, or types of current are supplied, receptacles shall be of such design that attachment plugs are not interchangeable.

3.4 INSTALLATION OF SCAFFOLDING AND/OR WORK PLATFORMS:

A. The Contractor shall install and erect sufficient scaffolding and/or work platforms to access all areas and complete all tasks involved in the abatement activities.

B. Installation and erection of scaffolding and/or work platforms must be done in strict compliance with all applicable Federal, State, and local laws and regulations.

C. The Contractor is responsible for removing any loose or hanging materials and installing adequate shoring so as to provide and maintain a safe work environment.

D. The Contractor must maintain public access to city sidewalks, as required by law, throughout the entire abatement project. The Contractor is responsible for obtaining necessary permits involved in erecting scaffolding and/or fencing on public property. The Contractor will be responsible for repairing all damage caused by scaffolding or fencing during abatement.

3.5 ISOLATION OF WORK AREAS AND INSTALLATION OF DECONTAMINATION FACILITIES:

A. The Contractor shall isolate the Work Area for the duration of the work by completely closing and sealing all openings and penetrations into the Work Area using a minimum two (2) layers of 6-mil polyethylene sheeting, with joints staggered, and taped securely in place. The work area shall be sealed airtight and watertight to the maximum extent possible and shall be subject to the written approval of the Owner’s Representative.

B. Isolation Partitions and Barriers

1. The Contractor shall install scaffolding and/or work platforms and necessary shoring to provide worker access and install approved safety railings, the plates, etc.

2. The Contractor shall install critical barrier walls using 2"x 4" stud or metal framing 24" on center, adequately supported and anchored, covered with 5/8" (fire rated) sheet packs, all seams caulked airtight. All temporary enclosures and walls shall have a flame spread of 0-200 and a smoke developed of 0-450.

C. The Contractor shall install decontamination facilities for all work areas as defined herein, using plans pre-approved by the Owner's Representative.

D. The Contractor shall cover critical barriers, scaffold planks, and work platforms with a minimum of two (2) layers of 6-mil polyethylene sheeting with joints staggered and taped securely in place.

E. The Contractor shall line both sides of walls, ceilings, and floors of decontamination facilities using a minimum of two (2) layers of 6-mil polyethylene sheeting with joints staggered and taped securely in place.

F. The Contractor shall provide GFI-protected temporary power and lighting to work areas and ensure safe installation of temporary power sources and equipment.

G. The Contractor shall install HEPA-filtered exhaust systems and automatic air pressure differential recording instruments in work areas as previously specified using plans pre-approved by the Designer.

H. The Contractor shall install wastewater collection, filtration, storage, and discharge systems, and install waste holding facilities.

I. The Contractor shall post warning signs meeting the requirements of 29 CFR 1926.1101 and post hazard warning signs at the doorway to the decontamination facility which shall be the only non-emergency entrance into the work areas. Post warning signs at all other potential access locations as indicated by the Owner's Representative.

J. The Contractor shall cover and protect electric panels and fixed equipment and objects.

K. The Contractor shall clean and decontaminate all surfaces inside work area. Seal all openings and penetrations into work area.

L. Before commencing work within the Work Area, the Contractor shall inspect the work enclosure for breaches and smoke test for leaks, and any leaks shall be sealed properly.

M. The Contractor shall maintain emergency exits as required by regulating agencies for all work areas and mark with reflective tape or paint.

3.6 APPROVAL OF PREPARATION WORK:

After the work areas has been prepared according to plans pre-approved by the Owner's Representative, the Contractor shall request a formal site inspection by the Owner's Representative. No removal or other disturbance of asbestos-containing materials, dust, or debris shall occur until the Owner's Representative has inspected and approved the site preparation work in writing.

3.7 CLEANING OF CONTAMINATED SURFACES:

A. This section pertains to the cleaning of surfaces, which are potentially contaminated with asbestos-containing dust and debris or discovered in the performance of the specified work. Such cleaning shall be required to prevent this dust from becoming airborne and posing an exposure risk to building occupants or interfering in air monitoring activities.

Cleaning actions shall be performed as preliminary exposure control procedures prior to performing other actions which are required.

Cleaning shall consist of HEPA-vacuuming followed by wet mopping of surfaces in a manner, which prevents dust generation, but effectively rids the surface of all visible debris, dust, film, and grime.

B. Each HEPA vacuum cleaner shall be separately equipped with an airtight, securely attached hose, of proper length, and a collection wand, brush, and other special attachments appropriate to the required cleaning tasks. The equipment shall be properly operated at all times and shall contain no air leaks. The Owner's Representative shall inspect all vacuuming equipment prior to its use and may request verification of the efficiency of the equipment's filtration.

3.8 REMOVAL PROCEDURES:

This section applies to removal of any and all materials containing contaminated or potentially contaminated with asbestos, as stated herein or as otherwise indicated by the Owner's Representative. All removal work shall be done using wet methods in such a way as to minimize the release of fibers, dust, or particulate into the air. All removal methods must be in accord with all Federal, State and local regulations and these specifications.

The Contractor is responsible for thoroughly cleaning one or more representative area(s) inside each contained area to the satisfaction of the Owner's Representative to be used by the Owner's Representative to establish a standard of cleanliness. Completion of removal stages must be approved by the Owner's Representative in writing.

The Contractor is responsible for protecting all previously cleaned and cleared areas throughout all abatement processes. The Contractor will clean and decontaminate all previously cleaned and cleared areas, which become contaminated during subsequent removal activities.

A. Removal of Floor Tiles, Base, Levelling Compound and Related Mastic Materials:

1. The Contractor is responsible for the removal and disposal of Floor Tile, Base Levelling Compound and Related Mastic Materials.

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all waste water through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all material in accordance with Section 02 82 40

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

B. Removal of Window Transom and Door Caulking Materials:

1. The Contractor is responsible for the removal and disposal of the window and Door Caulking Materials.

2. The Contractor shall continually and thoroughly wet material.

3. The Contractor shall carefully remove materials from substrate, using hand-held or other suitable tools or equipment.

4. The Contractor shall promptly place materials in 6-mil polyethylene or other suitable bags or containers. Accumulation of debris inside the work area is prohibited.

5. The Contractor shall collect and pump all wastewater through a five (5) micron filter (multi-staged filtration system).

6. The Contractor shall dispose of all material in accordance with Section 02 82 40

7. The Contractor shall remove to clean substrate surface. Removal is complete only when clean surfaces remain.

3.9 MATERIALS WHICH OWNER'S REPRESENTATIVE CLASSIFIES AS INACCESSIBLE FOR REMOVAL (None Planned):

A. The Contractor shall remove all specific materials unless he identifies to the Owner's Representative potentially inaccessible areas, and the Owner's Representative then so concurs and thereby classifies them as inaccessible. The Owner's Representative, however, may determine that materials can be made accessible by temporarily disconnecting and moving obstructing ductwork, cables, studding, plaster, pipes, conduits, or other mounted equipment and structures, in which case the Contractor shall remove and replace them at no additional cost.

B. All areas that the Owner's Representative classifies as inaccessible shall be sealed and enclosed by the Contractor at no additional cost as follows:

1. Seal all visible asbestos-containing materials with two (2) coats of approved penetrating spray encapsulates.

2. Create an airtight enclosure around the area by installing sheet metal or wire lath secured with clamps or screws, and seal airtight with caulking.

3. Mark all such sealed inaccessible asbestos-containing materials on a set of Drawings and transmit them to the Owner's Representative.

4. Piping exiting the Work Areas – The remaining insulated piping open ends shall be sealed and wrapped with a permanent wrap.

3.10 OWNER'S REPRESENTATIVE'S APPROVAL OF REMOVAL WORK:

A. Upon completion of removal work, but prior to commencing encapsulation or other final cleaning of the work area, the Contractor shall request the Owner's Representative to conduct an inspection and obtain written approval of the removal work.

B. All materials shall be removed, gross debris cleaned up, wastewater collected and filtered, and waste bags removed from the Work Areas prior to the inspection.

C. Any encapsulation or lock-down performed prior to the Owner's Representative's approval will require the Contractor to re-clean the entire work area to the satisfaction of the Owner's Representative.

3.11 CLEANING AND FINAL DECONTAMINATION:

This section applies to cleaning work areas where asbestos removal work has been performed. After all asbestos-containing or contaminated materials have been removed the Contractor shall remove all waste and perform a thorough multi-stage final cleanup and decontamination of each work area per the methods indicated below. Completion of this stage of work must be approved by the Owner's Representative.

A. Final clearance procedures of the work areas shall be performed only after all waste is packaged and removed, but prior to reinstalling any equipment or dismantling any barrier, decontamination facility, or protective coverings. Cleaning shall be subject to the Owner's Representative's approval based on visual inspections, surface dust-wipe tests, and air testing performed according to the AHERA standard. HEPA-exhaust systems shall operate continuously throughout the cleaning and air testing processes until the Owner's Representative authorizes their shutdown and removal from the site. The Contractor shall notify the Owner's Representative in writing at least 24 hours in advance of the expected completion time of final site clearance in order to allow the scheduling of clearance testing.

B. Cleaning methods and approvals shall consist of the following steps performed in the listed order:

1. Remove all visible debris and particulate from protective coverings, scaffolding, floors, walls equipment, and all other surfaces. HEPA-vacuum all surfaces to pick up excess water and debris.

2. Thoroughly clean all protective coverings, scaffolding, floors, walls, and equipment.

3. The air in each work area shall then be lightly misted with amended water, and all protective coverings and other items in the work area shall be wiped thoroughly clean.

4. After the Contractor has completed steps 1-3, he shall make a formal request to the Owner's Representative for a work area inspection. To facilitate scheduling of this inspection, the Contractor shall notify the Owner's Representative of the anticipated completion time of the above initial cleaning work 24 hours in advance.

5. If the Owner's Representative observes any waste or debris in the work area during the inspection, the Contractor shall perform additional cleaning and decontamination as directed by the Owner's Representative.

6. If the Owner's Representative approves this first cleaning, the Contractor shall remove slowly one layer of protective polyethylene covering surfaces inside the work area (except as indicated below) and shall package them in 6-mil waste bags. The waste bags shall be removed from the work area. Both layers of protective polyethylene in the decontamination facilities shall remain in place and in use.

7. After these protective coverings are removed, the Work Area shall be completely wet-wiped and HEPA-vacuumed.

8. Once the work area is completely dry, the Owner's Representative will perform an inspection of the Work Area.

9. Upon obtaining the Owner's Representative's written approval, the Contractor shall lock-down all surfaces within the Work Area. The Contractor may only lock down surfaces using encapsulates pre-approved by the Owner's Representative. The drying time shall be as specified by the manufacturer before clearance sampling is conducted.

10. If any of the post-cleaning clearance air or wipe sample results are above the pre-established clearance criteria, the Owner's Representative will require additional cleaning and decontamination of the work area, and the above inspection and clearance tests shall be repeated by the Owner's Representative.

11. After successful completion of the final air clearance testing, the Contractor shall carefully remove the protective coverings, decontamination facilities, and any temporary barrier walls or tunnels. The HEPA-exhaust systems shall be removed only after all other items are removed. A HEPA vacuum shall be kept on-site during this final disassembly work to cleanup any dust or debris.

12. Workers shall wear approved respiratory and personal protective equipment throughout all cleanup and waste disposal activities.

3.12 MONITORING AND TESTING: The performance and execution of this work is found in this Section, Air Monitoring - Test Laboratory Services.

3.13 AIR MONITORING BY CONTRACTOR:

A. The Contractor shall be responsible for personnel air monitoring to document compliance of workers with the OSHA regulations using the methods as described in this Section, Air Monitoring - Test Laboratory Services.

3.14 FINAL INSPECTION AND TESTING:

A. Following successful completion of the final visual inspection, the Contractor will be given written approval by the Owner's Representative to lock down each Work Area. When this is complete and after all visible dirt, dust, and grime has been removed from all surfaces in each Work Area, the Contractor shall notify the Owner's Representative that the workspace is ready for inspection and final air clearance testing. The Owner's Representative, with the assistance of the Contractor, shall visually inspect the workspace for the detection of any visible dust or contamination. If the visual inspection does not reveal any dust or other signs of contamination, final air testing shall commence. Approval of each Work Area for final air testing shall be obtained from Owner's Representative in writing. The Contractor shall supply adequate lighting, scaffolding, ladders, and other necessary assistance during final visual inspection.

B. Final air testing of the building interior will be conducted at the completion of each phase of work. The Contractor shall install engineering controls and barriers so as to isolate each area for final air clearance testing. Isolation barriers and access routes must be pre-approved in the Work Plan by the Owner's Representative.

C. Final air testing (i.e., clean air certification) shall be performed pursuant to 40 CFR, Part 763, Appendix A, using Transmission Electron Microscopy (TEM), aggressive disturbance procedures, and continuous air circulation and HEPA-filtered exhaust. This shall be obtained by use of 1-horsepower leaf blowers (provided by Contractor) and the existing work area exhaust system, supplemented with 20-inch circulating fans (provided by Contractor and positioned where the Owner's Representative determines with smoke tubes that poor air circulation patterns exist). Work areas with less than 160 square feet or 260 Linear feet of asbestos-removal shall be considered complete following the passage of the visual inspection and final air testing via Phase Contrast Microscopy (PCM).

D. The Contractor shall assist, as necessary, the Owner's Representative to accomplish safely and efficiently the aggressive disturbance and air circulation tasks. The Contractor also shall provide and install sufficient 15-amp, 120 v. (60-cyl) power lines for the Owner's Representative's air pumps evenly distributed in the work area, plus air pumps evenly distributed outside the work area. The Owner's Representative then shall collect all air clearance samples.

E. The Contractor shall allow 24 hours for performance of aggressive disturbance procedures and collection of clearance air samples, and an additional 24 hours for laboratory TEM analyses of samples. Provisions will be made to perform PCM analysis on-site. The Contractor shall coordinate with the Owner's Representative to properly schedule clearance sampling and laboratory analysis.

F. The aggressive disturbance procedures shall not commence until the Work Area is clean, all floor and wall polyethylene sheeting is removed, with all of the critical barriers in place, the lock down agent is completely dry, and the Work Area has been inspected and approved by the Owner's Representative.

G. The final air testing shall take place under active agitation of the air in the workspace with the HEPA-filtered exhaust units operating. The Contractor shall also supply and operate additional circulating fans and leaf blowers as required and directed by the Owner's Representative during this final testing to ensure effective air circulation. The final test shall consist of collecting a minimum of thirteen (13) air samples for each testing to establish that contamination levels do not exceed 0.01 fibers per cubic centimeter (f/cc) and 70 structures per millimeter squared (s/mm2) of asbestos as determined by air sampling with analysis by Transmission Electron Microscopy.

H. If all clearance criteria are not met, the Contractor shall perform a thorough wet cleaning and/or HEPA-vacuuming as necessary and directed by the Owner's Representative to re-clean the work areas. The above clearance testing shall then be repeated by the Owner's Representative until clearance criteria are met.

The Owner's Representative's charges to the Owner for this additional cleaning, inspection and air testing services shall be borne by the Contractor.

I. After achieving the level of cleanliness and decontamination as specified herein and as confirmed by the final testing and checking, the Owner's Representative shall thoroughly inspect the space jointly with the Contractor to determine whether any damage has been done to the finishes, equipment, or any other part of the workspace.

A final inspection report shall be prepared jointly by the Owner's Representative and the Contractor detailing the list of items (punch list) to be fixed by the Contractor. Approval of final testing, checking, and ultimate completion shall be obtained from the Owner's Representative in writing.

3.15 RESPONSIBILITY FOR DAMAGES:

Any damages to the Site, items designated to remain, or adjacent property damage and disruption of operations of adjacent buildings and building occupants and uninvolved Site improvements, parking and drainage, that have been the result of actions by the Contractor's personnel or equipment, or subcontractors shall be repaired to safe working condition without any cost to the Owner.

END OF SECTION 02 82 10

SECTION 02 82 40 – DISPOSAL OF ASBESTOS-CONTAINING MATERIALS

PART 1.0 - GENERAL

1.1 ASBESTOS WASTE DISPOSAL PROCEDURES:

A. It is the responsibility of the Contractor to determine current waste handling, transportation, and disposal regulations for the work site and for each waste disposal landfill. The Contractor must comply fully with these regulations and all Department of Transportation and EPA requirements, and State and local regulations.

B. The Contractor shall document actual disposal of the asbestos waste at the designated landfill certified by the State of Louisiana Department of Environmental Quality to accept asbestos waste. The Contractor shall document disposal by completing a written Disposal Form (Asbestos Disposal Verification Form - ADVF, Waste Shipment Record) which then shall be signed by the landfill operator upon receipt of materials. The original completed documentation shall be forwarded to the Owner's Representative. Approval of Contractor payment requests may be denied until receipt of such Disposal Certificates.

C. Definition: Asbestos wastes are defined as all asbestos-containing or potentially asbestos-contaminated materials or other items which have not been cleaned completely to the satisfaction of the Owner's Representative while inside the Work Area, and which must be removed from the job site. Asbestos wastes may include building materials, insulation, disposable clothing and protective equipment, plastic sheeting and tape, contractor equipment, or other materials designated by State or local authorities or the Owner's Representative. Any and all materials, clothing, equipment, supplies, exhaust system or vacuum filters, plastic sheeting and tape, and other materials designated by State or local authorities which potentially may be contaminated with asbestos, asbestos dust, or asbestos particulate must be disposed of as asbestos-containing or asbestos-contaminated wastes.

D. Asbestos Waste Container Removal and Disposal Procedures:

1. The costs for waste packaging, transportation, and approved landfill disposal (plus all related record keeping) shall be borne by the Contractor.

2. The Contractor shall package, label, and remove all asbestos waste as specified in the above Sections. Packaging shall be accomplished in a manner that minimizes waste volume but insures waste containers shall not tear or break.

3. The Owner's Representative must observe removal of all waste containers to verify their condition and certify the total volume of waste material (to the nearest cubic yard). He then shall insert the quantity on the Disposal Form/Waste Shipment Record and give the original of these

forms to the Contractor for transport to the landfill operator for signature.

1.2 WASTE REMOVAL SCHEDULING:

A. All waste containers shall be decontaminated and removed from the site before final cleanup is started and isolation barriers are taken down. The Contractor must pre-schedule and obtain the approval of Owner's Representative for all time periods during which he desires to remove waste bags from the facility. Once a truckload of waste containers has accumulated, the Contractor shall arrange for transportation to the disposal site. Waste shall not be stored in the worker decontamination facility.

B. Asbestos Waste Transportation and Disposal Regulations: It is the responsibility of the Contractor to determine and ensure that he is complying with 1) the current waste handling regulations applicable to each work site; and 2) the current regulations for transporting and disposing waste at each ultimate disposal landfill. He must comply fully with these regulations, and with all U.S. Department of Transportation, State, and EPA requirements.

1. The Contractor (or his subcontractor) at no additional cost shall maintain a valid solid waste transportation registration issued by the Louisiana State Department of Transportation; and obtain, complete, and fully comply with any other local hazardous waste manifesting requirements. A copy of any manifest forms shall be sent to the Owner's Representative after disposal is completed and all required data and signatures have been inserted.

2. The Contractor shall provide a weight ticket to the Owner's Representative for each truckload of waste removed from the site.

3. Waste hauling transportation methods shall comply with the provisions of EPA Title 40, Part 61, Subpart M, Louisiana Administrative Code, and Department of Transportation and with any hazardous waste regulations for temporary storage, transport, and disposal if such codes are enforced in states where the waste shall be stored, transported, or disposed of.

PART 2.0 - PRODUCTS (NOT APPLICABLE)

PART 3.0 - EXECUTION

3.1 ASBESTOS WASTE DISPOSAL:

A. Asbestos Waste Packaging: All asbestos waste material shall be promptly placed in 6-mil clear polyethylene bags or other suitable containers lined with 6-mil polyethylene sheeting as it is generated. A sufficient number of waste bags shall be located in the immediate work area, and in the Equipment Room of the Worker Decontamination Facility, The Contractor shall count or measure the volume of each filled container leaving the work area and maintain a written

record of such.

B. Asbestos Waste Labeling: Warning labels shall have waterproof print and permanent adhesive, in compliance with OSHA, EPA and DOT requirements, and shall be affixed to or printed on the sides of all waste bags or transfer containers. Warning labels shall be conspicuous and legible, and contain the following words:

DANGER
CONTAMINATED ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD

AND

RQ HAZARDOUS
SUBSTANCE
SOLID, NOS
ORM-E, NA 9188
(ASBESTOS)

In addition, the Contractor shall prepare and affix to each waste container the following label in accordance with the NESHAP regulation:

HAZARDOUS WASTE
FEDERAL LAW PROHIBITS IMPROPER DISPOSAL

IF FOUND, CONTACT THE NEAREST POLICE OR PUBLIC SAFETY AUTHORITY, OR THE U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERATOR INFORMATION:

Generator's Name:	Southern University Laboratory School
Generator's Address:	Southern University Laboratory School 129 Swan Avenue Baton Rouge La 70816

C. Wetting of Asbestos Waste: A fine water spray shall be used to keep the top layers of waste in containers thoroughly wet at all times. When a waste container is full, it shall be securely sealed with tape or other secure fastener.

D. Asbestos Waste Container Decontamination and Removal Procedures: The following procedures shall be followed whenever containers or equipment are removed from the Work Area:

1. The Clean Room shall be considered a holding area only during the period of active waste transfer for the purpose of the loading of carts or drums. Storage of waste and carts (or drums) in the Clean Room is

prohibited.

2. Waste removal shall not occur during worker shift changes or when workers are showering or changing. Care shall be taken to prevent short circuiting and cycling of air outward through the Shower Room and Clean Room when used for waste removal.

3. Workers are to be stationed in each room/area of the Decontamination Facility to transfer the containers and equipment to or from adjacent sections. These workers shall not cross the airlocks into the adjacent areas/rooms until the waste or equipment transfer is finished for that period and the workers have gone through decontamination as required by these specifications. The workers in the Clean Room or holding area shall enter from uncontaminated areas with appropriate personal protective equipment; or, prior to the start of waste transfer, these workers shall exit the Work Area, fully decontaminated, and subsequently don clean personal protective equipment.

4. External surfaces of contaminated containers and equipment shall be cleaned by wet cleaning and/or HEPA vacuuming in the Work Area before moving such items into the Decontamination Facility airlock. Workers shall not enter the airlock during this procedure.

5. The containers of waste and the equipment shall be removed from the airlock by workers stationed in the Washroom during waste removal operations.

6. Once in the Washroom, external surfaces of contaminated containers and equipment shall be cleaned a second time by wet cleaning.

7. The cleaned containers of waste and equipment shall be placed in uncontaminated leak-tight plastic bags, lined fiber drums or other lined containers (or 6-mil polyethylene sheeting if physical characteristics necessitate and permit). Air volumes shall be minimized, and the containers shall be sealed. Items that may puncture or tear plastic bags or sheeting shall be placed in a hard-wall container, such as a drum, and then sealed.

8. The clean re-containerized items shall be moved into the airlock for subsequent transfer to the holding area. The Washroom workers shall not enter this airlock or the work area until waste removal is finished for the period.

9. Re-containerized items and cleaned equipment shall be removed from the airlock to the holding area by workers who have entered from uncontaminated areas with appropriate personal protective equipment.

10. The re-containerized items of waste and cleaned equipment shall be placed in open top, watertight plastic carts or drums. These carts or drums shall be held in the holding area pending removal. The carts or

drums shall be HEPA-vacuumed or wet cleaned following the removal of the containers of waste from them.

11. The exit from the Decontamination Facility shall be monitored and secured at all times to prevent unauthorized entry.

12. The carts/drums may be temporarily stored in a holding area at the work site outside the work area until a transport vehicle arrives, but such storage areas must be pre-approved by the Owner and the Owner's Representative.

E. Asbestos Waste Container Storage: Sealed labeled containers may be temporarily stored in the Work Area, or in a pre-designated and approved outside area, until a truckload quantity is obtained. The storage temporary area must be completely enclosed with wood or metal walls, floors and ceilings lined with 6-mil polyethylene sheeting and must remain locked at all times except during active loading or unloading. The temporary storage area shall be identified prominently and posted with warning signs.

3.2 WASTEWATER DISPOSAL PROCEDURES

A. All wastewater generated during the abatement work, including gross removal activities, final cleaning, and worker and equipment decontamination procedures must be completely collected by the Contractor and processed in accordance with all applicable Federal, State and local regulations, as well as with these specifications.

B. Wastewater shall be collected continuously during abatement activities. The storage container shall be connected to a filtering system consisting of no fewer than two (2) filters in a series leading to a 5.0-micron final filter and an adequately sized pump, prior to disposal in a sanitary sewer. In the absence of a sanitary sewer system, the wastewater shall be drummed and transported to an approved landfill in accordance with the requirements for disposal. The Contractor shall not allow storage on the existing floor system unless verified by a Structural Engineer.

C. Used water filters and other equipment and supplies used in the maintenance of the filtering system must be disposed of as asbestos-containing waste.

D. The costs for wastewater filtration, storage, discharge, packaging, labeling, transport, and approved disposal (plus all related record keeping) shall be borne by the Contractor.

END OF SECTION 02 82 40

SECTION 02 83 19 - REMOVAL AND DISPOSAL OF LEAD-CONTAINING PAINT

PART 1.0 - GENERAL

1.1 DESCRIPTION OF WORK:

A. The Contractor shall remove, package, transport, and dispose of all lead-containing materials as necessary to remove in their entirety, in accordance with all Federal, State, and local rules and regulations. The Contractor is responsible for all costs associated with the removal, packaging, transporting, and disposal of these materials.

B. The work, in general, includes, but is not limited to, the following:

1. The Contractor shall remove the paint coatings from the window lintels, exterior and interior window Frame, all materials noted in Sheet Notes to be salvaged and turned over to the on-site Owner's storage for reuse.

2. Removal and Disposal of Plaster Wall, and Ceiling. Windows, Doors and Frames coated with Lead-containing paint.

3. Cleaning of any lead-containing paint contamination and lead-containing materials from ground surfaces including a 15-foot perimeter of the exterior of the building.

4. Providing and implementing spill prevention control and countermeasure plans.

5. Placement of all lead-contaminated items generated as a result of work activities into approved containers/drums.

6. Conducting pre-disposal TCLP testing in the presence of the Owner/ Representative and 3rd Party Laboratory Analysis.

7. Transportation of lead and lead-contaminated items and containers to the disposal site.

8. Providing properly completed Waste Manifest/Waste Shipment Record Form.

9. Provide the name and location of disposal site.

C. All lead-related work activities to be accomplished under this section shall be coordinated closely with asbestos abatement work to minimize potential toxic exposure.

D. Prior to commencing this work, the Contractor shall inspect thoroughly the work area and prepare a construction schedule which lists anticipated time frames and sequence of operations for the various work activities. The construction schedule shall include activities such as contamination clean-up and removal of all Lead-

containing articles, items and containers from the work area. The construction schedule also shall include routing for all Lead-containing items to be removed from the work area and transported to disposal areas. Work activities, sequence of work, and routing scheme shall be transmitted to the Owner's Representative prior to the commencement of any work under this section.

E. The Contractor shall furnish and maintain the electrical power and water to the site far the Contractors and Air Monitoring Firm's use and equipment.

1.2 APPLICABLE PUBLICATIONS:

A. The applicable sections, latest editions, and addenda of the following governmental regulations, codes, industry standards, and recommended practices form a part of these specifications. Nothing in these specifications is to be construed as permitting work not conforming to these requirements:

1. USEPA - United States Environmental Protection Agency

2. NEC - National Electrical Code

3. NEMA - National Electrical Manufacturers Association

4. RCRA - Resource Conservation and Recovery Act

5. TSCA - Toxic Substances and Control Act

6. DOT - Department of Transportation

7. Louisiana Department of Environmental Quality

8. OSHA - Occupational Safety and Health Administration

9. NFPA - National Fire Protection Association

10. All other applicable Federal, State, Parish and city codes, standards and regulations.

B. The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations under these Contract Documents and to comply therewith.

1.3 DEFINITIONS: Refer to Section 02 82 10 for terms and definitions used in these Contract Documents.

1.4 SUBMITTALS: Refer to Section 02 82 10 for Contractor Submittal requirements.

1.5 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION: Refer to this Section for Contractor respiratory and personnel protection and decontamination requirements. Respirators with particulate/organic filtration, non-absorbent suits, gloves, and boots shall be worn while removing and handling materials.

1.6 WASTE DISPOSAL: Disposal by the Contractor. Refer to Paragraph 3.6 of this Section for Contractor waste disposal requirements.

PART 2.0 - PRODUCTS

2.1 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with operations of the building occupants. The Contractor shall not allow the storage containers on the existing floor system unless these loads are verified by a Structural Engineer as being acceptable.

C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the Owner's Representative and the Owner.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved landfill.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner, including fees regarding the use of these patents.

2.2 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply, at a minimum, with this specification, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and decontamination facilities, all lumber and plywood shall be fire retardant. Flame-resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire-retardant, and shall bear manufacturer's stamp of Underwriters Laboratory Classification.

PART 3.0 - EXECUTION

3.1 GENERAL: The requirements and sequences described herein are parameters for execution of the abatement work and do not include necessarily all abatement requirements. The Contractor will be responsible for all items that may be necessary to

complete the abatement work in accordance with the Contract Documents Work Plan, and all applicable regulations.

3.2 LEAD-PAINT REMOVAL/PRIMING:

A. The Contractor shall prepare/contain the work area prior to commencing removal of lead-containing paint materials.

B. The Contractor shall remove the damaged lead-containing paint on beams, columns, miscellaneous structural members and stairways, sand and smooth and prime with a ferrous metal primer, factory formulated rust inhibitive metal primer for exterior application; See paragraph 3.8 Primer.

C. Once all of the lead-containing materials have been placed in the approved containers, the containers shall be decontaminated as necessary and placed in a lockable storage container.

D. The Contractor shall arrange for and conduct pre-disposal TCLP Testing in the presence of the Environmental Consultant and Laboratory Analysis, and transportation of these materials to the disposal site in accordance with all Federal, State, and local rules and regulations (as required).

3.3 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING:

A. Equipment and Tools: After the lead-containing paint has been separated from the structural steel, all tools and equipment used in the work shall be decontaminated and properly stored. Where work surfaces have contacted Lead-containing paint fluids, they shall be scraped clean, flushed with solvent, wiped clean, and all debris placed in approved drums and properly disposed of. All tools that may have come in contact with Lead-containing paint at any concentration shall be thoroughly cleaned.

B. Roof and Steel Structures: All roof steel surfaces that may have come in contact with Lead-containing paint, either during the course of work activities or due to past peeling or deterioration, shall be removed, cleaned thoroughly and wiped clean sanded and smooth and primed.

3.4 CONTAINERIZATION AND MARKING:

A. All debris and materials generated as a result of work activities and clean-up operations shall be placed in closed top drums and sealed with a steel ring band with bolt compression device. All solids, such as rags, disposable protective clothing, and other incidentals, shall be placed in closed top drums and sealed with a steel ring band with bolt compression device.

B. All drums and Lead containing containers (where used) shall be permanently marked as to specific contents and dated in accordance with Federal, State and local rules and regulations. In addition, each drum (and container) shall be sealed with a steel ring band with bolt compression device.

3.5 LEAD-CONTAINING DEBRIS: If a lead-containing debris spill occurs, the Contractor shall implement the emergency spill plan procedures.

A. The Contractor shall limit the airborne Lead concentration of the air to below 30 microgram per cubic meter of air (30 ug/m^3) or the background level before the start of the project, whichever is lower.

B. The Contractor shall limit the Lead concentration of building surfaces to below 800 micrograms per square foot, (800ug/ft^2).

C. If required, air monitoring data shall include the sorbent type, sampling rate, sampling volume, analytical method, amount of lead-containing paint detected, and limit of detection, as per NIOSH analytical methods. Surface monitoring shall include the filter type, sorbent type, sampling, location area sampled, analytical method, amount of lead-containing paint detected and the limit of detection, as per NIOSH analytical Method 5503. Analytical results for lead analysis shall be provided to the Owner's Representative within 24 hours of the end of work on any weekend or within 24 hours of the removal of the material.

3.6 HANDLING AND TRANSPORTATION TO OFF-SITE DISPOSAL FACILITIES:

A. Handling of Drums: All closed top drums must be sealed and marked prior to loading on the transport vehicle. Filled drums shall be loaded on the transport vehicle by any of the following methods:

1. By a hoist or lift truck utilizing a two-point drum lifter.

2. By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Drums shall not be lifted by any rope, chain or cloth slings tied about the drum, placement of drums on bare-lift truck forks, forcing drums between forks of a lift truck, or any commercial drum lift exerting force on the sides of a drum.

C. All drums or Lead-containing article containers shall be secured to the transport vehicle to prevent movement in transit.

D. All Lead-containing articles and all drums containing solids and incidentals shall be disposed of in accordance with Federal and State regulations.

E. The Contractor shall utilize a Waste Hauler Contractor licensed for the transportation and hauling of Lead-containing hazardous wastes. The firm shall provide a routing plan which clearly identifies the routes he proposes to follow while transporting Lead-containing items from the various work areas (points of generation) to the disposal site. A minimum of two operators shall attend all times when Lead-containing items are being loaded and unloaded.

F. Vehicles used for transporting of Lead-containing items must be marked plainly and visibly in accordance with Federal, State and local rules and regulations.

G. Unloading, Records, and Placement in Storage: Transport vehicles shall be unloaded utilizing the same equipment and methods as for loading. Immediately following unloading of the Lead-containing transport vehicle, the cargo area shall be inspected to check for any fluid leaks. If any fluid leaks are found, the source of the leaking drum or item shall be identified and sealed. The contaminated cargo area shall be thoroughly cleaned. Cleaning solvents and solids shall be placed in proper drums.

H. Upon completion of all Lead removal work related activities, the Contractor shall provide a complete record of such activities and incinerator data to the Owner's Representative. The record shall include but not be limited to:

1. Name of the Contractor performing the work outlined in this Section and the technician-in-charge.

2. Lead-containing paint removed:

a. Date removed from service and location.

b. Date of incineration.

c. Weight in kilograms.

3. Drums and Lead-containing paint article containers (where applicable):

a. Drum size (30 or 55 gallons).

b. Identification of contents, etc., for solids, rags, sorbents, etc.

c. Weight in kilograms of contents of each drum (or container).

d. Date items were destroyed and location and company.

4. Hazardous Waste Manifests/Waste Shipment Record Form and Chain-of-Custody Forms shall be provided for all hazardous waste materials, and hazardous waste manifests shall be presented to the Owner's Representative.

3.7 SAFETY PROCEDURES AND WORKER PROTECTION:

A. All required precautions and measures shall be taken to protect employees, related trade employees, inspection personnel, and the general public from exposure to Lead-containing paint solids and vapors. (The Contractor shall follow procedures similar to those utilized when handling asbestos containing material and as described herein; see Section 02 82 10 Removal of Asbestos-Containing Materials).

B. Work Area Protection and Marking: Prior to commencing any Lead-related work activities, barricades and warning signs shall be provided to identify clearly and guard effectively against unauthorized entry into the work area.

C. All equipment shall be confined to the work area until the work is complete and containers are sealed and equipment properly and safely stored for transport.

1. Barricades: If approved asbestos-related temporary enclosures are in use, no additional Lead-related temporary enclosures need to be constructed, except as needed in case of Lead-related emergency,

2. Signs: During the Lead work phase, the Contractor shall place warning signs at intervals of approximately ten feet. The warning signs for work areas shall be approximately one foot six inches square with a yellow background and one-inch black letters.

D. Protective measures shall be provided in connection with the transport of Lead-containing materials within the building over for the entire pathway to the exterior elevators to the transporting vehicle.

E. Protective Clothing and Equipment: At all times when Lead-containing materials in any volume are not sealed in drums, containers, or electrical equipment, workers shall wear:

1. Disposable, nonporous gloves.

2. Disposable whole-body clothing impermeable to Lead.

3. Respiratory protection (NIOSH/MSHA-approved) against Lead vapors and particulates (at least the level of particulate protection required at that stage of work for asbestos protection).

4. Eye protection.

5. Hard hats.

F. The Contractor shall provide protective clothing, eye protection, and respiratory protection as required for inspection personnel monitoring work activities within the work area.

G. Personnel Protection and Procedures: The Lead work area shall at no time be left unattended after procedures have begun and until all materials and incidentals have been sealed in approved, properly labeled containers. If immediate transportation to the Lead incineration facility is not feasible, the Work Area must be secured in a manner in accordance with Federal, State, and local rules and regulations. During procedures and at all times when lead-containing materials and debris in any volume are not sealed in drums, containers, or electrical equipment, all personnel entering the work area must don protective clothing and equipment as listed herein. Upon exiting the work area, all disposable protective clothing shall be placed in approved drums, sealed, and disposed of as specified herein.

H. Workers with cuts or scratches shall protect against these wounds before entering the work area. Similarly, workers who accidentally incur minor cuts or

scratches in the course of work activities shall leave the work area, cleanse the wound with medical grade soap, and seal the wound before returning to the work area.

J. The Contractor shall develop a sequenced plan for the completion of all Lead-related work and submit this plan in advance of such work to the following Owner's Representative. The plan shall address the following items:

1. Lists of vehicles, equipment, and personnel to be used in accomplishing the work.

2. The emergency spill plan, which shall encompass all steps the Contractor will take in the event of a spill or other emergency.

3. Safety procedures, which shall cover all phases of operations, including but not limited to, handling, loading, transporting, securing Lead-containing paint, and first aid procedures.

3.8 PRIMER

A. The Contractor shall remove the lead-containing paint from beams, columns and stairway surfaces, and all materials noted in the Sheet Notes on the drawings and in Selected Interior Demolition Section, sand and prime with a ferrous metal primer, factory formulated rust inhibitive metal primer for exterior application; Benjamin Moore, IMC Alkyd Metal Primer No. M06, applied at a dry film thickness of not less than 2.0 mils; Coronado, 35-147 Rust Scat Alkyd Metal Primer, applied at a dry film thickness of not less than 2.0 mils; Dulux Paint, 4160-xxxx Devguard Multi-Purpose Tank and Structural Primer, applied at a dry film thickness of not less than 2.0 mils; Pittsburgh Paints, 90-712 Pitt-Tech One Pack Interior/Exterior Primer Finish DTM Industrial Enamel, applied at a dry film thickness of not less than 3.0 mils; or Sherwin-Williams, Kem Kromik Universal Metal Primer B50Nz6/B50Wz1, applied at a dry film thickness of not less than 3.0 mils.

END OF SECTION 02 83 19

SECTION 02 84 30 - REMOVAL OF POLYCHLORINATED BI PHENYLS (PCB-CONTAINING) BALLASTS

PART 1.0 - GENERAL

1.1 DESCRIPTION OF WORK:

A. The Contractor shall remove, package, transport, and dispose of all PCB-containing ballasts from fluorescent light fixtures located in the ceiling grid (ONLY FOR OLDER FLUORESCENT FIXTURES NOT SCHEDULED TO BE REUSED)., in accordance with all Federal, State, and local rules and regulations. The Contractor is responsible for all the costs associated with the removal, packaging, transporting, and disposal of these ballasts.

B. The work, in general, includes, but is not limited to, the following:

1. Dismantling light fixtures and separation of ballasts to permit removal. Dispose of the remaining fixture as construction debris (ONLY FOR OLDER FLUORESCENT AND RECESSED CEILING FIXTURES NOT SCHEDULED TO BE REUSED).

2. Cleaning of any PCB contamination on fixtures surfaces.

3. Providing and implementing spill prevention control and countermeasure plans.

4. Placement of all PCB contaminated items generated as a result of work activities into approved containers/drums.

5. Transportation of PCB's and PCB-contaminated items and containers to the disposal site.

6. Providing properly completed Waste Manifest/Waste Shipment Record Form.

7. Provide name and location of disposal site.

C. All PCB-related work activities to be accomplished under this section shall be coordinated closely with asbestos abatement work to minimize potential toxic exposure.

D. Prior to commencing this work, the Contractor shall inspect thoroughly the work area and prepare a construction schedule which lists anticipated time frames and sequence of operations for the various work activities. The construction schedule shall include activities such as contamination clean up and removal of all PCB-containing articles, items and containers from the work area. The construction schedule also shall include routing for all PCB-containing items to be removed from the work area and transported to disposal areas. Work activities, sequence of work, and routing scheme shall be transmitted to the Designer prior to the commencement of any work under this section.

1.2 APPLICABLE PUBLICATIONS:

A. The applicable sections, latest editions, and addenda of the following governmental regulations, codes, industry standards, and recommended practices form a part of these specifications. Nothing in these specifications is to be construed as permitting work not conforming to these requirements:

1. USEPA - United States Environmental Protection Agency

2. NEC - National Electrical Code

3. NEMA - National Electrical Manufacturers Association

4. RCRA - Resource Conservation and Recovery Act

5. TSCA - Toxic Substances and Control Act

6. DOT - Department of Transportation

7. Louisiana Department of Environmental Quality

8. OSHA - Occupational Safety and Health Administration

9. NFPA - National Fire Protection Association

10. All other applicable Federal, State, Parish and city codes, standards and regulations.

B. The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations under these Contract Documents and to comply therewith.

1.3 DEFINITIONS: Refer to Section 02 82 10 for terms and definitions used in these Contract Documents.

1.4 SUBMITTALS: Refer to Section 02 82 10 for Contractor Submittal requirements.

1.5 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION: Refer to Paragraph 3.7 of the Section for Contractor respiratory and personnel protection and decontamination requirements. Respirators with particulate/organic filtration, non-absorbent suits, gloves, and boots shall be worn while removing and handling ballasts.

1.6 WASTE DISPOSAL: Disposal by the Contractor. Refer to Paragraph 3.6 of this Section for Contractor waste disposal requirements.

PART 2.0 - PRODUCTS

2.1 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with operations of the building occupants.

C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the Designer.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises. Material which becomes contaminated with asbestos-containing material shall be packaged and legally disposed of in an approved landfill.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner, including fees regarding the use of these patents.

2.2 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply, at a minimum, with this specification, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and decontamination facilities, all lumber and plywood shall be fire retardant. Flame-resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire-retardant, and shall bear manufacturer's stamp of Underwriters Laboratory Classification.

PART 3.0 – EXECUTION (ONLY FOR OLDER FLUORESCENT FIXTURES NOT SCHEDULED TO BE REUSED).

3.1 GENERAL: The requirements and sequences described herein are parameters for execution of the abatement work and do not include necessarily all abatement requirements. The Contractor will be responsible for all items that may be necessary to complete the abatement work in accordance with the Contract Documents Work Plan, and all applicable regulations.

3.2 PCB-BALLAST REMOVAL:

A. The Contractor shall remove the ballasts from the fluorescent fixtures in a well-ventilated Work Area. The ballasts shall be removed from the fixtures and placed

in layers. A layer of absorbent material in excess of the contained liquid shall be placed between each layer of ballasts.

B. Once all of the ballasts have been placed in the approved drums, the drums shall be decontaminated as necessary and placed in a lockable storage container.

C. The Contractor shall arrange for transportation to the disposal site in accordance with all Federal, State, and local rules and regulations.

3.3 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING:

A. Equipment and Tools: After the last ballast has been separated from the electrical fixture, all tools and equipment used in the work shall be decontaminated and properly stored. Where work surfaces have contacted PCB fluids, they shall be scraped clean, flushed with solvent, wiped clean, and all debris placed in approved drums and disposed of in an EPA-approved incinerator. All tools that may have come in contact with PCBs at any concentration shall be thoroughly cleaned.

B. PCB Articles (Electrical Equipment): All exterior surfaces of electrical equipment to be removed that may have come in contact with PCB's or contaminated oils or fluids, either during the course of work activities or due to past leaks, shall be cleaned thoroughly and wiped clean.

C. Slabs, Floors, and Walls: All concrete (or other surfaces) which have come in contact with PCB's or PCB mixtures in the course of the work as a result of past leaks shall be cleaned thoroughly using a combination of sorbents, solvents, and cleaners.

3.4 CONTAINERIZATION AND MARKING:

A. All liquids generated as a result of work activities and clean-up operations shall be placed in closed top drums and sealed with a steel ring band with bolt compression device. All solids, such as sorbents, rags, disposable protective clothing, and other incidentals, shall be placed in closed top drums and sealed with a steel ring band with bolt compression device.

B. All drums and PCB article containers (where used) shall be permanently marked as to specific contents and dated in accordance with Federal, State and local rules and regulations. In addition, each drum (and container) shall be sealed with a steel ring band with bolt compression device.

3.5 PCB RELEASE LIMITS: If a PCB spill occurs, the Contractor shall implement the emergency spill plan procedures.

A. The Contractor shall limit the airborne PCB concentration to below one (1) microgram per cubic meter of air ($1ug/c^3$) or the background level before the start of the project, whichever is lower.

B. The Contractor shall limit the PCB concentration of building surfaces to below 10 micrograms per 100 square centimeters, ($10ug/100cm^2$).

C. If required, air monitoring data shall include the sorbent type, sampling rate, sampling volume, analytical method, mass of PCB's detected, and limit of detection, as per NIOSH analytical methods. Surface monitoring shall include the filter type, sorbent type, sampling, location area sampled, analytical method, mass of PCB's detected and the limit of detection, as per NIOSH analytical Method 5503. Analytical results for PCB analysis shall be provided to the Owner's Representative within 24 hours of the end of work on any weekend or within 24 hours of the removal of the ballasts.

3.6 HANDLING AND TRANSPORTATION TO OFF-SITE DISPOSAL FACILITIES:

A. Handling of Drums: All closed top drums must be sealed and marked prior to loading on the transport vehicle. Filled drums shall be loaded on the transport vehicle by any of the following methods:

1. By a hoist or lift truck utilizing a two-point drum lifter.

2. By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Drums shall not be lifted by any rope, chain or cloth slings tied about the drum, placement of drums on bare-lift truck forks, forcing drums between forks of a lift truck, or any commercial drum lift exerting force on the sides of a drum.

C. All drums or PCB article containers shall be secured to the transport vehicle to prevent movement in transit.

D. The Contractor shall utilize a Waste Hauler Contractor licensed for the transportation and hauling of PCB hazardous wastes. The firm shall provide a routing plan which clearly identifies the routes he proposes to follow while transporting PCB items from the various work areas (points of generation) to the disposal site. A minimum of two operators shall be in attendance at all times when PCB items are being loaded and unloaded.

E. Vehicles used for transporting PCB items must be marked plainly and visibly in accordance with Federal, State and local rules and regulations.

F. Unloading, Records, and Placement in Storage: Transport vehicles shall be unloaded utilizing the same equipment and methods as for loading. Immediately following unloading of the PCB transport vehicle, the cargo area shall be inspected to check for any fluid leaks. If any fluid leaks are found, the source of the leaking drum or item shall be identified and sealed. The contaminated cargo

area shall be thoroughly cleaned. Cleaning solvents and solids shall be placed in proper drums.

G. Upon completion of all PCB work-related activities, the Contractor shall provide a complete record of such activities and incinerator data to the Owner's Representative. The record shall include but not be limited to:

1. Name of the Contractor performing the work outlined in this Section and the technician-in-charge.

2. Ballasts and Electrical Equipment removed:

a. Manufacturer, serial number, and date of Manufacture.

b. Date removed from service and location.

c. Date of incineration.

d. Weight in pounds.

3. Drums and PCB article containers (where applicable):

a. Drum size (30 or 55 gallons).

b. Identification of contents, i.e., ballasts, cleaning solvents, etc., for solids, rages, sorbents, etc.

c. Weight in kilograms of contents of each drum (or container).

d. Date items were destroyed and location and company.

4. Hazardous Waste Manifests/Waste Shipment Record Form and Chain-of-Custody Forms shall be provided for all hazardous waste materials, and hazardous waste manifests shall be presented to the Owner's Representative.

3.7 SAFETY PROCEDURES AND WORKER PROTECTION:

A. All required precautions and measures shall be taken to protect employees, related trade employees, inspection personnel, and the general public from exposure to PCB solids, liquids, and vapors.

B. All electrical equipment upon which PCB-related activities are to be performed shall be disconnected permanently from any power source prior to commencing of any work.

C. Work Area Protection and Marking: Prior to commencing any PCB-related work activities, barricades and warning signs shall be provided to identify clearly and guard effectively against unauthorized entry into the work area.

D. All equipment shall be confined to the work area until the work is complete, and containers are sealed and equipment properly and safely stored for transport.

1. Barricades: If approved asbestos-related temporary enclosures are in use, no additional PCB-related temporary enclosures need to be constructed, except as needed in case of PCB-related emergency,

2. Signs: During the PCB work phase, the Contractor shall place warning signs at intervals of approximately ten feet. The warning signs for work areas shall be approximately one foot six inches square with a yellow background and one inch black letters. Signs shall read: "DANGER - KEEP OUT - TOXIC CHEMICAL WORK AREA."

E. Protective measures shall be provided in connection with the transport of PCB materials within the building over for the entire pathway to the exterior elevators to the transporting vehicle.

F. Protective Clothing and Equipment: At all times when PCB materials in any volume are not sealed in drums, containers, or electrical equipment, workers shall wear:

1. Disposable, nonporous gloves.

2. Disposable whole-body clothing impermeable to PCB's.

3. Respiratory protection (NIOSH/MSHA-approved) against organic vapors and particulates (at least the level of particulate protection required at that stage of work for asbestos protection).

4. Eye protection.

5. Hard hats.

G. The Contractor shall provide protective clothing, eye protection, and respiratory protection as required for inspection personnel monitoring work activities within the work area.

H. Personnel Protection and Procedures: The PCB work area shall at no time be left unattended after procedures have begun and until all ballasts and incidentals have been sealed in approved, properly labeled containers. If immediate transportation to the PCB incineration facility is not feasible, the Work Area must be secured in a manner in accordance with Federal, State and local rules and regulations. During procedures and at all times when PCB ballasts or mixtures in any volume are not sealed in drums, containers, or electrical equipment, all personnel entering the work area must don protective clothing and equipment as listed herein. Upon exiting the work area, all disposable protective clothing shall be placed in approved drums, sealed, and disposed of as specified herein.

I. Workers with cuts or scratches shall protect these wounds before entering the work area. Similarly, workers who accidentally incur minor cuts or scratches in

the course of work activities shall leave the work area, cleanse the wound with medical grade soap, and seal the wound before returning to the work area.

J. The Contractor shall develop a sequenced plan for the completion of all PCB related work and submit this plan in advance of such work to the following Owner's Representative. The plan shall address the following items:

1. Lists of vehicles, equipment, and personnel to be used in accomplishing the work.

2. The emergency spill plan, which shall encompass all steps the Contractor will take in the event of a spill or other emergency.

3. Safety procedures, which shall cover all phases of operations, including but not limited to, handling, loading, transporting, securing PCB loads, and first aid procedures.

END OF SECTION 02 84 30

SECTION 02 85 00 - REMOVAL OF MERCURY CONTAINING FLUORESCENT LIGHT TUBES

PART 1.0 - GENERAL

1.1 DESCRIPTION OF WORK:

A. The Contractor shall remove, package, transport, and dispose of the mercury vapor-containing fluorescent light tubes (lamps) from fluorescent light fixtures throughout the building (ONLY FOR OLDER FLUORESCENT FIXTURES AND RECESSED CEILING FIXTURES, NOT SCHEDULED TO BE REUSED), in accordance with all Federal, State, and local rules and regulations. The Contractor is responsible for all of the costs associated with the removal, packaging, and transportation and disposal.

B. The work, in general, includes, but is not limited to, the following (ONLY FOR OLDER FLUORESCENT FIXTURES AND RECESSED CEILING FIXTURES, NOT SCHEDULED TO BE REUSED):

1. Partial dismantling of light fixtures and separation of lamps to permit removal.

2. Cleaning of any PCB or asbestos contamination on fixtures surfaces.

3. Providing and implementing spill prevention control and countermeasure plans.

4. Placement of the light tubes generated as a result of work activities, into approved containers/drums.

5. Transportation of the light tubes to the off-site recycling facility.

6. Provide properly completed Waste Manifest Form/Waste Shipment Record.

7. Provide name and location of recycling facility (or disposal facility) licensed to accept this waste.

C. All work activities to be accomplished under this section shall be closely coordinated with asbestos abatement work to minimize potential toxic exposure.

D. Prior to commencing this work, thoroughly inspect the Work Area and prepare a construction schedule, which lists anticipated time frames and sequence of operations for the various work activities. The construction schedule shall include activities such as contamination clean up, and removal of fluorescent lamps from the work area. The construction schedule shall also include routing for items to be removed from the Work Area and transported to the Disposal Site. Work activities, sequence of work, and routing scheme shall be transmitted to the Designer prior to the commencement of any work under this section.

1.2 APPLICABLE PUBLICATIONS:

A. The applicable sections, latest editions and addenda of the following government regulations, codes, industry standards and recommended practices, form a part of these specifications. Nothing in these specifications is to be construed as permitting work not conforming to these requirements:

1. USEPA - United States Environmental Protection Agency
2. NEC - National Electrical Code
3. NEMA - National Electrical Manufacturers Association
4. RCRA - Resource Conservation and Recovery Act
5. TSCA - Toxic Substances and Control Act
6. DOT - Department of Transportation
7. Louisiana Department of Environmental Quality
8. OSHA - Occupational Safety and Health Administration
9. NFPA - National Fire Protection Association
10. All other applicable Federal, State, Country and city codes, standards and regulations.

The Contractor is cautioned that he is responsible for ascertaining the extent to which these regulations affect the operations under these Contract Documents and to comply therewith.

1.3 DEFINITIONS:

A. Refer to Section 02 82 10 for terms and definitions used in these Contract Documents.

1.4 SUBMITTALS:

A. Refer to Section 02 82 10 and this Section for Contractor Submittal requirements.

1.5 RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION:

A. Refer to paragraph 3.6 of this Section for Contractor respiratory and personnel protection and decontamination requirements.

1.6 WASTE DISPOSAL:

A. Refer to Paragraph 3.5 of this Section for Contractor waste disposal requirements.

PART 2.0 - PRODUCTS

2.1 GENERAL REQUIREMENTS:

A. The Contractor shall deliver all materials and equipment to the site in the original containers bearing the name of the manufacturer, and details for proper storage and usage.

B. All materials or equipment delivered to the site shall be unloaded, temporarily stored, and transferred to the Work Area in a manner which shall not interfere with the operations of the building occupants.

C. Unloading and temporary storage sites, and transfer routes, must be approved in advance by the Designer.

D. Damaged or deteriorated materials may not be used and must be promptly removed from the premises.

E. Techniques, procedures, and equipment required by these specifications may be covered by one or more U.S. and/or foreign patents. It is the sole responsibility of the Contractor to determine what, if any, patents are applicable and to meet the requirements of the patent owner including fees regarding the use of these patents.

2.2 MATERIALS, TOOLS, AND EQUIPMENT:

A. All materials, tools, and equipment must comply at a minimum with this specification, and relevant Federal, State, and local codes. For the construction of containment barriers, work platforms, and Decontamination Facilities, all lumber and plywood shall be fire retardant. Flame resistant polyethylene film shall conform to requirements set forth in the National Fire Protection Association, shall be fire retardant, and shall bear manufacturer's stamp of UL Classification.

PART 3.0 – EXECUTION

3.1 GENERAL:

A. The requirements and sequences described herein are execution parameters for the removal work and do not include necessarily all removal requirements. The Contractor will be responsible for all items that may be necessary to complete the removal work in accordance with the Work Plan, Scope of Work, and all

applicable regulations.

3.2 SPENT FLUORESCENT LAMP REMOVAL:

A. The Contractor shall remove the lamps from the fluorescent fixtures in a well-ventilated Work Area. The lamps shall be removed from the fixtures and placed in approved containers or barrels. Containers shall be constructed in a manner that will permit the transportation of the lamps without breakage.

B. Once all the lamps have been placed in the approved containers, the containers shall be decontaminated as necessary and placed in a lockable storage container.

C. The Contractor shall arrange for transportation to the disposal site.

3.3 SPILL CLEAN-UP, CONTAINERIZATION AND MARKING:

A. Clean up of Work Area:

1. Equipment and Tools: After the last lamp has been separated from the electrical fixture, all tools and equipment used in the work shall be decontaminated and properly stored.

3.4 CONTAINERIZATION AND MARKING:

A. All lamps generated as a result of work activities and clean-up operations shall be placed in the approved containers and placed in a lockable storage container to be transported to the pre-approved disposal facility.

B. All containers shall be permanently marked as to specific contents and dated in accordance with Federal, State, and local rules and regulations.

3.5 HANDLING AND TRANSPORTATION TO OWNER'S OFF-SITE/TEMPORARY STORAGE AREA:

A. Handling of Containers: All containers shall be sealed and marked prior to loading on the transport vehicle. Containers shall be loaded on the transport vehicle by any of the following methods:

1. By hoist or lift truck utilizing a two-point drum lifter.

2. By a lift truck lifting the drums from underneath by a pallet attached to the drum by a banding arrangement.

B. Containers shall not be lifted by: Any rope, chain or cloth slings tied about the container, placement of containers on bare-lift truck forks, forcing container

between forks of a lift truck, or any commercial container lift exerting force on the sides of a container.

C. All containers shall be secured to the transport vehicle to prevent movement in transit.

D. All lamps shall be transported to the pre-approved disposal facility.

E. The Contractor shall utilize a waste hauler licensed for the transportation and hauling of hazardous wastes. The Contractor shall provide a routing plan, which clearly identifies the routes proposed to follow from the Work Area (points of generation) to the Owner's off-site temporary storage area. A minimum of two operators shall be in attendance at all times when items are being loaded and unloaded.

F. Vehicles used for transporting lamps must be plainly and visibly marked in accordance with Federal, State and local rules and regulations.

G. Unloading, Records, and Placement in Storage: Transport vehicles shall be unloaded utilizing the same equipment and methods as for loading.

H. Upon completion of all work-related activities, the Contractor shall provide a complete record of such activities to the Owner’s Representative. The record shall include but not be limited to:

1. Name of the Contractor performing the work outlined in this Section and technician in charge.

2. Lamps removed:

    a. Date removed from service and location
    b. Number of lamps

3. Containers:

    a. Container size and type.

    b. Identification of contents.

    c. Weight in kilograms of contents of the container and number of containers.

    d. Date items were transported to pre-approved disposal facility.

4. Completed Waste Manifest Form/Waste Shipment Records and Chain-of-Custody Forms shall be presented to the Owner’s Representative within three days from the time the lamps are transported to the disposal site and included within the close out report

3.6 SAFETY PROCEDURES AND WORKER PROTECTION:

A. Take all precautions and measures required to protect employees, related trade employees, inspection personnel, and the general public from exposure to mercury vapor and glass.

B. All electrical equipment upon which related activities are to be performed shall be permanently disconnected from any power source prior to commencing any work.

C. Work Area Protection and Marking: Prior to commencing any work activities, provide barricades and warning signs to clearly identify and effectively guard against unauthorized entry into the Work Area.

D. All equipment shall be confined to the Work Area until the work is complete and containers are sealed, and equipment properly and safely stored for transport.

1. Barricades: If approved asbestos-related temporary enclosures are in use, no additional enclosures need to be constructed.

2. Signs: During this work phase, the Contractor shall place warning signs at intervals of approximately ten feet, warning signs. The warning signs for Work Areas shall be approximately one foot six inches square with a yellow background and one-inch black letters. Signs shall read: "DANGER - KEEP OUT - TOXIC CHEMICAL WORK AREA. "If approved asbestos-related temporary enclosures are in use, no additional signs are needed.

E. Protective measures shall be provided for the transporting of materials within the building for the entire pathway to the exterior elevators to transporting vehicle.

F. Protective Clothing and Equipment: When handling fixtures and lamps:

1. Disposable, nonporous gloves

2. Disposable whole-body clothing impermeable to PCB's.

3. Respiratory protection (NIOSH/MSHA approved) against organic vapors and particulates (at least the level of particulate protection required at that stage of work for asbestos protection).

4. Eye protection

5. Hard Hats

G. The Contractor shall provide protective clothing, eye protection, and respiratory protection as required for Inspection Personnel monitoring work activities within the work area.

H. Personnel Protection and Procedures: The Work Area shall at no time be left

unattended after procedures have begun and until all lamps and incidentals have been placed in the properly labeled containers. If immediate transportation to the Owner's temporary storage area is not feasible, the Work Area must be secured in a manner in accordance with Federal, State and local rules and regulations. All personnel entering the Work Area must don protective clothing and equipment listed herein. Upon exiting the Work Area, all disposable protective clothing shall be placed in approved drums, sealed, and disposed of as specified herein.

I. Workers with cuts or scratches shall protect these wounds before entering the work area. Similarly, workers who accidentally incur minor cuts or scratches in the course of work activities shall leave the Work Area, cleanse the wound with medical grade soap and seal the wound before returning to the Work Area.

J. The Contractor shall develop a sequenced plan for the completion of this work and submit this plan in advance of such work to the following Owner’s Representative. The plan shall address the following items:

1. Lists of vehicles, equipment, and personnel to be used in accomplishing the work.

2. Handling procedures and type of containers to be used.

3. Safety procedures shall cover all phases of operations including, but not limited to, handling, loading, transporting, disposal, securing loads and first aid procedures.

END OF SECTION 02 85 00

SECTION 075200 - MODIFIED BITUMEN MEMBRANE ROOF SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Modified bitumen membrane roof system – torch applied two-ply styrene-butadiene-styrene (SBS) system with respective cap sheets.

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1.2 PERFORMANCE REQUIREMENTS AND SYSTEMS DESCRIPTION

A. General: Provide installed roofing membrane and base flashings that remain watertight; do not permit the passage of water; and resist specified uplift pressures, thermally induced movement, and exposure to weather without failure.

B. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by roofing manufacturer based on testing and field experience.

C. Wind Uplift Resistance: Roofing system which will achieve the required uplift resistance as calculated in accordance with ASCE 7-05 or as listed in the current FM Approval Guide. Corners and perimeter areas shall be calculated in accordance with ASCE 7-05. Additionally, the manufacturer will supply a wind rider to the 20 year NDL guarantee that covers the local area on the most current wind map.
   1. Subject to confirmation by the roof manufacturer's Delegated Design Engineer, provide fastening for wind uplift as follows:
      a. Basic Wind Speed: 120 mph
      b. Field: -57 psf
      c. Perimeter: -66.5 psf
      d. Corner: -66.5 psf
   2. Delegated Design for Wind Uplift Requirements: Engage licensed structural engineer to submit calculations demonstrating compliance with ASCE-7 for the roof systems in this project.

D. Roof Systems, Description: Provide the following roof membrane components at the following locations. Components are listed from the deck substrate up.
   1. Dome Roof
      a. Deck Substrate: Tectum
      b. Vented base sheet, fastened to Tectum substrate.
      c. Base/interply membrane, torch applied to base sheet.
      d. Coated foil-faced cap sheet, torch applied.
   2. Lower Roofs (low-slope)
      a. Deck Substrate: Metal deck.
      b. Tapered rigid insulation, fastened to metal deck. Provide positive drainage, with no ponding water more than 48-hours. Thicknesses as follows:-
         1) Minimum 2-layers of 3/4-inch thick boards, exclusive of underlayment board, at low point of roof.
      c. Interply membrane, torch applied to underlayment board.
      d. Cap sheet with granulated surface, torch applied.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: Roof system manufacturer shall have been in business manufacturing in the United States a minimum of 5 years, and the roofing system has been applied for 5 years in the same type climatic zone as the geographic location. Roof system by roof manufacturer shall have been submitted and with Owner's approval obtained in advance of and prior to project bid.
   1. Single Source Responsibility: Provide primary products, including each type of roofing membranes, bitumen and flashings, by a single manufacturer.
   2. Secondary products shall only be as recommended by manufacturer of primary products for use with roofing system specified.
   3. Product Quality Assurance Program: Primary roofing materials manufactured under a quality control/quality assurance program that is monitored regularly by a third party auditor such as ISO 9002 audit process, or in-house quality assurance program with batch certificate of analysis. A certificate of analysis for reporting/confirming the tested values of the actual material being supplied for the project will be required prior to project close-out.

B. Material Safety Data Sheet/Sheets (MSDS): Roof system manufacturer's MSDS, incorporating OSHA approved form, current edition. Sheets shall be available at the site at all times until project completion.

C. Roof system UL and FM Class A fire rated. Tested by and meeting ASTM D5147-91.

D. Roofing Contractor Qualifications: A single Roofing Contractor shall perform the work of this section; and shall be a firm with roof manufacturer's highest level of certification and with not less than 5 years of successful experience in installation of roofing systems similar to those required for this project.

E. Roofing Contractor Qualifications: A single Roofing Contractor shall perform the work of this section; and shall be a firm meeting the requirements specified herein.
   1. Roofing Contractor Certification: Obtain written certification from manufacturer of roof system certifying that Roofing Contractor is approved by manufacturer for installation of specified roofing system, including insulation. Submit with bid form, using the form provided.

F. Roofing Contractor's Field Supervision: Maintain full-time supervisor/foreman on jobsite during times that roofing work is in progress. Supervisor must have minimum of 5 years experience in roofing work similar to nature and scope to specified roofing.

G. Pre-Application Roofing Conference: Approximately one week prior to scheduled commencement of roofing installation and associated work and after Pre-Construction meeting described in Division 1, meet at project site with Roofing Contractor, installer of each component of associated work, installers of deck or substrate construction to receive roofing work, installers of roof-top units and other work in and around roofing which must precede or follow roofing work (including mechanical work if any), roofing system manufacturer's representative, and other representatives directly concerned with performance of the work including (where applicable) Owner's insurers, test agencies, and governing authorities. Record (by Architect) discussions of conference and decisions and agreements (or disagreements) reached and furnish copy of record to each party attending. Review foreseeable methods and procedures related to roofing work, including but not necessarily limited to the following:

1. Tour representative areas of roofing substrates (decks), inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work performed by other trades.
2. Review roofing system requirements (drawings, specifications and other contract documents).
3. Review required submittals, both completed and yet to be completed.
4. Review and finalize construction schedule related to roofing work and verify availability of materials, Installer's personnel, equipment and facilities needed to make progress and avoid delays.
5. Review required inspection, testing, certifying and material usage accounting procedures.
6. Review weather and forecasted weather conditions, and procedures for coping with unfavorable conditions, including possibility of temporary roofing (if not a mandatory requirement).

1.4 SUBMITTALS

A. Prior to Pre-Construction Conference: Submit the following prior to the Pre-construction conference:-
   1. Roof Manufacturer’s Certification: Complete and submit Roof Manufacturer’s Certification, use the form attached to this specifications section.
   2. Installer Certification: Letter from the manufacturer, stating that installer is trained and certified to install the roof system, and eligibility to obtain the warranty specified in this section.

B. Product Data: Submit manufacturer's technical product data, installation instructions, pertinent details, and recommendations for each type of roofing product required. Include data substantiating that materials comply with requirements, such as fastener type and spacing for rating of roof system required.

C. Tapered Insulation System - Shop Drawings: Manufacturer's shop drawing(s) showing thicknesses, roof slope, sections, number of layers of insulation.

D. Wind Uplift Calculations: Submit calculations showing field, perimeter and corner uplift readings for each roof area. Calculations may be on ASCE worksheets, and shall be certified by a professional engineer, licensed in this State.

E. Warranties and guarantees are described elsewhere in this section.

F. Roof Replacement Work Plan - Dome Roof: Submit proposed stages of work on scaled roof plan(s), showing sequence of each section or area of roof to be removed and replaced. Work for each section must be completed, before proceeding to the next section sequenced in a manner to prevent traffic after completion.

1.5 JOB CONDITIONS

A. Weather Condition Limitations: Proceed with roofing work only when existing and forecasted weather conditions will permit work to be performed in accordance with manufacturer's recommendations and warranty requirements.

B. Temporary Roofing: When adverse job conditions or weather conditions prevent permanent roofing and associated work from being installed in accordance with requirements, and it is determined by Contractor that roofing cannot be delayed because

of need for job progress or protection of other work, proceed with installation of temporary roofing. Provide temporary roofing and remove it prior to proceeding with permanent roofing work.

C. Fire Extinguishers: Provide fire extinguishers of proper size and rating. Locate one at each area of work operations.

D. Roof Drains and / or Downspouts: Plug roof drains, prior to beginning of each day's roofing installation. Remove plugs at the end of each day's work.
   1. Existing Roof Drains / Downspouts - Low Slope Roofs:
      a. Clear and unclog existing drains.
         1) Existing roof drains at low slope roofs are clogged with vegetation and debris. Clear and unclog roof drains.
         2) After clearing and unclogging, verify these roof drains are unclogged by testing with running water. Provide a minimum advance notice of 48 hours, and perform in the present of the Architect.
      b. At the end of roofing work of each roof area, test each roof drain and or downspout with running water to verify that they are working properly.

E. Small Tools, Implements, Equipment, Fabricated Items and Materials Relating to Roof Work: At the end of each work period or day, remove these items from the roof. Such items can be blown off the roof and potentially causing damage to surrounding areas. Therefore, they must be removed and properly stored off the roof.

F. Perform work in a manner such that workers and equipment will not traverse over areas of completed roofing.

G. Where torch applications of membrane are performed, provide extended fire watch to these areas.

1.6 PRODUCT HANDLING

A. Store and handle roofing sheets and materials in a manner that will ensure that there is no possibility of significant moisture pick-up.
   1. Store materials, such rigid insulation boards and underlayment materials, in a dry well ventilated weather-tight place.
   2. Store materials, such as rolls of roof membranes, in a dry well ventilated weather-tight place.
   3. Provide enclosed trailers, or other means acceptable to Architect, for storing materials on the project site.
   4. Do not leave unused membranes, insulation and underlayment boards, on the roof overnight or when roofing work is not in progress.
   5. Store rolls of membranes and other sheet materials on end on pallets or other raised surface. Provide protective membrane to prevent pick up of ground moisture.

B. Handle and store materials or equipment in a manner to avoid significant or permanent deflection of roof deck.

C. Bring only amount of materials onto the roof to be installed for the particular roofing period. Return excess materials to proper storage to keep these items dry.

1.7 MAINTENANCE AGREEMENT & MANUFACTURER'S WARRANTEES

A. Roof Service Guarantee: The roofer shall furnish the Owner a roof service guarantee against leaks from faulty or defective materials and workmanship for a period shown on the guarantee, starting on the date of the Owner's Final Acceptance of the project.
   1. Form: Service guarantee shall be in the exact form attached at the end of this Section.
   2. Number of Copies: Submit 2 copies, with original signatures by all parties.

B. Roof Manufacturer's Guarantee:
   1. A separate guarantee shall be furnished by the manufacturer of the materials of the roofing system. Term of guarantee: 20 years.
   2. Sample forms of the guarantees of each roof system shall be delivered to the Architect from the manufacturer through the Contractor. The manufacturer is to include a list of all component parts of the roofing systems that shall be guaranteed.
   3. The Roofing Manufacturer's Guarantee shall guarantee at the manufacturer's own cost and expense, to make or cause to be made such repairs to or replacement of, to correct any and all faulty installations or materials of the roofing systems, to keep the roofing systems in a watertight condition throughout the guarantee period. The guarantee shall not be prorated. Deliver executed guarantee to the Architect in 2 original counterparts prior to acceptance of the Work.
   4. The definition of the roofing system is the materials and methods used from the deck up. Excluded are metal counter flashing, edging, caps and copings, vent covers (pre-manufactured) and roof drain assemblies unless items are included by prior approval of the Owner in which case included items will be specified as inclusive.

1.8 CONDITION OF ACCEPTANCE

A. The project will not be accepted until the Roofing Contractor's Guarantee, executed in strict accordance with Contract Documents and data have been submitted and accepted by the Owner.

1.9 INSPECTIONS BY ROOF MANUFACTURER'S REPRESENTATIVE

A. Owner requires the Roof Manufacturer's authorized technical representative to make visits to the project at the following events at a minimum:
   1. Pre-construction and Pre-roofing conference.
   2. Periodical visits and attendance requested at project meetings during roof application.
   3. Inspection of completed roofing work for acceptance.
   4. Inspection toward the end of the roofer's Service Guarantee.
   5. Inspection toward the end of the Manufacturer's Guarantee.

PART 2 - PRODUCTS

2.1 APPROVED MANUFACTURERS AND SYSTEMS

A. Manufacturers and Roof Systems: Subject to conformance with requirements specified, the following manufacturer's systems and respective membrane components are approved for this project.

B. Roof Systems:
1. Dome Roof
a. Siplast, Inc.
1) Roof System:
a) Base Sheet: Parabase FS, manufacturer's vented base sheet.
b) Base Ply/Interply Membrane: Irex 40.
c) Cap Sheet: Veral Polar White Spectra.
d) Membrane at Gutter Liner: Parafor 50 LT.
2) Flashings:
a) Base Flashing Membrane: Veral Polar White Spectra, torch applied.
b) Interply Membrane Flashing: Same as interply membrane, unless otherwise recommended by manufacturer.
c) Additional Reinforcing Ply: Parafor 50 LT.
b. Soprema Roofing and Waterproofing, Inc.
1) Roof System:
a) Base Sheet: Channel Vent manufacturer's vented base sheet.
b) Interply Membrane: Sopralene Flam 180
c) Cap Sheet: Soprastar Flam, Energy Star
d) Membrane at Gutter Liner: Sopralene 250 Flam FR GR
2) Flashings:
a) Base Flashing Membrane: Sopralast TV Alum (top ply)
b) Interply Membrane Flashing: Same as interply membrane, unless otherwise recommended by manufacturer.
c) Additional Reinforcing Ply (where indicated in Drawings): Sopralene 250 Flam FR GR
2. Low-Slope Roofs
a. Siplast, Inc.
1) Roof System:
a) Interply Membrane: Paradiene 20 TG.
b) Cap Sheet: Paradiene 30 FR TG
2) Flashings:
a) Base Flashing Membrane: Veral Aluminum.
b) Interply Membrane Flashing: Same as interply membrane, unless otherwise recommended by manufacturer.
b. Soprema Roofing and Waterproofing, Inc.
1) Roof System:
a) Interply Membrane: Sopralene Flam 180.
b) Cap Sheet: Sopralene 180 Granules FR GR.
2) Flashings:
a) Base Flashing Membrane: Sopralast TV Alum (top ply).
b) Interply Membrane Flashing: Same as interply membrane, unless otherwise recommended by manufacturer.

2.2 TAPERED INSULATION SYSTEM

A. Tapered Insulation System: Factory-tapered insulation boards.
1. Insulation: Polyisocyanurate board; ASTM C 1289, Type II, felt or glass-fiber mat facer on both major surfaces, for fastened installation.
2. Thicknesses: Manufacturer's standard thicknesses to provide positive slope to meet elevations required. Provide minimum 2 layers of insulation.

2.3 UNDERLAYMENT/RECOVERY/COVER BOARDS

A. General: Underlayment board as recommended by roof system manufacturer.
   1. Non-combustible, perlite/fiber boards, minimum 3/4 inch (19 mm) thickness, with k-value of 0.36 (0.05 w/m^2C) at 75 ^{0}F (24 C), integrally skinned surfaces. Comply with ASTM C728-82. Manufacturer's standard sizes.
   2. 1/2-inch (13mm) thick DensDeck BY Georgia-Pacific; or equivalent products by US Gypsum, National Gypsum.
   3. Underlayment board type as recommended by roof system manufacturer.

2.4 OTHER ROOF SYSTEM COMPONENTS

A. Granules: Ceramic. Conforms to ASTM D 451 and D 452.
   1. Color: White.

B. Flashing/Roofing Cement: Flow resistant, ASTM D4586, Type II; or type as recommended by manufacturer.

C. Primer: ASTM D41.

D. Aluminum Roof Coating: ASTM D2824, Type II without asbestos or Type III, manufacturer's premium grade product. Manufacturer's regular or commercial grade product is not acceptable.

E. Fasteners:
   1. For Securing Base Sheet to Roof Deck Substrate: Industry-standard types of mechanical fasteners, tested and recommended by manufacturer for required pull-out strength meeting the requirements of Factory Mutual 1-48 where applicable and compatible with deck type and roofing products used.
      a. Fasteners for respective Roof System Manufacturers above
         1) ParaLok by Siplast.
         2) As recommended by Soprema.
   2. For Securing Base Flashing Membrane: Either 1-inch (25 mm) diameter nail heads or 1-3/8 inch (35 mm) diameter x 30-gage (0.32 mm) sheet metal caps for nails.
   3. Nails: Hot-dip galvanized, size required for securing items indicated.
   4. Screws: Stainless steel with metal and neoprene washers where heads are exposed.

F. Roof Manufacturer’s Liquid Flashing: Manufacturer’s recommended liquid flashing to protect roofing. Products: Parapro 123 by Siplast, or Alsan Flashing By Soprema.

2.5 MISCELLANEOUS MATERIALS

A. Tapered Edge Strips: Rigid perlite board, ASTM C728. Formed for edge conditions and crickets.

B. Fiber Cant: Perlite unless indicated otherwise.

C. Pre-molded Filler Strip: Asphalt-impregnated fiberboard, ASTM D1751-83.

PART 3 - EXECUTION

3.1 REMOVAL OF EXISTING MATERIALS

A. Removal, General: Refer to Division 2 Section - Selective Demolition.
   1. Remove existing roofing and related materials carefully to avoid damage to materials which are to remain. Remove aggregate, roofing membranes, base flashings, insulations, gravel guards, strip flashings, sheet metal flashings, etc., as shown on the drawings or as required to complete the installation of the new roofing and related items. The roof deck substrate must be even; remove protruding items, work flush and patch to achieve this. Do not damage the existing substrates which are to remain. Removed materials shall be removed from the building and roof daily.

B. Extent of Removal: No more materials shall be removed in a day than can be made weathertight in the same day.

C. Delays - Water Stops: Where there is a delay in placing new layers of roofing, immediately provide a water stop over the exposed edges of the existing roofing until new material is placed and roof is made watertight. Install water stop to seal exposed edges of the existing and new materials and the juncture between these materials as hereinafter specified.

D. Delays - Sheet Metal: Where there is a delay in placing sheet metal, protect exposed membrane flashings. Keep membrane flashings from displacement due to wind action by using continuous treated wood batten strips fastened over the length of the exposed membrane flashings, or other means subject to approval of the Architect. Locate the batten strips along area which would be covered by final sheet metal work. Repair fastener holes in membrane flashings after removal of the temporary protection.

3.2 INSPECTION OF SUBSTRATE

A. Inspection: Examine exposed substrates to receive roofing system and associated work and conditions under which roofing will be installed. Verify that substrates are in good condition and meets roof manufacturer's requirements.

B. Substrate at Dome Roof: Existing substrate is Tectum. Refer to Division 3 for product specified.
   1. Remove indicated extent deteriorated Tectum and replace with new.
   2. Additional deteriorated Tectum deck encountered, that are not indicated, shall be removed and replaced. This is covered as a Unit Price item.

C. Lower Roofs - Metal Deck: Clean, dry and apply rust-inhibitive prime coat.

D. Do not begin roofing work until exposed substrate is thoroughly cleaned, dried, repaired and prepared.

3.3 GENERAL INSTALLATION REQUIREMENTS

A. Protect other work from spillage of roofing materials and prevent liquid materials from entering or clogging drains and conductors. Replace/restore other work damaged by installation of roof system work.

B. Coordinate the installation of roofing membranes and flashings, so that roof is watertight before the end of each day's work. Provide cut-offs at end of each day's work, to cover

exposed membranes and insulation with a course of coated felt with joints and edges sealed with roofing cement. Remove cut-offs immediately before resuming work.

C. Coordinate the installation of roofing membranes, flashings, strippings, coatings and surfacings, so that nailers, blocking, penetrations, unflashed curbs and roof deck substrates are not exposed to precipitation nor exposed overnight. Provide cut-offs at end of each day's work, to cover exposed membranes and roof deck substrates with a course of coated felt with joints and edges sealed with roofing cement. Remove cut-offs immediately before resuming work.

D. Substrate Joint Penetrations: Do not allow bitumen to penetrate substrate joints and enter building.

E. Lay out roof area accurately for proper lap and sequence of membranes. Use chalk lines to lay out roofing membranes. Installed roofing membranes must be free from fishmouths, buckles, blisters or faulty workmanship.

F. Prime surfaces of wood nailers and sheet metal for receiving roofing materials.

G. Roll out membranes and lay out a minimum of 30 minutes before fastening.

H. Positive Drainage: Before and during roofing work, carefully examine and review the conditions of the substrate and determination that the final installed roof system will provide positive drainage. Work substrate to lower high areas, and provide additional substrate material, layers of insulation, layers of roof membrane, tapered strips, crickets, or other methods and materials to achieve overall positive drainage.
   1. There shall be no evidence of standing water on the completed roof installation 48 hours after rain has stopped.
   2. Provide flashing compound system as required and as directed to achieve positive drainage.

3.4 VENTED BASE SHEET INSTALLATION

A. Install on substrate fastened in pattern as recommended by manufacturer to meet, or recommended by manufacturer in manner installed to meet specified wind uplift requirements.

B. Unless otherwise required by manufacturer, make side laps of 2 inches (50 mm) and end laps of 4 inches (102 mm). Stagger end laps 18" (450 mm) minimum.

3.5 TAPERED INSULATION AND UNDERLAYMENT BOARDS

A. Install insulation to provide positive slope to roof drains. Comply with tapered roof system manufacturer's instructions and approved shop drawings.
   1. Inspect each piece of insulation. Do not install, and reject if found to be wet, damaged or warped.
   2. Install insulation boards snug. Gaps between board joints shall not exceed 1/4 inch (6 mm). Gaps in excess of 1/4 inch (6 mm) shall be filled with like insulation material.
   3. Do not kick insulation boards into place.
   4. Miter and fill the edges of the insulation boards at ridges, valleys and other changes in plane to prevent open joints or irregular surfaces. Avoid breaking or crushing of the insulation at the corners.

5. Do not install any more insulation than will be completely waterproofed each day.

B. Fasten first layer of insulation to metal deck with manufacturer's recommended type fasteners and spacing to comply with wind uplift requirements.
   1. Roof Perimeter Fastening: Unless roof manufacturer has more stringent requirements, provide minimum 50% additional fasteners 5-foot wide along perimeter and 10-foot square corner area of roof.. Space fasteners minimum of 6 inches at laps and 2 rows at 8 inches within base sheets based on FM Loss Prevention publications.
   2. Use only fasteners with a minimum 3 inch (76 mm) stress plate when mechanically attaching insulation. Do not attach insulation with nails.

C. Install subsequent layers of rigid insulation by fastening, in same manner for first layer to comply with wind uplift requirements. Stagger joints between rows, and between layers.

D. Shave down and work insulation around roof drains and other areas as required to accommodate thickness of roofing membrane and to achieve positive drainage.

E. Install underlayment board(s) in full coating of adhesive. Stagger joints between rows, and between layers.

F. Prime underlayment board(s) prior to installation of roofing membranes.

3.6 BASE [INTERPLY] MEMBRANE INSTALLATION

A. Torched Installation: Over installed base sheet, torch apply base/interply sheet, lapped (shingled) amount as required to form a continuous, uniform membrane. Roll out and install each ply to insure complete adhesion and the absence of air bubbles.

B. At vertical surfaces, run base membrane to the top of the cant strip and nail 8 inches (203 mm) o.c. At roof edges and protrusions, allow 6 inches (152 mm) extra base sheet for forming bitumen envelopes.

3.7 MEMBRANE INSTALLATION - GENERAL

A. Shingling: Except as otherwise indicated, install membrane layers with membrane sheets shingled uniformly to achieve required number of thickness of membrane throughout.
   1. Shingle in proper direction for positive drainage.

B. Torched Installation: Over the installed base/interplay, torch apply cap sheet, lapped (shingled) amount as required to form a continuous, uniform membrane. Roll out and install each ply to insure complete adhesion and the absence of air bubbles.

C. Roll Base/Interply Membrane Laps: As base/interply membrane is torched in place, apply seaming roller to ensure continuous adhesion, and to remove fishmouths and small openings at side laps.

D. Additional Layer, Re-inforcing Sheet: Provide at gutter and around curbs.

3.8 EDGES/PENETRATIONS AND ACCESSORIES

A. Provide folded-back envelope of either the base membrane or one ply of coated felt, where possible and where edge of membrane is not turned up on a cant strip or tapered edge strip.

B. Where envelope protection against flow of bitumen from membrane is not possible, provide a flanged metal sleeve or heavy seal-bead of roofing for cement at edge of membrane is cut for penetrations.

C. Seal joints of envelope with roofing cement.

D. Set-On Accessories: Where small roof accessories are set on roofing, set metal flanges in a full bed of roofing cement and seal penetration of membrane with bead of roofing cement.

3.9 MEMBRANE FLASHINGS

A. Base Flashings: Install minimum total of 4 layers of flashing and roof membranes over cant strips and other sloping and vertical surfaces, at roof edges, and at penetrations through roof.
   1. Extend base membrane up and over cant strip.
   2. Over this, install one layer of interply membrane flashing material by torch application. Extend interply membrane flashing a minimum of 4 inches (102 mm) horizontally onto the base membrane, and minimum 2-inches (50 mm) up vertical surface past cant strip and fasten to wood nailer.
   3. Then, apply roofing cap sheet and base flashing membrane. Extend surface layer of base flashing membrane horizontally a minimum 4 inches (102 mm) past interply flashing membrane, and 4-inches (102 mm) up vertical surface past cant strip and fasten to wood nailer.

B. Strip Flashings: Install minimum 2 layers of membrane flashings over metal flanges set on roofing base/interply membrane. Install one layer of interply membrane flashing by torch application. Extend interply membrane flashing a minimum of 6 inches (152 mm) out onto the roof base membrane past edge of sheet metal flange. Torch apply cap sheet membrane over this.

3.10 INSTALLATION OF ROOFING AT ROOF DRAINS

A. Set 30-by-30-inch (762 x 762 mm) square lead flashing sheet in bed of roofing cement on completed base membrane.

B. Prime lead sheet and cover with one layer of interply membrane flashing, extending a minimum of 4 inches (102 mm) beyond edge of lead flashing onto the base membrane.

C. Apply cap sheet membrane. Clamp roof cap sheet membrane, interply membrane flashing, sheet lead flashing and base membrane into roof drain clamping ring.

3.11 INSTALLATION OF TAPERED STRIPS

A. Install in a solid bed of flashing cement.

3.12 LIQUID FLASHINGS

A. Apply roof manufacturer's liquid flashing, in strict accordance with manufacturer's instructions, contiguously around base and up vertical surfaces of roof curbs and sheet metal flashings at penetrations.

3.13 FIELD TESTING

A. Prior to application of cap sheet of roofing work, notify Architect in advance to schedule a Non-Destructive Evaluation (NDE) test for moisture detection using a Tremex moisture detection device.

B. Test Report: Testing agency/tester shall submit written report of results of the test to the contractor, Architect and Owner.
   1. Owner will pay for testing services.

C. Should installed roof areas be found to contain unacceptable levels of moisture, provide corrective action to unsatisfactory work, such as, removal of unacceptable installation and providing new work in compliance with project requirements.

D. After providing corrective action, notify re–test the area that has been re-worked.

3.14 PROTECTION OF ROOFING

A. Protect roofing during remainder of construction period. Do not allow traffic and workers to traverse over completed areas of roofing.

B. Repair or replace (as required) deteriorated or defective work found at time of above inspection to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

END OF SECTION 075200

SECTION 076000 - SHEET METAL FLASHING AND TRIM

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes fabricated sheet metal items for roofing work, but is necessarily not limited to, the following:
   1. Roof perimeter edge-fascia and trim
   2. Flashing at roof penetrations and equipment curbs.
   3. Miscellaneous sheet metal accessories.

B. Related Sections:
   1. Division 7 Section "Joint Sealants" for elastomeric sealants.
   2. Division 7 Section Roofing

1.2 PERFORMANCE REQUIREMENTS

A. General: Install sheet metal flashing and trim to withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failing.

B. Fabricate and install flashings at roof edges to comply with recommendations of FM Loss Prevention Data Sheet 1-49 for the following wind zone:
   1. Wind Zone 1: Wind pressures of 21 to 30 psf (1.00 to 1.44 kPa).

1.3 SUBMITTALS

A. Product Data: Submit product data of each type of sheet metal with information showing compliance with project requirements.

B. Samples - Prefinished Sheet Metal: Submit samples for verification of match with existing color.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: Engage an experience Installer who has completed sheet metal flashing and trim work similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.

B. Mockups: Prior to installing sheet metal flashing and trim, construct mockups to verify and to demonstrate aesthetic effects as well as qualities of materials and execution. Build mockups to comply with the following requirements, using materials indicated for final unit of Work.
   1. Locate mockups on-site in the location and of the size indicated or, if not indicated, as directed by Architect.
   2. Notify Architect one week in advance of the dates and times when mockups will be constructed.
   3. Demonstrate the proposed range of aesthetic effects and workmanship.
   4. Construct mockups for the following type of sheet metal flashing and trim:
      a. Fabricated one-piece units at corner and transitions.

5. Obtain Architect's approval of mockups before start of final unit of Work.
6. Retain and maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
    a. Approved mockups in an undisturbed condition at the time of Substantial Completion may become part of the completed Work.

1.5 PROJECT CONDITIONS

A. Coordinate Work of this Section with interfacing and adjoining Work for proper sequencing of each installation. Ensure best possible weather resistance, durability of Work, and protection of materials and finishes.

PART 2 - PRODUCTS

2.1 METALS

A. Pre-finished Zinc/Galvalume-Coated Sheet Steel: Commercial quality with 0.20% copper, ASTM A 525 except ASTM A 527 for lock-forming, G90 hot-dip galvanized or manufacturer's galvalume-coated, 24 gage (0.6 mm) except as otherwise indicated. Finish exposed side with Kynar based flouropolymer coating 1.0 ± 0.1 mil (0.002 mm) total dry film thickness with 0.3-0.4 (0.0008 mm) mil dry film thickness on reverse side.
    1. Color to match existing.
    2. Subject to compliance with project requirements, provide products - Colorclad by Vincent Metals, Petersen Aluminum, McElroy, or approved equal.

2.2 MISCELLANEOUS MATERIALS AND ACCESSORIES

A. Fasteners: Provide only stainless steel.
    1. Screws: Type 302/304 stainless steel, the best type for the application. Include neoprene washers at exposed screw fasteners.
    2. Nails: Stainless steel, minimum 12 gauge (2.5 mm) with large flat head annular or spiral thread type shank of sufficient length to penetrate substrate a minimum of 7/8 inch (22 mm).
    3. Rivets: Type 302/304 stainless steel.

B. Asphalt Mastic: SSPC-Paint 12, solvent-type asphalt mastic, nominally free of sulfur and containing no asbestos fibers, compounded for 15-mil (0.4-mm) dry film thickness per coat.

C. Elastomeric Sealant: Generic type recommended by sheet metal manufacturer and fabricator of components being sealed and complying with requirements for joint sealants as specified in Division 7 Section "Joint Sealants."

D. Metal Accessories: Provide sheet metal clips, straps, anchoring devices, and similar accessory units as required for installation of Work, matching or compatible with material being installed; non-corrosive; size and thickness required for performance.

2.3 FABRICATION, GENERAL

A. Sheet Metal Fabrication Standard: Fabricate sheet metal flashing and trim to comply with recommendations of SMACNA's "Architectural Sheet Metal Manual" that apply to the design, dimensions, metal, and other characteristics of the item indicated.

B. Comply with details shown to fabricate sheet metal flashing and trim that fit substrates and result in waterproof and weather-resistant performance once installed.

C. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

D. Form exposed sheet metal Work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems.

E. Expansion Provisions: Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection. Where lapped or bayonet-type expansion provisions in Work cannot be used or would not be sufficiently weatherproof and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch (25 mm) deep, filled with mastic sealant (concealed within joints).

F. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards.

G. Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces at locations of contact with asphalt mastic or other permanent separation as recommended by manufacturer.

H. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not allowed on faces of sheet metal exposed to public view.

I. Fabricate cleats and attachment devices from same material as sheet metal component being anchored or from compatible, non-corrosive metal recommended by sheet metal manufacturer.
   1. Size: As recommended by SMACNA manual or sheet metal manufacturer for application but never less than thickness of metal being secured.

J. Corners and Intersections: Fabricate and continuously solder seams to provide one-piece formed metal units at corners and intersections.
   1. Miter at each corner condition.
   2. Pre-finished Metal: Rivet lap seam and apply sealant continuously between laps.
      a. At the outside corner of the drip, provide folded metal bridge to span the open corner. Solder bridge piece to each side of the within hem of drip.
      b. Extend each leg of the formed metal component up to 24-inches (610 mm), unless indicated otherwise, and provide an expansion joint before continuation of the flashing.

K. Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with industry standards.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions under which sheet metal flashing and trim are to be installed and verify that Work may properly commence. Make corrections to unsatisfactory conditions.

3.2 INSTALLATION

A. General: Unless otherwise indicated, install sheet metal flashing and trim to comply with performance requirements, manufacturer's installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Anchor units of Work securely in place by methods indicated, providing for thermal expansion of metal units; conceal fasteners where possible, and set units true to line and level as indicated. Install Work with laps, joints, and seams that will be permanently watertight and weatherproof.

B. Install exposed sheet metal work that is without excessive oil canning, buckling, and tool marks and that is true to line and levels indicated, with exposed edges folded back to form hems. Install sheet metal flashing and trim to fit substrates and to result in waterproof and weather-resistant performance. Verify shapes and dimensions of surfaces to be covered before fabricating sheet metal.

C. Workmanship: Form sheet metal accurately to the dimensions and shapes required. Finish molded and broken surfaces with true, sharp and straight lines and angles. Where intercepting other members, cope to an accurate fit and solder securely. Unless otherwise specifically permitted by the Architect, turn exposed edges back 1/2 inch (13 mm).

D. Weatherproofing: Finish watertight and weathertight. Make lock seam work flat and true to line and sweated full of solder. Make lock seams and lap seams, when soldered at least 1/2 inch (13 mm) wide, except that aluminum is to be welded. Where lap seams are not soldered or welded, lap according to pitch but in no case less than 3 inches (76 mm). Make flat and lap seams in direction of flow.

E. Joints: Join parts with rivets or sheet metal screws where necessary for strength of stiffness. Provide suitable watertight expansion joints as indicated on the Drawings or required for proper installation.

F. Nailing: Wherever possible, secure metal by means of clips or cleats without nailing through the metal. Unless indicated otherwise, space nails, rivets and screws not more than 8 inch (203 mm) apart and, where exposed to the weather, use lead washers. Nail into wood with barbed roofing nails 1-1/4 inch (32 mm) long by 11 gauge (3.2 mm) through flat tin discs. Fastening masonry with expansion type anchors.

G. Roof-Edge Flashings: Secure metal flashings at roof edges according to FM Loss Prevention Data Sheet 1-49 for specified wind zone.

H. Expansion Provisions: Provide for thermal expansion of exposed sheet metal Work. Space movement joints at maximum of 10 feet (3 m) with no joints allowed within 24 inches (610 mm) of corner or intersection.

I. Sealed Joints: Form non-expansion, but movable, joints in metal to accommodate elastomeric sealant to comply with SMACNA standards. Fill joint with sealant and form metal to completely conceal sealant.
   1. Use joint adhesive for non-moving joints specified not to be soldered.

J. Seams: Fabricate nonmoving seams in sheet metal with flat-lock seams. Tin edges to be seamed, form seams, and solder.

K. Separations: Separate metal from non-compatible metal or corrosive substrates by coating concealed surfaces, at locations of contact, with asphalt mastic or other permanent separation as recommended by manufacturer.

3.3 METAL FLASHINGS AND COUNTERFLASHINGS

A. Unless otherwise shown, all flashings shall be counterflashed.

B. Flashings and counterflashings generally shall not exceed 10 feet (3 m) in length. Flashings shall be free from longitudinal joints.

C. Counterflashings: Both edges folded or returned upon themselves at least 1/2 inch (13 mm) and the lower edge shall overlap the flashing at least 4 inches (102 mm) with the lower edge parallel to the roof line. Counterflashing must be bent to the required shape before being placed.

D. Joints between the units shall be made with a 1/2 inch (13 mm) expansion joint between sheets with 8 inch (203 mm) wide backup plates and 6 inch (152 mm) cover plates formed to exact profile of units. Fill space between copings and plates with an approved sealing compound.

E. Provide cleats as indicated.

3.4 CLEATS

A. Provide continuous cleats where indicated or specified to secure loose edges of the sheet metalwork.

B. Space butt joints approximately 1/8-inch (3 mm) apart.

C. Fasten cleats to the supporting construction with nails evenly spaced not over 12 inches (305 mm) on centers. Fasten to concrete or masonry with screws driven in expansion shields set in concrete or masonry. The cleat shall be of sufficient width to provide adequate bearing area to insure a rigid installation.

3.5 SPECIAL TRANSITION UNITS

A. Fabricate as indicated into special shapes to fit existing construction and profiles.

B. Coordinate with adjacent sheet metal and other construction to provide watertight installation.

3.6 CLEANING AND PROTECTION

A. Clean exposed metal surfaces, removing substances that might cause corrosion of metal or deterioration of finishes.

B. Provide final protection and maintain conditions that ensure sheet metal flashing and trim Work during construction is without damage or deterioration other than natural weathering at the time of Substantial Completion.

END OF SECTION 076000

SECTION 07 90 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes sealants and sealant accessories for building joints.

1.2 PERFORMANCE REQUIREMENTS

A. Provide joint sealants for applications that establish and maintain continuous joint seals without staining or deteriorating joint substrates.

1.3 SUBMITTALS

A. Product Data: For each joint-sealant product indicated.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to Project site in original unopened containers or bundles with labels indicating manufacturer, product name and designation, color, expiration date, pot life, and curing time.

B. Store and handle materials in compliance with manufacturer's written instructions to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not proceed with installation of joint sealants under the following conditions:
   1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer.
   2. When joint substrates are wet.

B. Joint-Width Conditions: Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.

C. Joint-Substrate Conditions: Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

PART 2 - PRODUCTS

2.1 PRODUCTS AND MANUFACTURERS

A. Refer to Sealant Schedule at the end of this section for the locations of types of sealants described below.

B. Single Component Urethane: Non-sag gun grade~~;~~ ASTM C920, Type S, Grade NS, Class 25; use N, T, M and A; color to match adjacent surfaces. Subject to compliance to specified requirements, provide products by one of the following, or approved equal:
   1. MasterSeal (Sonolastic) NP1 by BASF Master Builders (Sonneborn).
   2. Dynatrol 1 by Pecora.

C. Mastic Sealant: One component butyl rubber sealant. Subject to compliance to specified requirements, provide products by or approved equal:
   1. Multi-Purpose Sealant by BASF Master Builders (Sonneborn).
   2. BC-158 by Pecora.

2.2 MATERIALS, GENERAL

A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer based on testing and field experience.

B. Colors of Exposed Joint Sealants: Match color of adjacent material.

2.3 JOINT-SEALANT BACKING

A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

B. Cylindrical Sealant Backings: ASTM C 1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
   1. Type C: Closed-cell material with a surface skin.
   2. Type O: Open-cell material.
   3. Type B: Bicellular material with a surface skin.
   4. Type: Any material indicated above.

C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint where such adhesion would result in sealant failure. Provide self-adhesive tape where applicable.

2.4 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, free of oily residues or other substances capable

of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants with joint substrates.

C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.

B. Make corrections to unsatisfactory conditions.

3.2 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint sealant manufacturer's written instructions and the following requirements:
   1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
   2. Clean porous joint substrate surfaces by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include masonry and concrete.
   3. Remove laitance and form-release agents from concrete.
   4. Clean nonporous 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 in writing by joint sealant manufacturer, based on 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 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.

3.3 INSTALLATION OF JOINT SEALANTS

A. General: Comply with joint sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Sealant Installation Standard: Comply with ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.

C. Install sealant backings 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.

D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and back of joints.

E. Install sealants by proven techniques to 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 provided for each joint configuration.
   3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

F. Tooling of Non-sag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified 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 sealants from surfaces adjacent to joint.
   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 configuration per Figure 5A in ASTM C 1193, unless otherwise indicated.

3.4 CLEANING

A. Clean off excess sealants 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.

3.5 PROTECTION

A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from the original work.

3.6 JOINT SEALANT SCHEDULE

A. General: Apply the following types of sealants at the following locations.

B. Single Component Urethane Sealant:
   1. Metal-to-metal joints
   2. Joints at openings not requiring paint
   3. Exterior building joints, and
   4. All other joints and indications not listed herein.

C. Mastic Sealant: Under thresholds and sill flashings.

END OF SECTION 07 90 00

SECTION 08 11 13 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes standard hollow metal doors and frames.
   1. Frame assemblies include framing for sidelight and transom glazing.

B. Related Sections:
   1. Door Hardware and Glazing is specified elsewhere in Division 8.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include elevations, door edge details, frame profiles, metal thicknesses, preparations for hardware, and other details.

C. Schedule: Prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings.

1.3 QUALITY ASSURANCE

A. Door Hardware Institute: DHI - "The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware."

B. Steel Door and Frame Standard: Comply with ANSI A 250.8, unless more stringent requirements are indicated.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver hollow metal units board-wrapped or crated to provide protection during transit and job storage.

B. Inspect hollow metal units on delivery for damage, and notify shipper and supplier if damage is found. Minor damages may be repaired provided refinished items match new work and are acceptable to Architect. Remove and replace damaged items that cannot be repaired as directed.

C. Deliver welded frames with two removable spreader bars across bottom of frames, tack welded to jambs and mullions.

D. Store hollow metal units at building site under cover. Place units on minimum 4-inch-(100-mm-) high wood blocking. Avoid using non-vented plastic or canvas shelters that could create a humidity chamber. If door packaging becomes wet, remove cartons immediately. Provide minimum 1/4-inch (6-mm) spaces between stacked doors to permit air circulation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. Amweld Building Products, LLC.
   2. Ceco Door Products; an Assa Abloy Group company.
   3. Curries Company; an Assa Abloy Group company.
   4. Pioneer Industries, Inc.
   5. Republic Builders Products.
   6. Steelcraft; an Ingersoll-Rand company.

2.2 MATERIALS

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, CS, Type B; suitable for exposed applications.

B. Hot-Rolled Steel Sheet: ASTM A 1011/A 1011M, CS, Type B.

C. Metallic-Coated Steel Sheets: ASTM A 653/A 653M, Commercial Steel (CS), Type B, G90 galvanized coating; stretcher-leveled standard of flatness.

D. Frame Anchors: ASTM A 591/A 591M, Commercial Steel (CS), 40Z (12G) coating designation; mill phosphatized.
   1. For anchors built into exterior walls, steel sheet complying with ASTM A 1008/A 1008M or ASTM A 1011/A 1011M, hot-dip galvanized according to ASTM A 153/A 153M, Class B.

E. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A 153/A 153M.

F. Grout: ASTM C 476, except with a maximum slump of 4 inches (102 mm), as measured according to ASTM C 143/C 143M.

G. Mineral-Fiber Insulation: ASTM C 665, Type I.

H. Glazing: Division 08 Section "Glazing."

I. Bituminous Coating: Cold-applied asphalt mastic, SSPC-Paint 12, compounded for 15-mil (0.4-mm) dry film thickness per coat.

2.3 STANDARD HOLLOW METAL DOORS

A. General: Comply with ANSI/SDI A250.8.
   1. Design: Flush panel.
   2. Core Construction: Manufacturer's standard kraft-paper honeycomb, polystyrene, polyurethane, polyisocyanurate, mineral-board, or vertical steel-stiffener core.
   3. Vertical Edges for Single-Acting Doors: Manufacturer's standard.
   4. Top and Bottom Edges: Closed with flush or inverted 0.042-inch- (1.0-mm-) thick, end closures or channels of same material as face sheets.

B. Exterior Doors: Face sheets fabricated from metallic-coated steel sheet. Comply with ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level:
   1. Level 2 and Physical Performance Level B (Heavy Duty), Model 2 (Seamless); 0.042-inch (18 gage) - (1.0-mm-) thick faces; 1-3/4-inch- (44.4-mm-) thick doors.

C. Hardware Reinforcement: ANSI/SDI A250.6.

2.4 STANDARD HOLLOW METAL FRAMES

A. General: Comply with ANSI A250.8 and with details indicated for type and profile. Conceal fastenings, unless otherwise indicated.

B. Exterior Frames: Fabricate from metallic-coated steel sheet.
   1. Fabricate frames with mitered or coped corners.
   2. Frames for Level 2 Steel Doors: 16 gage; 0.053-inch- (1.3-mm-) thick steel sheet.

C. Supports and Anchors: Fabricated from not less than 0.042-inch- (1.0-mm-) thick, electrolytic zinc-coated or metallic-coated steel sheet.
   1. Wall Anchors in Masonry Construction: 0.177-inch- (4.5-mm-) diameter, steel wire complying with ASTM A 510 (ASTM A 510M) may be used in place of steel sheet.

D. Inserts, Bolts, and Fasteners: Manufacturer's standard units. Where zinc-coated items are to be built into exterior walls, comply with ASTM A 153/A 153M, Class C or D as applicable.

E. Hardware Reinforcement: ANSI/SDI A250.6.

2.5 FRAME ANCHORS

A. Jamb Anchors:
   1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, not less than 0.042 inch (1.0 mm) thick, with corrugated or perforated straps not less than 2 inches (50 mm) wide by 10 inches (250 mm) long; or wire anchors not less than 0.177 inch (4.5 mm) thick.
   2. Stud-Wall Type: Designed to engage stud, welded to back of frames; not less than 0.042 inch (1.0 mm) thick.

B. Floor Anchors: Formed from same material as frames, not less than 0.042 inch (1.0 mm) thick, and as follows:
   1. Monolithic Concrete Slabs: Clip-type anchors, with two holes to receive fasteners.

2.6 STOPS AND MOLDINGS

A. Fixed Frame Moldings: Formed integral with hollow metal frames, a minimum of 5/8 inch (16 mm) high unless otherwise indicated.

B. Loose Stops for Glazed Lites in Frames: Minimum 0.032 inch (0.8 mm) thick, same material as frames.

2.7 FABRICATION

A. General: Fabricate steel door and frame units to comply with ANSI A250.8 and to be rigid, neat in appearance, and free from defects including warp and buckle. Where practical, fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory assembled before shipment, to assure proper assembly at Project site.

B. Tolerances: Comply with SDI 117, "Manufacturing Tolerances for Standard Steel Doors and Frames."

C. Hollow Metal Doors:
   1. Exterior Doors: Provide weep-hole openings in bottom of exterior doors. Seal joints in top edges of doors against water penetration.
   2. Clearances for Non-Fire-Rated Doors: Not more than 1/8 inch (3.2 mm) at jambs and heads, except not more than 1/4 inch (6.4 mm) between pairs of doors. Not more than 3/4 inch (19 mm) at bottom.
   3. Single-Acting, Door-Edge Profile: Square edge.
   4. Glazed Lites: Factory cut openings in doors.

D. Hollow Metal Frames: Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of same thickness metal as frames.
   1. Welded Frames: Weld flush face joints continuously; grind, fill, dress, and make smooth, flush, and invisible.
   2. Sidelight and Transom Bar Frames: Provide closed tubular members with no visible face seams or joints, fabricated from same material as door frame. Fasten members at crossings and to jambs by butt welding.
   3. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
   4. Floor Anchors: Weld anchors to bottom of jambs and mullions with at least four spot welds per anchor.
   5. Jamb Anchors: Provide number and spacing of anchors as follows:
      a. Three anchors per jamb up to 60 inches (1524 mm) high.
      b. Four anchors per jamb from 60 to 90 inches (1524 to 2286 mm) high.

E. Hardware Preparation: Factory prepare hollow metal work to receive templated mortised hardware according to the Door Hardware Schedule and templates furnished as specified in Division 08 Section "Door Hardware."
   1. Locate hardware as indicated, or if not indicated, according to ANSI/SDI A250.8.
   2. Reinforce doors and frames to receive non-templated, mortised and surface-mounted door hardware.
   3. Comply with applicable requirements in ANSI/SDI A250.6 and ANSI/DHI A115 Series specifications for preparation of hollow metal work for hardware.

F. Stops and Moldings: Provide stops and moldings around glazed lites where indicated. Form corners of stops and moldings with butted or mitered hairline joints.
   1. Provide loose stops and moldings on inside of hollow metal work.
   2. Coordinate rabbet width between fixed and removable stops with type of glazing and type of installation indicated.

2.8 STEEL FINISHES

A. Prime Finish: Apply manufacturer's standard primer immediately after cleaning and pretreating.
   1. Shop Primer: ANSI/SDI A250.10.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine substrates, openings and conditions under which hollow metal units are to be installed.

B. Make corrections to unsatisfactory conditions.

3.2 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces.

B. Prior to installation, adjust and securely brace welded hollow metal frames for squareness, alignment, twist, and plumbness to the following tolerances:
   1. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
   2. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
   3. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
   4. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a perpendicular line from head to floor.

C. Drill and tap doors and frames to receive non-templated, mortised, and surface-mounted door hardware.

3.3 INSTALLATION

A. General: Install steel doors, frames, and accessories according to Shop Drawings, manufacturer's data, and as specified.

B. Hollow Metal Frames: Comply with ANSI/SDI A250.11.
   1. Set frames accurately in position, plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces, leaving surfaces smooth and undamaged.
   2. Where frames are fabricated in sections because of shipping or handling limitations, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces.
   3. Install frames with removable glazing stops located on secure side of opening.
      a. Remove temporary braces necessary for installation only after frames have been properly set and secured.

b. Check plumbness, squareness, and twist of frames as walls are constructed. Shim as necessary to comply with installation tolerances.
c. Field apply bituminous coating to backs of frames that are filled with grout containing anti-freezing agents.
d. Upon completion of installation of knock-down frames, field Bondo treat to remove evidence of face joints; grind smooth flush, to provide monolithic appearance of door frame.

4. Floor Anchors: Provide floor anchors for each jamb and mullion that extends to floor, and secure with post-installed expansion anchors.
5. In-Place ~~Concrete or~~ Masonry Construction: Secure frames in place with post-installed expansion anchors. Countersink anchors, and fill and make smooth, flush, and invisible on exposed faces.
   a. Fully grout frames in masonry walls.

C. Hollow Metal Doors: Fit hollow metal doors accurately in frames, within clearances specified below. Shim as necessary.
1. Non-Fire-Rated Standard Steel Doors:
   a. Jambs and Head: 1/8 inch (3 mm) plus or minus 1/16 inch (1.6 mm).
   b. Between Bottom of Door and Top of Threshold: Maximum 3/8 inch (9.5 mm).
   c. Between Bottom of Door and Top of Finish Floor (No Threshold): Maximum 3/4 inch (19 mm).

D. Glazing: Comply with installation requirements in Division 8 Section "Glazing" and with hollow metal manufacturer's written instructions.
1. Secure stops with countersunk flat- or oval-head machine screws spaced uniformly not more than 9 inches (230 mm) o.c. and not more than 2 inches (50 mm) o.c. from each corner.

3.4 ADJUSTING AND CLEANING

A. Final Adjustments: Check and readjust operating hardware items immediately before final inspection. Leave work in complete and proper operating condition. Remove and replace defective work, including hollow metal work that is warped, bowed, or otherwise unacceptable.

B. Remove grout and other bonding material from hollow metal work immediately after installation.

C. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

END OF SECTION 08 11 13

SECTION 08 41 13 - ALUMINUM STOREFRONT FRAMING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
   1. Exterior aluminum-framing for fixed glass and glazing.

B. Related Sections:
   1. Division 8 section; Glass and Glazing.

1.2 PERFORMANCE REQUIREMENTS

A. General: Provide aluminum-framed systems, including anchorage, capable of withstanding, without failure, the effects of the following:
   1. Structural loads.
   2. Thermal movements.
   3. Movements of supporting structure indicated on Drawings including, but not limited to, story drift and deflection from uniformly distributed and concentrated live loads.
   4. Dimensional tolerances of building frame and other adjacent construction.
   5. Failure includes the following:
      a. Deflection exceeding specified limits.
      b. Thermal stresses transferred to building structure.
      c. Framing members transferring stresses, including those caused by thermal and structural movements, to glazing.
      d. Glazing-to-glazing contact.
      e. Noise or vibration created by wind and thermal and structural movements.
      f. Loosening or weakening of fasteners, attachments, and other components.
      g. Sealant failure.
      h. Failure of operating units to function properly.

B. Structural-Sealant Joints: Designed to produce tensile or shear stress in structural-sealant joints of less than 20 psi (138 kPa).

C. Structural Loads:
   1. Wind Loads: As required for project location.

D. Deflection of Framing Members Normal to Wall Plane: Limited to 1/175 of clear span for spans up to 13 feet 6 inches (4.1 m) and to 1/240 of clear span plus 1/4 inch (6.35 mm) for spans greater than 13 feet 6 inches (4.1 m) or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19 mm), whichever is less.

E. Structural-Test Performance: Systems tested according to ASTM E 330 as follows:
   1. When tested at positive and negative wind-load design pressures, systems do not evidence deflection exceeding specified limits.
   2. When tested at 150 percent of positive and negative wind-load design pressures, systems, including anchorage, do not evidence material failures, structural distress, and 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. Temperature Change (Range): Systems accommodate 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

G. Air Infiltration: Maximum air leakage through fixed glazing and framing areas of systems of 0.06 cfm/sq. ft. (0.03 L/s per sq. m) of fixed wall area when tested according to ASTM E 283 at a minimum static-air-pressure difference of 1.57 lbf/sq. ft. (75 Pa).

H. Water Penetration Under Static Pressure: Systems do not evidence water penetration through fixed glazing and framing areas when tested according to ASTM E 331 at a minimum static-air-pressure difference of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft. (300 Pa).

I. Average Thermal Conductance: Fixed glazing and framing areas of systems have average U-factor of not more than 0.69 Btu/sq. ft. x h x deg F (3.92 W/sq. m x K) when tested according to AAMA 1503.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.
1. For entrances, include hardware schedule and indicate operating hardware types, functions, quantities, and locations.

C. Samples: For each exposed finish.

1.4 QUALITY ASSURANCE

A. Source Limitations: Obtain aluminum framed storefront system components from one source and by a single manufacturer.

B. Installer Qualifications: Acceptable to manufacturer and capable of preparation of data for aluminum-framed systems including Shop Drawings based on testing and engineering analysis of manufacturer's standard units in assemblies similar to those indicated for this Project.

1.5 WARRANTY

A. Special Assembly Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of aluminum-framed systems that do not comply with requirements or that deteriorate as defined in this Section 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 caused by thermal movements.
c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
d. Adhesive or cohesive sealant failures.

e. Water leakage through fixed glazing and framing areas.
f. Failure of operating components to function properly.

2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Basis-of-Design: Drawings and specifications are based on Kawneer; Trifab VersaGlaze 451T for exterior glazing and 451 for interior glazing.
   1. Equivalent systems by other manufacturers are acceptable, subject to compliance with project requirements.
      a. Manko
      b. U S Aluminum
      c. Vistawall Architectural Products
      d. YKK AP America Inc.
      e. Tubelite

2.2 MATERIALS

A. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
   1. Sheet and Plate: ASTM B 209 (ASTM B 209M).
   2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
   3. Extruded Structural Pipe and Tubes: ASTM B 429.
   4. Structural Profiles: ASTM B 308/B 308M.

B. Steel Reinforcement: With manufacturer's standard corrosion-resistant primer.
   1. Structural Shapes, Plates, and Bars: ASTM A 36/A 36M.
   2. Cold-Rolled Sheet and Strip: ASTM A 1008/A 1008M.
   3. Hot-Rolled Sheet and Strip: ASTM A 1011/A 1011M.

2.3 FRAMING SYSTEMS

A. Framing Members: Manufacturer's standard extruded-aluminum framing members of thickness required and reinforced as required to support imposed loads.
   1. Profiles and sizes of aluminum extrusions as indicated in the Drawings.
   2. Construction: Thermally broken.
   3. Glazing System: Retained mechanically with gaskets on four sides.
   4. Glazing Plane: As indicated in Drawings.
   5. Fabrication Method: Either factory- or field-fabricated system.

B. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with non-staining, nonferrous shims for aligning system components.

C. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.
   1. Where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration, use self-locking devices.
   2. Reinforce members as required to receive fastener threads.

3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.

D. 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.

E. Flashing: Manufacturer's standard corrosion-resistant, non-staining, non-bleeding flashing compatible with adjacent materials. Form exposed flashing from sheet aluminum finished to match framing and of sufficient thickness to maintain a flat appearance without visible deflection.

F. Framing System Gaskets and Sealants: Manufacturer's standard recommended by manufacturer for joint type.

2.4 GLAZING SYSTEMS

A. Glazing: As specified in Division 8 Section "Glazing."

2.5 ACCESSORY MATERIALS

A. Joint Sealants: For installation at perimeter of aluminum-framed systems, as specified in Division 7 Section "Joint Sealants."

B. 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.

C. Sill Flashing: ASTM A 167, Type 304, soft annealed, with No. 2D finish, except where harder temper is required for forming or performance; minimum 24 gage (0.0187 inch / 0.5 mm) thick stainless steel.
   1. Solder for Stainless Steel: ASTM B 32, Grade Sn60, used with an acid flux of type recommended by stainless-steel sheet manufacturer; use a non-corrosive rosin flux over tinned surfaces.

2.6 FABRICATION

A. Form aluminum shapes before finishing.

B. Framing Members, General: 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. Means to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.
   4. Physical and thermal isolation of glazing from framing members.
   5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
   6. Provisions for field replacement of glazing from interior for vision glass and exterior for spandrel glazing or panels.
   7. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.

C. Mechanically Glazed Framing Members: Fabricate for flush glazing (without projecting stops).

D. Stainless Steel Sill Flashing: Fabricate sill flashing from stainless steel. Fold up back to approximately mid-height of sill frame section, and hem hedge. Extend front out to cover construction, and hem edge. Form one-piece pans with turned up ends at end side/end of each opening.

E. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.7 ALUMINUM FINISHES

A. Color Anodic Finish: AAMA 611, AA-M12C22A32/A34, Class II, 0.010 mm, or thicker.
   1. Color: Dark bronze. Verify match with existing aluminum framing front of building.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:
   1. Fit joints to produce hairline joints free of burrs and distortion.
   2. Rigidly secure non-movement joints.
   3. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration.
   4. Seal joints watertight, unless otherwise indicated.

B. Metal Protection:
   1. Where aluminum will contact dissimilar metals, protect against galvanic action by painting contact surfaces with primer or by applying sealant or tape or installing nonconductive spacers as recommended by manufacturer for this purpose.
   2. Where aluminum will contact concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.

C. Install components to drain water passing joints, condensation occurring within framing members, and moisture migrating within the system to exterior.

D. Stainless Steel Sill Flashing: In addition to aluminum extrusion manufacturer’s standard aluminum sill flashing, provide continuous stainless steel sill flashings under exterior sill frame members. Set continuous sill flashing in a full sealant bed to provide weathertight construction, unless otherwise indicated. Comply with requirements of Division 7 Section "Joint Sealants."

E. Install components plumb and true in alignment with established lines and grades, without warp or rack.

F. Install glazing as specified in Division 8 Section "Glazing."

G. Install perimeter joint sealants as specified in Division 7 Section "Joint Sealants" and to produce weathertight installation.

H. Erection Tolerances: Install aluminum-framed systems to comply with the following maximum tolerances:
   1. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet (3 mm in 3.7 m); 1/4 inch (6 mm) over total length.
   2. Alignment:
      a. Where surfaces abut in line, limit offset from true alignment to 1/16 inch (1.5 mm).
      b. Where surfaces meet at corners, limit offset from true alignment to 1/32 inch (0.8 mm).
   3. Diagonal Measurements: Limit difference between diagonal measurement to 1/8 inch (3 mm).

END OF SECTION 08 41 13

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes commercial door hardware for swinging doors.

B. Related Sections:
   1. Division 8 Section, Hollow Metal.

1.2 SUBMITTALS

A. Product Data: Submit manufacturers' catalog cut sheets and technical information for each item of hardware. Include information showing compliance with requirements.

B. Hardware Schedule: Organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include each item, quantities, manufacturers' catalog numbers, sizes and hardware identifications corresponding to ANSI type or function number to manufacturer's catalog number. Hardware schedule sets and door numbers of submittal shall correspond with respective numbers assigned for this project. Include with submittal a list of abbreviations and template numbers used.
   1. Keying: Include keying schedule after keying conference described below.

1.3 QUALITY ASSURANCE

A. Hardware Supplier and Installer Qualifications: An employer of workers trained and approved by lock manufacturer.
   1. A recognized architectural hardware supplier who has been furnishing hardware in the project's vicinity for a period of not less than 5 years, and who is, or employs an experienced hardware consultant (AHC) who is available, at reasonable times during the course of the work, for consultation about project's hardware requirements, to Owner, Architect and Contractor.
   2. Installer shall have warehousing facilities in Project's vicinity.
   3. Scheduling Responsibility: Prepare door hardware and keying schedules.
   4. Architectural Hardware Consultant Qualifications: A person who is currently certified by DHI as an Architectural Hardware Consultant and who is experienced in providing consulting services for door hardware installations that are comparable in material, design, and extent to that indicated for this Project.

B. ADA and Code Compliance: Provide hardware items in compliance with ADA and pertinent applicable codes.

C. Source Limitations: Obtain each type and variety of door hardware from a single manufacturer, unless otherwise indicated.

D. Keying Conference: Conduct conference at Project site. In addition to Owner, Contractor, and Architect, conference participants shall also include Installer's Architectural Hardware

Consultant. Incorporate keying conference decisions into final keying schedule after reviewing door hardware keying system including, but not limited to, the following:

1. Function of building, flow of traffic, purpose of each area, degree of security required, and plans for future expansion.
2. Preliminary key system schematic diagram.
3. Address for delivery of keys.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Inventory door hardware on receipt and provide secure lock-up for door hardware delivered to Project site.

B. Tag each item or package separately with identification related to the final door hardware sets, and include basic installation instructions, templates, and necessary fasteners with each item or package.

C. Deliver keys to Owner.

1.5 COORDINATION

A. Templates: Distribute door hardware templates for doors, frames, and other work specified to be factory prepared for installing door hardware. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing door hardware to comply with indicated requirements.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Structural failures including excessive deflection, cracking, or breakage.
      b. Faulty operation of operators and door hardware.
      c. Deterioration of metals, metal finishes, and other materials beyond normal weathering and use.
   2. Warranty Period:
      a. Manual Closers: 5 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SCHEDULED DOOR HARDWARE

A. Hardware Sets are indicated in "Hardware Schedule" at the end of this Section.

B. Material requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated below.

2.2 GENERAL ACCESSIBILITY REQUIREMENT

A. Accessibility Requirements: Where handles, pulls, latches, locks, and other operating devices are indicated to comply with accessibility requirements, comply with the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA), Accessibility Guidelines for Buildings and Facilities (ADAAG)."
   1. Comply with the following maximum opening-force requirements: Interior, Non-Fire-Rated Hinged Doors: 5 lbf (22.2 N) applied perpendicular to door.

2.3 HINGES

A. Hinges: ANSI A156.1.
   1. Exterior Doors: Non-removable pins.
   2. Interior Doors: Non-rising pins.
   3. Tips: Flat button and matching plug, finished to match leaves.
   4. Doors with Closers: Ball bearing type.
   5. Full mortise, heavy duty, 5-knuckle type.

B. Size and Gage:
   1. 0.134 gage metal minimum.
   2. 4-1/2" x 4-1/2" (114 x 114 mm).

C. Template Requirements: Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template-produced units.

D. Fasteners - Screws: Phillips flat-head; machine screws (drilled and tapped holes) for metal doors, wood screws for wood doors. Finish screw heads to match surface of hinges.

E. Manufacturers: Subject to compliance with project requirements, provide products manufactured by the following, or approved equal:
   1. T2714 by McKinney.
   2. FBB 179 by Stanley.
   3. BB 1279 by Hager.
   4. BB 21 by PBB

2.4 MORTISE LOCKSETS

A. Locksets: Heavy-duty mortise lockset with escutcheon plate trim. ANSI A156.13, Series 1000, Grade 1. Stamped steel case with steel or brass parts
   1. Mortise Locks: Minimum 3/4-inch (19-mm) latchbolt throw.
   2. Deadbolts: Minimum 1-inch (25-mm) bolt throw.
   3. Lockset Manufacturers and Products:
      a. 8800 series by Yale.
      b. L1000 series by Schlage
      c. 8200 by Sargent
      d. 40H by Best.

B. Strikes: Manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set.
   1. Strikes for Mortise Locks and Latches: BHMA A156.13.

C. Lock Trim: ANSI A156.2. Finish to match lockset.
   1. Levers: Cast metal. Fabricate lever handles from solid bar stock.

   2. Design: “U” design lever handles with elongated escutcheon trim plate. One of the following manufacturers and products, or approved equal:
      a. Carmel CRSL by Yale.
      b. Lever Design 03 by Schlage.
      c. Lever Design J by Sargent.
      d. Lever Design 3N by Best.
   3. Fronts for mortise locks and latches: Standard bevel, armored fronts on mortise locks.

2.5 KEYING AND KEYCORES

A. Key Cores: Key to Owner's "Best" 7-pin system, which is a standard for this campus. Removable and interchangeable construction key cores from Best.
   1. Interchangeable Cores: Provide interchangeable key core inserts, removable by use of a special key; usable with other manufacturers' cylinders.
   2. Order final cores at the time submittals are made. Install final permanent cores immediately after Owner’s acceptance.

B. Keying: Schedule a keying conference as described above to discuss keying. Allow a minimum of 1 week advance notice for this conference. Based on Owner's guidelines, submit a keying system to the Architect for approval. Unless otherwise indicated or requested, the following apply:
   1. Key all doors differently.
   2. Key doors to the same room alike.
   3. Set keying to existing master and grandmaster key for this building, and campus as designated by Owner.

C. Keys: Nickel silver.
   1. Tag and identify keys.
   2. Turn over to the Owner as directed.
   3. Number of Keys
      a. Keys: 6 keys each door

2.6 CLOSERS

A. Grade 1, PT1, C02000 series, surface mounted modern type conforming to ANSI A156.4.
   1. Regular arms for overhead closers, except as otherwise indicated.

2. Coordinate closer arms and closer locations with door swing and walls to avoid damage to adjacent construction.

B. Products: Series 4000 by LCN, 7700 series by Norton, EN351 series by Sargent, 400 series by Yale, or approved equal.

2.7 KICKPLATES

A. General: ANSI A156.6. Stainless steel, 18 gage (1.27 mm) thick material unless indicated otherwise, protection plates. Width not more than 1-1/2 inches (38 mm) on stop side smaller than the door width x the height indicated.

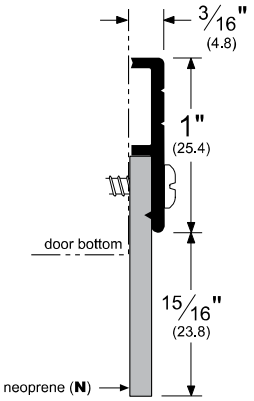
B. Kickplates: J102, 12 inches high.

2.8 STOPS

A. Door Stops: ANSI A156.16. Metal base with rubber stops. Provide floor stops unless indicated otherwise in the Hardware Schedule.
1. Floor mounted, dome type with rubber bumper, L02141 for doors without thresholds, L02181 for doors with thresholds.
a. Doors with Thresholds: 438 by Ives; W1212 by Trimco; or approved equal.
b. Doors without Thresholds: 436 by Ives; W1210 by Trimco; or approved equal.
2. Wall mounted type, L02111, round metal retainer with convex resilient bumper. No fasteners visible on installed assembly. Manufacturer's recommended fasteners for substrates provided.
a. 407 by Ives; 1276CCS by Trimco; or approved equal.

2.9 MISCELLANEOUS DEVICES

A. Door Bottom Sweep: Adjustable type. Continuous aluminum retainer with vinyl or neoprene sweep. UL label. 321CN by Pemko, Model 602A by Reese, 199NA by National, or approved equal.



2.10 WEATHERSTRIPPING AND SEALS

A. Description: Continuous bulb seal made of vinyl, neoprene, polypropylene or silicone with aluminum retainer fastened to door frame at head and jamb sides. UL rated. Non-corrosive fasteners for exterior applications and elsewhere as indicated.

B. Replaceable Seal Strips: Provide units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.

C. Products: Model 807 by Reese, 160 by National, 303 by Pemko, or approved equal.

2.11 THRESHOLDS

A. Thresholds: ANSI A156.21, extruded aluminum, corrugated top. Continuous bumper seal insert in integral raised receiver. Include vinyl or neoprene resilient gasket strip.
   1. Basis of Selection: 2005T by Pemko; or equivalent products by National, Reese, Zero, or approved equal.

2.12 FABRICATION

A. Base Metals: Produce door hardware units of base metal, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18. Do not furnish manufacturer's standard materials or forming methods if different from specified standard.

B. Fasteners: Provide door hardware manufactured to comply with published templates generally prepared for machine, wood, and sheet metal screws. Provide screws according to commercially recognized industry standards for application intended, except aluminum fasteners are not permitted. Provide Phillips flat-head screws with finished heads to match surface of door hardware, unless otherwise indicated.

2.13 FINISHES

A. Standard: BHMA A156.18, as indicated in door hardware sets.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

C. Designations used to indicate hardware finishes are listed in ANSI A156.18. Unless noted otherwise, provide the following finishes for items noted:
   1. Closers: 628, satin aluminum.
   2. Hinges and Locksets: 630, satin stainless steel.
   3. Door Stop: 630, satin stainless steel.
   4. Kickplates: 630, satin stainless steel.
   5. Others: 626, 630 or 628 for base metal of hardware furnished.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine doors and frames, with Installer present, for compliance with requirements for installation tolerances, labeled fire door assembly construction, wall and floor construction, and other conditions affecting performance.

B. Make corrections to unsatisfactory conditions.

3.2 PREPARATION

A. Hollow Metal: Comply with DHI A115 Series.
   1. Surface-Applied Door Hardware: Drill and tap doors and frames according to ANSI A250.6.

3.3 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights as required to comply with governing regulations.
   1. Standard Steel Doors and Frames: DHI's "Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames."

B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work specified in Division 9 Sections. Do not install surface-mounted items until finishes have been completed on substrates involved.
   1. Set units level, plumb, and true to line and location. Adjust and reinforce attachment substrates as necessary for proper installation and operation.
   2. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors according to industry standards.
   3. Paint items, such as removable mullions and door guard plates, same color as door frame.

C. Drill and countersink units that are not factory prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
   1. Install with fasteners provided with hardware units or provide fastener type recommended by manufacturer. Do not use unauthorized fasteners, such as TEK fasteners for closers.

D. Closers: Provide through-bolts to fasten portion of closer at door leaf. Include reinforcing plate.

E. Doorstops: Locate floor type doorstops close to wall to avoid traffic. Coordinate mounting location of wall bumpers with door lockset trim.

F. Weatherstripping and Seals: Comply with manufacturer's instructions and recommendations to the extent installation requirements are not otherwise indicated.

3.4 ADJUSTING

A. Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended.
   1. Door Closers: Unless otherwise required by authorities having jurisdiction, adjust sweep period so that, from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3 inches (75 mm) from the latch, measured to the leading edge of the door.

3.5 CLEANING AND PROTECTION

A. Clean adjacent surfaces soiled by door hardware installation. Clean operating items as necessary to restore proper function and finish.

B. Provide final protection and maintain conditions that ensure that door hardware is without damage or deterioration at time of Substantial Completion.

3.6 HARDWARE SCHEDULE

A. General: Develop, submit and provide hardware sets for each type of door use indicated in the door schedule in the drawings for door categories listed below.
   1. Where hardware sets are not designated, provide hardware set similar to door serving similar function in the building.
   2. Include hardware items where not indicated in hardware sets, but are obviously required for door assembly to work properly as intended.

B. Hardware Set No. E-1:
   1. Single exterior hollow metal door; Classrooms.
      - 3 each ..... hinges
      - 1 each ..... lockset, F05 classroom
      - 1 each ..... closer
      - 1 each ..... kickplate
      - 1 each ..... threshold
      - 1 set ..... weatherstripping
      - 1 each ..... door bottom sweep
      - 1 each ..... door stops

C. Hardware Set No. E-__:
   1. Single exterior hollow metal doors.
   2. Doors to Toilet Rooms
      - 1 each ..... continuous hinges
      - 1 each ..... mortise deadbolt
      - 1 set ..... push-pull
      - 1 each ..... closer
      - 1 each ..... hold-open device
      - 1 each ..... kickplate
      - 1 each ..... saddle threshold
      - 1 set ..... weatherstripping
      - 1 each ..... door bottom sweep
      - 1 each ..... door stop (wallstop for doors opening to wall)

END OF SECTION 08 71 00

SECTION 08 80 00 - GLASS AND GLAZING

PART 1 - GENERAL

1.1 SUMMARY

A. Types of work in this section include glass and glazing for:
   1. Fixed insulated glass panels for aluminum frames.
   2. Fixed glass in door lites, side lites and transoms.

B. Related Sections:
   1. Sealants are described in Division 7 section.
   2. Hollow Metal framing is described in Section 081113.
   3. Aluminum framing is described in Section 084113.

1.2 SYSTEM DESCRIPTION

A. Watertight and airtight installation of each glass product is required, except as otherwise shown. Each installation must withstand normal temperature changes, wind loading, impact loading for operating sash and doors, without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glazing materials and other defects in the work.

B. Provide glass and glazing that has been produced, fabricated and installed to withstand normal thermal movement, wind loading and impact loading (where applicable), without failure including loss or breakage of glass, failure of sealants or gaskets to remain watertight and airtight, deterioration of glass and glazing, and other defects in the work.
   1. Normal thermal movement is defined as that resulting from an ambient temperature range of 120 deg. F (67 deg. C) and from a consequent temperature range within glass and glass framing members of 180 deg. F (100 deg. C).
   2. Deterioration of insulating glass is defined as failure of hermetic seal due to other causes than breakage which results in intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coating, if any, resulting from seal failure, and any other visual evidence of seal failure or performance.
   3. Deterioration of laminated glass is defined as the development of manufacturing defects including edge separation or delamination which materially obstructs vision through glass.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's technical data for each glazing material and fabricated glass product required, including installation and maintenance instructions.

1.4 QUALITY ASSURANCE

A. Glazing Standards: Comply with recommendations of Flat Glass Marketing Association (FGMA) "Glazing Manual" and "Sealant Manual" except where more stringent requirements are indicated. Refer to those publications for definitions of glass and glazing terms not otherwise defined in this section or other referenced standards.

B. Safety Glazing Standard: Where safety glass is indicated or required by authorities having jurisdiction, provide type of products indicated which comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials.

C. Single Source Responsibility for Glass: To ensure consistent quality of appearance and performance, provide materials produced by a single manufacturer or fabricator for each kind and condition of glass indicated and composed of primary glass obtained from a single source for each type and class required.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect glass and glazing materials during delivery, storage and handling to comply with manufacturer's directions and as required to prevent edge damage to glass, and damage to glass and glazing materials from effects of moisture including condensation, of temperature changes, of direct exposure to sun, and from other causes.

1.6 WARRANTY

A. Manufacturer's Warranty on Insulating Glass: Provide written warranty signed by manufacturer of insulating glass agreeing to furnish f.o.b. point of manufacture, freight allowed project site, within specified warranty period indicated below, replacements for those insulating glass units developing manufacturing defects. Manufacturing defects are defined as failure or hermetic seal of air space (beyond that due to glass breakage) as evidenced by intrusion of dirt or moisture, internal condensation or fogging, deterioration of protected internal glass coatings, if any, and other visual indications of seal failure or performance; provided the manufacturer's instructions for handling, installing, protecting and maintaining units have been complied with during the warranty period.
   1. Warranty Period: Manufacturer's standard but not less than 10 years after date of substantial completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products of one of the following:
   1. Guardian Industries Corp.
   2. Oldcastle
   3. Pilkington Sales (North America) Limited.
   4. Vitro (PPG Industries), Inc.
   5. Viracon, Inc.

2.2 GLASS PRODUCTS, GENERAL

A. Primary Glass Standard: Provide primary glass which complies with ASTM C 1036 requirements, including those indicated by reference to type, class, quality, and, if applicable, form, finish, mesh and pattern.

B. Heat-Treated Glass Standard: Provide heat-treated glass which complies with ASTM C 1048 requirements, including those indicated by reference to kind, condition, type, quality, class, and, if applicable, form, finish, and pattern.

C. Sizes: Fabricate glass to sizes required for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer. Provide thicknesses indicated or, if not otherwise indicated, as recommended by glass manufacturer for application indicated.

2.3 PRIMARY GLASS PRODUCTS

A. Clear Float Glass: Type I (transparent glass, flat), Class 1 (clear), Quality q3 (glazing select).

B. Tinted Float Glass: Type I (transparent glass, flat), Class 2 (tinted heat absorbing and light reducing), Quality q3 (glazing select), and as follows:
1. Bronze: Manufacturer's standard tint, with visible light transmittance of 50-52 percent and shading coefficient of 0.69- 0.71 for 1/4" thick glass.

2.4 HEAT-TREATED GLASS PRODUCTS

A. Manufacturing Process: Manufacture heat-treated glass as follows:
1. By horizontal (roller hearth) process with roll wave distortion parallel with bottom edge of glass as installed, unless otherwise indicated.

2.5 LAMINATED GLASS PRODUCTS

A. General: Refer to primary and heat-treated glass requirements relating to properties of uncoated glasses making up laminated glass products.

B. Plastic Interlayer: Provide glass fabricator's standard polyvinyl butyral interlayer for laminating panes of glass, with a proven record of showing no tendency to bubble, discolor or lose physical or mechanical properties after laminating and installation, in clear or colors and of thickness indicated.
1. Products: Subject to compliance with requirements, provide one of the following:
a. "Saflex"; Monsanto Co.
b. "Butacite"; E. I. DuPont De Nemours & Co., Inc.

C. Laminating Process: Fabricate laminated glass using laminator's standard heat-plus-pressure process to produce glass free from foreign substances and air/glass pockets.

D. Laminated Safety Glass Components for Doors as follows:
1. Entrance Systems
a. Exterior Glass: 1/8-inch Solar Bronze
b. Interlayer: 0.030" clear PVB interlayer
c. Interior Glass: 1/8-inch clear

2.6 SEALED INSULATING GLASS UNITS

A. General: Preassembled units consisting of organically sealed panes of glass enclosing a hermetically sealed dehydrated air space and complying with ASTM E 774 for

performance classification indicated as well as with other requirements specified for glass characteristics, air space, sealing system, sealant, spacer material, corner design and desiccant.

1. For properties of individual glass panes making up units, refer to product requirements specified elsewhere in this section applicable to types, classes, kinds and conditions of glass products indicated.
2. Performance characteristics designated for coated insulating glass are nominal values based on manufacturer's published test data for units with 1/4" thick panes of glass and 1/2" thick air space.
    a. U-values indicated are expressed in the number of Btu's per hour per sq. ft. per degree F difference.
3. Performance Classification per ASTM E 774: Class A.
4. Thickness of Each Pane: 1/4". Both panes tempered.
5. Air Space Thickness: 1/2".
6. Sealing System: Manufacturer's standard.
7. Spacer Material: Aluminum.
8. Dessicant: Manufacturer's standard; either molecular sieve or silica gel or blend of both.
9. Corner Construction: Manufacturer's standard corner construction.

B. Insulating Glass Panel Description Performance: Manufacturer's standard units complying with the following requirements:
1. Match insulated glass units at the front of the Lab School Building.
2. Performance Characteristics:
    a. Transmittance:
        1) Ultraviolet %: 8
        2) Visible light: 42 percent.
        3) Total Solar Energy: 21%
    b. Reflectance
        1) Visible light: 7 percent.
        2) Total Solar Energy: 15%
    c. NFRC U-values
        1) Summer daytime: 0.27
        2) Winter nighttime: 0.29
    d. U-Value EN673: 1.6
    e. Shading Coefficient: 0.32
    f. Solar Heat Gain Coefficient: 0.28.
    g. Light to Solar Gain: 1.50
3. Performance criteria information based on exterior Solarbronze with Solarban 60 (2) and interior clear glass pane, by Vitro (PPG.) Provide products by other manufacturers or approved equal meeting these requirements.

2.7 GLAZING GASKETS

A. Gaskets: Molded or extruded gaskets of neoprene, EPDM or thermoplastic polyolefin rubber, ASTM C864, of profile or hardness required to maintain watertight seal.

B. Vinyl Foam Glazing Tape: Closed cell, flexible, self-adhesive, non-extruding, polyvinyl chloride foam tape; recommended by manufacturer for exterior, exposed, watertight installation of glass, with only nominal pressure in the glazing channel; comply with ASTM D1667.

2.8 MISCELLANEOUS GLAZING MATERIALS

A. Compatibility: Provide materials with proven record of compatibility with surfaces contacted in installation.

B. Cleaners, Primers and Sealers: Type recommended by sealant or gasket manufacturer.

C. Setting Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealants, 80 to 90 Shore A durometer hardness.

D. Spacers: Neoprene, EPDM or silicone blocks, or continuous extrusions, as required for compatibility with glazing sealant, of size, shape and hardness recommended by glass and sealant manufacturers for application indicated.

E. Edge Blocks: Neoprene, EPDM or silicone blocks as required for compatibility with glazing sealant, of size and hardness required to limit lateral movement (side-walking) of glass.

F. Compressible Filler Rods: Closed-cell or waterproof-jacketed rod stock of synthetic rubber or plastic foam, flexible and resilient, with 5-10 psi compression strength for 25 percent deflection.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine glass framing compliance with manufacturing and installation tolerances, including those for size, squareness, offsets at corners; for presence and functioning of weep system; for existence of minimum required face or edge clearances; and for effective sealing of joinery.

B. Make corrections to unsatisfactory conditions.

3.2 PREPARATION

A. Clean glazing channels and other framing members to receive glass, immediately before glazing. Remove coatings which are not firmly bonded to substrates. Remove lacquer from metal surfaces where elastomeric sealants are indicated for use.

3.3 GLAZING, GENERAL

A. Comply with combined printed recommendations of glass manufacturers, of manufacturers of sealants, gaskets and other glazing materials, except where more stringent requirements are indicated, including those of referenced glazing standards.

B. Glazing channel dimensions as indicated in details are intended to provide for necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances. Adjust as required by job conditions at time of installation.

C. Protect glass from edge damage during handling and installation; use a rolling block in rotating glass units to prevent damage to glass corners. Do not impact glass with metal framing. Use suction cups to shift glass units within openings; do not raise or drift glass

with a pry bar. Rotate glass with flares or bevels along one horizontal edge which would occur in vicinity of setting blocks so that these are located at top of opening. Remove from project and dispose of glass units with edge damage or other imperfections of kind that, when installed, weakens glass and impairs performance and appearance.

3.4 GLAZING

A. Install setting blocks of proper size in sill rabbet, located one quarter of glass width from each corner, but with edge nearest corner not closer than 6-inches (150 mm) from corner, unless otherwise required. Set blocks in thin course of sealant which is acceptable for heel bead use.

B. Provide spacers inside and out, of correct size and spacing to preserve required face clearances, for glass sizes larger than 50 united inches (length plus height), except where gaskets or glazing tapes with continuous spacer rods are used for glazing. Provide 1/8-inch (3 mm) minimum bite of spacers on glass and use thickness equal to sealant width, except with sealant tape use thickness slightly less than final compressed thickness of tape.

C. Provide edge blocking to comply with requirements of referenced glazing standard, except where otherwise required by glass unit manufacturer.

D. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.

E. Provide compressible filler rods or equivalent back-up material, as recommended by sealant and glass manufacturers, to prevent sealant from extruding into glass channel weep systems and from adhering to joints back surface as well as to control depth of sealant for optimum performance, unless otherwise indicated.

F. Force sealants into glazing channels to eliminate voids and to ensure complete "wetting" or bond of sealant to glass and channel surfaces.

G. Tool exposed surfaces of sealants to provide a substantial "wash" away from glass. Install pressurized tapes and gaskets to protrude slightly out of channel, so as to eliminate dirt and moisture pockets.

H. Clean and trim excess glazing materials from glass and stops or frames promptly after installation, and eliminate stains and discolorations.

I. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage to ensure that gasket will not "walk" out when installation is subjected to movement.

J. Miter cut wedge-shaped gaskets at corners and install gaskets in manner recommended by gasket manufacturer to prevent pull away at corners; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.5 PROTECTION AND CLEANING

A. Protect exterior glass from breakage immediately upon installation by use of crossed streamers attached to framing and held away from glass. Do not apply markers to surfaces of glass. Remove nonpermanent labels and clean surfaces.

B. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove immediately by method recommended by glass manufacturer.

C. Examine glass surfaces adjacent to masonry surfaces at frequent intervals during construction, but not less often than once a month, for build-up of dirt, scum, alkali deposits or staining. When examination reveals presence of these forms of residue, remove by method recommended by glass manufacturer.

D. Remove and replace glass which is broken, chipped, cracked, abraded or damaged in other ways during construction period, including natural causes, accidents and vandalism.

E. Wash glass on both faces not more than 4 days prior to date scheduled for inspections intended to establish date of substantial completion in each area of project. Wash glass by method recommended by glass manufacturer.

END OF SECTION 08 80 00

SECTION 09 51 00 - ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes acoustical tiles and concealed suspension systems for ceilings.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Samples: For each exposed finish.

1.3 QUALITY ASSURANCE

A. Source Limitations:
   1. Acoustical Ceiling Panel: Obtain each type through one source from a single manufacturer.
   2. Suspension System: Obtain each type through one source from a single manufacturer.

B. Fire-Test-Response Characteristics: Provide acoustical tile ceilings identical to those of assemblies tested for fire resistance per ASTM E 119 by UL or another testing and inspecting agency acceptable to authorities having jurisdiction.
   1. Surface-Burning Characteristics: Acoustical tiles complying with ASTM E 1264 for Class A materials, when tested per ASTM E 84.
      a. Smoke-Developed Index: 450 or less.

1.4 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.

1.5 COORDINATION

A. Coordinate layout and installation of acoustical panels and suspension system with other construction that penetrates ceilings or is supported by them, including light fixtures, HVAC equipment, fire alarm system, and partitions.

1.7 EXTRA MATERIALS

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
   1. Acoustical Ceiling Units: Full-size tiles equal to 2.0 percent of quantity installed, but not less than 2 boxes of each type.
   2. Suspension System Components: Quantity of each concealed grid and exposed component equal to 2.0 percent of quantity installed.

PART 2 - PRODUCTS

2.1 ACOUSTICAL TILES

A. Acoustical Tile Standard: Comply with ASTM E 1264.

B. Ceiling Tile
   1. Basis-of-Design Product: Subject to compliance with requirements, provide Armstrong Fine Fissured 1713, or a comparable product by one of the following:
      a. USG Interiors, Inc.
      b. BPB USA
      c. Rockfon
   2. Performance Characteristics
      a. Mineral fiber.
      b. Pattern: Non-directional fissured.
      c. Edge Detail: Square.
      d. Size: 24 by 24 inches (610 by 610 mm)
      e. Thickness: 3/4 inch (19 mm) minimum.
      f. NRC 0.70
      g. CAC 35
      h. Class A
      i. Light Reflectance 0.85
      j. Sag resistant.
      k. Anti-microbial treatment.
      l. Color: White

2.2 METAL SUSPENSION SYSTEM

A. Metal Suspension System, General
   1. Metal Suspension System Standard: Manufacturer's standard direct-hung metal suspension systems of types, structural classifications, and finishes indicated that comply with applicable requirements in ASTM C 635.
   2. Finishes and Colors, General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Provide manufacturer's standard factory-applied finish for type of system indicated.
   3. Attachment Devices: Size for five times the design load indicated in ASTM C 635, Table 1, "Direct Hung," unless otherwise indicated.

4. Wire Hangers, Braces, and Ties: Provide wires complying with the following requirements:
   a. Zinc-Coated Carbon-Steel Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper.
   b. Size: Select wire diameter so its stress at three times hanger design load (ASTM C 635, 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.
5. Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.
6. Hold-Down Clips: Where indicated, provide manufacturer's standard hold-down clips spaced 24 inches (610 mm) o.c. on all cross tees.

B. Manufacturer & Product: Provide products by ceiling tile manufacturer.

C. Wide-Face, Capped, Double-Web, Hot-Dip Galvanized, G60 (Z180), Steel Suspension System: Main and cross runners roll formed from cold-rolled steel sheet, hot-dip galvanized according to ASTM A 653/A 653M, G60 (Z180) coating designation.
1. Grid Cap Types:
   a. For Ceiling Panels except those listed below: Manufacturer’s standard pre-finished, cold-rolled, 15/16-inch- (24-mm-) wide galvanized steel caps.
   b. For Washable Ceiling Panels: Pre-finished, cold-rolled, 15/16-inch- (24-mm-) wide, aluminum caps on flanges for Type 2 ceilings.
2. Width: 15/16-inch, unless indicated otherwise.
3. Face Design: Flat, flush.
4. Face Finish: Painted white.

D. Direct-Hung Suspension System: Intermediate-duty structural classification.

E. 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.

F. Roll-Formed Sheet-Metal Edge Moldings and Trim: Type and profile indicated or, if not indicated, manufacturer's standard moldings for edges and penetrations complying 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. For circular penetrations of ceiling, provide edge moldings fabricated to diameter required to fit penetration exactly.
2. Where ceilings abut walls, provide shadow mold trim.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Removal of existing ceiling is described in Division 2 section, Selective Demolition.
1. Existing hangers are allowed to remain and to be re-used. Verify that hangers to be re-used are properly secure, and meet specified standards and requirements.

B. Examine substrates, areas, and conditions, that affect ceiling installation and anchorage and with requirements for installation tolerances and other conditions affecting performance of acoustical panel ceilings.

C. Make corrections to unsatisfactory conditions.

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. Comply with ASTM C 636 and seismic design requirements indicated, per manufacturer's written instructions and CISCA's "Ceiling Systems Handbook."

B. Suspend ceiling hangers from building's structural members, plumb and free from contact with insulation or other objects within ceiling plenum. Splay hangers only where required to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers, use trapezes or equivalent devices. 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.
   1. Do not support ceilings directly from permanent metal forms or floor deck; anchor into structural steel framing or secure to steel joists.
   2. Do not attach hangers to steel deck tabs.

C. Install edge moldings and trim of type indicated at perimeter of acoustical tile ceiling area and where necessary to conceal edges of acoustical tiles. 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.

D. Install suspension system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.

E. Install acoustical tiles in coordination with suspension system and exposed moldings and trim. Place splines or suspension system flanges into kerfed edges so tile-to-tile joints are closed by double lap of material.

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. For square-edged panels, install panels with edges fully hidden from view by flanges of suspension system runners and moldings.

G. Install acoustical panels with hold-down clips to areas around near doors opening to exterior.

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.

B. Remove and replace ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 00

SECTION 09 90 00 - PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. The work includes surface preparation and field painting of exterior and interior exposed items and surfaces throughout project, except as otherwise indicated. Where items or surfaces are not specifically mentioned, paint same as adjacent similar materials or areas.
   1. Surface preparation, priming, and finish coats specified in this Section are in addition to shop priming and surface treatment specified in other Sections.

B. Surfaces to be painted include, but are not necessarily limited to:
   1. Exposed exterior items and surfaces.
      a. Steel railing
      b. Steel doors and frames; including existing steel lintels.
      c. Exposed steel framing and lintels
      d. Steel doors and frames

D. Do not paint pre-finished items, concealed surfaces, finished metal surfaces, operating parts, and labels.

1.2 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 application.

B. Samples for Selection: Submit manufacturer’s color fan and chips for selection.

1.3 QUALITY ASSURANCE

A. Applicator Qualifications: A firm or individual experienced in applying paints and coatings similar in material, design, and extent to those indicated for this Project, whose work has a record of successful in-service performance.

B. Source Limitations: Obtain block fillers and primers for each coating system from the same manufacturer as the finish coats.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label.

B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 45 deg F (7 deg C). Maintain storage containers in a clean condition, free of foreign materials and residue.

1. Protect from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily.

1.5 PROJECT CONDITIONS

A. Apply waterborne paints only when temperatures of surfaces to be painted and surrounding air are between 50 and 90 deg F (10 and 32 deg C).

B. Apply solvent-thinned paints only when temperatures of surfaces to be painted and surrounding air are between 45 and 95 deg F (7 and 35 deg C).

C. Do not apply paint in snow, rain, fog, or mist; or when relative humidity exceeds 85 percent; or at temperatures less than 5 deg F (3 deg C) above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Products: Subject to compliance with requirements, provide one of the products listed in other Part 2 articles.

B. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:
1. Benjamin Moore & Co. (Benjamin Moore).
2. Farrell-Calhoun
3. PPG Industries, Inc. (Pittsburgh Paints).
4. Sherwin-Williams Co. (Sherwin-Williams).

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.

2.3 COLORS

A. Match existing colors.

2.4 EXTERIOR PRIMERS

A. Exterior Ferrous-Metal Primer: Factory-formulated rust-inhibitive metal primer for exterior application.
1. Benjamin Moore; IronClad Alkyd Low Lustre Metal & Wood Enamel No. 163: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).
2. Farrell-Calhoun: #1022 Rust Stop Primer.

3. Pittsburgh Paints; 7-858 Pittsburgh Paints Industrial Rust Inhibitive Steel Primer: Applied at a dry film thickness of not less than 1.5 mils (0.038 mm).
4. Sherwin-Williams; Kem Kromik Universal Metal Primer B50NZ6/B50WZ1: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).

B. Exterior Galvanized Metal Primer: Factory-formulated galvanized metal primer for exterior application.
1. Benjamin Moore; IronClad Latex Low-Lustre Metal & Wood Enamel No. 363: Applied at a dry film thickness of not less than 1.6 mils (0.041 mm).
2. Farrell-Calhoun: #235 100% Acrylic Latex Undercoater.
3. Pittsburgh Paints; 90-709 Pitt-Tech One Pack Interior/Exterior Primer/Finish DTM Industrial Enamel: Applied at a dry film thickness of not less than 3.0 mils (0.076 mm).
4. Sherwin-Williams; Galvite HS Paint B50WZ3: Applied at a dry film thickness of not less than 2.0 mils (0.051 mm).

2.5 EXTERIOR FINISH COATS

A. Exterior Full-Gloss Acrylic Enamel for Ferrous and Other Metals: Factory-formulated full-gloss waterborne acrylic-latex enamel for exterior application.
1. Benjamin Moore; Impervex Enamel High Gloss Metal & Wood Enamel No. 309: Applied at a dry film thickness of not less than 1.2 mils (0.031 mm).
2. Farrell-Calhoun: # 2400 Line 100% Acrylic Latex Gloss.
3. Pittsburgh Paints; 51-Line Brilliant Reflections Interior/Exterior Latex Gloss Enamel: Applied at a dry film thickness of not less than 1.3 mils (0.033 mm).
4. Sherwin-Williams; DTM Acrylic Coating Gloss (Waterborne) B66W100 Series: Applied at a dry film thickness of not less than 2.4 mils (0.061 mm).

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, for compliance with requirements for paint application. Comply with procedures specified in PDCA P4.
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. Make corrections to unsatisfactory conditions.

C. 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 barrier coat and s over incompatible primers or remove and reprime.
   2. 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 SSPC's recommendations.
      a. Blast steel surfaces clean as recommended by paint system manufacturer].
      b. 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.
   3. Galvanized Surfaces: Clean galvanized surfaces with non-petroleum-based solvents so surface is free of oil and surface contaminants. Remove pretreatment from galvanized sheet metal fabricated from coil stock by mechanical methods.

D. Material Preparation: Mix and prepare paint materials according to manufacturer's written instructions.

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.

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.

C. Application Procedures: Apply paints and coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.

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. 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 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 burn-through or other defects due to insufficient sealing.

F. 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.

G. Completed Work: Match approved samples for color, texture, and coverage. Remove, refinish, or repaint work not complying with requirements.

3.4 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.
   2. Remove spattered paint by washing and scraping without scratching or damaging adjacent finished surfaces.

3.5 PROTECTION

A. Protect work of other trades, whether being painted or not, against damage from painting.

B. Correct damage by cleaning, repairing or replacing, and repainting, as approved by Architect.

C. 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.

3.6 EXTERIOR PAINT SCHEDULE

A. Galvanized Metals: Steel railings.
   1. 1 coat - primer.
   2. 2 coats - gloss DTM enamel.

B. Metals: Steel doors and frames; exposed existing steel lintels at these door opening locations. Existing steel structure.
   1. 1 coat - primer.
   2. 2 coats - gloss DTM enamel.

END OF SECTION 09 90 00

SECTION 10 73 00 - COVERED WALK SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes
   1. Extruded aluminum covered walkway systems.
      a. Extruded aluminum canopy panels, including fascia, trim & downspouts, installed on existing steel support structure.

1.2 PERFORMANCE REQUIREMENTS & DESIGN CRITERIA

A. Extruded Aluminum Covered Walkway Systems - Structural Performance: Provide covered walkway systems capable of withstanding the effects of gravity loads, applicable local code loading conditions, and the following loads and stresses within limits and under conditions indicated.
   1. Wind Load: ASCE-7-10 for uniform pressure under 140 mph wind speed.

1.3 SUBMITTALS

A. Product Data: Submit manufacturer's product data of materials and accessories indicating compliance with these requirements, drainage, anchorage and accessory items.

B. Shop Drawings: Submit scaled and dimensioned shop drawings for fabrication and erection of each type and configuration of canopies and walkways.

C. Extruded Aluminum Covered Walkway Systems - Submit manufacturer's information and/or calculations demonstrating that the system will be able to withstand code required loads. Clearly indicate components, tables and code required loads (i.e. live, dead and wind).
   1. Delegated-Design: Comply with performance requirements and design criteria, including analysis data signed and sealed by a licensed professional engineer in the State of this project.

D. Color Samples: Submit manufacturer's samples, 2 square pieces of factory finished metal, for verification of match with existing.

1.4 EXTRUDED ALUMINUM COVERED WALKWAY SYSTEMS - QUALITY ASSURANCE

A. Single Source: Extruded aluminum covered walkway systems and canopies including anchorage items shall be furnished by one manufacturer for the entire project.

B. Manufacturer Qualifications: A firm experienced in manufacturing of extruded aluminum covered walk systems and with a record of successful in-service performance.
   1. Engineering Responsibility: Preparation of Shop Drawings and engineering analysis by a qualified professional engineer.

C. Delegated Design 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 metal building systems that are similar to those indicated for this Project in material, design, and extent.

D. Installer Qualifications: Installer, which firm has no fewer than 5 years of successful experience with installation metal roof systems similar to those required for this Project, who is trained and approved by the roof system manufacturer, for installation of manufacturer-warranted systems.

1.5 COORDINATION

A. Field verify existing dimensions of existing steel support structure.

1.6 WARRANTY

A. 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 Final Acceptance.

PART 2 - PRODUCTS

2.1 EXTRUDED ALUMINUM COVERED WALK & CANOPY SYSTEMS

A. Manufacturers: Subject to compliance with project requirements, provide canopy system by one of the following, or approved equal:
   1. AllState Canopies
   2. AVADek
   3. Gulf South Metals
   4. Mapes
   5. Mitchell Metals
   6. Perfection Architectural Systems, Inc.
   7. Peachtree Protective Covers.
   8. Rusco Canopies

B. Materials:
   1. Aluminum Members: Extruded aluminum rigid bents, fascia gutter and deck sections; 6063 T-6 aluminum alloy; members sized to withstand live, dead and installation loads.
   2. Fasteners: Aluminum or 18-8 stainless steel as recommended by manufacturer.
   3. Grout: 2,000 psi compressive strength.

C. Deck: Interlocking modules fastened creating a monolithic structural unit.
   1. Deck Profile Thickness: 4 ½ -inches, unless indicated otherwise.

D. Fabrication: Edges and sections neatly cut, true and smooth. Factory-weld with neatly mitered corners, smooth and uniform welds with 100% weld penetration.
   1. Provide end closures of same thickness material as canopy, fully welded 3 sides to provide completely sealed open ends of drainage channels.
   2. Fabricate canopy system to drain precipitation from deck to gutter/fascia/beam and to spout outlets.

E. Finish: Class I, Clear Anodic Finish: AA-M12C22A41 Class I, 0.018 mm, or thicker.

2.2 METAL ROOF PANEL REPLACEMENT

A. Description: Metal roof panel replacement of damaged metal roof panels; remainder of canopy and support framing to remain.

B. Metal Roof Panel Replacement Materials: There are various metal covered walk and canopy system types required for replacement. In each case, match as closely as possible, existing pre-finished metal finish, profile, gage, of metal panel and trim.
   1. Fasteners: Stainless steel, match existing size and type.

2.3 MISCELLANEOUS

A. Flashings at Walls: 0.040" thick aluminum or 24-ga stainless steel, finish to match canopy.

PART 3 - EXECUTION

3.1 REMOVAL

A. Refer to Division 2 Selective Demolition, for removal of existing covered walk and canopies.

3.2 PREPARATION

A. Clean and paint existing steel support structure comprising steel columns and beams.

3.3 INSTALLATION

A. Install plumb and level in accordance with manufacturer's instructions and as indicated.

B. Set roof decks and fascia/gutters for positive drainage away from building for discharge at drain spouts.

C. Locate downpouts discharge away from building and pedestrian pathways. .

D. Protect surfaces of aluminum in contact with steel with 30-mil sheet EPDM or neoprene sheets.

E. Where canopies abut walls provide continuous metal flashings along juncture between canopy and wall.
   a. Seal at juncture and where anchorage penetrate wall to maintain watertightness of installation.
   b. Extend metal flashing a minimum of 3" past each end of the canopy.

c. Provide sealant as indicated. Sealant is specified in Division 7 Section.

F. Clean surfaces upon completion. Touch-up marred surfaces.

END OF SECTION 10 73 00

SECTION 22 10 00 - PLUMBING PIPING

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Pipe and Pipe Fittings

B. Valves

C. Domestic Water Piping system

D. Service Connections

E. Natural Gas Piping System

1.2 RELATED WORK

A. Section 230000 - General Provisions

B. Section 230516 - Expansion Compensation

C. Section 230523 - Supports and Anchors

D. Section 230700 - Piping Insulation

E. Section 221010 - Plumbing Specialties

1.3 REFERENCES:

A. ANSI/ASME B16.3 - Malleable Iron Threaded Fittings Class 150 NS 300.

B. ANSI/ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings - DWV.

C. ANSI/ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV.

D. ANSI/ASME Sec. 9 - Welding and Brazing Qualifications.

E. ANSI/ASTM B32 - Solder Metal.

F. ANSI/ASTM C443 - Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets.

G. ASTM A53 - Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.

H. ASTM A74 - Cast Iron Soil Pipe and Fittings.

I. ASTM A234 - Pipe Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and Elevated Temperatures.

J. ASTM B88 - Seamless Copper Water Tube.

K. ASTM B306 - Copper Drainage Tube (DWV).

L. ASTM C564 - Rubber Gaskets for Cast Iron Soil Pipe and Fittings.

M. AWS A5.8 - Brazing Filler Metal.

N. AWWA C601 - Standard Methods for the Examination of Water and Waste Water.

O. CISPI 301 - Cast Iron Soil Pipe and Fittings for Hubless Cast Iron Sanitary System.

P. CISPI 310 – Standard for cast iron couplings

Q. LSPC – The latest addition of the Louisiana State Plumbing Code.

1.4 QUALITY ASSURANCE:

A. Valves: Manufacturer's name and pressure rating market on valve body.

B. Welding Materials and Procedures: Conform to ASME Code and applicable state labor regulations.

C. Welders Certification: In accordance with ANSI/ASME Sec. 9. ANSI/AWS D 1.1.

D. Cast iron pipe and fittings shall be marked with CISPI's collective trademark.

1.5 SUBMITTALS:

A. Submit shop drawings and product data under provisions of Section 013000.

B. Include data on pipe material, pipe fittings, valves and accessories.

1.6 WATER PIPE AND FITTING MATERIALS STANDARD

A. Valves Material Standards
1. Valves, bronze gate: MSS SP-80
2. Valves, cast iron gate: ASTM A 126
3. Valves, ball: MSS SP-72, MSS SP-110
4. Valves, resilient-seated gate: ANSI/AWWA C509

B. Temperature Control Device Standards
1. Individual shower control valves, anti-scald: ASSE 1016
2. Temperature actuated mixing valves for primary domestic use: ASSE 1017
3. Water supply valves, mixing valves and single control mixing valves: ASSE 1029

PART 2 - PRODUCTS

2.1 NATURAL GAS PIPING, BURIED BEYOND 5 FEET OF BUILDING:

A. Polyethylene Pipe: ASTM D2513, SDR 11.5.

Fittings: ASTM D2683 to ASTM D2513, socket type.
Joints: Fusion welded.

2.2 NATURAL GAS PIPING, ABOVE GRADE:

A. Steel Pipe: ASTM A53 or A120, Schedule 40, black.
Fittings: ANSI/ASME B16.3, malleable iron, or ASTM A234, forged steel welding type.
Joints: Screwed for pipe two (2) inches and under; ANSI/AWS D1.1 welded, for pipe over two (2) inches. All gas piping run in a concealed space shall be welded.

2.3 FLANGES, UNION, AND COUPLINGS:

A. Pipe Size two (2) Inches and Under: 150 psig malleable iron unions for threaded ferrous piping; bronze unions for copper pipe, solder joints.

B. Pipe Size Over two (2) Inches: 150 psig forged steel slip-on flanges for ferrous piping; bronze flanges for copper piping; neoprene gaskets for gas service.

C. Dielectric Connections: Unions with galvanized or plated steel threaded end, copper solder end, water impervious isolation barrier.

2.4 GATE VALVES

A. Up to two (2) Inches: Bronze body, non-rising or rising stem and handwheel, inside screw, single double wedge or disc, solder or threaded ends. Nibco Model 113 Series, Crane Model 438 Series, Powell Model 2700, Hammond 2B 617 or approved equal.

B. Over two (2) Inches: Iron body, bronze trim, non-rising or rising stem and handwheel, OS&Y, single wedge, flanged ends. Red and White 415/421, NIBCO F619/F617, Crane 461/465 1/2 or approved equal.

2.5 GLOBE VALVES:

A. Up to 2 Inches: Bronze body, rising stem and handwheel inside screw, renewable composition disc, solder screwed ends, with backseating capacity. Nibco Model 211 Series, Crane Model 1 Series, Powell Model 150, Hammond 1.413, Red White 211/212 or approved equal.

B. Over 2 Inches: Iron body, bronze trim, rising stem and handwheel, OS&Y, plug-type disc, flanged ends. Red and White Fig 400 or NIBCO F718-B, Crane 351 or approved equal.

2.6 BALL VALVES:

A. Up to 2 Inches: Bronze or stainless steel body, stainless steel ball, teflon seats and stuffing box ring, lever handle and balancing stops, solder threaded ends with union. Nibco Model 580 Series, Crane Model 2330 Series, Red White 5092/5095 or approved equal.

B. Over 2 inches: Cast steel body, chrome plated steel ball teflon seat and stuffing box seals, lever handle or gear drive handwheel for sizes 10 inches and over, flanged.

2.7 BUTTERFLY VALVES:

A. Iron body, bronze disc, resilient replaceable seat for service to 180-degrees F, or lug end butterfly, 10 position over handle or infinite position lever handle with memory stop.

2.8 SWING CHECK VALVES:

A. Up to 2 inches: Bronze 45 degree swing disc, solder or screwed ends. Nibco Model 413 Series, Crane Model 37 Series, Red White 236/237 or approved equal.

B. Over 2 inches: Iron body, bronze trim, 45 degrees swing disc, renewable disc and seat, flanged ends. Red White 435, Nibco F918, Crane 373 or approved equal.

2.9 SPRING LOADED CHECK VALVES:

A. Iron body, bronze trim, spring loaded, bronze disc, wafer.

B. Red White 442, Nibco W920W, Stockham W6-970 or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION:

A. Ream pipe and tube ends. Remove burrs. Bevel end Ferrous pipe.

B. Remove scale and dirt, on inside and outside, before assembly.

C. Prepare piping connections to equipment with flanges or unions.

3.2 INSTALLATIONS:

A. Provide non-conducting dielectric connections wherever jointing dissimilar metals.

B. Route piping in orderly manner and maintain gradient.

C. Install piping to conserve building space and not interfere with use of space.

D. Group piping whenever practical at common elevations.

E. Install piping to allow for expansion and contraction without stressing pipe, joints, or connected equipment.

F. Provide clearance for installation of insulation and access to valves and fittings.

G. Provide access where valves and fittings are not exposed.

H. Slope water piping and arrange to drain at low points.

I. Establish elevations of buried piping outside the building to insure not less than 3 feet of cover.

J. Where pipe support members are welded to structural building framing, scrape, brush clean, and apply one coat of zinc rich primer to welding.

K. Prepare pipe, fittings, supports, and accessories not prefinished, ready for finish painting.

L. Establish invert elevations, slope all drainage piping 4 inches and larger to 1/8 inch per foot minimum. All drainage piping 3 inches and smaller shall be sloped to 1/4 inch per foot minimum.

M. Install bell and spigot pipe with bell end upstream.

N. Install valves with stems upright or horizontal, not inverted.

O. Provide one plug cock wrench for every ten plug cocks sized 2 inches and smaller, minimum of one. Provide one plug cock wrench for each plug cock sized 2-1/2 inches and larger.

P. In pipe 3 – inch nominal diameter of less, cleanouts shall be located at not more than 50ft.intervals

Q. In pipe 4 – inches nominal diameter through 6 inches nominal diameter, cleanouts shall be located at not more than 80ft. intervals

R. Each building drain shall be provided with a cleanout within 6ft. of the junction of the building drain and building sewer.

3.3 APPLICATION:

A. Grooved mechanical couplings and fasteners not allowed.

B. Install unions downstream of valves and at equipment or apparatus connections.

C. Install brass male adapters each side of valves in copper piped system. Sweat solder adapters to pipe. All joints in potable lines to be lead free.

D. Install gate, ball, butterfly valves for shut-off and to isolate equipment, part of systems, or vertical risers.

E. Install globe, ball, butterfly valves for throttling, bypass, or manual flow control services.

F. Provide spring loaded check valves on discharge of water pumps.

3.4 TEST

A. All Gas piping shall be tested in accordance to NFPA 54.

B. Prior to any test, the contractor shall notify the Architect in writing a minimum of 5 business days, the date and time the test will take place. No exceptions. After the completion of the test but before the building is substantially complete the contractor shall submit a written report with the following information for each test performed.
   1. Project Name
   2. Project Location
   3. Plumbing Contractor Name, Address and Contact Information
   4. Identification of test performed.
   5. Time and Date test was started

6. Time and Date test was completed.

3.5 SERVICE CONNECTIONS:

A. Tie new gas service into existing onsite. Coordinate connection with gas service provider.

END OF SECTION 22 10 00

SECTION 23 00 00 - GENERAL MECHANICAL

PART 1 - GENERAL CONDITIONS

1.1 WORK INCLUDED

A. The general conditions of the general specifications are made a part of these specifications and apply the same as if attached hereto. The contractor should, before bidding, read and thoroughly understand all general conditions, priority and scheduling.

1.2 SCOPE OF WORK

A. This section calls for the furnishing of labor, materials, equipment, and all the services, and of performing all operations required for the complete mechanical systems as hereinafter specified and/or shown on the accompanying drawings.

1.3 GENERAL REQUIREMENTS

A. Contractor shall install his work to meet the existing conditions as found at buildings and property, and to accommodate work of other trades. This contractor shall be responsible for timely placing of sleeves in forms before concrete is poured. Cooperate with the general contractor and place pipes and ducts in floors, walls, furred spaces, etc., so there will be no delay. Sheet metal or iron pipe sleeves shall be provided for pipes passing through floors, wall or partitions.

B. Contractor shall furnish and properly install materials, devices, equipment, insulation, controls, appurtenances, etc., mentioned in these specifications and/or shown on plans or required to make a complete and satisfactory installation in working order whether fully shown or not.

C. Contractor should visit the site and acquaint himself thoroughly with conditions governing installation of his work.

D. All other plans shall be checked in relation to these plans so that all conditions will be furnished and installed in this contract to provide complete and satisfactory systems.

1.4 LAWS, RULES, REGULATIONS, FEES, ETC.

A. The entire mechanical work shall comply with rules and regulations of the local and state authorities having jurisdiction including the State Fire Marshal and the State Board of Health. All modifications required by the said authorities at any time shall be made by the mechanical contractor without additional charge. In cases where alterations to or deviations from this specification and accompanying plans are required by the authorities, contractor shall report same to the Architect and obtain his approval before work is started.

1.5 DRAWINGS

A. Plans and detail sketches are submitted to limit, explain, and define structural conditions, specified requirements, pipe sizes, and manner of erecting work. Structural or other conditions may require certain deviations from manner of installation shown, and such

deviations shall be made as required, but specified sizes and requirements necessary for satisfactory operation shall remain unchanged.

B. It may be necessary to shift or to change routing of ducts and or piping and this shall be done, but such changes must be referred to Architect for approval before proceeding. Extra charges will not be allowed for these changes.

C. Typical details are shown on plans, and in any cases where Contractor is not certain about the method of installation of this work, he shall ask for details, lack of details will not be an excuse for improper installation.

D. Contractor bidding on this portion of the work must be fully experienced in installations of equal size, complexity and quality. In bidding, he acknowledges that he fully understands the scope of the work and design and has the ability, for the contract price to assemble and install the equipment, piping, and ductwork shown or specified, so as to mold same into a satisfactory workable system and arrangement, without responsibility for capacities and sizes set by these documents.

E. Contractor shall recognize that the amount of information and detail that could be provided in Contract Documents is limitless and could extend into every minute detail, step, sequence, and operation to a point where only workmen would be required, without drawing on ability experience, and ingenuity of the Contractor.

1.6 MATERIALS

A. Where directed by the Architect, Contractor shall submit sample for approval before proceeding.

1.7 STANDARDS

A. In general, standards for products and workmanship shall be as described in each individual section.

B. The standards referred to, except as modified in these specifications shall have full force and effect as though printed in these specifications. These standards are not furnished to bidders for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements. The Architect will furnish, upon request, information as to how copies of the standards referred to may be obtained.

C. Notwithstanding any reference in this section of the specifications to any article, device, product, material, fixture, form or type of construction by name, make or catalogue number, such references shall be interpreted as establishing a standard of quality and shall not be construed limiting competition and the Contractor in such cases, may at his option, use any article, device, product, material, fixture, form or type of construction which in the judgment of the Architect, expressed in writing, is equal to that specified.

1.8 MATERIALS SPECIFIED OR SUBSTITUTED (Prior Approvals)

A. Refer to Instructions to Bidders.

1.9 SHOP DRAWINGS

A. Before proceeding with the work, contractor shall make complete shop and working drawings of such apparatus or connections as directed by the Architect and/or hereinafter specified. These drawings shall show construction details and dimensions of each piece of equipment so drawn.

B. Architects approval of shop drawings shall not relieve the Contractor from responsibility of incorrectly figured dimensions or any other errors in these drawings or specified even though approved by the Architect, shall not relieve this Contractor from furnishing and erecting same.

C. Ten (10) sets of prints of shop drawings shall be submitted to Architect for approval. These prints shall be supplied as part of this contract. Submit all shop drawings at the same time or as soon as practical after award of the contract. No separate items will be accepted.

D. Where laws or local regulations provide that certain accessories such as gauges, thermometers, relief valves and parts be installed on equipment, it shall be understood that such accessories shall be furnished if no specific reference to them is made in the specifications.

1.10 CUTTING AND PATCHING

A. All cutting necessary for this work will be done by this Contractor at his own expense, but all patching shall be done by the General Contractor. No beams or joists shall be cut without prior approval of Architect. After initial resurfacing has been done any further cutting, patching or painting shall be done at the expense of this Contractor.

1.11 INTERFERENCES

A. The drawings are generally diagrammatic and this Contractor shall harmonize his work with that of the different trades so that interferences of the different equipment, piping, etc., shall be installed so as to function properly. In the case where interference develops, the Architect is to state which equipment, piping, etc., is to be relocated regardless of which item was first installed.

1.12 EXCAVATION AND BACKFILL

A. This Contractor shall do all excavating required to lay the specified services and after same have been laid, he shall do all backfilling to the satisfaction of all parties concerned and shall cart away from the premises all unnecessary dirt, rubbish, etc., as directed. Backfill shall be well tamped. All backfill shall be done according to the “Compaction And Backfill” section of these specifications.

1.13 SPACE REQUIREMENTS

A. Contractor shall check all plans pertaining to this job so as to be fully aware of the space limitations for all various items of equipment. Equipment is not to be bid on, submitted for preliminary approval nor placed on the job if it is so bulky and large that adequate access for proper maintenance and servicing cannot be achieved in the space provided.

1.14 FOUNDATIONS AND SUPPORTS

A. This contractor shall furnish and install foundations and supports of concrete or steel shapes for equipment requiring same, unless specifically indicated otherwise or specified.

B. All floor mounted mechanical equipment shall be mounted on 4" high concrete housekeeping pad unless specifically shown otherwise on plans. Refer to plans for special requirements for foundations and supports.

1.15 HANGERS, ESCUTCHEONS, ETC.

A. See Section 230529 – Supports and Anchors.

B. Mechanical Contractor shall furnish and install all thimbles, inserts and other requirements necessary for the support of his equipment and piping. Assist and cooperate with other trades in locating and placing these items.

1.16 SIPHON PREVENTERS

A. Furnish and install approved type siphon preventors on all equipment and fixtures in such a manner as to prevent water being siphoned back into the water supply in the event the water supply is shut off.

1.17 FLAME SPREAD PROPERTIES OF MATERIALS

A. All materials and adhesives used for acoustical linings, jackets and insulation shall comply with requirements of NFPA 90A and 90B and UL guide # 40V.8.15. Products exceeding a flame spread rating of 25, or a smoke developed rating of 50, as determined by ASTM Test Method E-84 are prohibited. Adhesives and sealers shall be fire retardant and fire resistant when dry. Flame proofing treatments which are subject to decomposition, deterioration, or the effects of moisture are prohibited.

1.18 PROTECTION OF EQUIPMENT

A. See individual sections for protection of equipment.

B. This Contractor shall at all times take such precautions as may be necessary to properly protect his equipment from damage. Failure on the part of the Contractor to comply with the above to the entire satisfaction of the Architect will be sufficient cause for the rejection of the particular piece of equipment in question.

1.19 TESTING

A. All pressure lines, unless elsewhere specified, shall be tested under 150# hydrostatic pressure unless rated pressure is less for a minimum of 5 hours. Contractor shall provide valve at farthest point in line to bleed off air and for inspection.

B. Notice shall be given the Architect before tests are made, the test is not to be drawn off pipes and pipes are not to be covered or insulated until filled pipes have been examined and testing approved by the Architect.

C. In case of defects, they shall be made good to the satisfaction of the Architect and work retested. All such work shall be done by the Contractor with no additional expense to the

Owner.

D. Contractor shall make any other such tests as may be called for by the Architect, and all other tests so called for elsewhere in these specifications.

1.20 CLEANING AND ADJUSTING

A. Before receiving final approval from the Architect, the Contractor shall clean out all lines; adjust all valves, control equipment and other equipment. Clean all pipe and equipment and leave the entire installation in good working order. All heaters, fans, grilles, controls, etc., shall be adjusted to perform in correct and satisfactory manner, with sequences, etc., as called for in the specifications hereinafter specified and on plans.

1.21 PAINTING

A. Refer to Section 099000 – Painting and Coating and 230553 – Mechanical Identification for painting requirements.

1.22 PARTS LIST AND INSTRUCTION MANUAL

A. See individual sections for specific instructions.

B. This Contractor shall deliver to the Architect three (3) copies of printed instructions relating to operating, proper maintenance and repair parts list indicating the various parts by name, number and diagram for each piece of equipment installed. Test and balance report shall also be included in parts list and instruction manual.

C. The shop drawings, parts list, and maintenance and repair instructions shall be neatly bound in a canvas-covered notebook and turned over to the Architect before acceptance of the work.

1.23 GUARANTEE

A. Contractor shall guarantee materials, equipment and workmanship installed and performed under this contract for a period of one (1) year from date of the final completion and official acceptance of the contract.

B. He shall furnish free of charge to the Owner all materials and labor necessary to comply with the above guarantee, which shall be based on defective materials and/or workmanship, and on such basis shall be responsible if a deficiency is found, for any adjustment, replacement, or correction which may be necessary to replace the project to first class condition. This guarantee shall include refrigerant charges, but shall not include the changing of filters.

1.24 RECORD DRAWINGS

A. The Contractor shall maintain a set of record drawings on-site throughout the construction. The record drawings shall reflect accurate dimensional record of all underground, buried, above ceiling, or otherwise concealed work.

B. The Contractor shall maintain these record documents and keep them up-to-date daily.

END OF SECTION 23 00 00

SECTION 23 05 00 - BASIC MECHANICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:
1. Piping materials and installation instructions common to most piping systems.
2. Dielectric fittings.
3. Mechanical sleeve seals.
4. Sleeves.
5. Escutcheons.
6. Grout.
7. Mechanical demolition.
8. Equipment installation requirements common to equipment sections.
9. Concrete bases.
10. Supports and anchorages.

1.2 DEFINITIONS

A. Finished Spaces: Spaces other than mechanical and electrical equipment rooms, furred spaces, pipe and duct shafts, unheated spaces immediately below roof, spaces above ceilings, unexcavated spaces, crawlspaces, and tunnels.

B. Exposed, Interior Installations: Exposed to view indoors. Examples include finished occupied spaces and mechanical equipment rooms.

C. Exposed, Exterior Installations: Exposed to view outdoors or subject to outdoor ambient temperatures and weather conditions. Examples include rooftop locations.

D. Concealed, Interior Installations: Concealed from view and protected from physical contact by building occupants. Examples include above ceilings and in duct shafts.

E. Concealed, Exterior Installations: Concealed from view and protected from weather conditions and physical contact by building occupants but subject to outdoor ambient temperatures. Examples include installations within unheated shelters.

1.3 SUBMITTALS

A. Welding certificates.

1.4 QUALITY ASSURANCE

A. Steel Support Welding: Qualify processes and operators according to AWS D1.1, "Structural Welding Code--Steel."

B. Steel Pipe Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX, "Welding and Brazing Qualifications."
1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."

2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.

C. Electrical Characteristics for Mechanical Equipment: Equipment of higher electrical characteristics may be furnished provided such proposed equipment is approved in writing and connecting electrical services, circuit breakers, and conduit sizes are appropriately modified. If minimum energy ratings or efficiencies are specified, equipment shall comply with requirements.

PART 2 - PRODUCTS

2.1 PIPE, TUBE, AND FITTINGS

A. Refer to individual Division 23 piping Sections for pipe, tube, and fitting materials and joining methods.

B. Pipe Threads: ASME B1.20.1 for factory-threaded pipe and pipe fittings.

2.2 JOINING MATERIALS

A. Refer to individual Division 23 piping Sections for special joining materials not listed below.

B. Pipe-Flange Gasket Materials: ASME B16.21, nonmetallic, flat, asbestos-free, 1/8-inch (3.2-mm) maximum thickness unless thickness or specific material is indicated.

C. Plastic, Pipe-Flange Gasket, Bolts, and Nuts: Type and material recommended by piping system manufacturer, unless otherwise indicated.

D. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.

E. Brazing Filler Metals: AWS A5.8, BCuP Series or BAg1, unless otherwise indicated.

F. Welding Filler Metals: Comply with AWS D10.12.

G. Solvent Cements for Joining Plastic Piping:
1. ABS Piping: ASTM D 2235.
2. CPVC Piping: ASTM F 493.
3. PVC Piping: ASTM D 2564. Include primer according to ASTM F 656.
4. PVC to ABS Piping Transition: ASTM D 3138.

2.3 DIELECTRIC FITTINGS

A. Description: Combination fitting of copper alloy and ferrous materials with threaded, solder-joint, plain, or weld-neck end connections that match piping system materials.

B. Insulating Material: Suitable for system fluid, pressure, and temperature.

C. Dielectric Unions: Factory-fabricated, union assembly, for 250-psig (1725-kPa) minimum working pressure at 180 deg F (82 deg C).

D. Dielectric Flanges: Factory-fabricated, companion-flange assembly, for 150- or 300-psig (1035- or 2070-kPa) minimum working pressure as required to suit system pressures.

E. Dielectric Couplings: Galvanized-steel coupling with inert and noncorrosive, thermoplastic lining; threaded ends; and 300-psig (2070-kPa) minimum working pressure at 225 deg F (107 deg C).

F. Dielectric Nipples: Electroplated steel nipple with inert and noncorrosive, thermoplastic lining; plain, threaded, or grooved ends; and 300-psig (2070-kPa) minimum working pressure at 225 deg F (107 deg C).

2.4 MECHANICAL SLEEVE SEALS

A. Description: Modular sealing element unit, designed for field assembly, to fill annular space between pipe and sleeve.

B. Sealing Elements: NBR interlocking links shaped to fit surface of pipe. Include type and number required for pipe material and size of pipe.

C. Pressure Plates: Carbon steel. Include two for each sealing element.

D. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

2.5 SLEEVES

A. Galvanized-Steel Sheet: 0.0239-inch (0.6-mm) minimum thickness; round tube closed with welded longitudinal joint.

B. Steel Pipe: ASTM A 53, Type E, Grade B, Schedule 40, galvanized, plain ends.

C. Cast Iron: Cast or fabricated "wall pipe" equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.

D. Stack Sleeve Fittings: Manufactured, cast-iron sleeve with integral clamping flange. Include clamping ring and bolts and nuts for membrane flashing.
   1. Underdeck Clamp: Clamping ring with set screws.

E. Molded PVC: Permanent, with nailing flange for attaching to wooden forms.

F. PVC Pipe: ASTM D 1785, Schedule 40.

G. Molded PE: Reusable, PE, tapered-cup shaped, and smooth-outer surface with nailing flange for attaching to wooden forms.

2.6 ESCUTCHEONS

A. Description: Manufactured wall and ceiling escutcheons and floor plates, with an ID to closely fit around pipe, tube, and insulation of insulated piping and an OD that completely covers opening.

B. One-Piece, Deep-Pattern Type: Deep-drawn, box-shaped brass with polished chrome-plated finish.

C. One-Piece, Cast-Brass Type: With set screw.
   1. Finish: Polished chrome-plated and rough brass.

D. Split-Casting, Cast-Brass Type: With concealed hinge and set screw.
   1. Finish: Polished chrome-plated and rough brass.

PART 3 - EXECUTION

3.1 MECHANICAL DEMOLITION

A. Refer to Division 1 Sections "Cutting and Patching" and "Selective Demolition" for general demolition requirements and procedures.

B. Disconnect, demolish, and remove mechanical systems, equipment, and components indicated to be removed.
   1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
   2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
   3. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
   4. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material.
   5. Equipment to Be Removed: Disconnect and cap services and remove equipment.
   6. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
   7. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

C. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.2 PIPING SYSTEMS - COMMON REQUIREMENTS

A. Install piping according to the following requirements and Division 23 Sections specifying piping systems.

B. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicated locations and arrangements were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.

C. Install piping in concealed locations, unless otherwise indicated and except in equipment rooms and service areas.

D. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.

E. Install piping above accessible ceilings to allow sufficient space for ceiling panel removal.

F. Install piping to permit valve servicing.

G. Install piping at indicated slopes.

H. Install piping free of sags and bends.

I. Install fittings for changes in direction and branch connections.

J. Install piping to allow application of insulation.

K. Select system components with pressure rating equal to or greater than system operating pressure.

L. Install escutcheons for penetrations of walls, ceilings, and floors.

M. Install sleeves for pipes passing through concrete and masonry walls, gypsum-board partitions, and concrete floor and roof slabs.

N. Aboveground, Exterior-Wall Pipe Penetrations: Seal penetrations using sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
   1. Install steel pipe for sleeves smaller than 6 inches (150 mm) in diameter.
   2. Install cast-iron "wall pipes" for sleeves 6 inches (150 mm) and larger in diameter.
   3. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

O. Underground, Exterior-Wall Pipe Penetrations: Install cast-iron "wall pipes" for sleeves. Seal pipe penetrations using mechanical sleeve seals. Select sleeve size to allow for 1-inch (25-mm) annular clear space between pipe and sleeve for installing mechanical sleeve seals.
   1. Mechanical Sleeve Seal Installation: Select type and number of sealing elements required for pipe material and size. Position pipe in center of sleeve. Assemble mechanical sleeve seals and install in annular space between pipe and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

P. Fire-Barrier Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at pipe penetrations. Seal pipe penetrations with firestop materials. Refer to Division 7 Section "Through-Penetration Firestop Systems" for materials.

Q. Verify final equipment locations for roughing-in.

R. Refer to equipment specifications in other Sections of these Specifications for roughing-in requirements.

3.3 PIPING JOINT CONSTRUCTION

A. Join pipe and fittings according to the following requirements and Division 15 Sections specifying piping systems.

B. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.

C. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.

D. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.

E. Brazed Joints: Construct joints according to AWS's "Brazing Handbook," "Pipe and Tube" Chapter, using copper-phosphorus brazing filler metal complying with AWS A5.8.

F. Threaded Joints: Thread pipe with tapered pipe threads according to ASME B1.20.1. Cut threads full and clean using sharp dies. Ream threaded pipe ends to remove burrs and restore full ID. Join pipe fittings and valves as follows:
   1. Apply appropriate tape or thread compound to external pipe threads unless dry seal threading is specified.
   2. Damaged Threads: Do not use pipe or pipe fittings with threads that are corroded or damaged. Do not use pipe sections that have cracked or open welds.

G. Welded Joints: Construct joints according to AWS D10.12, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.

H. Flanged Joints: Select appropriate gasket material, size, type, and thickness for service application. Install gasket concentrically positioned. Use suitable lubricants on bolt threads.

I. PE Piping Heat-Fusion Joints: Clean and dry joining surfaces by wiping with clean cloth or paper towels. Join according to ASTM D 2657.
   1. Plain-End Pipe and Fittings: Use butt fusion.
   2. Plain-End Pipe and Socket Fittings: Use socket fusion.

J. Fiberglass Bonded Joints: Prepare pipe ends and fittings, apply adhesive, and join according to pipe manufacturer's written instructions.

3.4 PIPING CONNECTIONS

A. Make connections according to the following, unless otherwise indicated:
   1. Install unions, in piping NPS 2 (DN 50) and smaller, adjacent to each valve and at final connection to each piece of equipment.
   2. Install flanges, in piping NPS 2-1/2 (DN 65) and larger, adjacent to flanged valves and at final connection to each piece of equipment.

3. Dry Piping Systems: Install dielectric unions and flanges to connect piping materials of dissimilar metals.
4. Wet Piping Systems: Install dielectric coupling and nipple fittings to connect piping materials of dissimilar metals.

3.5 EQUIPMENT INSTALLATION - COMMON REQUIREMENTS

A. Install equipment to allow maximum possible headroom unless specific mounting heights are not indicated.

B. Install equipment level and plumb, parallel and perpendicular to other building systems and components in exposed interior spaces, unless otherwise indicated.

C. Install mechanical equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Extend grease fittings to accessible locations.

D. Install equipment to allow right of way for piping installed at required slope.

3.6 ERECTION OF METAL SUPPORTS AND ANCHORAGES

A. Refer to Division 5 Section "Metal Fabrications" for structural steel.

B. Cut, fit, and place miscellaneous metal supports accurately in location, alignment, and elevation to support and anchor mechanical materials and equipment.

C. Field Welding: Comply with AWS D1.1.

3.7 ERECTION OF WOOD SUPPORTS AND ANCHORAGES

A. Cut, fit, and place wood grounds, nailers, blocking, and anchorages to support, and anchor mechanical materials and equipment.

B. Select fastener sizes that will not penetrate members if opposite side will be exposed to view or will receive finish materials. Tighten connections between members. Install fasteners without splitting wood members.

C. Attach to substrates as required to support applied loads.

END OF SECTION 23 05 00

SECTION 230700 - PIPING AND EQUIPMENT INSULATION

PART 1 - GENERAL

1.1 WORK INCLUDED

A. Piping Insulation

B. Jackets and Accessories

C. Equipment Insulation

D. Duct Insulation

1.2 RELATED WORK

A. Section 233100 - Ductwork

1.3 REFERENCES

A. ANSI/ASTM C547 - Mineral Fiber Preformed Pipe Insulation

B. ANSI/ASTM C552 - Cellular Glass Block and Pipe Thermal Insulation.

C. ASTM B209 - Aluminum and Aluminum Alloy Sheet and Plate

D. ASTM E845 - Surface Burning Characteristics of Building Materials.

E. NFPA 255 - Surface Burning Characteristics of Building Materials.

F. UL 723 - Surface Burning Characteristics of Building Materials.

1.4 QUALITY ASSURANCE

A. Applicator: Company specializing in application of piping insulation.

B. Materials: Flame spread/fuel contributed/smoke developed rating of 25/50/50 in accordance with ASTM E84, NFPA 255.0, UL 723.

1.5 SUBMITTALS

A. Submit product data for each application as per Section 01 30 00– Administrative Requirements.

B. Submit manufacturer's installation instructions.

PART 2 - PRODUCTS

2.1 INSULATION

A. After all work has been tested and found to be leak free and tight, and accepted by the Architect, insulate as follows:
   1. All chilled water, supply and return, piping above ground shall be covered with 2" thick molded cellular foam, foamglas or cell-u-glass type sectional pipe covering to be complete with F.R.J. jacket, with the exception of hot water run-outs - see item No. 2. Sections of covering shall be joined together, the mastic to be buttered on only one of the two adjoining surfaces at both the longitudinal and circumferential joints so that a complete seal at the joints is obtained. The piping insulation is to be secured in place with copper wire spaced not more than 12" on center.
   2. All heating water, supply and return, piping above ground shall be covered with 1- ½" thick molded cellular foam, foamglas or cell-u-glass type sectional pipe covering to be complete with F.R.J. jacket, with the exception of hot water run-outs – see item No. 2. Sections of covering shall be joined together, the mastic to be buttered on only one of the two adjoining surfaces at both the longitudinal and circumferential joints so that a complete seal at the joints is obtained. The piping insulation is to be secured in place with copper wire spaced not more than 12" on center.
   3. All domestic hot and cold piping above ground shall be covered with 1" thick fiberglass, molded type sectional pipe covering complete with FRJ jacket. Sections of pipe covering shall be joined together, the mastic to be buttered on only one of the two adjoining surfaces at both the Longitudinal and circumferential joints so that a complete seal at the joints is obtained. The piping insulation will be secured in place with copper wire spaced not more than 12 on center. All domestic water piping insulation shall be continuous. Contractor shall not cut insulation to fit around structural items. No exceptions.
   4. Fittings, flanges, valves, etc., shall be covered with molded or fabricate covers of same material as pipe covering and shall be finished with two (2) coats of white vapor barrier mastic reinforced with 20-20 mesh glass fabric.
   5. All chilled heating and water valves, and hot water pumps shall be insulated with a factory fabricated removable cover. Cover shall be fabricated of 1" close cell elastomeric insulation complete with Velcro closures.
   6. All outdoor mechanical piping shall be covered with aluminum jacket, water tight.

PART 3 - EXECUTION

3.1 PREPARATION

A. Install materials in accordance with manufacturer's instructions.

3.2 INSTALLATION

A. Install materials in accordance with manufacturer's instructions.

B. Continue insulation with vapor barrier through penetrations.

C. On insulated piping with vapor barrier, insulate fittings, valves, unions, flanges, strainers, flexible connections, and expansion joints.

D. Neatly finish insulation at supports, protrusions, and interruptions.

END OF SECTION 23 07 00

SECTION 26 01 00 - BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 SCOPE

A. The scope of work is as indicated on electrical drawings and includes but is not limited to the following:

B. Demolition:
   1. Disconnect and remove all existing conduit and wiring affixed to canopies. Including but not limited to special systems, exposed cabling, feeders, branch circuits.
   2. Disconnect and remove existing special systems devices including but not limited to intercom, cameras, and fire alarm devices.
   3. Disconnect and remove existing lighting fixtures.
   4. For all wiring and cabling removed contractor must determine the source and termination for reconnection.

C. Power/Lighting/Special Systems:
   1. Prior to the commencement of work the contractor must trace all existing connections. Any interruption to services, special systems or power, shall be coordinated with the principal and facility services a minimum of 2-week in advance of outage. Outages must be scheduled to minimize interruptions to facility operations this may include weekends or nights.
   2. Provide new exterior lighting where indicated on plans. Connect to existing exterior lighting circuitry. Provide 2#12, 1#12 GND, & 3/4” Conduit as required.
   3. Re-install any special systems devices removed. This includes but is not limited to fire alarm, cameras, and intercom.
   4. Provide conduit for all exposed special systems wiring currently routed on the canopy.

1.2 GENERAL CONDITIONS

A. The General Conditions and Supplementary General Conditions are a part of this section of these Specifications. The Contractor is cautioned to read and be thoroughly familiar with all provisions of the General Conditions. These conditions shall be complied with in every aspect.

1.3 DEFINITONS:

A. The word "shall" where used, is to be understood, as mandatory and the word "should" as advisory. "May" is used in the permissive sense.

B. Concealed: Concealed areas are those areas that cannot be seen by building occupants.

C. Exposed: Exposed areas are all areas that are exposed to view by building occupants, including areas below counter tops, inside cabinets and closets, inside all equipment rooms, and areas outside the building exterior envelope.

D. Feeder: Feeder consists of both conduit and wiring installed above or below grade

E. Provide: Provide shall including furnishing, installing, and connecting the item or items referenced unless specifically indicated otherwise.

1.4 QUALITY ASSURANCE

A. General:
   1. Where there is a conflict between the contract document and an applicable Code. The Code shall govern except where the requirements of the contract documents are more stringent. The most stringent requirement shall apply.
   2. All work shall be concealed unless specifically noted to be exposed.
   3. Resolve, in writing, any code violation discovered in contract documents with the Engineer prior to bidding. After award of the contract, Contactor shall make any correction or addition necessary for compliance with applicable codes at no additional cost.

B. An approved contractor for the work under this division shall be:
   1. A licensed electrical contractor in the jurisdiction in which the work shall be performed.
   2. Able to furnish evidence of having contracted for and installed not less than three (3) systems of comparable size and type that have served their Owners satisfactorily for no less than three (3) years.

C. All work, materials and equipment shall comply with the latest applicable codes, local ordinances, and UL requirements.

D. Provide new products of manufacturers regularly engaged in production of such equipment. Provide the manufacturer's latest standard design for the type product specified. All new products shall be listed for the use shown on drawings.

E. Equipment shall be delivered with a factory-applied finish so that no additional field painting is required.

F. Equipment shall be selected to conform the building space limitations. Do not provide equipment that cannot meet the arrangement requirements shown on plans. Contractor shall submit room layouts with submitted items shown drawn to scale. Submittals will be rejected without floor plan Drawings showing submitted items.

G. Manufacturer names and model numbers are subject to change. Contractor shall verify them with manufacturer's representative prior to ordering any product or equipment.

1.5 GENERAL REQUIREMENTS

A. The Contractor is referred to all of the Drawings for building construction as well as the electrical Drawings.

B. The Contractor shall examine the site and shall verify to his own satisfaction the location of all utilities, and shall adequately inform himself as to their relation to his work before entering into a Contract and he shall base his bid on any conditions, which may be

encountered during the progress of the work.

C. The Contractor shall furnish and install properly all materials, devices, equipment, supports, controls, appurtenances, etc., mentioned or required to make complete or satisfactory installations in working order whether shown or not. All electrical equipment shall be connected in accordance with manufacturer's instructions. All work shall be executed in a workmanlike manner and shall present a neat and mechanical appearance when completed.

D. The Contractor shall provide finished to match approved samples; all exposed finishes shall be approved by the Architect. Submit color samples as required.

1.6 APPLICABLE GENERAL CODES AND REGULATIONS

A. All electrical work and equipment, in whole or in part, shall conform to the applicable portions of the following specifications, codes and regulations in effect on that date of invitation for bids, and shall form a part of this specification.

B. The latest published edition of a reference shall be applicable to this Project unless identified by a specific edition.

C. All reference amendments adopted prior to the effective date of this Contract shall be applicable to this Project.
   1. NFPA 70, National Electrical Code
   2. National Fire Codes:
      a. NFPA 70E, Electrical Safety Requirements for Employee Workplaces
      b. NFPA 72, National Fire Alarm Code
      c. NFPA 77, Static Electricity
      d. NFPA 101, Life Safety Code
      e. NFPA 110, Emergency and Standby Power Systems
   3. Occupational Safety and Health Regulations (OSHA).
   4. NFPA Standards in effect shall be as listed or adopted by the appropriate authority having jurisdiction.
   5. American National Standards Institute (ANSI)
   6. Institute of Electrical and Electronics Engineers (IEEE)
   7. Local, City and State Codes and Ordinances
   8. Regulations and standards of the Electric Utility Company
   9. National Electrical Safety Code (NESC)
   10. National Electrical Manufacturers Association (NEMA)
   11. Insulated Power Cable Engineers Association (IPCEA)
   12. International Building Codes (IBC)
   13. International Energy Conservation Codes (IECC)

D. Equipment that has been inspected and approved by the Underwriter's Laboratory shall bear its label or appear on its list of approved apparatus.

1.7 DRAWINGS

A. Plans and detail sketches are submitted to limit, explain, and define conditions, specified requirements, conduit sizes, and manner of erecting work. The Contractor is cautioned to field check and verify all existing conditions before bidding, as no extra compensation

will be allowed for conditions found different than represented in the construction drawings and/or specifications. Written approval of the Architect shall be obtained prior to any alterations or additions to specified work.

B. Structural or other conditions may require certain modifications from the manner of installation shown, and such deviations are permissible and shall be made as required, but specified sizes and requirements necessary for satisfactory operations shall remain unchanged.

C. The drawings and these specifications are complementary to each other and what is called for by one shall be binding as if called for by both.

D. General arrangement of work is indicated on plans. Due to the small scale of the drawings, offsets, fittings, and boxes required are not all indicated; provide fittings, boxes, etc., as needed in accordance with codes and accepted practices.

1.8 SUPERVISION

A. The Contractor shall personally or through an authorized and competent representative, constantly supervise the work from beginning to completion and final acceptance. So far as possible, he shall keep the same foreman and workmen throughout the project duration.

B. During its progress, the work shall be subject to inspection by representatives of the Architect or Engineer, at which times the Contractor shall furnish required information.

C. It is not the Architect's or Engineer's duty to direct or guarantee the work of the Contractor, but to assist the Owner in obtaining a complete building in accordance with plans, specifications and addenda and to furnish engineering services in accordance with recognized practices.

1.9 PRIOR APPROVALS

A. The Contractor shall base his proposal on materials as specified herein. Any references to a specific manufacturer or trade name is made to establish a standard of quality and to define a type of product and in no way is intended to indicate a preference for a particular manufacturer. It is the intent of these specifications to allow all manufacturers of equipment, products, etc., judged equal to the specified product to bid on a competitive basis.

1.10 MEASUREMENTS

A. The Contractor shall verify all measurements and shall be responsible for the correctness of same, before ordering any materials or doing any work. No extra charge or compensation will be allowed for any differences between the actual measurements and those indicated on the drawings.

1.11 LAWS, PERMITS AND FEES

A. The entire electrical work shall comply with the rules and regulations of the City, Parish, and State, including the State Fire Marshal and State Board of Health, whether so

shown on plans or not. The Contractor shall pay fees for permits, inspections, etc., and shall arrange with the inspecting authorities all required inspections.

1.12 SITE INSPECTION

A. The Contractor shall visit the site and familiarize himself with difficulties attendant to the successful execution of the work before bidding. Failure to visit the site shall not relieve the Contractor of the extent or conditions of the work required of him.

1.13 TEMPORARY FACILTIES

A. The Contractor shall provide all temporary power and lighting for construction purposes. Installation of temporary power shall be in accordance with NEC Article 527.

PART 2 - PRODUCTS

2.1 MATERIAL AND EQUIPMENT

A. All materials, equipment, and accessories installed under this Contract, whether approved or not, shall be new and shall conform to all rules, codes, etc., as recommended or adopted by the National Association(s) governing the manufacture, rating and testing of such materials, equipment, and accessories.

B. Product Substitutions
   1. If item of equipment or device offered as Substitution differs in dimension or configuration from that indicated in the Contract Documents, provide, as part of the substitution submittal, a drawing that shows that the equipment or devices proposed for Substitution can be installed in the space available without interfering with other trades or with access requirements for operations and maintenance in the completed project. Drawings shall be of appropriate scale but shall not be smaller than a scale of 1/4-inch equals one foot.
   2. Where substitute equipment or devices requires different arrangement or connections from that indicated in the Contract Documents, install the equipment or devices to operate properly and in accordance with the requirements of the Contract Documents. Make incidental changes necessary in piping, ductwork or wiring which results from the inclusion of the substitute equipment or device without any additional cost to the Owner. Pay all additional costs incurred by other trades in connection with changes required by the inclusion of the substituted equipment or device in the Work.

2.2 SHOP DRAWINGS & SUBMITTALS

A. Shop drawings shall be taken to mean detailed drawings with dimensions, schedules, weights, capacities installation details, and pertinent information that will be needed to describe the material or equipment in detail.
   1. Shop drawings shall be prepared using computerized digital software compatible with AutoDesk's AutoCAD
   2. Submit hardcopy of Shop Drawings in the quantity as required under Division 01. Hardcopies of Shop Drawings shall have each sheet clearly labeled with a unique sheet identification number.

3. In addition to hardcopies required by Division 01, submit one copy of Shop Drawings in electronic format on Flash Drive. Files contained shall be named to correspond with the sheet names contained in the hardcopy set. Files on shall include both AutoCAD compatible source files and files printed to Portable Document Format (.pdf).

B. Submittals shall be taken to mean catalog cuts, general descriptive information, catalog numbers, and manufacturer's name.

C. Review of submittals or shop drawings shall not remove the responsibility for furnishing materials or equipment of proper dimensions, quantity and quality; nor will such review remove the responsibility for error in the shop drawings or submittals.

D. Assume all costs and liabilities, which may result from the ordering of any material, or equipment prior to the review of the shop drawings or submittals, and no work shall be done until the shop drawings or submittals have been reviewed. In case of correction or rejection, resubmit until such time as they are accepted by the Owner's representative and such procedures will not be cause for delay. After the final review, 6 copies will be supplied if requested.

E. Shop drawings and submittals will be returned unchecked if the specific items proposed are not clearly marked, or if the general Contractor's approval stamp is omitted.

F. Shop drawings, unless mark-ups are very trivial, will not be returned, "No Exception Taken". They will be returned for re-submittal as many times as necessary, however, the Contractor shall be back charged for engineering review time beginning with the second resubmittal. Therefore, the Contractor should make every effort to comply with the requirements of this Project on the first submittal in order to avoid project delays.

G. The Contractor shall submit to the Architect complete descriptive and dimensional data on the following items for review and approval when specified or provided:
1. Lighting Fixtures

PART 3 - METHODS OF INSTALLATIONS

3.1 CONTRACTOR COORDINATION

A. The Drawings are diagrammatic in nature. Cooperate with other trades so the interferences of facilities and equipment will be avoided.

3.2 OPENINGS, CUTTING AND PATCHING

A. Cut all openings as required for the electrical work. Patching will be done by the various crafts whose work is involved. Furnish and install all necessary sleeves, thimbles, hangers, inserts, etc., at such times and in such a manner as not to delay or interfere with the work of other Contractors. Caulk, flash or otherwise make weatherproof all penetrations through the roof and exterior walls.

B. Where conduit, cable or other items that are provided for under this contract penetrate fire rated walls or floors, the Contractor is to seal around the item to maintain the

integrity of the rated system.

3.3 PAINTING

A. Painting shall be performed as described in the painting specifications. No painting will be required by the Contractor except for touch-up of factory finishes on equipment furnished under this contract.

3.4 INSTALLATION

A. Unused knockouts on panels and boxes shall be covered with approved cover plates manufactured for the purpose.

3.5 TESTS AND INSPECTIONS

A. The Contractor shall assist in making periodic inspections or tests required by the Architect or Engineer. When requested, the Contractor shall provide the assistance of foremen and qualified craftsmen for reasonable duration of each test, etc.

B. The contract will not be declared to be substantially complete until all of the following conditions are satisfied.
   1. the functional operation of the subsystems have been demonstrated and verified and reports have been provided, reviewed and accepted.
   2. The “As-Built” drawings have been submitted, reviewed and accepted by the Architect / Owner / Owner’s Construction Representative.

3.6 SAFETY PRECAUTIONS DURING CONSTRUCTION

A. It shall be the Contractor's responsibility to furnish and install proper guards and instruction signs for prevention of accidents and to provide and maintain for the duration of construction any installations needed for safety of life and property.

3.7 IDENTIFICATION OF EQUIPMENT

A. Junction Box, Outlet Box & Wireway/Gutters: Identify conduits, pull boxes, junction boxes, and outlet boxes with the complete circuit number contained there-in.
   1. Where low voltage relay panels are used for lighting control, identify the low voltage relay panel and number in addition to the branch circuit panel and number.
   2. Emergency circuit junction boxes shall have a red painted cover. Circuit identification shall be clearly marked on the cover.
   3. Fire alarm circuits (only) shall be marked with a half red painted junction box and noted “Fire Alarm” on the cover.

B. Pull Boxes, Disconnect Switches, etc.: Label each with a name plate showing identity, voltage and phase and identifying equipment connected to it. The transformer rating shall be shown on the panels or enclosures. Nameplates shall also indicate where panel is fed from.

3.8 COMPLETION

A. The Contractor shall leave all electrical equipment with proper connections, and in

proper working order. He shall test the entire electrical system to show that it is properly installed. Contractor shall leave all panels and switches completely fused or complete with circuit breakers.

3.9 RECORD DRAWINGS

A. The Contractor shall furnish one (1) complete set of drawings on which any changes in the work shall be shown. In addition to changes in work contractor shall clearly indicate routing of all feeders both above and below ground. All underground conduit shall be noted on drawings to show “as built” locations. These drawings must be turned over to the Architect prior to final acceptance of the work.

3.10 GUARANTEE

A. The Contractor shall guarantee to keep the entire electrical system as installed by him or his subcontractors in repair and in perfect working order for one (1) year from the date of the final Certification of Final Acceptance, and shall furnish free of cost to the Owner, all material and labor necessary to comply with the above guarantee; said guarantee shall be based upon defective material and workmanship. In any case where equipment has a factory warranty exceeding this one-year limit, the full extent of the warranty shall apply.

3.11 CLEANING

A. When all work has been finally tested, the Contractor shall clean all fixtures, equipment, conduits, ducts, and all exposed work. All cover plates and other finished products shall be thoroughly cleaned.

3.12 INSTRUCTION MANUALS

A. The Contractor shall provide three (3) operating and maintenance instruction manuals on all systems and equipment installed in the electrical work.

B. The Contractor shall provide (3) copies of all warranties and guarantees for systems, equipment, devices, and materials.

3.13 CONTRACTOR SPECIAL NOTE

A. The Contractor is again cautioned to refer to all parts of these Specifications and all Drawings, not just electrical sections, and the individual cross references made to other standard specifications or details describing any electrical work, which may be required under these other sections. The Contractor is cautioned to note carefully any other sections which may reference electrical work in order for this Contractor to fully understand the wiring requirements and electrical work that is required. Any conflicts found between the electrical sections of these Specifications or Drawings shall be immediately directed to the General Contractor for clarification.

END OF SECTION 26 01 00

SECTION 26 05 00 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. All material furnished shall be new and shall conform to all rules and codes as recommended or adopted by the National Association governing the manufacture, rating and testing of the material. All electrical equipment shall be UL listed for the intended use.

PART 2 - PRODUCTS

2.1 RACEWAYS AND FITTINGS

A. Raceways permitted on this project shall be galvanized rigid conduit; electrical metallic tubing (EMT); flexible metallic tubing; liquid-tight flexible metal conduit; and rigid polyvinyl chloride (PVC) conduit. All conduits shall be new and shall bear the inspection label of the Underwriter's Laboratories, Inc.

B. Metallic conduit shall be metalized, or hot-dipped galvanized. Non-metallic conduit shall be schedule 40 PVC.

C. Fittings for conduit shall be an approved type specially designed and manufactured for their purpose. EMT fittings shall be water tight, compression type. Rigid metal conduit fittings, bushings, and other components shall be galvanized steel. All fittings for rigid steel or aluminum conduit shall be threaded and coupled unless specifically approved otherwise by the Engineer.

D. Where conduit connects to an outlet box, it shall have an insulated throat type connector.

2.2 EXPOSED CONDUIT

A. Exposed conduit shall be firmly supported on galvanized hangers; on brackets, hangers, or pipe straps; or by beam clamps. Conduit installed exposed shall be neatly aligned and run at right angles to the building walls or walls of the rooms in which installed. All exposed conduit shall be located to avoid all conflicts with architectural or mechanical components.

2.3 FLEXIBLE CONDUIT

A. Liquid-tight flexible metal conduit shall have a spiral wound, flexible, galvanized steel core and a tough extruded synthetic moisture-tight outer covering. All flexible conduits shall be UL listed.

2.4 CONDUIT

A. Each piece of conduit shall be straight, free from blisters and other debris, cut square

and taper reamed, and furnished with coupling in 10 foot length threaded each end. exterior locations.

B. Boxes for lighting fixtures shall be 4 inches octagon, not less than 1-1/2 inches deep, with fixtures stud fastened through from back box. Where boxes are installed in a concrete slab, boxes designed for this application shall be used.

2.5 WIRE (600 VOLT AND BELOW)

A. All conductors used in the work shall be of soft drawn annealed copper having a conductivity of not less than 98% of that of pure copper. Conductors shall be standard code gauge in size, insulated and shall have insulation rated for use at 600 volts.

B. Unless noted otherwise or specified, insulation shall be type THW, THWN, or THHN for sizes up to and including No. 2 AWG. Insulation for wire sizes larger than No. 2 AWG shall be type THW, XHHW, or THHN. Lighting fixture wire shall be heat resistant type TF (150^{o}C) with 300-volt insulation minimum. Wires shall be of the single conductor type. Sizes No.14 AWG and larger shall be stranded. No wire shall be single strand solid copper.

C. Throughout the system, all conductors shall be identified as to the phase and voltage of the system by color-coding in accordance with NEC 210.5. Color-coding shall be continuous the full length of the wire with surface printing at regular intervals on all conductors and for neutral conductors.

D. Color coding shall be as follows:

3phase, 480V System	3phase, 208V System
Phase 1-Brown	Phase 1-Black
Phase 2-Orange	Phase 2-Red
Phase 3-Yellow	Phase 3-Blue
Neutral-Gray	Neutral-White
Ground-Green	Ground-Green

PART 3 - EXECUTION

3.1 WIRING - GENERAL

A. Unless otherwise specified, all wiring shall be installed in conduit. No wire shall be smaller than No. 12 unless noted otherwise. Wiring for low voltage control may be #14 AWG. Wire for each branch circuit shall be of single size and type from the branch circuit protective device the last outlet of the circuit. BX wiring shall not be allowed.

B. Feeders, motor circuit conductors and main service entrance conductors shall run their entire length without joints or splices. Wiring for branch circuits shall run the entire length without splices, with splices and joints made only at outlets or in accessible junction boxes only when absolutely necessary and approved by the Engineer. Joints and splices in branch circuit wiring shall be made with compression type solderless connectors.

C. Connectors of the non-metallic screw on type are not acceptable. Terminations or splices for conductors No. 6 AWG and larger shall utilize bolted connecting lugs. All splices and terminations shall be insulated in an approved manner by an integral or separate cover or by taping to provide insulating value equal to that of the conductors being joined.

D. Type THW or THWN conductors may be connected directly to recessed fixtures only when the fixtures are equipped with outlet boxes listed by Underwriter's Laboratories, Inc. for use with wire having insulation rated for maximum operating temperatures of 75°C (167°F); otherwise, for fixtures not rated for 75°C directly connection, use 125°C insulated conductors from the fixture to an outlet box placed at least one (1) foot, but not more than four (4) feet from the fixture.

E. Branch circuit home run numbers shown on the drawings shall be used as a guide for connection of circuit wiring to similarly number protective devices in branch circuit panelboards. Requests for changes in the plans shall be directed to the Architect. No changes shall be made without approval from the Architect.

F. Each circuit shall be furnished with its own neutral conductor. There shall be no sharing of neutral conductors.

G. In instances where a junction box, wireway, etc. contains three (3) or more branch circuits, the feeders shall be labeled within the junction box, wireway, etc. with circuit location, including panel name and breaker number. Labeling shall be neatly typed and affixed to each feeder. Labeling shall meet all applicable Code requirements.

3.2 ELECTRICAL SERVICE GROUNDING

A. Main electrical service equipment, conduit work, motors, panelboards and all other electrical equipment shall be effectively and permanently grounded. Grounding connections and conductor sizes shall be in accordance with requirements of the National Electrical Code, Article 250 and local or State ordinances.

B. All conduit entering panelboards shall be grounded to the panelboard by means of a grounding type locknut installed on the inside of the panelboard. Where the continuity of the metallic conduit system is interrupted by a run of non-metallic conduit, a separate grounding conductor, sized in accordance with NEC Table 250.122 shall be run in the conduit with the insulated conductors. A separate grounding conductor, as described above or as called for on the plans, shall be run in the conduit with the circuit conductors for all circuits serving multi-outlet assemblies.

C. Conduit runs shall be increased in size where necessary to accommodate the grounding conductor in addition to circuit conductors. The grounding screw on all grounding type receptacles shall be securely grounded to the outlet box using a No. 12 green insulated conductor attached to the outlet box with lug screw.

D. All switch legs shall include a green ground conductor connected to the circuit ground conductor and terminated in the switch outlet box.

3.3 CONDUIT - MATERIALS AND METHODS

A. Conduit shall be installed as per NEC and NEMA regulations and the manufacturer's recommendations. Conduit shall be as follows:

B. Rigid Steel Conduit shall be used for all conduits exposed to the weather, and underground conduit except where non-metallic conduit is specified or approved. Underground and under slab runs are to be watertight. All horizontal runs of underground conduit shall utilize rigid steel elbows on vertical risers. Conduits used for receptacles and run under the building slab, shall be hot dipped galvanized rigid steel and shall be 3/4" minimum size.

C. Flexible metallic tubing and EMT shall only be permitted in spaces above finished ceilings and within enclosed walls within the interior of buildings. Flexible metallic tubing shall only be permitted for the final four (4) feet of conduit runs to fixtures located above finished ceilings. No flexible metallic tubing or EMT will be permitted exposed. Also, EMT may not be installed in or below concrete slabs.

D. Flexible metal conduit or liquid-tight flexible metal conduit shall be used for the final connection of runs to motors. Flexible conduit shall be at least twelve (12) inches, but not more than 48 inches long. Where used, an external grounding conductor shall be run with conduit unless conductor is made as a part of the conduit.

E. Conduits installed underground and used for communications system wiring shall be reviewed with the communications contractor prior to installation. Conduits below the vapor barrier may require moisture proof wiring to comply with the structured connectivity solution. Conduits may need to be installed above the vapor barrier to maintain connectivity solution compliance.

3.4 CONDUIT - GENERAL

A. Fittings for rigid steel conduits shall be hot-dipped galvanized steel and shall be of a type especially designed and manufactured for their purpose. Fittings for EMT shall be die cast zinc type. Rigid conduit joints for single conduit runs shall be made with threaded fittings made tight with at least five threads fully engaged. Fittings for rigid non-metallic conduit shall be solvent welded.

B. Where they enter boxes or cabinets that do not have threaded hubs, conduits shall be secured in place with galvanized locknuts inside and outside the cabinet and shall have bushings inside. Conduits larger than 1-1/4 inch shall have galvanized locknuts and galvanized bushings.

C. All conduits shall be installed concealed or as indicated or scheduled on the drawings and shall be of sufficient size to accommodate the required number of insulated conductors including equipment grounding conductor where such grounding conductor is required or specified.

D. Conduit runs shall be straight; elbows and bends shall be uniform, symmetrical and free from dents or flattening. Exposed conduit shall be firmly supported on galvanized hangers; on brackets, hangers, or pipe straps; or by beam clamps. Conduit installed exposed shall be neatly aligned and run at right angles to the building walls or walls of the rooms in which they are installed. All exposed conduit shall be located to avoid all conflicts with architectural or mechanical components.

E. Pull boxes shall be installed as required to permit proper installation of conductors and expansion fittings installed where conduit runs cross building expansion joints.

F. Conduit shall be run no closer than six (6) inches to covering of hot water or steam piping except where crossings are unavoidable. Conduit shall be kept at least one (1) inch from crossing steam and hot water piping.

G. Conduit shall be held securely in place by hangers and fasteners of appropriate design and dimensions for the particular application. Support shall be such that no strain will be transmitted to outlet box and pull box supports. Wire shall not be used, with or without spring steel fasteners, clips or clamps, for the support of any conduit. Conduit shall not be supported by or attached to duct work unless specifically allowed otherwise.

H. Hangers and other fasteners shall be supported on solid masonry with inserts or expansion sleeves and bolts, on wood with wood screws, hollow masonry with toggle bolts, on steel with machine screws or welded threaded studs. Fastenings shall be proof tested by the Contractor for secure mounting.

I. All conduits shall be cut square and reamed at the ends. The conduit system shall be complete and cleaned before any conductors are installed. Open ends of all conduits shall be capped until conductors are installed. A non-metallic fish wire shall be installed in all empty conduits. Empty conduit shall remain capped.

J. Contractor shall refer to National Electrical Code Appendix C, Conduit and Tubing Fill Tables for Conductors and Fixture Wire of the Same Size. Contractor shall refer to the appropriate table for the conduit and wire condition and shall install wiring in accordance with code requirements.

K. Contractor shall provide pull box for every 270 degrees of bend. This shall apply to underground and above ground conduit. Where the run is under slab, contractor shall provide an appropriate pull box for the traffic rating.

3.5 FLEXIBLE CONDUIT

A. Flexible metal conduit may be used for short final connections to equipment where permitted by governing codes. Flexible metal conduit shall be sized and supported in accordance with Article 350 of the NEC or more stringent local codes. A separate equipment-grounding conductor sized in accordance with NEC Table 250.122 shall be installed in flexible conduit unless exceptions are allowed by governing codes and if the fittings used are UL listed for the purpose.

B. Liquid-tight flexible metal conduit shall be used where flexible conduit is permitted and desired and conditions of installation, operation, or maintenance require protection from liquids, vapors, or solids and in other hazardous locations where specifically approved. Flexible conduit for all exterior motor connections shall be liquid-tight. Liquid-tight flexible conduit shall be used with terminal fittings approved for the purpose.

3.6 SUPPORTS AND FITTINGS

A. The Contractor shall furnish and install all supports for equipment under this contract.

Supports shall be spaced at intervals of eight (8) feet maximum for rigid conduit and five (5) feet maximum for EMT and as necessary to obtain rigid support. Perforated strap supports will not be permitted.

B. All conduits shall be firmly secured with pipe clamps, conduit straps, or suspension hangers as appropriate. Fasten to steel with screws in tapped holes, to wood with wood screws, and to masonry with expansion anchors. Expansion anchors shall have a minimum pull out load of 1,200 pounds and an ultimate shear load of 1,950 pounds.

C. All conduit, fixtures, and accessories shall be rigidly supported to form a firm, well-braced installation.

D. Joints shall be made tight with standard galvanized or sheradized couplings; corners turned with fittings, elbows, or long radius bends.

E. Low voltage wiring installed above accessible ceilings shall be supported on J-hooks. J-hooks installed for communications system wiring shall not be used for other low voltage system wiring (fire alarm, security, EMS controls, etc.).

3.7 WEATHERPROOF EQUIPMENT

A. All disconnect switches, starters, and other electrical equipment located on the exterior of the building or exposed to the outside shall be enclosed in a rain-tight enclosure.

B. All lighting fixtures or other devices located on an exterior wall of the building shall be mounted on a flush-mounted, cast outlet box.

END OF SECTION 26 05 00

SECTION 26 05 05 - ELECTRICAL DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Provide all labor, material and equipment to perform all electrical demolition as specified and as shown on the Drawings.
   2. All equipment selected for demolition shall have power and communication cables de- energized and disconnected. All disconnected cables shall be removed.
   3. All conduit shall be disconnected and removed from demolished equipment.
   4. Contractor is responsible for making equipment scheduled for demolition safe for removal.

B. Related Documents:
   1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Owner's General Requirements, apply to this Section.

PART 2 - PRODUCTS Not Used

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that field measurements and circuitry arrangements are as shown on the Drawings.

B. Verify that abandoned wiring and equipment serve only abandoned facilities.

C. Demolition work indicated on drawings are based on casual field observation and existing record documents. Report discrepancies to Engineer before disturbing any existing installation.

D. The Contractor accepts existing conditions by starting demolition work.

E. Contractor shall familiarize himself with the existing electrical site systems and with the work of all other trades and include all work necessary to comply with the intent of this section.

F. It shall be understood that field conditions may be encountered during the execution of this contract which will require extension or relocation of existing systems or equipment which are not specifically shown on the drawings, but, which are required to meet the stated intent that the existing electrical system continue to function unaffected by the demolition and associated new construction. Contractor shall include such work as would normally be expected to accomplish the work.

G. The bidder is required to visit the project site prior to submitting bid to verify the exact

configuration of the electrical items being removed, relocated, or modified. No claims for extra work shall be accepted after awarding of bids for discrepancies between verifiable field conditions and the items shown on drawings if these items are readily verifiable.

H. Should this contractor encounter field conditions which, in their opinion, were not verifiable by visual inspection of the site prior to submitting bids, they shall notify the Engineer immediately, in writing, and request a decision as to the scope of work. The Engineer shall provide the necessary interpretations and instructions in a reasonable time.

3.2 PREPARATION

A. Coordinate electrical power outages with appropriate utility company and Owner. All outages must be scheduled with owner a minimum of 2-weeks in advance. Outages shall be scheduled as to minimize disruption and outage duration.

B. Investigate the existing conditions of electrical system in walls, floors and ceilings scheduled for removal.

C. Disconnect and deliver to the Owner those items requested to remain the Owner's property.

D. Provide temporary wiring and connections to maintain existing systems in service where needed. When work must be performed on energized equipment or circuits, use personnel experienced in such operations.

3.3 DEMOLITION OF ELECTRICAL FACILITIES

A. Demolish electrical work under provisions of this section. All electrical items indicated to be removed shall remain Owner's property unless stated otherwise. All removed electrical items that the Owner does not wish to keep shall become Contractor's property and removed from the site.

B. For demolition in buildings that are to be removed as part of demolition work:
   1. Remove abandoned wiring to source of supply.
   2. Disconnect electrical devices and equipment serving equipment that has been (or will be) removed.
   3. Fill with compacted soil any trench, hole or cavity created by the relocation or removal of any existing conduit, and pole concrete base.

C. For demolition in buildings that are to remain in service after completion of demolition work:
   1. Remove exposed abandoned raceways.
   2. Repair adjacent construction and finishes damaged during demolition and extension work.
   3. Maintain access to existing electrical installations which remain active. Modify installation or provide access panel as appropriate.
   4. Where new construction conflicts with existing electrical work which is to remain, relocate the electrical work involved.
   5. Where existing circuits are interrupted by demolition or new work, extend and reconnect those systems. Where those systems must remain in service during the

execution of this contract, provide temporary connections until final connections are complete.

6. Any parts of existing construction which are to remain and which are damaged during demolition and preparatory work or new construction work on the project shall be patched to match existing adjacent surfaces. Patching and finishing of such areas shall conform with all applicable requirements of other technical sections of these specifications, and shall match existing work in material, type, finish, etc.
7. Equipment, circuits and utilities that remain, but that are served by feeders or circuits being removed or altered shall be reconnected in accordance with the methods required by this specification and the NEC, without extra cost to the Owner.
8. All materials and equipment noted to be reused or relocated shall be cleaned, retested, repaired if necessary, modified if required, prepared for reuse, and be stored and protected from the outdoor environment on the site until it is time for re-installation.
9. Fill with compacted soil any trench, hole or cavity created by the relocation or removal of any existing conduit, and pole concrete base.
10. Remove all abandoned data cabling located above ceilings that are exposed during demolition.
11. Where demo of electrical equipment is shown this shall include demolition of any unused supports, housekeeping pads, and associated conduit/conductor.
12. Disconnect and remove all abandoned equipment including but not limited to panelboards, and disconnect switches.
13. Where labeling is required by project specifications contractor shall trace and label all circuits to remain that are affected by construction or demolition.

3.4 DISPOSAL OF DEMOLISHED MATERIALS

A. Except for items or materials indicated to be recycled, reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an EPA-approved landfill.
   1. Do not allow demolished materials to accumulate on-site.
   2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
   3. Transport demolished materials off Owner's property and legally dispose of them.

3.5 CLEANING AND REPAIR (FOR FACILITIES TO REMAIN IN SERVICE)

A. General
   1. Clean and repair existing materials and equipment which remain or are to be reused.

END OF SECTION 26 05 05

SECTION 26 50 00 - LIGHTING

PART 1 - GENERAL

1.1 LIGHTING SCHEDULE

A. The Contractor shall install lighting fixtures and accessories as shown on the drawings and/or described herein. The Contractor shall also install lamps for all fixtures.

PART 2 - PRODUCTS

2.1 LED LIGHTING

A. Lighting fixtures with LED light sources shall meet the following fixture and light source requirements:
   1. LED Color Temperature – 4000K CRI > 80
   2. Line Voltage – Universal Voltage 120-277 volts
   3. Governmental Standards – LM79 and LM80 Compliant
   4. Expected Lamp Life – LED Life Rating (L_{70} B_{10}) to be 60,000 hours to 100,000 hours; Defined as time of operation (in hours) to 30% lumen depreciation (i.e. 70% lumen maintenance), derived from Luminaire in-situ temperature measurement testing (i.e. LED chip package temperature (T_S) measurement obtained with the LED chip package operating in given luminaire and in a given stabilized ambient environment) under UL1598 environments and directly correlated to LED package manufacturers IESNA LM-80-08 data. Predicted (L_{70} B_{10}) Limits (@ 25°C luminaire ambient operating environment): Greater than 60,000 hours @ 350mA Drive Current
   5. Driver – Components must be fully encased in potting material for moisture resistance, and must comply with IEC and FCC standards
   6. Surge Protection – Surge protection must be provided including separate sure protection built into electronic driver
   7. Mechanical – Luminaire LED system components to be low copper aluminum, with high performance heat sink(s) designed specifically for LED luminaires. No active cooling features (Fans, etc.). Luminaire configuration must allow for modular upgradability and/or field repair of all electrical components (i.e. LED modules, Driver(s), etc.). Drivers and vertical light bars must be all mounted to a twist-lock tool-less assembly for ease of installation and trouble- shooting.

2.2 FIXTURES

A. Fixtures as described in the Fixture Schedule on the drawings shall be furnished by the Contractor and shall be properly installed.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Unless otherwise specified, lighting fixtures shall be permanently installed and connected to the wiring system.

B. The Contractor shall support each fixture, independently from the building structure. Ceiling framing members shall not be used to support fixtures except in specified areas where ceiling supports for this purpose have been specified elsewhere in these specifications. Each fixture shall have at least two fixture supports.

C. Flexible conduit used for fixture whips shall be at least twelve (12) inches, but not more than 48 inches long.

3.2 LIGHT LEAKS

A. The Contractor shall, at the end of this project, adjust all recessed lighting fixtures so that there will be no light leaks between the fixture trim and the ceiling. Contractor shall also adjust recessed fluorescent fixtures to eliminate any light leaks between fixture trim and ceiling grid member.

3.3 LAMPS

A. The Contractor shall install lamps in all fixtures and shall obtain replacement lamps should any not properly operate or become damaged during construction.

END OF SECTION 26 50 00

SECTION 28 31 00 - VOICE/DATA SYSTEMS

PART 1 - GENERAL

1.1 SCOPE OF WORK FOR COMMUNICATIONS SYSTEM

A. The Contractor shall furnish labor, materials, and equipment required for the installation of a communication system infrastructure to provide the maximum performance for the system components and subsystems as shown on the Drawings.

B. The work shall include but not be limited to the following:
   1. Furnish, install, and connect all wiring and raceways to ensure all existing special systems routed on or below existing canopy are functional at the completion of construction.

1.2 QUALITY ASSURANCE

A. All work and equipment shall conform to the applicable portions of the following specifications, codes ad regulations:
   1. Building Industry Consulting Services International (BICSI)
   2. Telecommunications Distribution Methods Manual
   3. BOCS and AT&T Plant Standards
   4. ANSI/EIA/TIA Standards
   5. National Electrical Code (NEC)

B. Maintenance Considerations – The cable and wire system shall be installed to maximize the safety, maintainability, and performance effectiveness of maintenance personnel and minimize the demands upon skills, training, and manpower. Splices/terminations shall be placed and supported with convenient accessibility so as to maximize the efficiency and ease with which it can be maintained. No cables shall be spliced unless as shown on plans or approved by Engineer.

C. Cable and wire identification, testing, and documentation shall be as specified in Part 3 herein.

D. If conflict exists between applicable documents, then the more stringent requirement shall apply.

1.3 SHOP DRAWINGS

A. Shop drawings shall be submitted for approval and shall include complete catalog and other information shown to describe the cables, wire, and equipment proposed.

PART 2 - PRODUCTS

2.1 DATA STATION CABLES

A. Data station wiring shall be Category 6 (Cat 6) communications wire and cable. Station Cable shall be four-pair, unshielded, twisted pair, inside-station cable, and shall be

constructed of solid 24 gauge annealed copper. Each conductor shall be insulated with a continuous layer of fluorinated ethylene propylene (FEP). The sheath shall be all weather, flame resistant, polyvinyl chloride. Station wire shall be constructed of 4 twisted pair sharing one sheath. Cable shall have Category 6 transmission characteristics as specified by ANSI/EIA/TIA-568-B2.1. Cable shall support network transmission applications such as Gigabit Ethernet, PoE and PoE+. Cable shall be GenSpeed 6000 Enhanced Category 6 or approved equal.

B. Cables routed in air plenum shall have a sheath and conductor insulation constructed of material so as to be classified as type CMP as defined by the NEC 800-3(b)(3).

C. The color of the of the station cable shall be blue.

2.2 INSIDE PLANT FIBER CABLES

A. Fiber optic cable installed inside the building shall be a single-mode, fiber as shown on the drawings, breakout style, riser rated for indoor applications (CMR). Each individually jacketed fiber shall contain Kevlar strength member to allow direct termination of cable. Cable shall be UL listed ad constructed in accordance with EIA/TIA 568 requirements.

B. Fiber optic cables shall meet the following requirements:
Max. attenuation dB/Km @ 1310/1383/1550
Min. Bandwidth MHz-Km @ 850/1300: 13500/500

C. Fiber cable shall be Corning #012EUF-T4101D20, or approved equal.

D. Minimum Six (6) fiber strands shall be run between locations requiring fiber. All Strands will be terminated with LC connectors. Number of strands in cable will be noted for each job.

E. Individual fiber strands shall be color coded per telecommunications industry practice.

2.3 FIBER BREAK-OUT KIT (if applicable)

A. Fiber break-out kits shall be used to terminate fiber into protective buffer tubes. Kit permits separation and protection of individual fiber elements. Kits shall be Corning #FAN-BT47-06, Belden #229865, Avaya #D181755, or approved equal.

2.4 FIBER CONNECTORS

A. Fiber cable connectors shall be duplex single mode 9/125, LC style connectors.

2.5 BUILDING PROTECTORS

A. Building protectors shall be 188 Type building cable entrance surge protection terminals that protect personnel and equipment from outside plant cable pairs terminating inside the buildings on the main distribution frames. The 188 Type Protector shall be a combination protector and terminating field with output through a 110 Type Connecting Block. The protectors shall be modular plug-in type, with 110-in/110-out connectivity and grounding lugs as manufactured by AT&T, NTI/Cook, or approved equal.

B. Protector modules shall be plug-in type surge protector modules compatible with modular building protector terminals. The modules shall be gas tube type for the station/BMDF end and gas tube type with sneak current protection for the PBX/MDF end. The modules shall have three (3) element protection, be rated for nominal 400V breakdown, and be color coded black for standard service, and shall be as manufactured by AT&T, NTI/Cook, or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Unless otherwise specified, all communications systems shall be permanently installed and connected to the wiring system. The systems must be installed according to manufacturer standards and recommendations.

B. The Contractor shall meet with the Engineer, wiring system subcontractor, wiring solution representative and the facilities technology services representative to review wiring paths. This meeting shall also be used to coordinate the voice/data system installation with the Owner's ordering of electronic equipment required for the facility. This meeting shall also be used to prevent problems with the data wiring during installation.

C. Test results and as-built documents will be provided to the Owner's Technical Services office in both hard copy and electronic copy, furnished on a CD.

D. All fiber runs must be home run with no splices.

E. Voice and data wiring routed above accessible ceilings shall be supported on J-hooks, and shall be loose bundled using Velcro wraps.
   1. Where cable tray is illustrated on plan contractor shall route cabling in tray as much as practicable. When leaving tray wiring shall be neatly installed on J hooks. Wiring in tray shall be neatly bundled, provide Velcro cable management as required.

F. Voice and data wire bundles shall not include power wiring or wiring for other low voltage systems (fire alarm, intercom, security, etc.).
   1. Each system shall be bundled separately.

3.2 DATA SYSTEM GENERAL REQUIREMENTS

A. All cables, wires, and equipment shall be securely and neatly installed. Inside routing shall be installed parallel and perpendicular to existing structural lines and members.

B. Each station wire shall be plainly marked at its backboard end with the room number to which it is connected, and terminated on the termination blocks or patch panel.

C. Data cables shall be routed above ceilings, with cables neatly bundled. Cables must not be tie-wrapped. No more than 30 cables shall be bundled.

D. Contractor shall maintain recommended Category 6 bending radius, pulling tension, and cable support requirements. Cables ties may be finger tight, however, not so tight so

they distort the outer jacket of the cable.

E. Cable suspended above an open ceiling shall not rest on ceiling tiles or lighting fixtures, and shall be supported from roof structure at 4' to 6' intervals.

F. Data system wiring shall be installed in accordance with NEC Article 800-5 and 6 requirements, and wiring solution requirements.

3.3 FIBER CABLE INSTALLATION

A. Fiber cables shall be terminated using SC type connectors. Connectors shall be attached using hot melt, ultraviolet, epoxy, heat curable, or crimp methods.

B. All multi-mode fiber cables shall be terminated at both ends and Contractor shall coordinate termination of fibers at source end.

3.4 COMMUNICATIONS SYSTEM QUALIFICATIONS

A. The communications system installer shall be experienced in the design, fabrication and installation of communications premise distribution systems of similar size and scope to this project. Installation technicians shall be manufacturer certified.

B. The Communications Contractor must have installation and service facilities within a 100-mile radius of the project site. All qualifications, including the firm's facilities shall be available for inspection by any school board official.

3.5 CABLE/WIRE IDENTIFICATION

A. Each cable shall be clearly labeled and identified in accordance with the following:
   1. Each cable pair shall be plainly marked at the backboard end on terminal blocks with printed labels. Handwrite labels shall not be permitted.
   2. All outlets shall be permanently marked or labeled with printed type labels on the jack faceplate -- ID number, voice, data.
   3. All cables shall be legibly and permanently numbered at each end using wrap-around/stick-on label systems or approved equal.
   4. In rooms where more than one jack exists, the jacks shall be numbered sequentially using alpha-numeric numbers.
      Labeling in Room shall contain:
      a. The room number of wiring closet that drop is terminated.
      b. The drop number. This number should be consecutive numbers by room, by wiring closet. Example: Room 203 with data drops 73 through 75, and voice 2 and 3 all terminated in wiring closet 117. The label in Room 203 would look like:
         R17 – D73-75 (data)
         R17 – V2 & 3 (voice)
   5. Labeling in wiring closet shall contain:
      a. The room number of the room the drop is in.
      b. The drop number. This number should be the numbers by room and by wiring closet. Example: Room 203 would have data drops 73 through 75 and voice 2 and 3 all terminated in wiring closet 17. The label in wiring closet 17 would look like:

R203 – D73-75 (data)
R203 – V2 & 3 (voice)

c. Drop numbering shall start with 1 and continue through 999 by wiring closet.
d. Layout or wire on punch down block shall be by room number. Drop numbering shall start with 1 and continue through 999 by wiring closet.

6. All conduits, except those used for individual station jacks, shall be clearly and permanently marked or labeled at both ends, indicating the location of the other end of the conduit.

B. All cable and wiring identification shall be in compliance with ANSI/TIA/EIA 606 Structured Cabling Systems standards.

3.6 DOCUMENTATION AND TESTING

A. Upon completion of construction, the Contractor shall provide "as installed" drawings showing the exact placement of all outlets, cables, conduits and connecting hardware called for in this section. This shall be given in CD form and hard copy form to the owner.

B. Data wiring shall be tested upon completion of installation. Data cables shall contain no defective pairs nor near fails and shall be tested in accordance with Channel Solution standard per TIA/EIA 568-B.

C. The test procedures shall demonstrate, at a minimum:
1. Continuity of each conductor from end-to-end -- open test.
2. Shorted conductors with other conductors -- short test.
3. Proper polarity of paired conductors from end-to-end -- reverse test (for correct tip & ring and data terminations).
4. Proper termination of wire pairs from end-to-end -- cross test (for splits and other wrong terminations).
5. Proper ground and shield bonding (for shielded cables only) -- effective ground test (for zero potential difference bonding).
6. Grounded conductors (for all cables) -- ground fault test.
7. Detection of AC or DC power on any conductor -- power fault test.
8. All data cables shall be tested per EIA/TIA 568-B2.1 Level III requirements.

D. Prior to testing of any communications cable/wire and hardware, the Contractor shall notify the Architect and Engineer, in writing, at least two (2) weeks in advance of testing. Contractor shall furnish hard copy of all test reports to the Architect for approval prior to completion and final acceptance of project.

E. The data system shall be warranted and category 6 compliance certified from the data outlet to the patch panel, and shall be channel certified.

3.7 BONDING AND GROUNDING

A. Grounding and bonding of the communications system shall be in strict accordance with TIA 607, National Electrical Code, and NFPA requirements. Grounding and bonding shown on the drawings represent a minimum requirement.

B. All communications equipment racks that are installed or labeled or in anyway a part of

this contract, shall be grounded, isolated from other grounds. The protective ground connection point shall NOT be made to electrical conduits, power distribution box grounds or neutral busses. The intent is to provide telecommunications equipment with a ground which will not be affected by any other electrical work. The ground shall be a #6 AWG solid copper conductor, green insulated ground wire which shall be grounded to the building ground or to contractor installed ground 3/4”/8’, following NEC Codes.

3.8 WALK THROUGH, PUNCH LIST, DOCUMENTATION AND TESTING

A. Before completion of the job it is the responsibility of the Contractor to request a walk through inspection by Network Administrator. A Punch list will be created and agreed upon. Upon completion of punch list items it is the responsibility of the Contractor to request a Final Inspection.

B. Upon completion of installation, the contractor shall provide a copy of "as installed" drawings showing the number of cables terminated in each room, and the location of patch panel those cables are connected to.

C. Data wiring shall be tested upon completion of installation. A hard copy of the cable test results shall be provided with the "as installed" drawings upon completion of installation.

D. Testing shall be in accordance with the following standards:
ASTM D 4566-98 Standard Test Method for Electrical Performance Properties of Insulation and Jackets for Telecommunications Wire and Cable, 1998
ANSI/TIA/EIA-568-B.2 Commercial Building Telecommunication Cabling Standard, Part 2: Balance Twisted-Pair Cabling Components, 2000.

E. Data cables shall contain no defective pairs.

F. The test procedures shall demonstrate, at a minimum, that all data cables shall be tested per to the most recent proposed EIA/TIA CAT 6 standard

G. Each fiber optic cable shall be tested after installation by the contractor for optical power attenuation. Each LC cable termination may/shall have a maximum of 0.5dB loss, and a total loss of the cable shall be a maximum of 1.0 dB.

H. The Network Specialist will be given the “as installed” drawings, test results and approve final walk through before final payment will be made.

END OF SECTION 28 31 00

EXTERIOR WINDOW & CANOPY REPAIRS

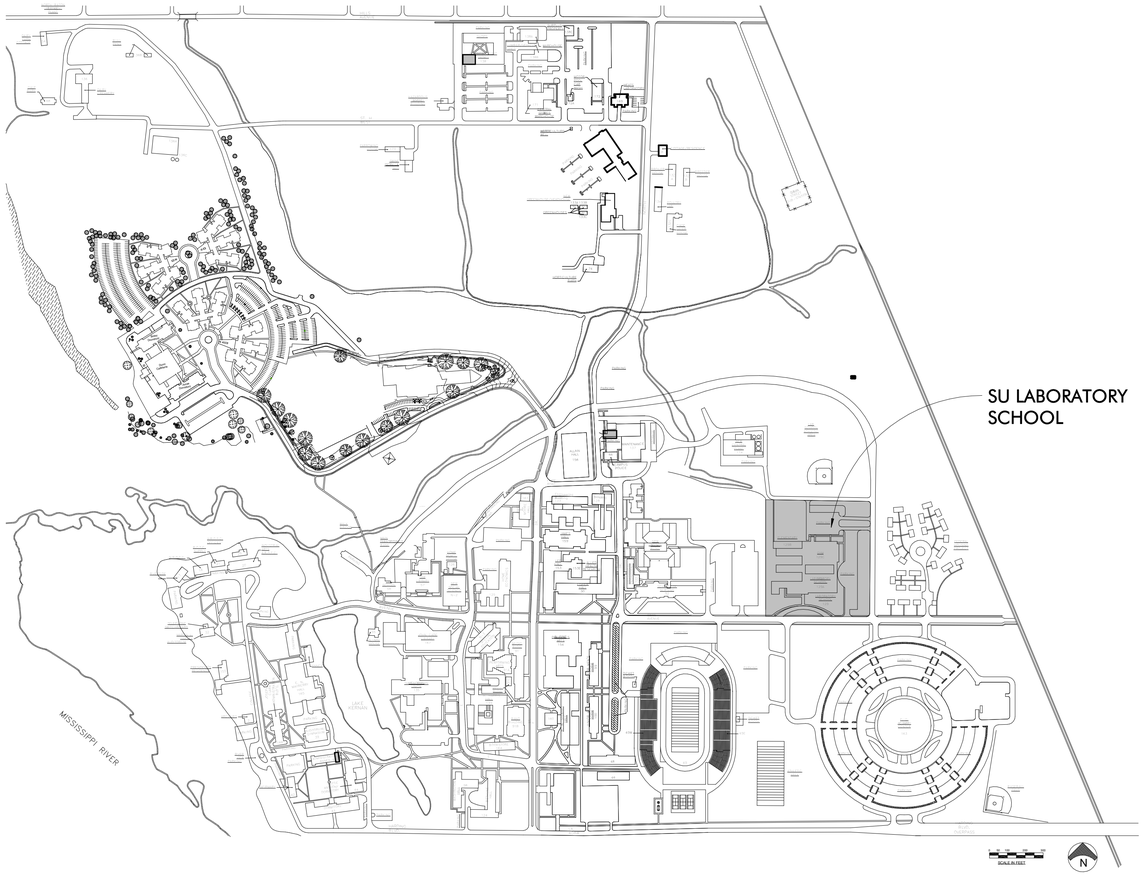
Southern University Laboratory School

AUGUST 31, 2023

129 SWAN STREET,
BATON ROUGE, LA 70813

CONSTRUCTION DOCUMENTS

SOUTHERN LAB
SOUTHERN UNIVERSITY
LABORATORY SCHOOL



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----	CONSTRUCTION DOCUMENTS
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ENVIRONMETAL	
EV1.01	ENVIRONMENTAL DEMO PLAN
EV1.02	ENVIRONMENTAL DETAILS
DEMO	
D1.01	DEMO PLAN
D1.02	DEMO ROOF PLAN
ARCHITECTURE	
A1.00	SITE PLAN - AERIAL VIEW
A2.00	OVERALL ROOF PLAN
A2.01	OVERALL FLOOR PLAN
A2.02	CANOPY 1 - REROOFING PLANS & DETAILS
A2.03	CANOPY 2 & 3 - PLANS AND DETAILS
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E1.00	OVERALL PLAN
E2.00	ELECTRICAL POWER PLAN
E3.00	ELECTRICAL SITE PHOTOS
E4.00	ELECTRICAL SITE PHOTOS
E5.00	ELECTRICAL SITE PHOTOS

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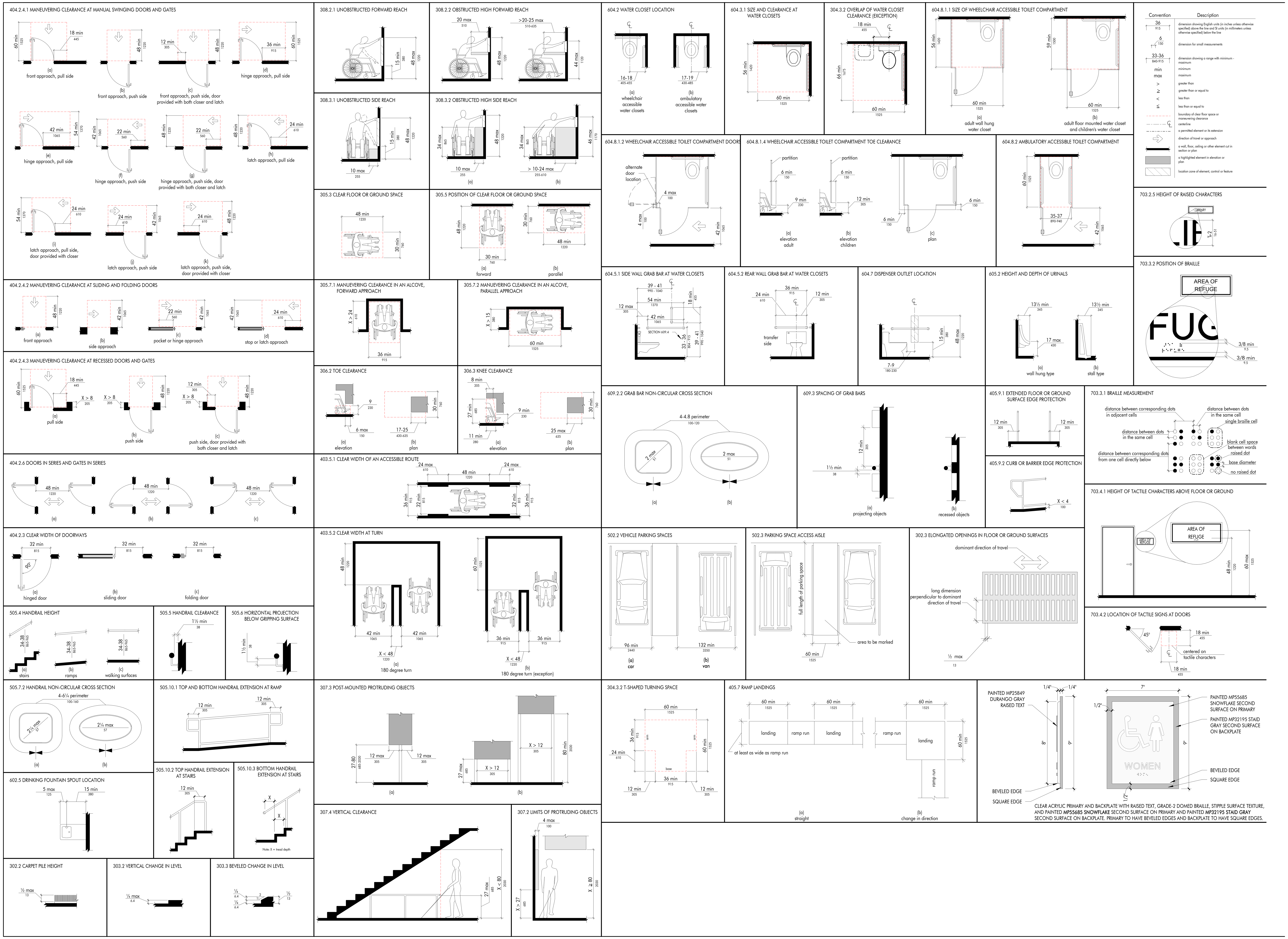
DOMAIN APAC ARCHITECTURE


404.2.4.1 MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS AND GATES
(a) front approach, pull side
(b) front approach, push side
(c) front approach, push side, door provided with both closer and latch
(d) hinge approach, pull side
(e) hinge approach, pull side
(f) hinge approach, push side
(g) hinge approach, push side, door provided with both closer and latch
(h) latch approach, pull side
(i) latch approach, pull side, door provided with closer
(j) latch approach, push side
(k) latch approach, push side, door provided with closer
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distance between corresponding dots in adjacent cells
distance between dots in the same cell
single braille cell
distance between dots in the same cell
blank cell space between words
distance between corresponding dots from one cell directly below
raised dot
base diameter
no raised dot
404.2.6 DOORS IN SERIES AND GATES IN SERIES
403.5.1 CLEAR WIDTH OF AN ACCESSIBLE ROUTE
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full length of parking space
area to be marked
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dominant direction of travel
long dimension perpendicular to dominant direction of travel
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landing
ramp run
at least as wide as ramp run
(a) straight
(b) change in direction
PAINTED MP25849 DURANGO GRAY RAISED TEXT
PAINTED MP55685 SNOWFLAKE SECOND SURFACE ON PRIMARY
PAINTED MP32195 STAID GRAY SECOND SURFACE ON BACKPLATE
WOMEN
BEVELED EDGE
SQUARE EDGE
CLEAR ACRYLIC PRIMARY AND BACKPLATE WITH RAISED TEXT, GRADE-2 DOMED BRAILLE, STIPPLE SURFACE TEXTURE, AND PAINTED MP55685 SNOWFLAKE SECOND SURFACE ON PRIMARY AND PAINTED MP32195 STAID GRAY SECOND SURFACE ON BACKPLATE. PRIMARY TO HAVE BEVELED EDGES AND BACKPLATE TO HAVE SQUARE EDGES.
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303.3 BEVELED CHANGE IN LEVEL
703.2.5 HEIGHT OF RAISED CHARACTERS
703.3.2 POSITION OF BRAILLE
Convention
Description
dimension showing English units (in inches unless otherwise specified) above the line and SI units (in millimeters unless otherwise specified) below the line
dimension for small measurements
dimension showing a range with minimum - maximum
minimum
maximum
greater than
greater than or equal to
less than
less than or equal to
boundary of clear floor space or maneuvering clearance
centerline
a permitted element or its extension
direction of travel or approach
a wall, floor, ceiling or other element cut in section or plan
a highlighted element in elevation or plan
location zone of element, control or feature

AUGUST 31, 2023

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CLIENT

Southern University Laboratory School
EXTERIOR WINDOW & CANOPY REPAIRS
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PROJECT INFORMATION

revisions No.	Description	Date

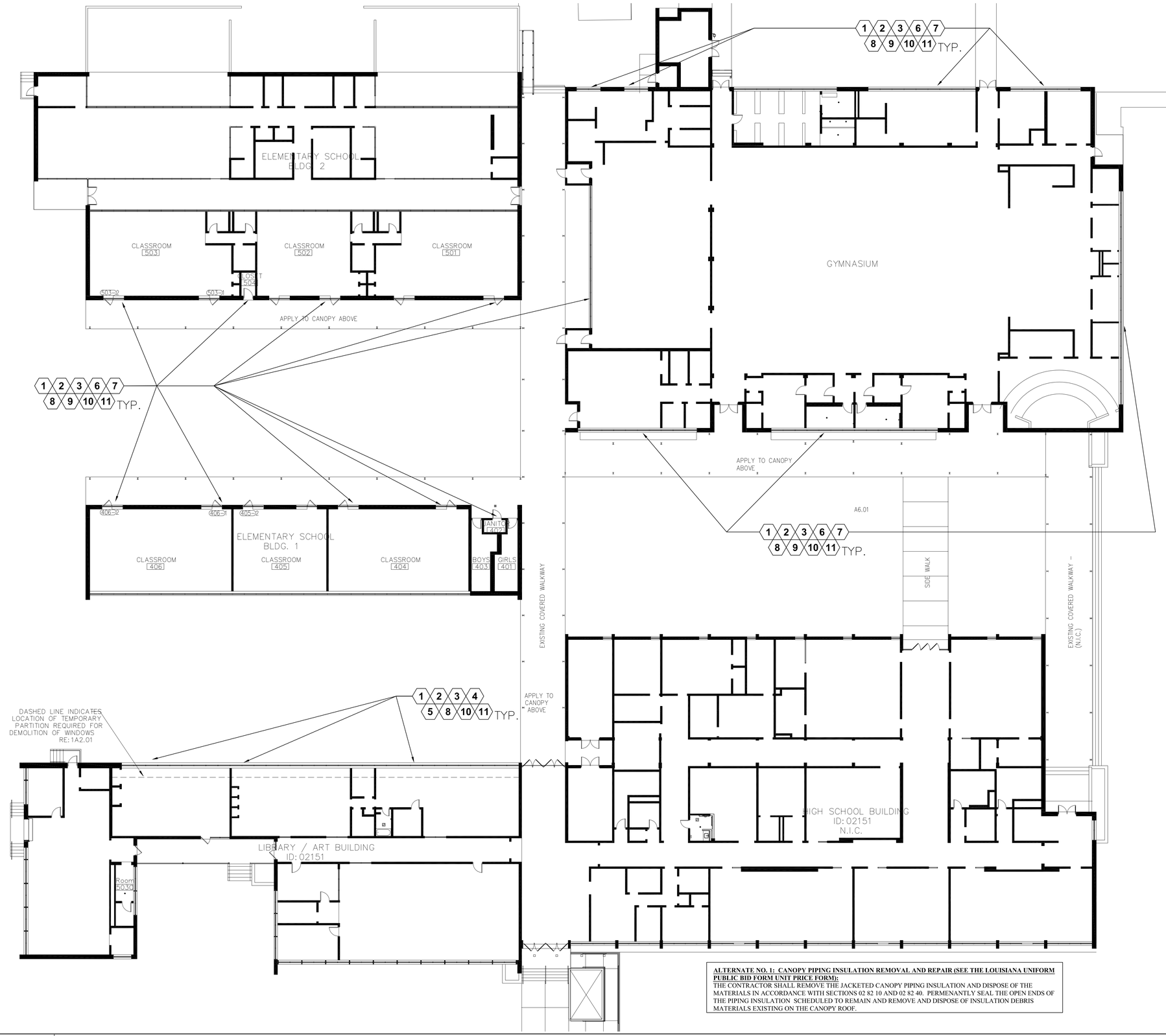
project # C22-0071

date AUGUST 31, 2023

director review

ADA INFO

I1.00



ALTERNATE NO. 1: CANOPY PIPING INSULATION REMOVAL AND REPAIR (SEE THE LOUISIANA UNIFORM PUBLIC BID FORM UNIT PRICE FORM):
THE CONTRACTOR SHALL REMOVE THE JACKETED CANOPY PIPING INSULATION AND DISPOSE OF THE MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. PERMENANTLY SEAL THE OPEN ENDS OF THE PIPING INSULATION SCHEDULED TO REMAIN AND REMOVE AND DISPOSE OF INSULATION DEBRIS MATERIALS EXISTING ON THE CANOPY ROOF.

1 1ST FLOOR – OVERALL DEMO PLAN
1/16" = 1'-0" DRAWN BY:

SOUTHERN UNIVERSITY LABORATORY SCHOOL EXTERIOR WINDOWS & CANOPY SHEET NOTES:

1. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE DOCUMENTS, INCLUDING THE DRAWING SHEETS AND SHEET NOTES, SPECIFICATION SECTIONS, AND GENERAL NOTES ARE A PART OF THE SCOPE OF WORK FOR THIS PROJECT AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS. THE CONTRACTOR SHALL NOTE: ALL ASBESTOS-CONTAINING MATERIALS, DESIGNATED LEAD-CONTAINING COATINGS AND PAINTS SHALL BE REMOVED BY THIS CONTRACTOR.
2. THE CONTRACTOR SHALL NOTE: ELECTRICAL SERVICE PANELS AND EQUIPMENT WILL REMAIN ENERGIZED THROUGH OUT FOR THE DURATION OF THE ENVIRONMENTAL PHASE OF THE WORK FOR THE CONTRACTORS' USE AND SHALL BE PROTECTED. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL RENOVATION CONTRACTOR IN ADVANCE, PRIOR TO DISCONNECTING POWER TO THE WORK AREA AND PRIOR TO PERFORMING WORK. THE CONTRACTOR SHALL UTILIZE A LICENSED ELECTRICIAN TO LOCKOUT /TAGOUT ELECTRICAL TO THE WORK AREAS.
3. THE CONTRACTOR SHALL RELOCATE BUILDING FURNISHINGS, EQUIPMENT AND MATERIALS PRIOR TO INSTALLING BARRIERS AND SEALING THE BUILDING INTERIOR FROM THE EXTERIOR WORK AREA. THE CONTRACTOR SHALL SEAL WINDOWS, DOORS, AND TRANSOMS FROM THE INSIDE TO PERMIT REMOVAL OF THE WINDOWS, TRANSOMS DOORS AND ASSOCIATED FRAMES FROM THE BUILDING EXTERIOR. NOTE: THE CONTRACTOR SHALL INSTALL THE PROPER BARRIERS, (CONTAINMENT AS NECESSARY) AND DEMARCATION PRIOR TO THE REMOVAL OF THESE MATERIALS TO ENSURE PAINT CHIPS AND CAULKING MATERIALS ARE CONTAINED WITHIN THE EXTERIOR WORK AREA IN ACCORDANCE WITH SECTION 02 82 10.
4. THE CONTRACTOR SHALL REMOVE THE DESIGNATED FLOOR TILE, BASE AND MASTIC MATERIALS AND LEVELLING COMPOUND TO A CLEANED CONCRETE SURFACE AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIAL IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL NOTE ALL FLOOR TILE WORK SHALL BE PERFORMED WITHIN A NEGATIVE PRESSURE CONTAINMENT. THE CONTRACTOR SHALL REMOVE WALL MOUNTED HVAC, SHELVES AND CABINETS PRIOR TO FLOOR TILE AND MASTIC REMOVAL AND DISPOSE OF AS CONSTRUCTION DEBRIS.
5. THE CONTRACTOR SHALL REMOVE THE CEILING AS NECESSARY TO INSTALL THE BARRIER WALL. THE CONTRACTOR SHALL SUPPORT AND STABILIZE THE CEILING SYSTEM GRID, SALVAGE THE GRID COMPONENTS AND TILES FOR REUSE. THE CONTRACTOR SHALL PROTECT THE BUILDING AT ALL TIME DURING THE REMOVAL AND DISPOSAL OF THE PERIMETER WINDOW WALL SYSTEM.
6. THE CONTRACTOR SHALL CAREFULLY REMOVE THE EXTERIOR WINDOW BARS AND METAL PROTECTION BARRIERS FROM THE WINDOWS AND WALL. THE CONTRACTOR SHALL NOTE; IF THE WALL BECOMES DAMAGED BY THE REMOVAL FORCES OF THE WINDOW BAR AND METAL PROTECTION BARRIER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF THE WALL REPAIR.
7. THE CONTRACTOR SHALL PROTECT THE DOOR THRESHOLDS, FLOOR TILE AND TILE BED MATERIALS AND DOOR AND WINDOW LINTELS AT ALL TIME DURING THE REMOVAL OF THE DOOR, TRANSOM FRAME AND RELATED CAULK. IF THE THRESHOLD, WALL, OR LINTEL BECOMES DAMAGED BY THE FORCES OF THE FRAME REMOVAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF REPAIR OF REPLACEMENT.
8. THE CONTRACTOR SHALL REMOVE THE GLAZING AND FRAME CAULK FROM THE WINDOW AND TRANSOM ASSEMBLY AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. IF ALL CAULKING MATERIALS HAVE BEEN REMOVED, THE CONTRACTOR MAY DISPOSE THE WINDOW AND FRAME AS CONSTRUCTION DEBRIS. THE CONTRACTOR SHALL SEAL OPENINGS CREATED BY THIS REMOVAL WITH A MINIMUM ½ INCH PLYWOOD SECURED TO FURRING STRIPS.
9. THE CONTRACTOR SHALL REMOVE THE CAULK FROM THE DOOR AND RELATED TRANSOMS AND FRAMES AND DISPOSE OF AS ASBESTOS-CONTAINING MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40. IF ALL CAULKING MATERIALS HAVE BEEN REMOVED, THE CONTRACTOR MAY DISPOSE THE DOOR AND FRAME AS CONSTRUCTION DEBRIS. THE CONTRACTOR SHALL SEAL OPENINGS CREATED BY THIS REMOVAL WITH A MINIMUM ½ INCH PLYWOOD SECURED TO FURRING STRIPS.
10. THE CONTRACTOR SHALL REMOVE THE CAULKING DEBRIS AND PAINT CHIPS EXISTING LOOSE ON THE GROUND AND WITHIN THE LANDSCAPING FOR AN EIGHT (8) FOOT PATH ALONG THE BUILDING PERIMETER AND DISPOSE OF MATERIALS IN ACCORDANCE WITH SECTIONS 02 82 10 AND 02 82 40 AND 02 83 10.
11. THE CONTRACTOR SHALL SAND AND SMOOTH DAMAGED PAINT SURFACES FROM LINTELS AND METAL SURFACES SCHEDULED TO REMAIN AND DISPOSE OF AS LEAD-CONTAINING PAINT IN ACCORDANCE WITH SECTION 02 83 10. THE CONTRACTOR SHALL PREPARE, AND PRIME LINTELS SURFACES WITH AN APPROVED METAL PRIMER.

LEGEND:

1 DENOTES THE SHEET NOTE NUMBER AND SCOPE OF WORK.

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PROFESSIONAL ENGINEER
IN CIVIL ENGINEERING
08/31/2023

ASBESTOS ABATEMENT DESIGNER
Harry Rayner 8/31/23
HARRY RAYNER DATE
CERTIFICATE NO. AD114302

ENGINEER IS NOT CERTIFYING THE INTEGRITY OF THE STRUCTURAL ELEMENTS OF THE BUILDING, INCLUDING THE FOUNDATION, DUE TO THIS WORK. STRUCTURAL ANALYSIS IS BY OTHERS. THIS CERTIFICATION IS FOR THE ENVIRONMENTAL ABATEMENT ONLY.

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revisions

No.	Description	Date

PROJ. # C20-0033

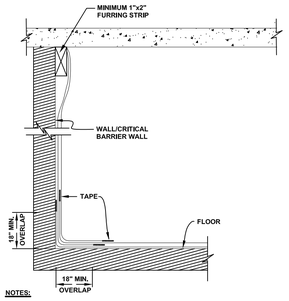
date: August 31, 2023

director review: HR

DEMO PLAN

EV1.01

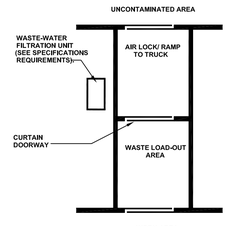
August 31, 2023



NOTES:

1. MINIMUM 2 LAYERS OF 4 MIL POLYSHEETING ON WALLS AND MINIMUM 2 LAYERS OF 6 MIL POLYSHEETING ON FLOORS.
2. ADDITIONAL LAYERS OF POLYSHEETING, SPRAY POLYSHEETING OR OTHER PROTECTIVE LAYERS MAY BE REQUIRED TO PROTECT BUILDING SURFACE FINISHES AND EQUIPMENT.
3. ALL MATERIALS SHALL BE FIRE RETARDANT.

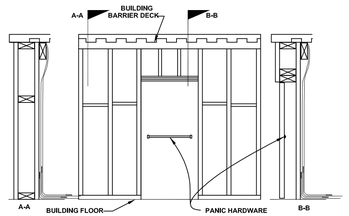
1 INSTALLATION OF POLYSHEETING
SCALE: N.T.S.



NOTES:

1. WORKERS FROM THE UNCONTAMINATED AREA SHALL NOT PROCEED BEYOND THE AIR LOCK.
2. WORKERS FROM THE WORK AREA SHALL NOT PROCEED BEYOND THE WASTE LOAD-OUT AREA.

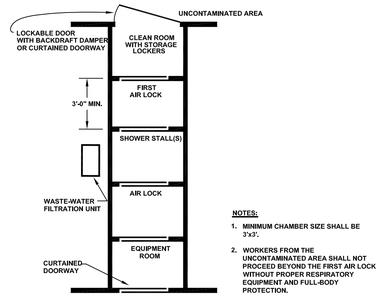
2 EQUIPMENT/MATERIAL DECONTAMINATION ENCLOSURE SYSTEM SCHEMATIC
SCALE: N.T.S.



NOTES:

1. RIGID BARRIER WALL MATERIALS SHALL BE FIRE-RETARDANT, 2x4 STUDWALL CONSTRUCTION, 24" ON-CENTER, 5/8" PLYWOOD (MINIMUM, OR AS SPECIFIED).
2. ALL SEAMS, CRACKS, EDGES, AND JOINTS SHALL BE CONTINUOUSLY CAULKED AND SEALED. RIGID BARRIER WALLS SHALL BE ADEQUATELY ANCHORED AND SUPPORTED.
3. TWO LAYERS OF FIRE-RETARDANT 6 MIL POLYETHYLENE SHALL BE ATTACHED TO RIGID BARRIER WALL USING 1"x2" FURRING STRIPS.
4. 3'x6'-8" SOLID CORE FIRE DOOR WITH APPROVED PANIC HARDWARE.
5. REMOVE A 12" WIDE STRIP OF SPRAY-ON FIRE-PROOFING AND OVERSPRAY BEFORE SETTING RIGID BARRIERS.

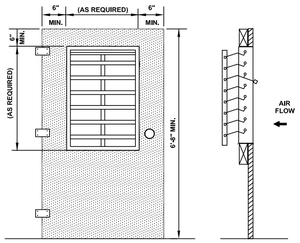
3 RIGID BARRIER WALL WITH EMERGENCY EXIT
SCALE: N.T.S.



NOTES:

1. MINIMUM CHAMBER SIZE SHALL BE 3'x3'.
2. WORKERS FROM THE UNCONTAMINATED AREA SHALL NOT PROCEED BEYOND THE FIRST AIR LOCK WITHOUT PROPER RESPIRATORY EQUIPMENT AND FULL-BODY PROTECTION.
3. WORKERS EXITING FROM THE WORK AREA SHALL PROPERLY DECONTAMINATE.

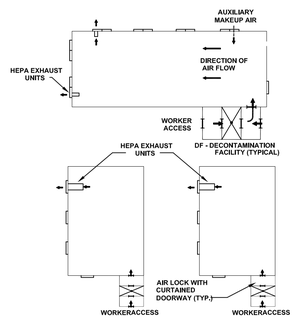
6 PERSONNEL DECONTAMINATION ENCLOSURE SYSTEM SCHEMATIC
SCALE: N.T.S.



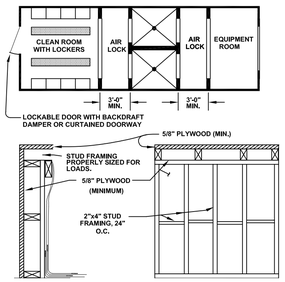
NOTES:

1. DOOR CONSTRUCTION SHALL BE A MINIMUM 3/4" FIRE-RETARDANT PLYWOOD. A SOLID CORE DOOR MAY BE USED.
2. MULTIPLE SMALL DAMPERS MAY BE UTILIZED IN LIEU OF A SINGLE, LARGE DAMPER.
3. DAMPERS SHALL BE ADJUSTED SO THAT THE DAMPER BLADES ARE IN THEIR OPEN POSITION WHEN PRESSURE DIFFERENTIAL MACHINES ARE IN OPERATION AND CLOSED WHEN PRESSURE DIFFERENTIAL MACHINES ARE TURNED OFF. DAMPER BLADES SHALL OVERLAP THE FRAME TO FORM A SEAL WHEN IN THEIR CLOSED POSITION.

4 BACKDRAFT DAMPER DETAIL
SCALE: N.T.S.



5 HEPA EXHAUST ARRANGEMENT FOR OPTIMUM AIR AND EXCHANGE MOVEMENT
SCALE: N.T.S.



NOTES:

1. THE DECONTAMINATION ENCLOSURE SHALL BE CONSTRUCTED USING 2"x4" STUD FRAMING, AND 5/8" MIN. PLYWOOD ATTACHED FOR WALLS, FLOORS, AND CEILING (UNLESS OTHERWISE SPECIFIED). THE INTERIOR SURFACES OF THE WALLS, FLOOR, AND ROOF SHALL THEN BE COVERED WITH TWO (2) LAYERS OF FIRE RETARDANT 6-MIL POLYSHEETING, SEALED AIR AND WATER-TIGHT WITH DUCT TAPE AT ALL OVERLAPPING SEAMS. ALL JOINTS ARE TO BE BE CAULKED SEALED AIRTIGHT. IF DECONTAMINATION ENCLOSURE IS LOCATED OUTSIDE THE BUILDING, IT SHALL BE SEALED FOR RAIN AND HAVE A LOCKABLE DOOR WITH A BACK-DRAFT DAMPER. SEE DETAIL 4, THIS SHEET.
2. SEE SPECIFICATIONS FOR WATER FILTRATION REQUIREMENTS.
3. ALL MATERIALS SHALL BE FIRE-RETARDANT.
4. INSTALL LIGHTING (AS REQUIRED).
5. DECONTAMINATION FACILITY SHALL BE ADEQUATELY SIZED TO ACCOMMODATE WORKERS.

7 STRUCTURAL DECONTAMINATION FACILITY
SCALE: N.T.S.

GENERAL ENVIRONMENTAL NOTES:

1. THE CONTRACTOR SHALL ISOLATE THE WORK AREAS, POST WARNING SIGNS, LOCKOUT AND TAG THE ELECTRICAL SYSTEM AS DESCRIBED IN SECTION 02 82 10, ESTABLISH DECONTAMINATION FACILITIES, AND PERFORM ALL PREABATEMENT ACTIVITIES AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

2. THE CONTRACTOR SHALL PROVIDE TEMPORARY POWER AND LIGHTING EQUIPPED WITH GROUND FAULT INTERRUPTER (GFI) DEVICES TO ALL WORK AREAS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. CONNECTIONS FOR TEMPORARY POWER FROM PERMANENT SERVICES ARE TO BE PERFORMED BY A QUALIFIED ELECTRICIAN. THE CONTRACTOR SHALL NOTE SHUTDOWNS AND TIEINS SHALL BE SCHEDULED WITH LSU IN ADVANCE; THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL CONTRACTOR PRIOR TO PERFORMING SHUTDOWNS OR TIE-INS.

3. THE CONTRACTOR SHALL ENSURE THAT ALL EMPLOYEES UTILIZE PROPER PROCEDURES FOR RESPIRATORY AND PERSONNEL PROTECTION AND DECONTAMINATION PROCEDURES AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

4. THE CONTRACTOR SHALL INSTALL AND ERECT SUFFICIENT SCAFFOLDING AND/OR WORK PLATFORMS TO ACCESS ALL AREAS AND COMPLETE ALL TASKS RELATED TO THE ENVIRONMENTAL ABATEMENT AND SELECTED DEMOLITION IN A MANNER THAT ALLOWS FOR THE RENOVATION OF THE BUILDING. INSTALLATION, ERECTION AND USE OF SCAFFOLDING AND WORK PLATFORMS AND MANLIFTS SHALL BE PERFORMED IN STRICT COMPLIANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS, AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40; INCLUDING BUT NOT LIMITED TO DAILY INSPECTIONS OF SCAFFOLDING AND WORK PLATFORMS AND SAFETY TRAINING MEETINGS AND 100% TIE-OFF FOR ALL WORKERS.

5. THE CONTRACTOR SHALL INSTALL RIGID BARRIER WALLS AND CAULK AND SEAL CONNECTIONS TO EXISTING WALLS, FLOOR, AND DECK AS REQUIRED AND AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. REFER TO DETAILS FOR RIGID BARRIER WALLS. THE CONTRACTOR SHALL REMOVE ALL RIGID BARRIER WALLS AFTER RECEIPT OF WRITTEN APPROVAL FROM THE ENVIRONMENTAL CONSULTANT. ALL MATERIALS USED SHALL BE FIRE RETARDANT.

6. THE CONTRACTOR SHALL PROTECT THE ELECTRICAL SYSTEM SERVICE, SERVICE CONDUITS AND PANELS, UTILITY PIPING SYSTEMS, ROOF STORM WATER, DRAINS AND PIPING SYSTEMS DURING THE ENVIRONMENTAL PHASE OF THE WORK. THE CONTRACTOR SHALL COORDINATE IN ADVANCE WITH THE GENERAL RENOVATION CONTRACTOR PRIOR TO REMOVAL OF ANY BUILDING UTILITY AND SYSTEM COMPONENT.

7. THE CONTRACTOR SHALL UTILIZE PROPER ENGINEERING CONTROLS AND CONDUCT PERSONNEL MONITORING THROUGHOUT THE ENVIRONMENTAL PHASE OF THE PROJECT IN ACCORDANCE WITH SECTION 02 82 10.

8. THE CONTRACTOR SHALL INSTALL HEPA-FILTERED EXHAUST SYSTEMS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

9. THE CONTRACTOR SHALL INSTALL AUTOMATIC AIR PRESSURE DIFFERENTIAL RECORDING INSTRUMENTS IN THE WORK AREAS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

10. THE CONTRACTOR SHALL MAINTAIN EMERGENCY EXITS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40.

11. BEFORE COMMENCING WORK WITHIN THE WORK AREA, THE CONTRACTOR SHALL INSPECT THE WORK ENCLOSURE FOR BREACHES AND LEAKS AS DESCRIBED IN SECTIONS 02 82 10 AND 02 82 40. THE CONTRACTOR SHALL SEAL PROPERLY ANY LEAKS BEFORE BEGINNING WORK.

12. AFTER THE WORK AREAS HAVE BEEN PREPARED, THE CONTRACTOR SHALL REQUEST A FORMAL SITE INSPECTION BY THE ENVIRONMENTAL CONSULTANT AND ASSIST THE ENVIRONMENTAL CONSULTANT IN THEIR EFFORTS TO SMOKE TEST/INSPECT THE CONTAINMENT FOR LEAKS. THE CONTRACTOR SHALL NOT COMMENCE REMOVAL OR OTHER DISTURBANCE OF ASBESTOS-CONTAINING MATERIALS, UNTIL THE ENVIRONMENTAL CONSULTANT HAS INSPECTED AND APPROVED THE SITE PREPARATION WORK.

13. THE CONTRACTOR SHALL SCHEDULE WASTE DISPOSAL IN ADVANCE WITH THE GENERAL RENOVATION CONTRACTOR.

14. THE CONTRACTOR SHALL ENSURE THAT ALL BUILDING COMPONENTS AND EQUIPMENT SCHEDULED TO REMAIN FOR THE BUILDING RENOVATION AND/OR SALVAGE AND FOR THE PROTECTION OF THE BUILDING IS CLEANED OF ALL ASBESTOS MATERIALS AND PROTECTED DURING THE ENVIRONMENTAL REMOVAL PHASE.

15. THE CONTRACTOR SHALL SEAL ALL OPENINGS THROUGH WALLS, SLAB/DECK AND ROOF THAT EXIST OR WILL BE CREATED BY THE REMOVAL PROCESS TO PROTECT THE BUILDING AND THE SAFETY OF WORKERS AND THE INTEGRITY OF THE CONTAINMENT.

16. THE CONTRACTOR SHALL FIELD VERIFY THE QUANTITY OF ASBESTOS-CONTAINING MATERIALS TO BE REMOVED AND DISPOSED OF, THE QUANTITY OF MECHANICAL AND ELECTRICAL EQUIPMENT AND PIPING TO BE CLEANED AND DISPOSED OF AND QUANTITY OF WALLS, FLOORS, AND MOVEABLE OBJECTS TO BE REMOVED AND DISPOSED OF. THE CONTRACTOR SHALL COORDINATE WITH THE GENERAL RENOVATION CONTRACTOR PRIOR TO REMOVAL OF ANY BUILDING COMPONET, EQUIPMENT OR CONTENTS. SALVAGE MATERIALS WHEREVER POSSIBLE. OWNER HAS FIRST RIGHT OF REFUSAL

17. THE CONTRACTOR SHALL NOTE: THE SCOPE OF WORK AND WORK ITEMS INCLUDED WITHIN THESE GENERAL NOTES AND THE SHEET NOTES ARE A PART OF THE SCOPE OF WORK FOR THIS PROJECT AND ALL WORK SHALL BE PERFORMED USING WORKMANSHIP-LIKE METHODS.

18. FINAL AIR TESTING SHALL BE PERFORMED PURSUANT TO THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY 40 CFR PART 763 (APPENDIX A) USING TRANSMISSION ELECTRON MICROSCOPY (TEM), AGGRESSIVE DISTURBANCE PROCEDURES, CONTINUOUS AIR CIRCULATION, AND HEPA-FILTERED EXHAUST.

19. THE CONTRACTOR SHALL MAINTAIN PROPER FEDERAL AND STATE LICENSING TO CONDUCT HAZARDOUS MATERIAL REMOVAL AND DISPOSAL AS DESCRIBED WITHIN THESE DOCUMENTS.

STATE OF LOUISIANA
BENJAMIN A. RAYNER
License No. 46862
PROFESSIONAL ENGINEER
CIVIL ENGINEERING
08/31/2023

ASBESTOS ABATEMENT DESIGNER
Harry Rayner 8/31/23
HARRY RAYNER — DATE
CERTIFICATE NO. AD114302

ENGINEER IS NOT CERTIFYING THE INTEGRITY OF THE STRUCTURAL ELEMENTS OF THE BUILDING, INCLUDING THE FOUNDATION, DUE TO THIS WORK. STRUCTURAL ANALYSIS IS BY OTHERS. THIS CERTIFICATION IS FOR THE ENVIRONMENTAL ABATEMENT ONLY.

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ENVIRONMETAL ENGINEER
RAYNER CONSULTING GROUP, LLC
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BATON ROUGE, LA 70808
225.916.2824
MECHANICAL ENGINEER
ADG BATON ROUGE, LLC
3071 TEDDY DRIVE
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PROJ. # 020-0033

revisions

No.	Description	Date

date: August 31, 2023

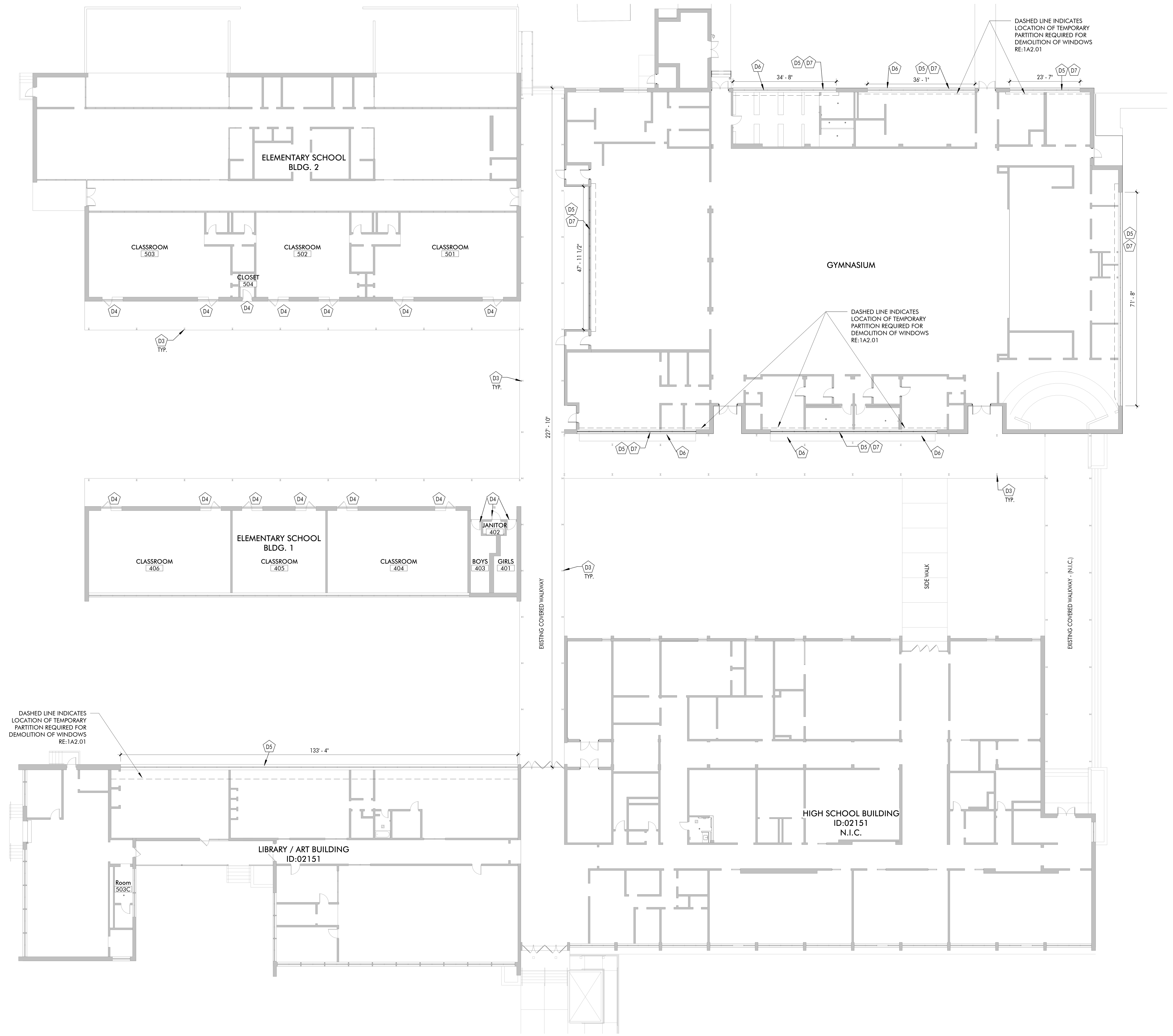
director review: HR

DETAILS

EV1.02

1 DETAILS AND GENERAL NOTES
1/16" = 1'-0" DRAWN BY:

August 31, 2023



DEMOLITION NOTES

MARK	DESCRIPTION
D1	REMOVE EXISTING CANOPY ROOF, DOWNSPOUTS & GUTTERS. EXISTING STRUCTURE TO REMAIN AS THEY WILL BE SUPOORTS FOR THE NEW CANOPY.
D2	REMOVE EXISTING B.U.R. SYSTEM, INCULDING SHEET METAL FLASHING. EXISTING PIPING, CONDUITS, AND SUPPORTS FOR CONDUIT & PIPING ARE TO REMAIN.
D3	EXISTING STEEL COLUMNS TO REMAIN - CLEAN, & WIRE BRUSH TO REMOVE RUST. PREP STEEL FOR PAINT w/ A RUST INHIBITIVE PRIMER.
D4	REMOVE EXISTING STEEL WINDOW AND DOOR ASSEMBLY RE: ENVIRONMENTAL SHEETS FOR REQUIREMENTS
D5	REMOVE EXISTING STEEL WINDOWS & FRAMING ASSEMBLIES. RE: ENVIRONMENTAL SHEETS FOR REQUIREMENTS.
D6	REMOVE EXISTING WINDOW UNITS. RE: ELEC. FOR CAPPING THE EXISTING POWER.
D7	REMOVE METAL SCREEN AND SUPPORTS AT EXISTING WINDOWS. PATCH BRICKS & WINDOW SILL ONCE REMOVED.
D8	SALVAGE EXISTING FEEDER CONDUITS AND BOXES TO BE REINSTALLED AFTER NEW ROOF IS COMPLETE.

*NOTE: VERIFY ALL EXISTING DIMENSIONS ON SITE .

1 1ST FLOOR - OVERALL DEMO PLAN
1/16" = 1'-0" DRAWN BY:

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PROJECT INFORMATION

revisions

No.	Description	Date

project # C22-0071
date AUGUST 31, 2023
director review

DEMO PLAN

D1.01

AUGUST 31, 2023

DEMOLITION NOTES

MARK	DESCRIPTION
D1	REMOVE EXISTING CANOPY ROOF, DOWNSPOUTS & GUTTERS. EXISTING STRUCTURE TO REMAIN AS THEY WILL BE SUPOORTS FOR THE NEW CANOPY.
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1 OVERALL ROOF PLAN - DEMOLITION
1/16" = 1'-0" DRAWN BY: CL

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project # C22-0071
date AUGUST 31, 2023
director review

DEMO ROOF PLAN

D1.02

AUGUST 31, 2023

GENERAL NOTES	
MARK	DESCRIPTION
G1	MAIN STAGING AREA FOR CONTRACTOR
G2	SUB-STAGING / PARKING AREA
G3	STAGING AREAS SHALL BE REGRADED AND SEEDED WHEN THE CONSTRUCTION PROJECT HAS BEEN COMPLETED.
G4	STAGING AREAS MUST BE FENCED AND LOCKABLE ALL TIMES.
G5	CONTRACTOR MUST MAINTAIN A ROUTE FOR FOOD DELEVERIES FOR THE DURATION OF CONSTRUCTION WHILE SCHOOL IS OPEN.

1

OVERALL SITE PLAN

1" = 40'-0" DRAWN BY: CL

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PROJECT INFORMATION

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No.	Description	Date

project # C22-0071

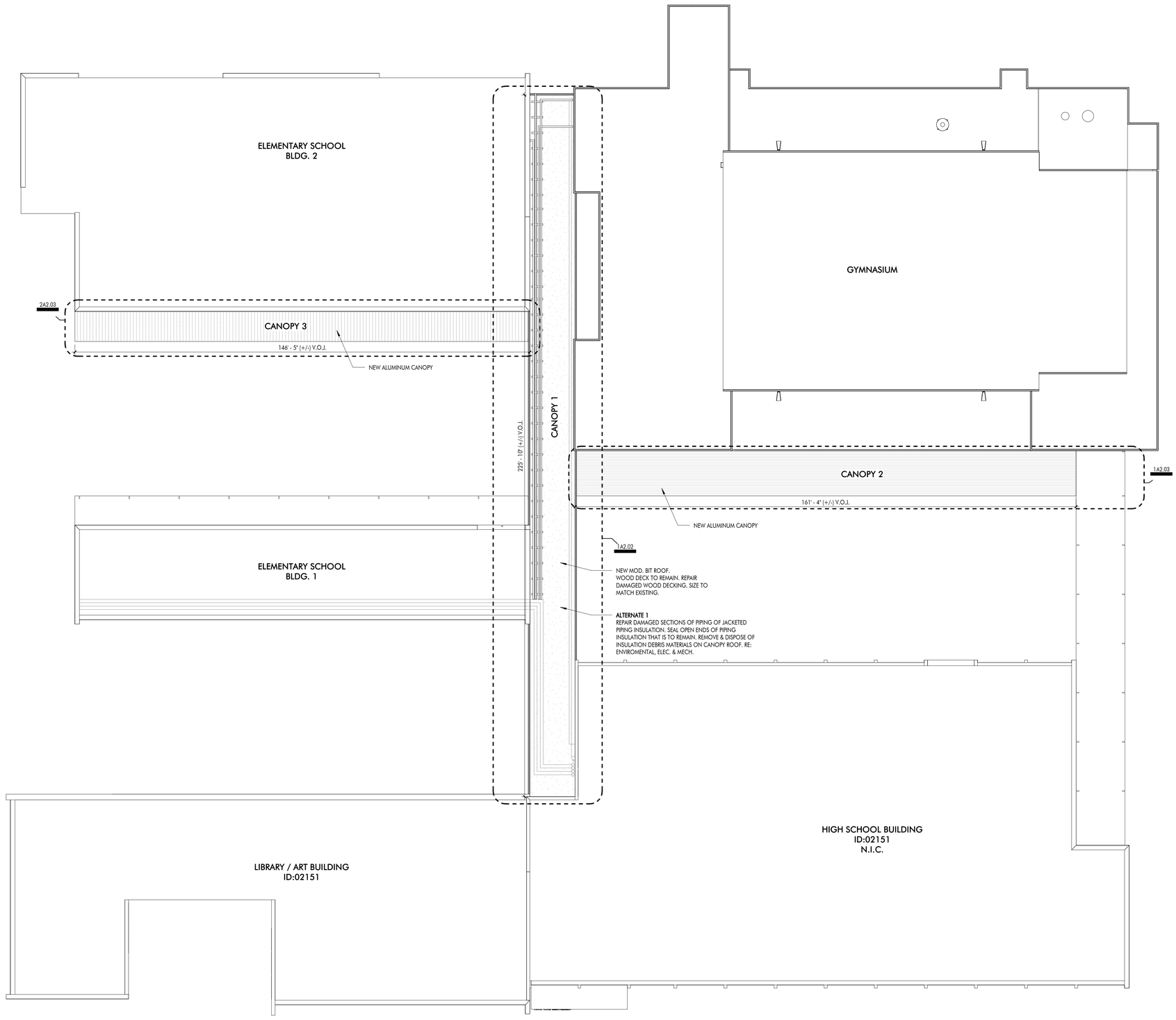
date AUGUST 31, 2023

director review

SITE PLAN - AERIAL VIEW

A1.00

AUGUST 31, 2023



CONSTRUCTION NOTES

MARK	DESCRIPTION
1	EXISTING PIPING, CONDUITS, AND SUPPORTS ARE TO REMAIN. EXISTING SUPPORTS ARE TO BE PREPPED TO RECEIVE NEW ROOF FLASHING DURING THE REROOF OF THE CANOPY.
2	PATCH DAMAGED WOOD DECK. PROVDE STAINLESS STEEL GUTTERS & DOWNSPOUTS.
3	REMOVE UNUSED/ ABANDONED CABLES. CONTRACTOR TO VERIFY THAT CABLES/WIRES ARE INDEED ABANDONED BEFORE REMOVAL.
4	REMOVE EXISTING LIGHT FIXTURE AND REPLACE WITH NEW. RE: ELEC
5	CONTRACTOR TO VERIFY BEAM/GUTTER, DECK, AND DOWNSPOUT SIZES PER MFR RECOMMENDATIONS AND CALCULATIONS.

1 OVERALL ROOF PLAN
1/16" = 1'-0" DRAWN BY: CL

AUGUST 31, 2023

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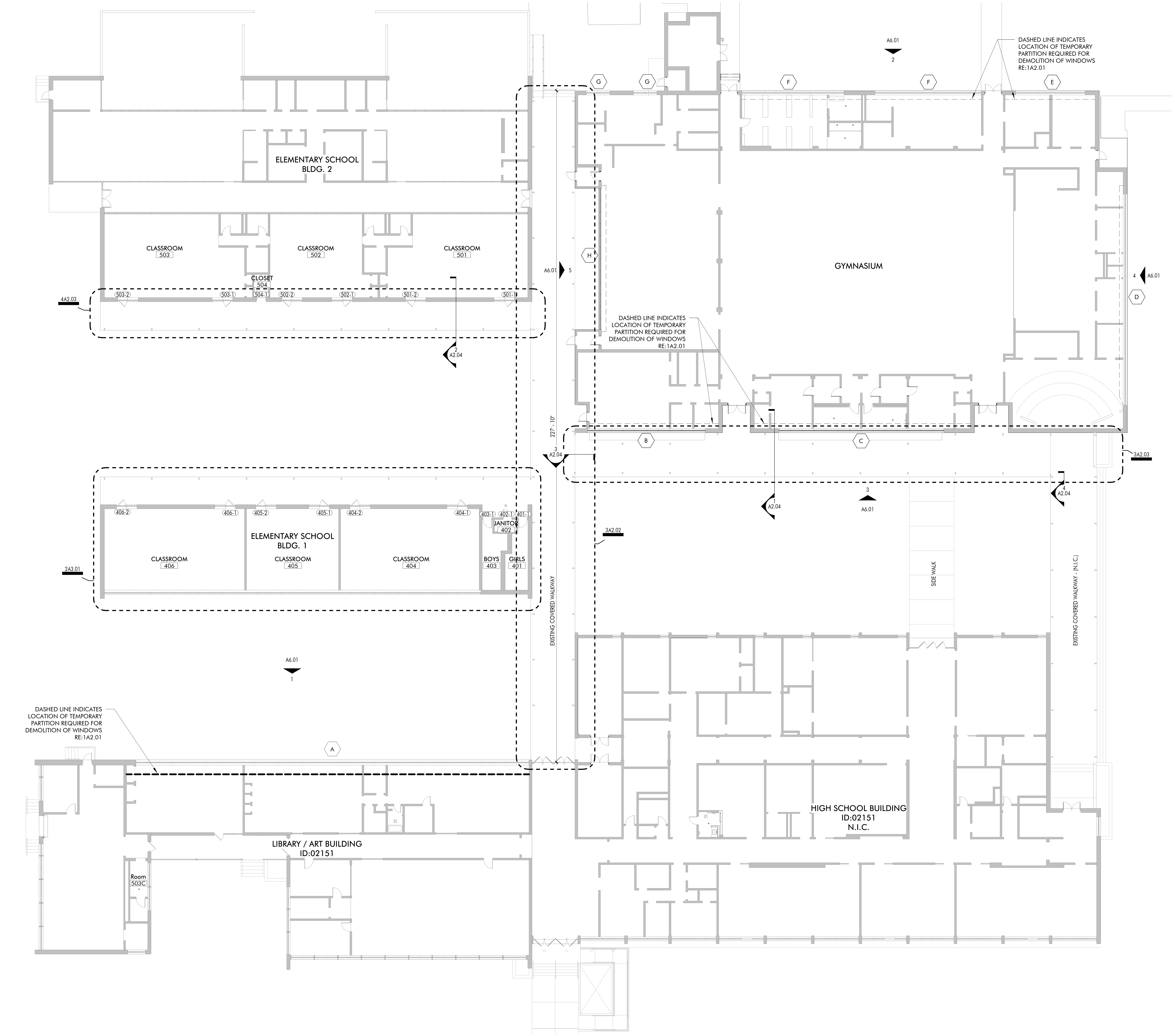
project # C22-0071
date AUGUST 31, 2023
director review

OVERALL ROOF PLAN

A2.00



1 1ST FLOOR - OVERALL EXISTING FLOOR PLAN

1/16" = 1'-0" DRAWN BY:

CONSTRUCTION NOTES

MARK	DESCRIPTION
1	EXISTING PIPING, CONDUITS, AND SUPPORTS ARE TO REMAIN. EXISTING SUPPORTS ARE TO BE PREPPED TO RECEIVE NEW ROOF FLASHING DURING THE REROOF OF THE CANOPY.
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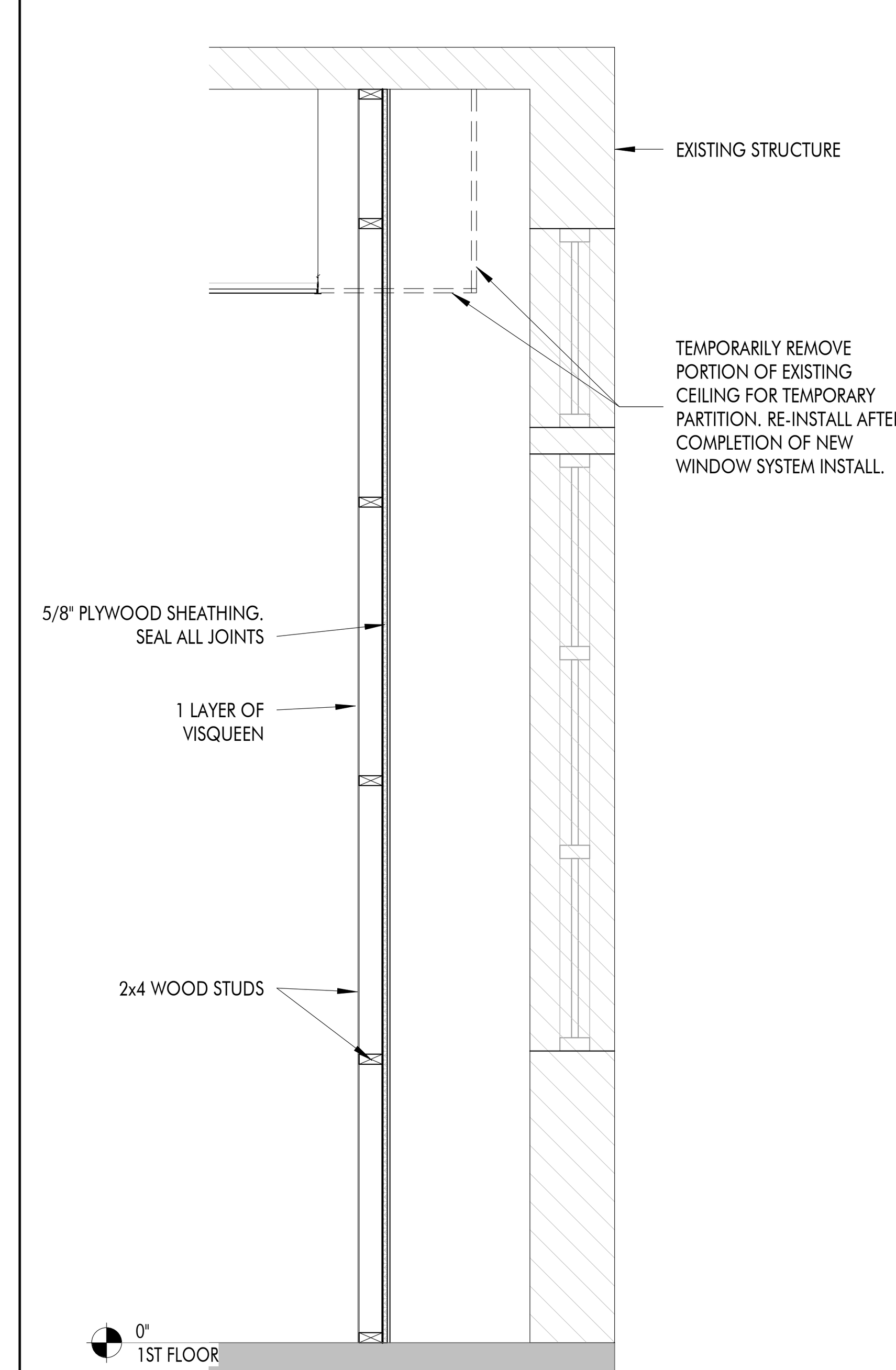
FLOOR PLAN LEGEND

- 0' - 0" ELEVATION — ELEVATION DATUM HEIGHT DESIGNATION
- 808-1 — DOOR DESIGNATION TAG
- ACT-1 — FINISH / MATERIAL DESIGNATION TAG
- 88 — REVISION DESIGNATION TAG
- W1 — WINDOW DESIGNATION TAG
- A1 — WALL DESIGNATION TAG
- ROOM NAME 812 — ROOM DESIGNATION TAG
- 88A12.18 SIM — DETAIL DESIGNATION TAG
- A10.11 SIM — INTERIOR ELEVATION DESIGNATION TAG
- A6.01 — EXTERIOR ELEVATION DESIGNATION TAG
- 8 A10.12 SIM — BUILDING / WALL / DETAIL SECTION DESIGNATION TAG



2 SECTION @ TEMP. PARTITION

1/2" = 1'-0" DRAWN BY:

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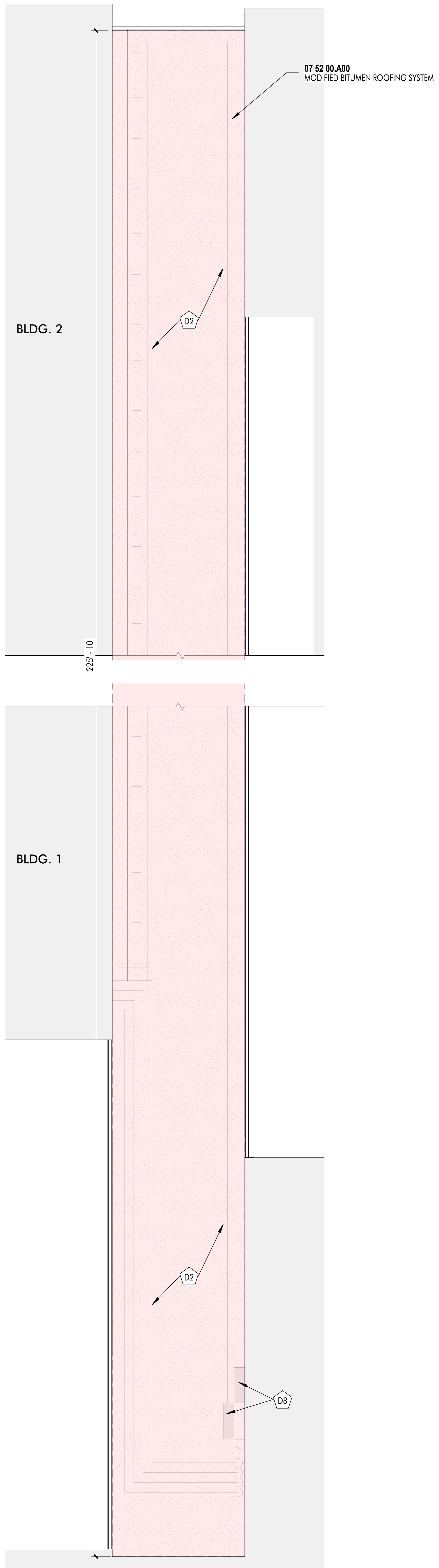
project # C22-0071
date AUGUST 31, 2023
director review

OVERALL FLOOR PLAN

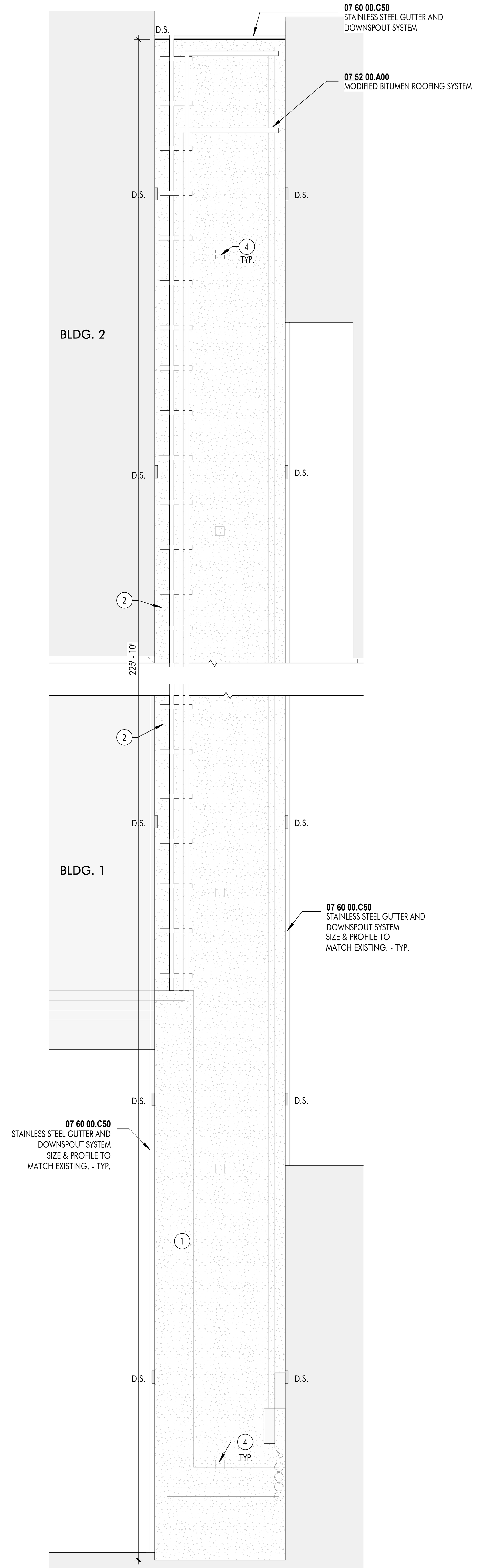
A2.01

AUGUST 31, 2023



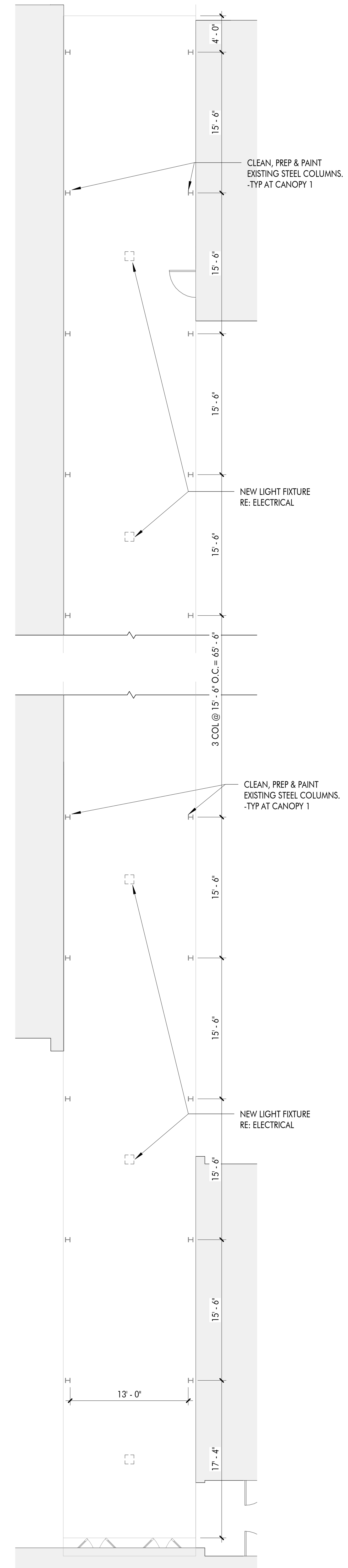
1 CANOPY 1 - DEMOLITION ROOF PLAN

1/8" = 1'-0" DRAWN BY: CL



2 CANOPY 1 - ROOF PLAN

1/8" = 1'-0" DRAWN BY: CL



3 CANOPY 1 - COLUMN PLAN

1/8" = 1'-0" DRAWN BY: CL

DEMOLITION NOTES

MARK	DESCRIPTION
D1	REMOVE EXISTING CANOPY ROOF, DOWNSPOUTS & GUTTERS. EXISTING STRUCTURE TO REMAIN AS THEY WILL BE SUPOORTS FOR THE NEW CANOPY.
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D7	REMOVE METAL SCREEN AND SUPPORTS AT EXISTING WINDOWS. PATCH BRICKS & WINDOW SILL ONCE REMOVED.
D8	SALVAGE EXISTING FEEDER CONDUITS AND BOXES TO BE REINSTALLED AFTER NEW ROOF IS COMPLETE.

CONSTRUCTION NOTES

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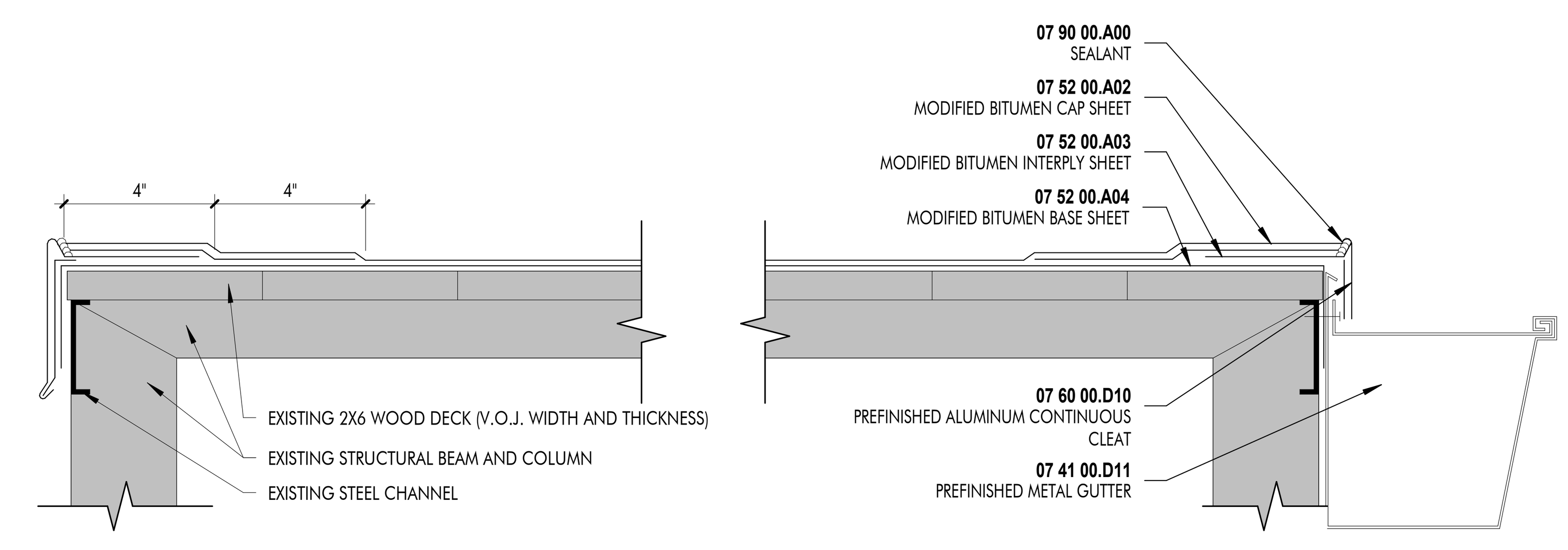
5	CONTRACTOR TO VERIFY BEAM/GUTTER, DECK, AND DOWNSPOUT SIZES PER MFR RECOMMENDATIONS AND CALCULATIONS.



CANOPY EDGE

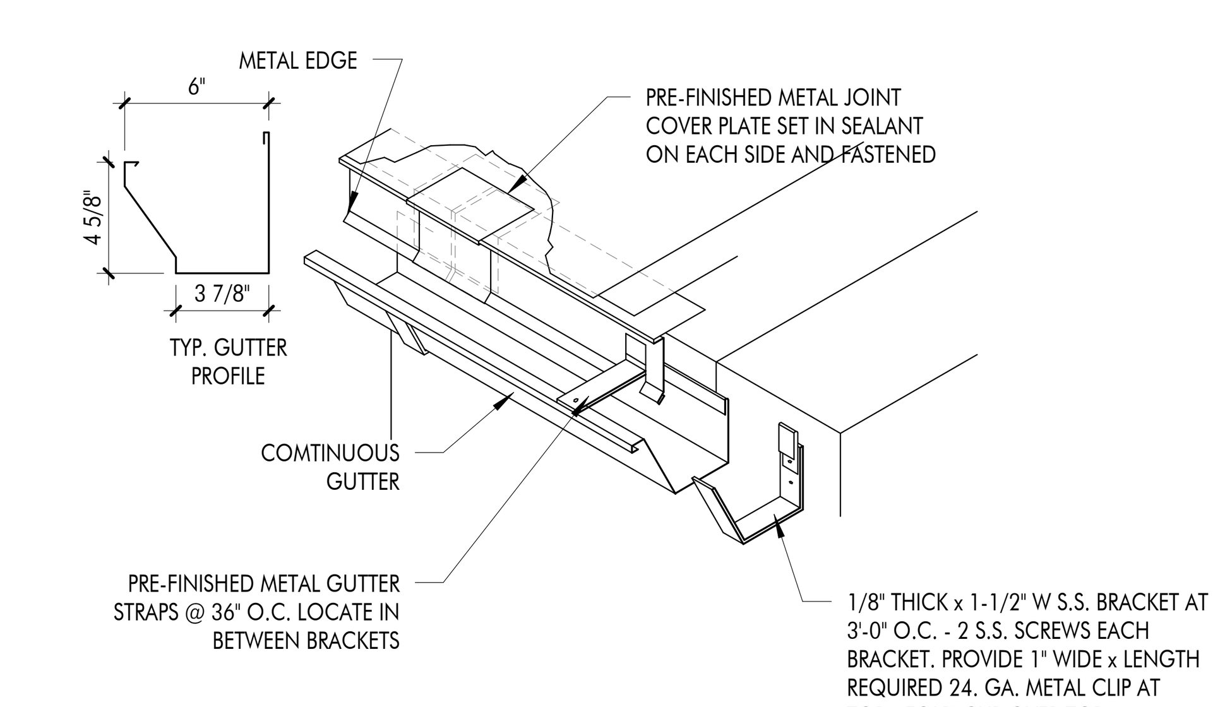
CANOPY EDGE WITH GUTTER

NOTES:
1. THE METAL WORK AND CARPENTRY SHOWN DEPICTS JOB-SITE ASSEMBLY AND SHOULD BE DESIGNED/FABRICATED/INSTALLED ACCORDING TO GENERALLY ACCEPTED PRACTICES, STANDARDS, AND APPROVALS.
2. DISSIMILAR METAL TYPES SUBJECT TO ELECTROLYTIC REACTION SHOULD BE PHYSICALLY SEPARATED.
3. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN SPECIFICATIONS SHALL APPLY IN ADDITION TO THE ABOVE DRAWING.

CAUTION: IT IS RECOMMENDED THAT ALL PRACTICES PERTAINING TO NRCA CERTA GUIDELINES BE FOLLOWED TO TORCHING METHODS ARE EMPLOYED. THIS INCLUDES PERFORMING A FIRE WATCH FOLLOWING ANY TORCH APPLICATION. ALWAYS HAVE APPROVED FIRE-EXTINGUISHER EQUIPMENT NEARBY.

4 ROOF EDGE DETAIL

3" = 1'-0" DRAWN BY:



5 ROOF - GUTTER DETAIL

DRAWN BY:

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EXTERIOR WINDOW & CANOPY REPAIRS

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PROJECT INFORMATION

revisions

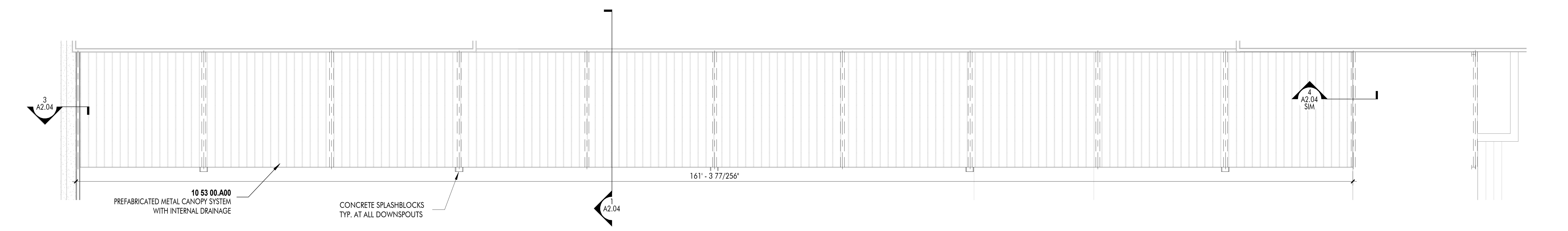
No.	Description	Date

project #	C22-0071
date	AUGUST 31, 2023
director review	

CANOPY 1 - REROOFING PLANS & DETAILS

A2.02

AUGUST 31, 2023



1 CANOPY 2 - ROOF PLAN
1/8" = 1'-0" DRAWN BY: CL

CONSTRUCTION NOTES

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1	EXISTING PIPING, CONDUITS, AND SUPPORTS ARE TO REMAIN. EXISTING SUPPORTS ARE TO BE PREPPED TO RECEIVE NEW ROOF FLASHING DURING THE REROOF OF THE CANOPY.
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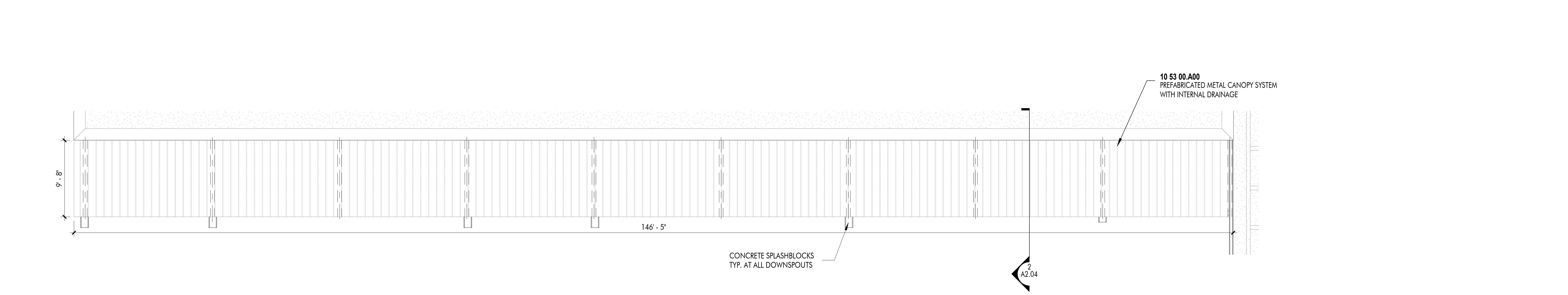
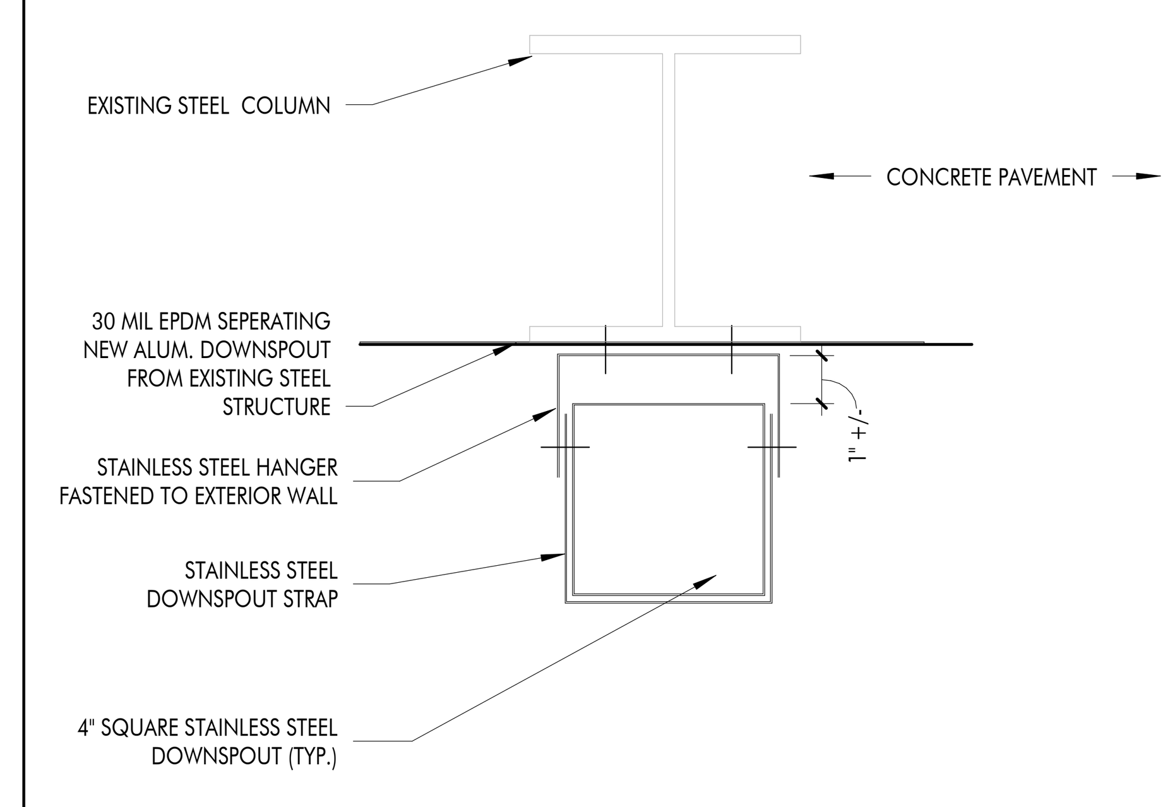
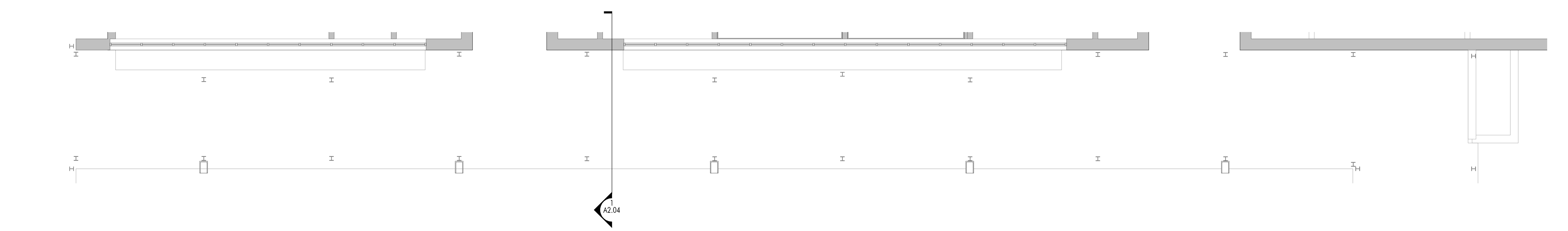


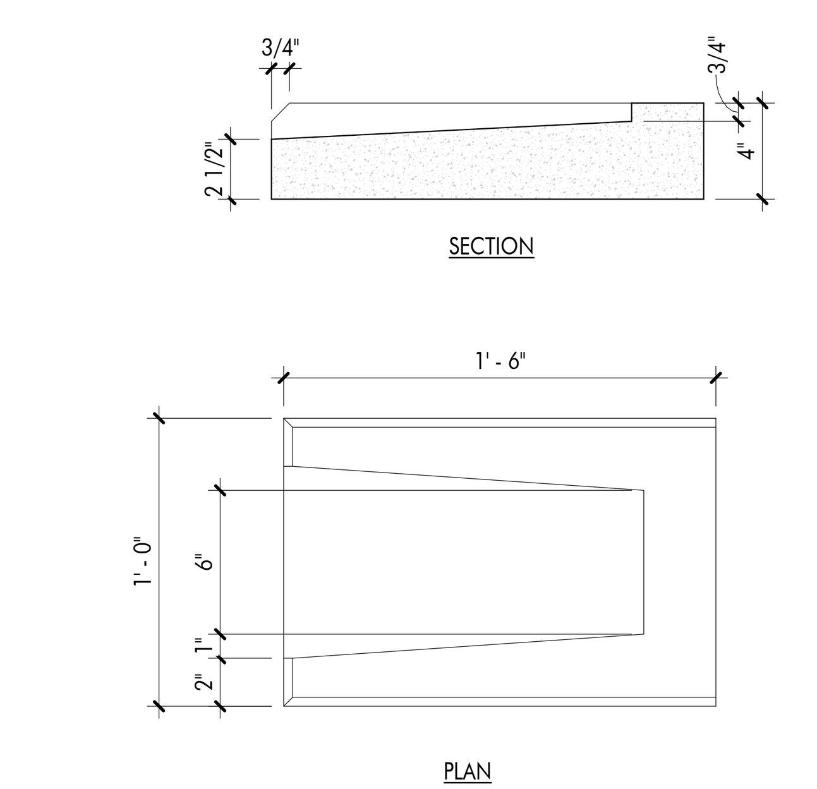
2 CANOPY 3 - ROOF PLAN
1/8" = 1'-0" DRAWN BY: CL



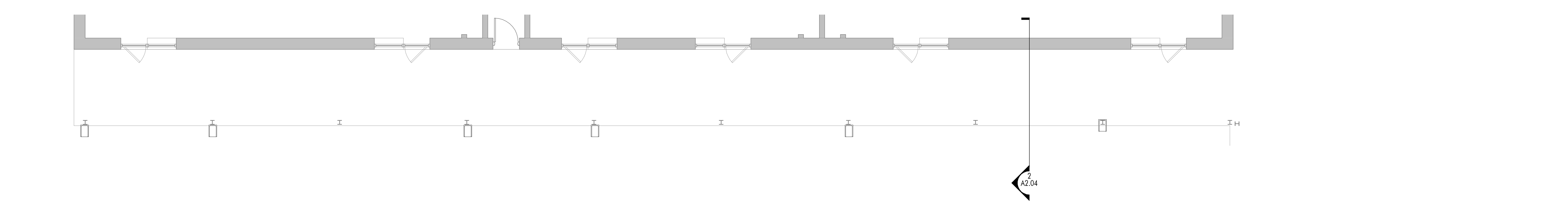
5 DOWNSPOUT DETAIL
3" = 1'-0" DRAWN BY: KB



3 CANOPY 2 - COLUMN PLAN
1/8" = 1'-0" DRAWN BY: CL



6 DETAIL - CONCRETE SPLASH BLOCK
DRAWN BY:



4 CANOPY 3 - COLUMN PLAN
1/8" = 1'-0" DRAWN BY: CL

ARCHITECT

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PROJECT INFORMATION

revisions

No.	Description	Date

project # C22-0071

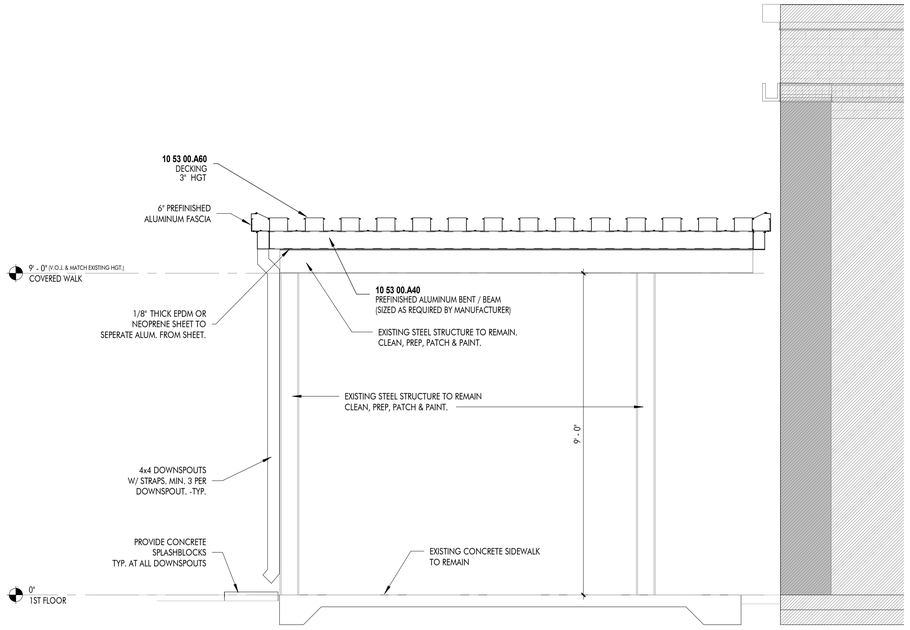
date AUGUST 31, 2023

director review

CANOPY 2 & 3 - PLANS AND DETAILS

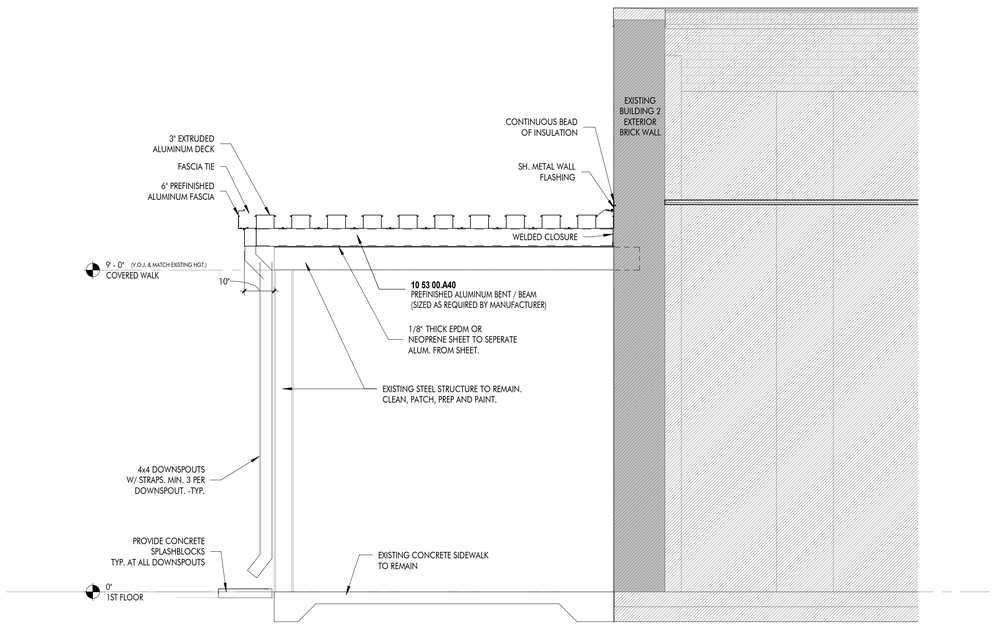
A2.03

AUGUST 31, 2023



1 CANOPY 2

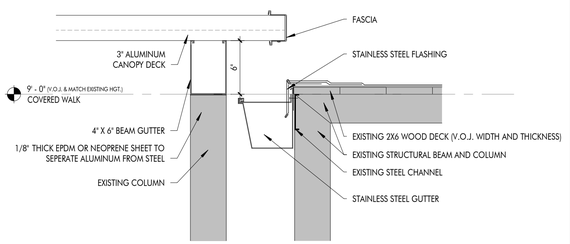
1/2" = 1'-0" DRAWN BY: KB



2 CANOPY 3 TO BUILDING 2

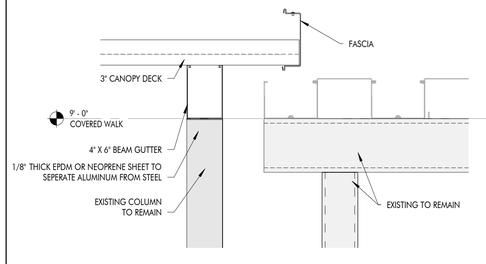
1/2" = 1'-0" DRAWN BY: KB

NOTES:
- VERIFY HEIGHT OF EXISTING STEEL STRUCTURE THAT NEW CANOPY DECKING IS TO ATTACHED TO.
- ALUM. CANOPIES ARE TO COMPLY WITH THE PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED & SEALED BY A LICENSED PROFESSIONAL ENGINEER IN THE STATE OF THIS PROJECT.



3 EXISTING TO NEW CANOPY

1 1/2" = 1'-0" DRAWN BY: KB



4 EXISTING TO NEW CANOPY 2

1 1/2" = 1'-0" DRAWN BY: KB

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Southern University Laboratory School

EXTERIOR WINDOW & CANOPY REPAIRS

129 SWAN STREET,
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PROJECT INFORMATION

revisions No.	Description	Date

project # C22-0071

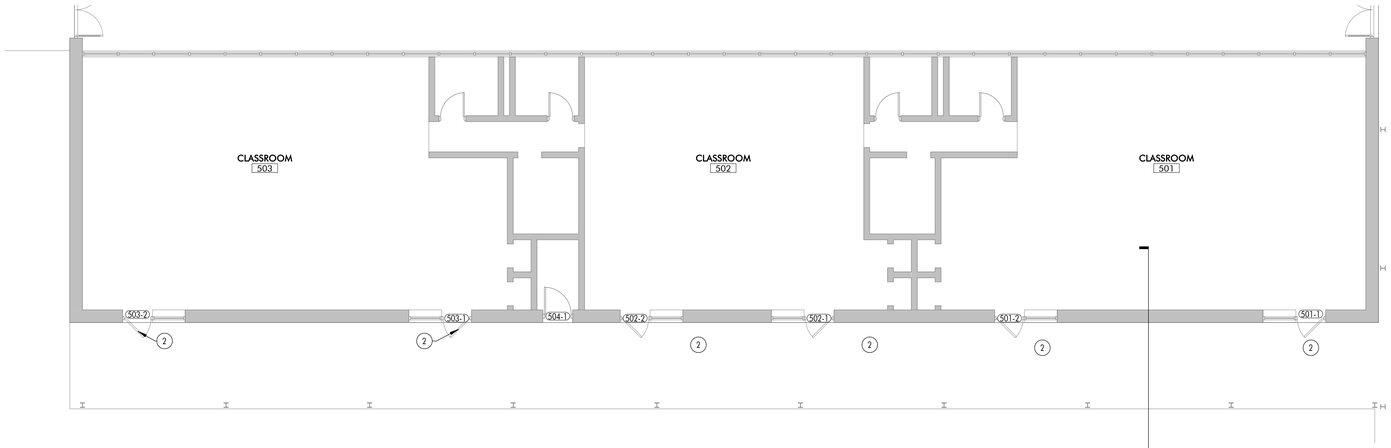
date AUGUST 31, 2023

director review

CANOPY 2 & 3 - SECTIONS

A2.04

AUGUST 31, 2023



1 1ST FLOOR - ELEMENTARY CLASSROOMS - BUILDING 2

1/8" = 1'-0" DRAWN BY:

2 1ST FLOOR - ELEMENTARY CLASSROOMS - BUILDING 1

1/8" = 1'-0" DRAWN BY: CL

CONSTRUCTION NOTES

MARK	DESCRIPTION
1	EXISTING PIPING, CONDUITS, AND SUPPORTS ARE TO REMAIN. EXISTING SUPPORTS ARE TO BE PREPPED TO RECEIVE NEW ROOF FLASHING DURING THE REROOF OF THE CANOPY.
2	PATCH DAMAGED WOOD DECK. PROVDE STAINLESS STEEL GUTTERS & DOWNSPOUTS.
3	REMOVE UNUSED/ ABANDONED CABLES. CONTRACTOR TO VERIFY THAT CABLES/WIRES ARE INDEED ABANDONED BEFORE REMOVAL.
4	REMOVE EXISTING LIGHT FIXTURE AND REPLACE WITH NEW. RE: ELEC
5	CONTRACTOR TO VERIFY BEAM/GUTTER, DECK, AND DOWNSPOUT SIZES PER MFR RECOMMENDATIONS AND CALCULATIONS.

3 CEILING POCKET DETAIL

1" = 1'-0" DRAWN BY: SH

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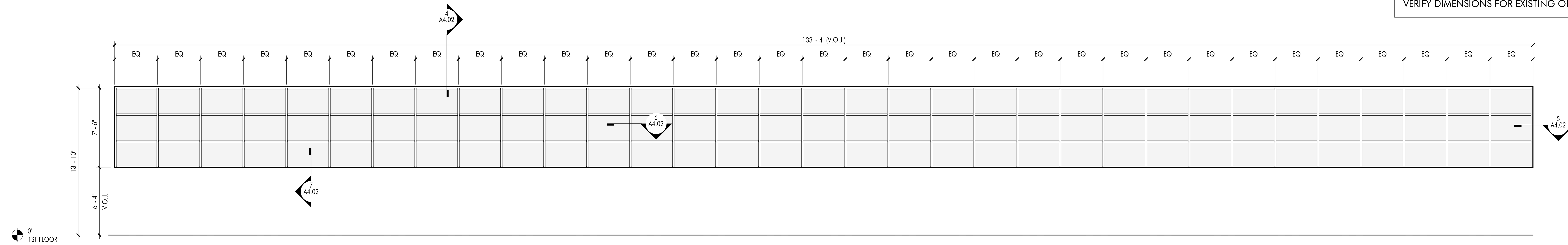
ENLARGED PLANS

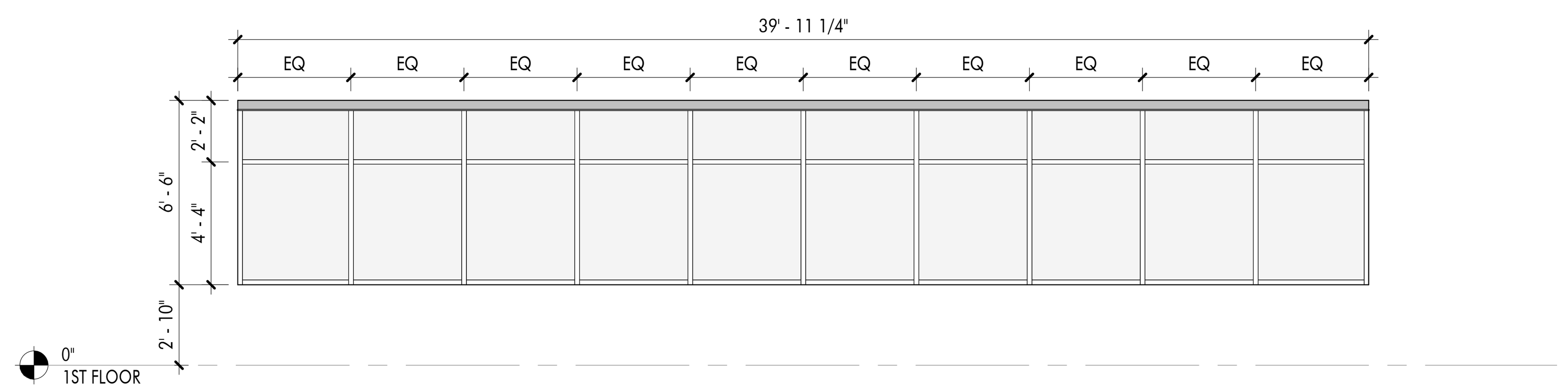
A3.01

AUGUST 31, 2023

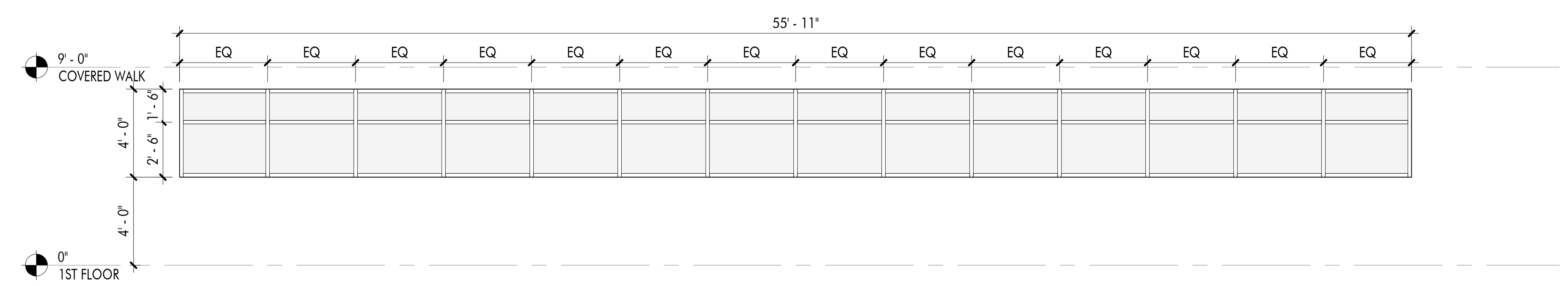
NOTE: ALL WINDOWS BEING REPLACED ARE EXISTING.
VERIFY DIMENSIONS FOR EXISTING OPENINGS.



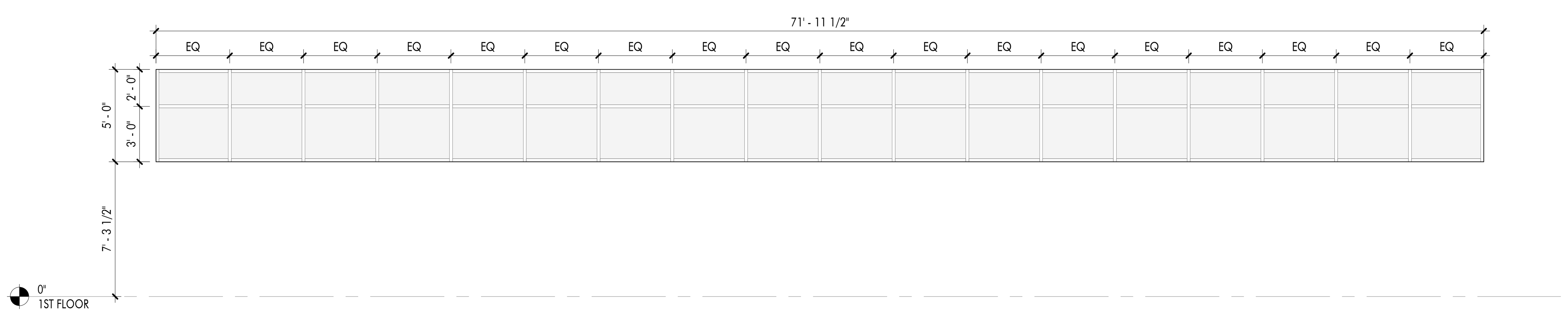
TYPE A
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS
ALTERNATE #3



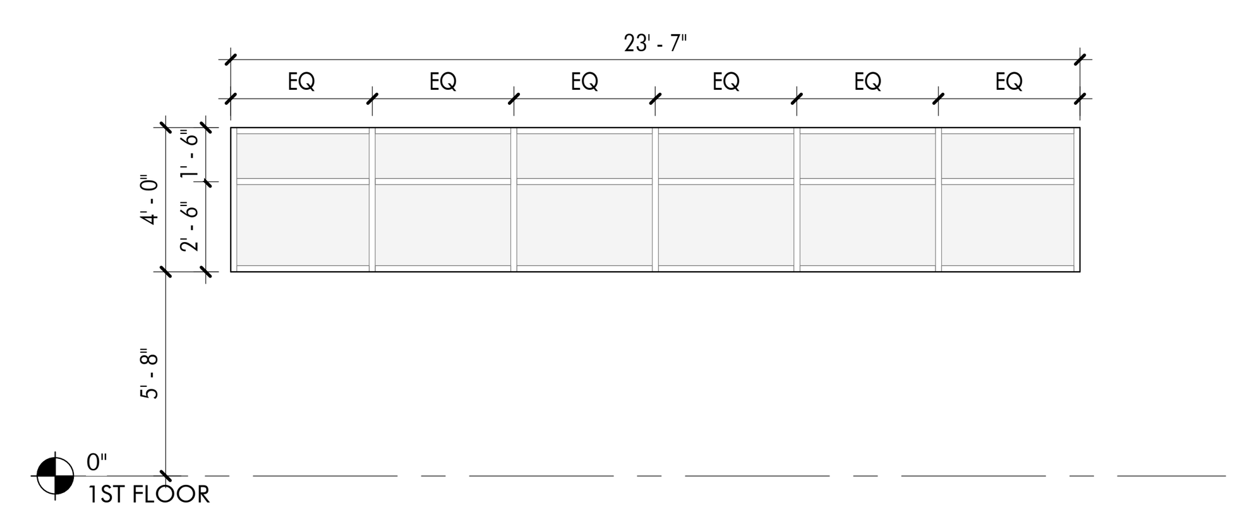
TYPE B
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS



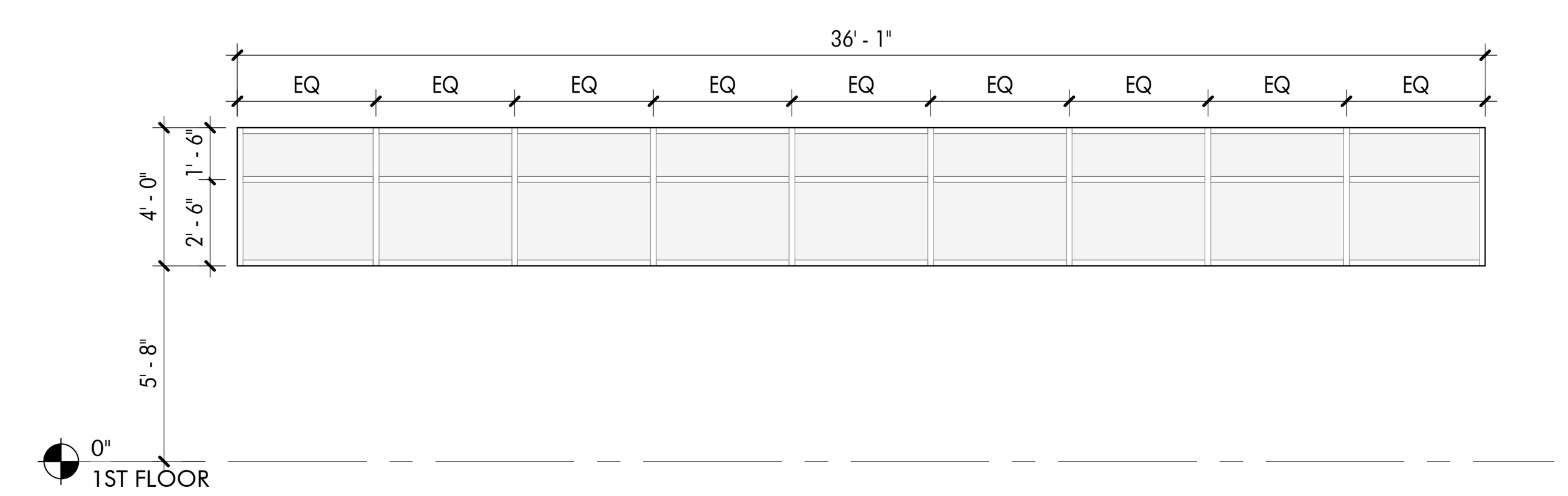
TYPE C
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS



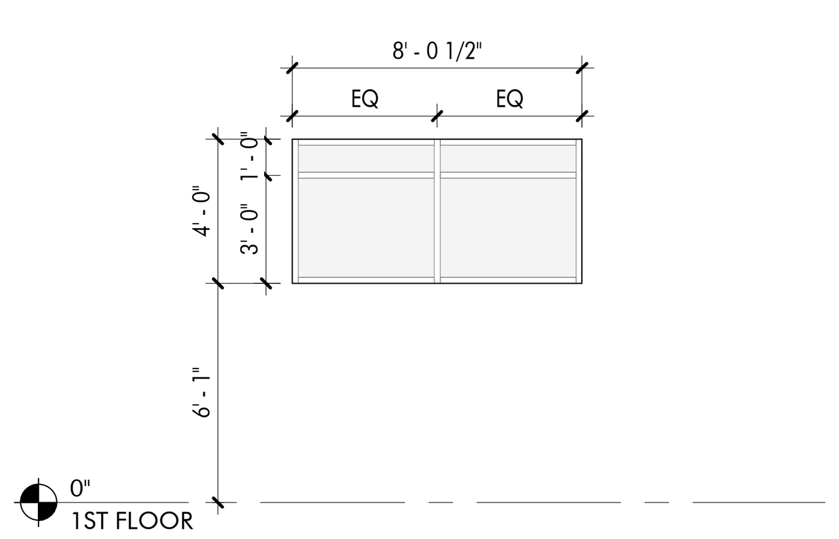
TYPE D
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS



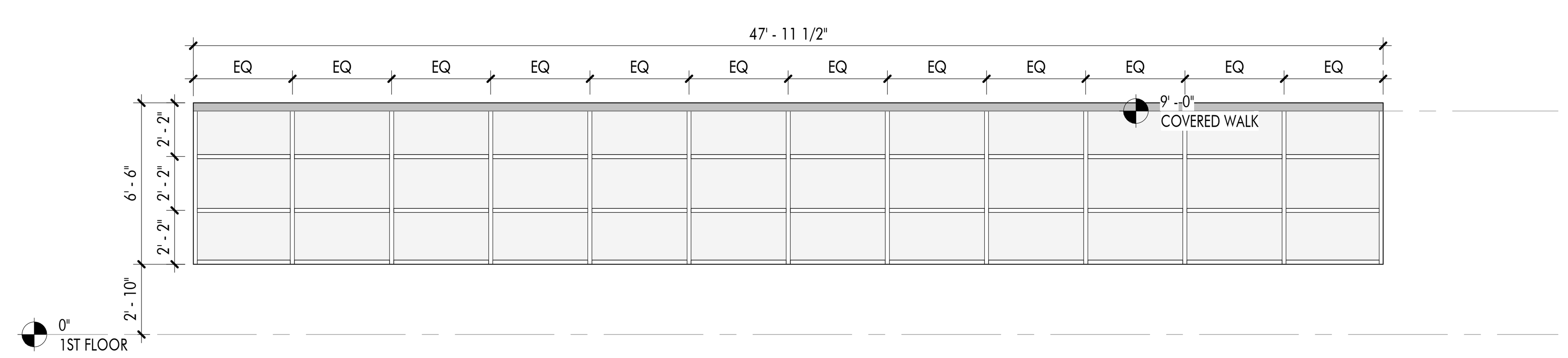
TYPE E
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS



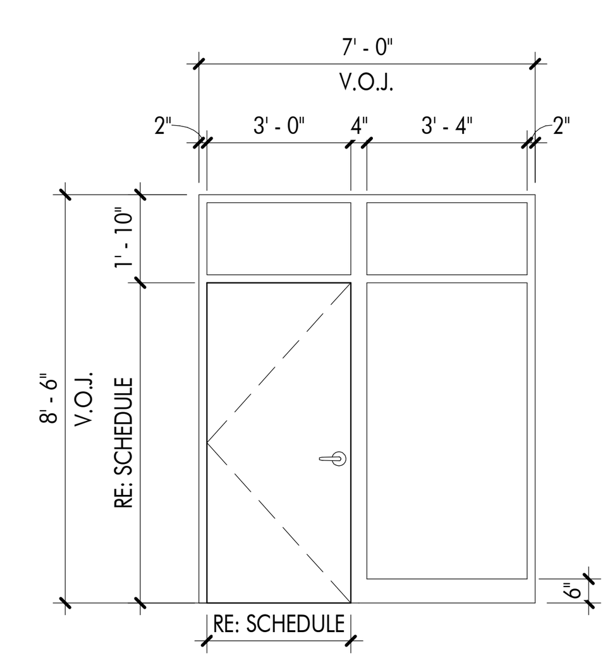
TYPE F
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS



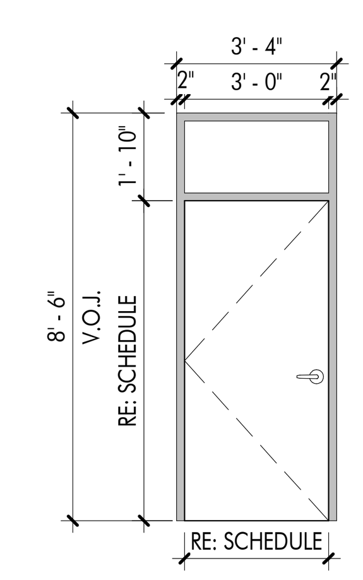
TYPE G
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS



TYPE H
EXTERIOR ALUMINUM
STOREFRONT SYSTEM w/ FIXED INSULATED TINTED GLASS



TYPE J
HOLLOW METAL FRAME
ASSEMBLY w/ FLUSH PANEL
STEEL DOOR
AND INSLATED GLASS PANEL



TYPE J
HOLLOW METAL FRAME
ASSEMBLY w/ FLUSH
PANEL STEEL DOOR
AND INSLATED GLASS
PANEL

1 WINDOW TYPES
DRAWN BY: CL

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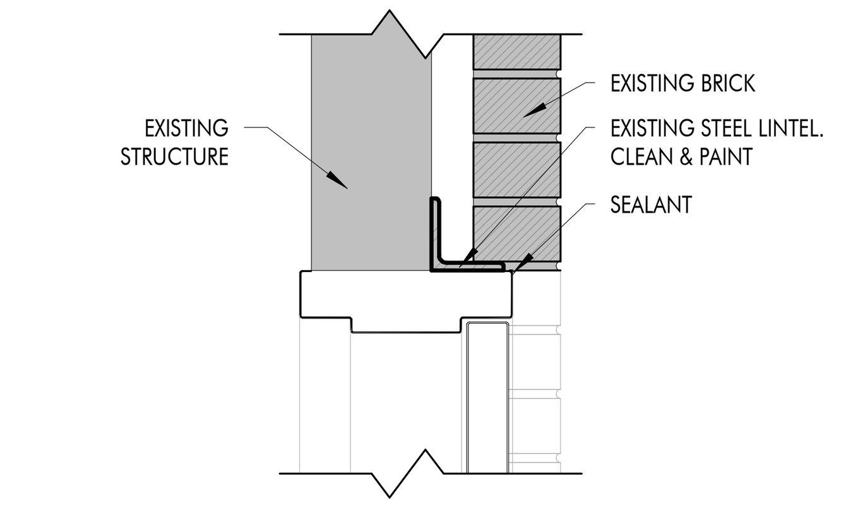
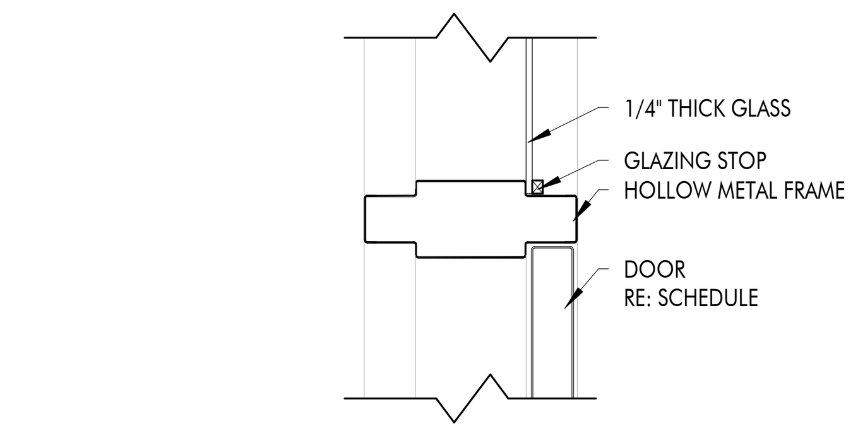
STOREFRONTS TYPES & DETAILS

A4.01

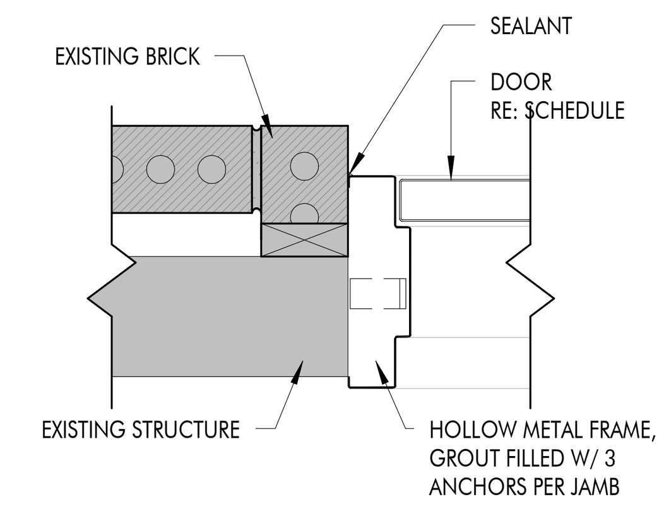
AUGUST 31, 2023



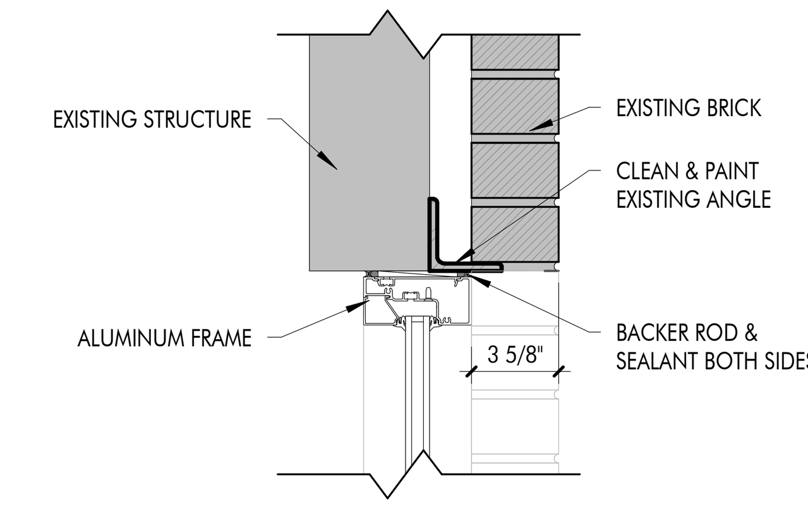
1 EXT. H.M. DOOR HEAD
1 1/2" = 1'-0" DRAWN BY: SH



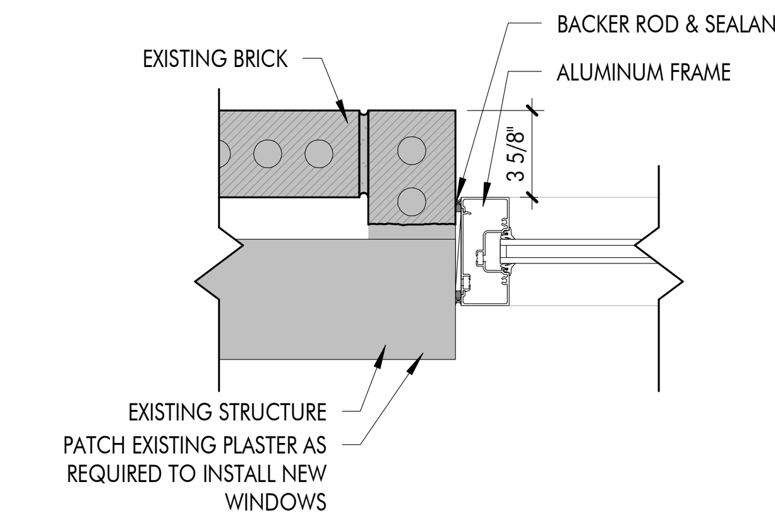
2 EXT. H.M. DOOR HEAD W/ TRANSOM
1 1/2" = 1'-0" DRAWN BY: SH



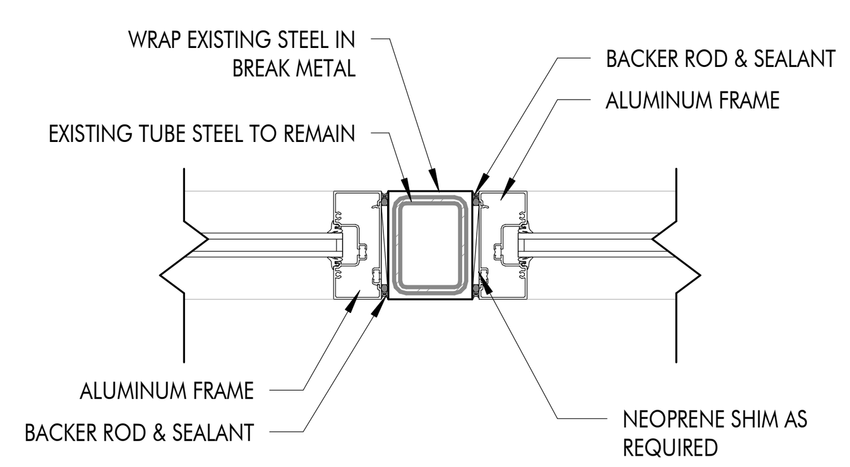
3 EXT. H.M. DOOR JAMB
1 1/2" = 1'-0" DRAWN BY: SH



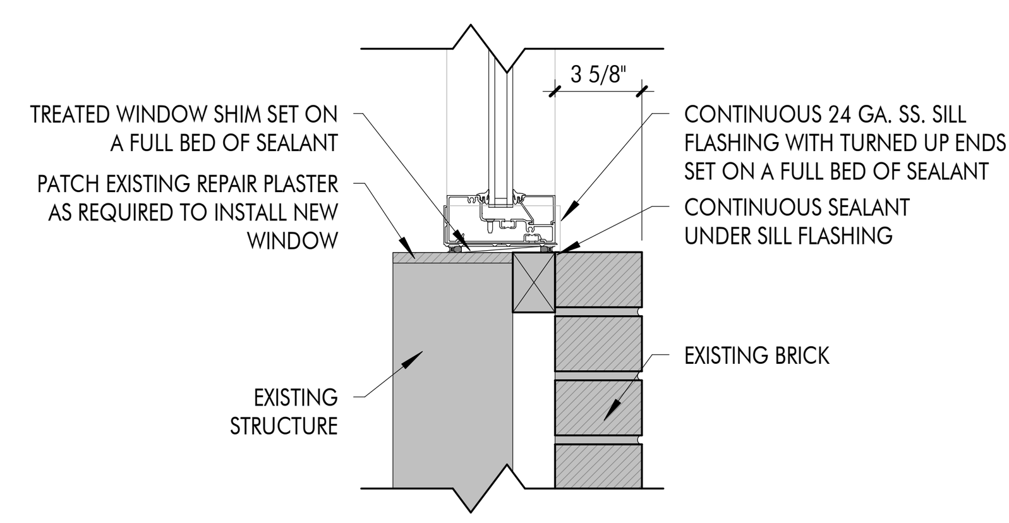
4 EXT. WINDOW HEAD
1 1/2" = 1'-0" DRAWN BY: SH



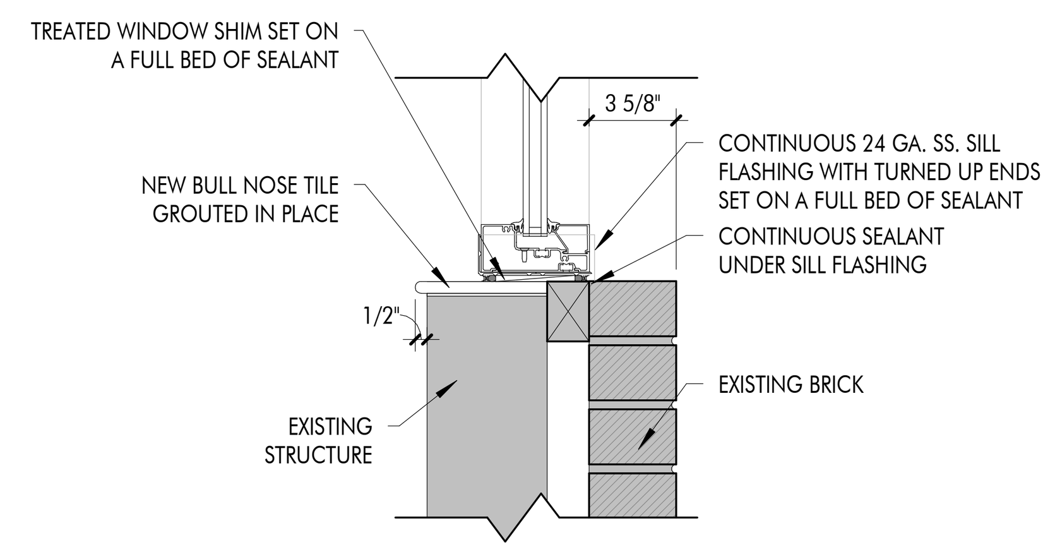
5 EXT. WINDOW JAMB
1 1/2" = 1'-0" DRAWN BY: SH



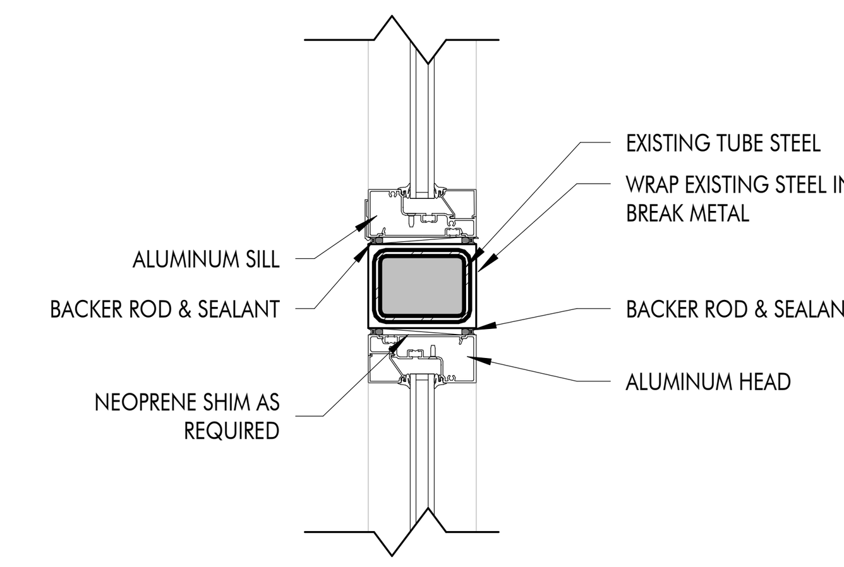
6 EXT. WINDOW JAMB/JAMB
1 1/2" = 1'-0" DRAWN BY: SH



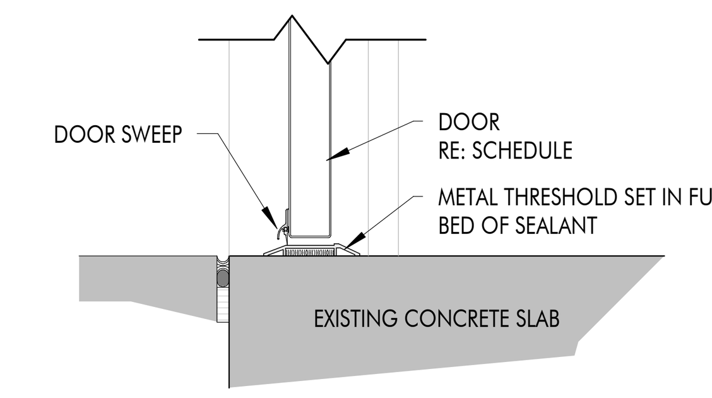
7 EXT. WINDOW SILL
1 1/2" = 1'-0" DRAWN BY: SH



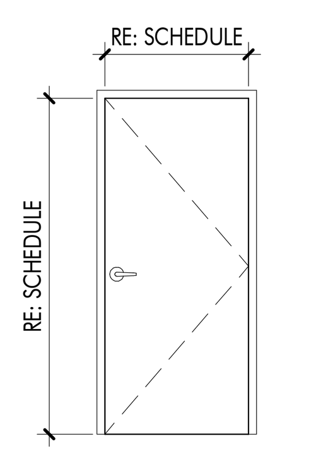
8 EXT. WINDOW SILL - NEW
1 1/2" = 1'-0" DRAWN BY: SH



9 EXT. WINDOW SILL/HEAD
1 1/2" = 1'-0" DRAWN BY: SH



10 THRESHOLD
1 1/2" = 1'-0" DRAWN BY: SH



TYPE C1
FLUSH PANEL
STEEL DOOR
RE: SPEC SECTION 08 11 13

11 WINDOW TYPES
1/4" = 1'-0" DRAWN BY:

DOOR SCHEDULE

ROOM NAME	ROOM NUMBER	DOOR NUMBER	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	DOOR THICKNESS	DOOR MATERIAL	DOOR FINISH	DOOR NUMBER	FRAME MATERIAL	FRAME FINISH	DETAILS HEAD	DETAILS JAMB	DETAILS THRESHOLD
GIRLS	401	401-1	C1	2' - 11"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	401-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
JANITOR	402	402-1	C1	2' - 11"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	402-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
BOYS	403	403-1	C1	2' - 11"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	403-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	404	404-1	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	404-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	404	404-2	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	404-2	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	405	405-1	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	405-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	405	405-2	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	405-2	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	406	406-1	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	406-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	406	406-2	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	406-2	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	501	501-1	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	501-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	501	501-2	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	501-2	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	502	502-1	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	502-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	502	502-2	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	502-2	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	503	503-1	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	503-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLASSROOM	503	503-2	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	503-2	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02
CLOSET	504	504-1	C1	3' - 0"	6' - 8"	1 3/4"	HOLLOW METAL	PAINT	504-1	HOLLOW METAL	PAINT	1 A4.02	3 A4.02	10 A4.02

AUGUST 31, 2023

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PROJECT INFORMATION

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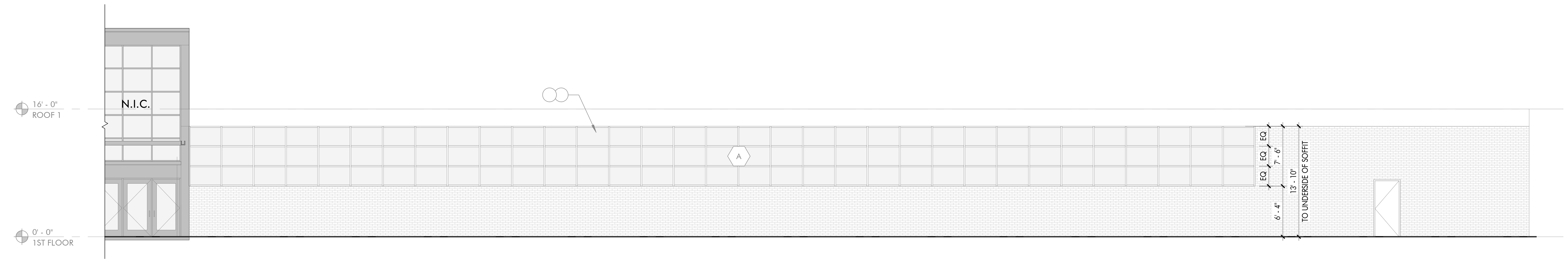
DOOR SCHEDULE & HEAD, JAMB & SILL DETAILS

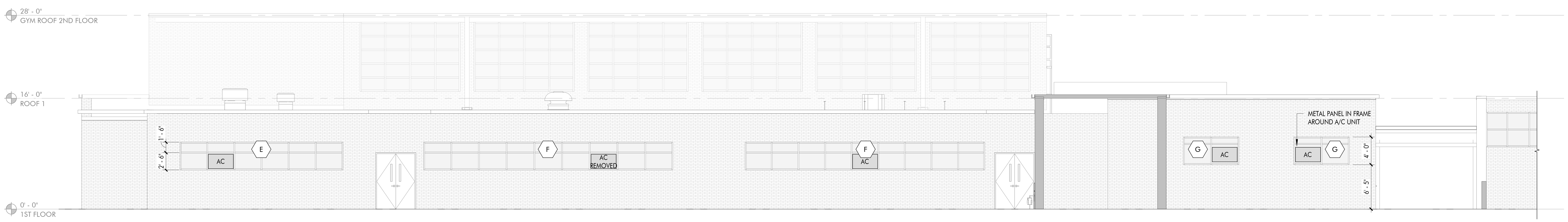
A4.02



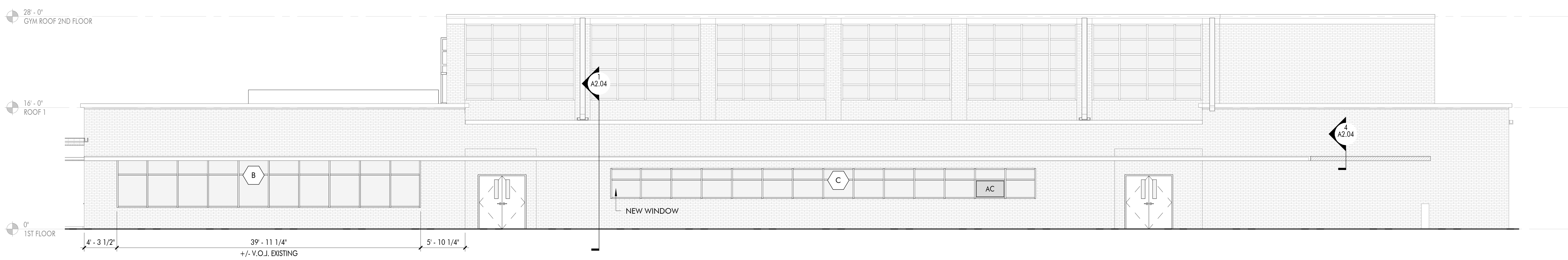
1 SOUTH ELEVATION - LIBRARY BUILDING
1/8" = 1'-0" DRAWN BY: SH

CONSTRUCTION NOTES

MARK	DESCRIPTION
1	EXISTING PIPING, CONDUITS, AND SUPPORTS ARE TO REMAIN. EXISTING SUPPORTS ARE TO BE PREPPED TO RECEIVE NEW ROOF FLASHING DURING THE REROOF OF THE CANOPY.
2	PATCH DAMAGED WOOD DECK. PROVDE STAINLESS STEEL GUTTERS & DOWNSPOUTS.
3	REMOVE UNUSED/ ABANDONED CABLES. CONTRACTOR TO VERIFY THAT CABLES/WIRES ARE INDEED ABANDONED BEFORE REMOVAL.
4	REMOVE EXISTING LIGHT FIXTURE AND REPLACE WITH NEW. RE: ELEC
5	CONTRACTOR TO VERIFY BEAM/GUTTER, DECK, AND DOWNSPOUT SIZES PER MFR RECOMMENDATIONS AND CALCULATIONS.

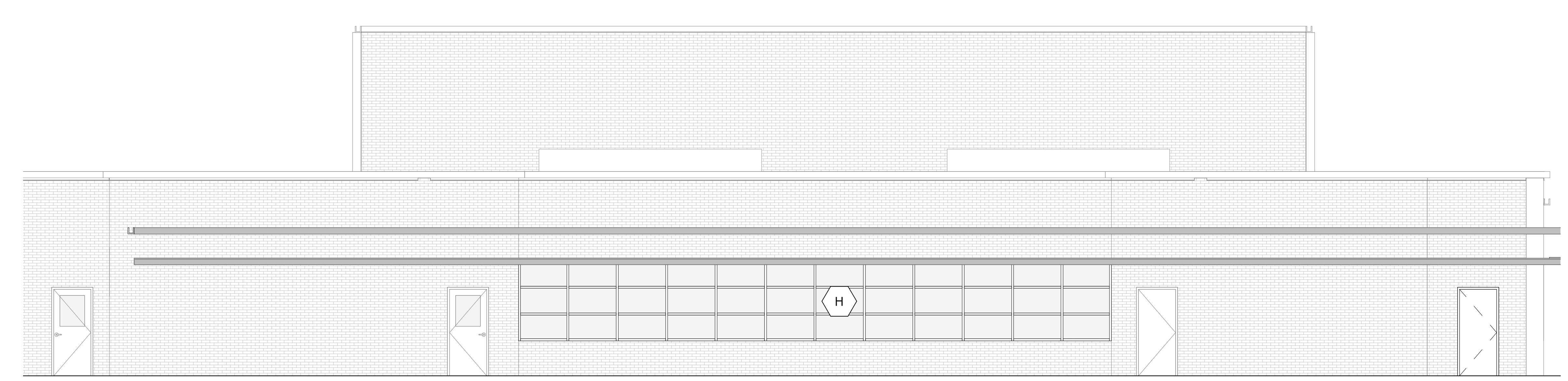


2 NORTH ELEVATION - GYMNASIUM
1/8" = 1'-0" DRAWN BY:



3 SOUTH ELEVATION - GYMNASIUM
1/8" = 1'-0" DRAWN BY: SH

4 EAST ELEVATION - GYMNASIUM
1/8" = 1'-0" DRAWN BY: CL



5 WEST ELEVATION - GYMNASIUM
1/8" = 1'-0" DRAWN BY: CL

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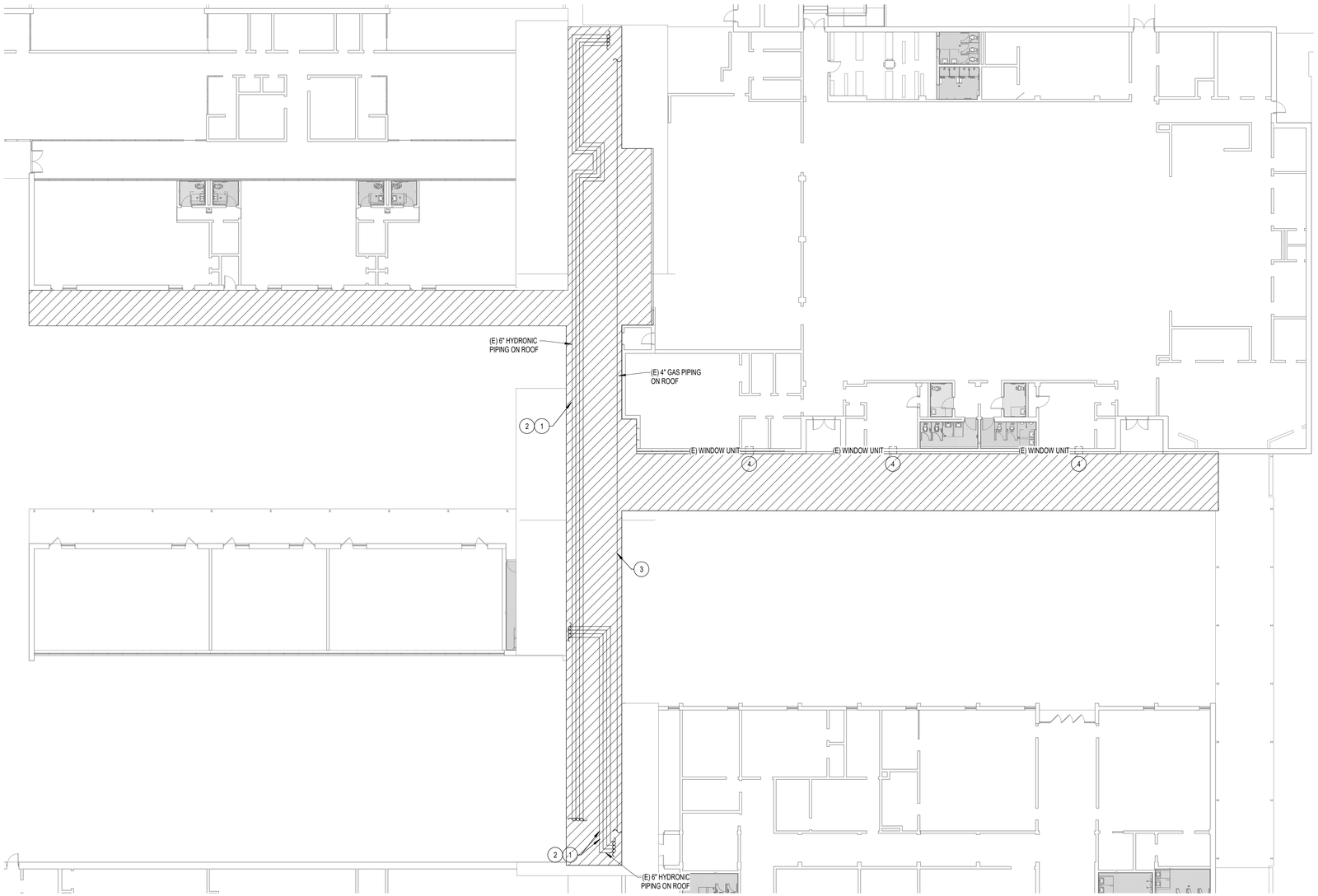
director review

EXTERIOR ELEVATIONS

A6.01

ALL EXISTING DOMESTIC WATER, COOLING WATER, HEATING WATER, GAS LINES, ETC., IN HATCHED AREA SHALL BE PROTECTED AND TEMPORARILY SUPPORTED DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MODIFYING ANY PIPING TRANSITIONS ON ROOF AS REQUIRED TO ACCOMMODATE CANOPY WORK. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.



1 **NEW CANOPY ENLARGED MECHANICAL PLAN**
1/16" = 1'-0"

MECHANICAL PLAN NOTES

1. EXISTING 6" HEATING AND COOLING WATER LINES ON CANOPY SHALL BE PROTECTED DURING ALL WORK TO WALKWAY CANOPY. TEMPORARILY SUPPORT PIPING AS REQUIRED TO ACCOMMODATE CANOPY WORK.
2. ALTERNATE #1: CONTRACTOR SHALL REMOVE ALL EXISTING INSULATION AND ALUMINUM JACKETING AND REPLACE WITH NEW IN KIND IN AFFECTED CANOPY WORK AREA. CONTRACTOR SHALL TEST FOR ASBESTOS IN PIPING INSULATION AND REMEDIATE AS REQUIRED. VERIFY EXACT SIZE ON JOB SITE.
3. EXISTING GAS PIPING ON CANOPY SHALL BE PROTECTED DURING ALL WORK TO WALKWAY CANOPY. TEMPORARILY SUPPORT PIPING AS REQUIRED TO ACCOMMODATE CANOPY WORK.
4. CONTRACTOR SHALL REMOVE EXISTING WINDOW UNIT IN WALL. PATCH WALL TO MATCH EXISTING. COORDINATE WITH ARCHITECTURAL PLANS. REMOVE ALL ELECTRICAL CONNECTIONS AND WIRING BACK TO SOURCE.

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PROJECT INFORMATION

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date September 5, 2023

director review

MECHANICAL & PLUMBING PLAN

M0.00

ELECTRICAL SYMBOL LEGEND

(REFER TO DRAWINGS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS)

GENERAL

[keynote hexagon] 1	KEYNOTE
A-1,3	CIRCUIT TAG; PANEL AND CIRCUIT DESIGNATION AS INDICATED; E.G. PANEL "A", CIRCUIT #1,3

LIGHTING

(PROVIDE CONDUIT AND WIRE PER THE PANEL SCHEDULE FOR POWER AND PER THE MANUFACTURER'S SPECIFICATIONS FOR CONTROLS)

Aa	LIGHT FIXTURE; UPPERCASE LETTER(S) INDICATE FIXTURE TYPE; LOWERCASE LETTER(S) INDICATE ASSOCIATED CONTROLS ID; SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE DESCRIPTIONS AND MOUNTING TYPES
(P)	PHOTOELECTRIC CELL, EXTERIOR RATED; AIM AND SHIELD SENSOR FROM INTERIOR AND EXTERIOR ARTIFICIAL LIGHT SOURCES

SECURITY (EQUIPMENT PROVIDED BY OWNER/OTHERS)

(EQUIPMENT PROVIDED BY OTHERS)

[camera symbol]	JUNCTION BOX FOR CEILING MOUNTED CAMERA; PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING

ELECTRICAL SHEET INDEX

ELECTRICAL GENERAL NOTES

1. ALL ELECTRICAL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS ADOPTED BY THE AHJ.
2. THE WORDS "PROVIDE" AND "PROVIDED" AS USED HEREIN SHALL BE UNDERSTOOD TO MEAN, "PROVIDE COMPLETE IN PLACE," THAT IS "FURNISH AND INSTALL". EQUIPMENT AND MATERIAL INDICATED TO BE PROVIDED SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE OF THE MOST SUITABLE GRADE FOR THE PURPOSE INTENDED.
3. ROUTE NEW CONDUIT AND WIRING CONCEALED IN WALLS AND CEILING WHERE POSSIBLE. COORDINATE INSTALLATION OF EXPOSED CONDUIT AND WIRING WITH THE ARCHITECT.
4. CONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE TO NEW HVAC UNITS AS FURNISHED BY THE MECHANICAL CONTRACTOR. VERIFY THE EXACT ELECTRICAL REQUIREMENTS WITH THE REVIEWED HVAC SUBMITTALS PRIOR TO ORDERING ELECTRICAL EQUIPMENT.
5. BEFORE INSTALLATION, CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS TO THE ENGINEER FOR REVIEW COVERING PROPOSED LOCATIONS, MOUNTING, AND ROUTING FOR ALL CONDUITS, SERVICES, FITTINGS, GROUND RODS, SUPPORTS, ETC.
6. CONDUIT RUNS ARE SHWON DIAGRAMMATICALLY. CONTRACTOR SHALL ROUTE IN MOST DIRECT MANNER AVOIDING ANY OBSTRUCTUONS NOT INDICATED.
7. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL GROUNDING OF EQUIPMENT, DISCONNECT SWITCHES, PANELBOARDS, FOUNDATIONAL STEEL, BLDG STEEL, METAL PIPING, AND TELECOMMUNICATION RACKS, ETC. REGARDLESS OF DEPICTION ON PLAN.
8. CONTRACTOR IS RESPONSIBLE FOR OVER-CURRENT PROTECTIVE DEVICE SHORT CIRCUIT, COORDINATION, AND ARC-FLASH STUDIES.
9. MATERIALS AND MANUFACTURERS NOTED ON DRAWINGS ARE TO BE USED AS BASIS OF DESIGN TO ESTABLISH QUALITY AND PERFORMANCE STANDARDS AND SHALL BE PROVIDED AS SPECIFIED. SUBSTITUTIONS WILL BE CONSIDERED WHERE SUFFICIENT PRODUCT INFORMATION IS PROVIDED TO MAKE A PROPER EVALUATION. REVIEW OF A SUBSTITUTION IS AT THE SOLE DISCRETION OF THE PROFESSIONAL.
10. THE CONTRACTOR SHALL SUBMIT COPIES OF THE PRODUCT DATA, SHOP DRAWINGS, ETC. OF ALL MATERIALS NOTED ON THE DRAWINGS. ALL SUBMITTED PRODUCT DATA, SHOP DRAWINGS, ETC. SHALL BE MARKED WITH THE NAME OF THE PROJECT AND SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE MATERIAL HAS BEEN CHECKED BY THE CONTRACTOR.
11. DRAWINGS SPECIFIC TO THIS TRADE DO NOT LIMIT THE RESPONSIBILITY OR WORK REQUIRED BY THE CONTRACT DOCUMENTS. REFER TO DRAWINGS AND SPECIFICATIONS OF OTHER TRADES FOR COMPLETE INFORMATION PRIOR TO BID.
12. WHERE CONFLICTS EXIST AMONG DRAWINGS, SPECIFICATIONS, AND EQUIPMENT SCHEDULES, THE MOST STRINGENT REQUIREMENT OR QUANTITY SHALL APPLY. NOTIFY THE ARCHITECT/ENGINEER OF ALL CONFLICTS FOR RESOLUTION OR INTERPRETATION.
13. NO EQUIPMENT SHALL BE ORDERED OR INSTALLED UNTIL THE PROJECT ENGINEER HAS RECEIVED A COPY STAMPED "NO EXCEPTIONS TAKEN." "NO EXCEPTIONS TAKEN" DOES NOT RELIEVE THE CONTRACTOR FROM CONFORMANCE WITH THE CONTRACT, EXTEND TO QUANTITIES OR DIMENSIONS, IMPLY THAT THE EQUIPMENT CAN BE INSTALLED OR OPERATE SATISFACTORILY, THAT THE EQUIPMENT CONTAINS ALL NECESSARY COMPONENTS, OR THAT IT WILL COORDINATE WITH OTHER REVIEWED ITEMS.
14. OMISSION FROM THIS SHEET OF ANY ITEM SHOWN ELSEWHERE IN THE PLANS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY FOR ANY ASSOCIATED WORK.
15. COORDINATE INSTALLATION OF NEW ITEMS AND EQUIPMENT WITH THE OWNER'S REPRESENTATIVE AND THE WORK OF OTHER TRADES. THE CONTRACTOR SHALL INCUR ALL COSTS ASSOCIATED WITH THE RELOCATION OF EQUIPMENT CONFLICTING WITH NEW WORK BY OTHER TRADES THAT HAS NOT BEEN COORDINATED.
16. COORDINATE ALL ASPECTS OF NEW SERVICE WITH UTILITY COMPANY AND INCLUDE ALL COSTS IN BID.
17. WARNING TAPE SHALL BE INSTALLED 6" INCHES BELOW GRADE OVER ALL CONDUITS INCLUDING BUT NOT LIMITED TO FEEDERS, DATA, AND BRANCH CIRCUITS. TAPE SHALL BE PERMANENT AND DISPLAY MESSAGE DESCIRIBING THE TYPE OF SERVICE BURIEND BENEATH IT.
18. ALL CONDUIT SIZES SHOWN ARE MINIMUM SIZES WHICH SHALL BE UTILIZED. CONTRACTOR SHALL VERIFY THAT ALL WIRING AND CABLES UTILIZED MEET NEC FILL REQUIREMENTS PRIOR TO INSTALLATION OF CONDUIT. ANY CONFLICT SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO BIDDING.
19. CONTRACTOR SHALL COORDINATE ALL CONDUIT WALL AND FLOOR PENETRATIONS WITH ALL TRADES AS REQUIRED. ALL PENETRATIONS SHALL BE SEALAED WATERTIGHT.
20. CONTRACTOR SHALL MATCH NEMA RECEPTACLE CONFIGURATION TO MATCH EQUIPMENT PLUGS.
21. CONTRACTOR SHALL PROVIDE HOUSEKEEPING PAD UNDER ALL FLOOR MOUNTED ELECTRICAL EQUIPMENT PROVIDED IN THIS PROJECT.
22. PROVIDE 1/4" MINIMUM DIAMETER PULL ROPE. PULL ROPE SHALL NOT BE NYLON STRING.
23. ALL 120V, 20 AMP BRANCH CIRCUITS OVER 75' SHALL BE A MINIMUM OF #10.
24. FOR SERVICE ENTRANCE CONDUITS, UTILIZE LONG RADIUS (36") CONDUIT BENDS.
25. ALL CONDUIT RISERS FROM UNDERGROUND SHALL HAVE RIGID METAL ELLS AND RISERS.
26. PRIOR TO CONSTRUCTION, VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES. AVOID DISTURBANCE OF EXISTING UTILITIES NOT INCLUDED IN THIS PROJECT.
27. FURNISH AND INSTALL ALL EXTERIOR RECEPTACLES WITH WEATHERPROOF COVERS.
28. PROVIDE GFCI RECEPTACLES:
    - A. ALL EXTERIOR LOCATIONS
    - B. ALL COMMERICAL KITCHENS
    - C. LAUNDRY AREAS
    - D. WITHIN 6' OF A SINK
    - E. FOR VENDING MACHINES
29. FOR UNDERGROUND CONDUIT RUNS, PROVIDE (1) PULL BOX FOR EVERY 500-FEET OF CONDUIT LENGTH AND FOR EVERY 360° OF CONDUIT BENDS, UNLESS OTHERWISE INDICATED MORE FREQUENTLY. FOR PULL BOXES LOCATED WITHIN DRIVABLE SURFACES, ENSURE THAT THE PULL BOX IS TRAFFIC RATED. IN THE EVENT THAT A PULL BOX IS REQUIRED ON A UTILITY CONDUIT RUN, ENSURE THAT THE PULL BOX MEETS ALL REQUIREMENTS OF THAT UTILITY.

LIGHTING GENERAL NOTES

1. VERIFY THE EXACT LOCATION OF ALL LIGHTING SWITCHES WITH THE ARCHITECT PRIOR TO ROUGH-IN.
2. VERIFY THE EXACT LOCATION OF ALL LIGHTING FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ROUGH-IN.
3. VERIFY THE EXACT LOCATION OF CEILING MOUNTED OCCUPANCY SENSORS WITH THE MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION FOR MAXIMUM PERFORMANCE.
4. EMERGENCY FIXTURES AND EXIT FIXTURES SHALL BE CONNECTED TO THE NEAREST LIGHTING CIRCUIT. BRANCH CIRCUIT WIRING TO EXIT FIXTURES AND TO BATTERY INVERTERS WITHIN FIXTURES WITH INTEGRAL BATTERY UNITS SHALL BE UNSWITCHED, CONNECTED AHEAD OF ANY CONTROL SWITCHING.
5. WALL MOUNT TYPE "Z" FIXTURES ABOVE DOOR AS SHOWN ON DRAWINGS. COORDINATE WITH THE ARCHITECT PRIOR TO ROUGH-IN.
6. MOUNT TYPE "EM" FIXTURES 8'-0" AFF UNLESS OTHERWISE NOTED.
7. VERIFY THE CEILING TYPES FOR ALL LIGHT FIXTURES TO BE FLUSH MOUNTED OR SUSPENDED AND ADJUST FIXTURE MOUNTING TYPES IN ACCORDANCE WITH THE CEILING TYPE, AS REQUIRED. CONTRACTOR SHALL PROVIDE ALL REQUIRED MOUNTING HARDWARE.
8. ALL VANITY FIXTURES SHALL BE MOUNTED WITH 0'-3" OF SPACE BETWEEN THE BOTTOM OF THE FIXTURE AND THE TOP OF THE MIRROR UNLESS OTHERWISE NOTED.
9. VERIFY THE EXACT MOUNTING LOCATION FOR ANY PHOTOELECTRIC CELLS WITH THE ARCHITECT PRIOR TO ROUGH-IN. ALL PHOTOELECTRIC CELLS MUST FACE NORTH.
10. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL LIGHTING CONTROL DEVICES/SWITCHES/DIMMERS WITH LIGHTING FIXTURES AND BALLASTS/DRIVERS PRIOR TO SUBMITTAL.
11. COORDINATE LOCATION OF LIGHT FIXTURES IN MECHANICAL ROOMS WITH DIVISION 15/23 PLANNED EQUIPMENT LOCATION AND DUCT INSTALLATION. WALL MOUNT LIGHTS OR PROVIDE PENDANT MOUNTING AS REQUIRED TO ILLUMINATE THE SPACE.
12. WHERE MULTIPLE OCCUPANCY SENSORS ARE SHOWN IN THE SAME AREA, MOTION DETECTION BY ONE SENSOR SHALL ILLUMINATE ALL LIGHTING IN THE RESPECTIVE AREA.
13. VERIFY DOOR SWINGS PRIOR TO INSTALLATING LIGHT SWITCHES. SWITCHES SHALL BE INSTALLED ON STRIKE SIDE OF DOOR UNLESS OBSTRUCTED BY GLAZING OR GRAPHICS.
14. LIGHT SWITCHES SHALL BE GANGED UNDER A SINGLE PLATE WHERE GROUPED TOGEATHER
15. CONTRACTOR SHALL MAKE FIELD ADJUSTEMENTS TO EXIT SIGN LOCATION TO ENSURE THE SIGN IS VISIBLE THROUGHOUT CORRIDOR SEGMENT. ADJUSTMENTS GREATER THAN 10' FROM LOCATION SHOWN ON PLAN SHALL BE REVIEWED BY ENGINEER PRIOR TO ROUGH-IN.
16. CONTRACTOR SHALL ENSURE THAT DOOR SWINGS ARE NOT GOING OE IMPEDED BY THE INSTALLATION OF A LIGHT FIXTURE, FIRE ALARM DEVICE, SENSOR, EXIT SIGN, ETC.

SPECIAL SYSTEMS GENERAL NOTES

1. VERIFY EXACT LOCATION, VOLTAGE, PHASE, AMPERAGE, ETC. OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING ELECTRICAL GEAR.
2. INTERCONNECT THE HOOD EXHAUST AND SUPPLY FANS WITH HOOD EXTINGUISHING SYSTEM SUCH THAT WHEN HOOD EXTINGUISHING SYSTEM IS ACTIVATED, THE EQUIPMENT BELOW THE HOOD AND HOOD SUPPLY FAN ARE DE-ENERGIZED AND THE HOOD EXHAUST FAN WILL START IF NOT RUNNING.
3. INTERCONNECT THE HOOD EXTINGUISHING SYSTEM WITH THE FIRE ALARM SYSTEM IF APPLICABLE.
4. FOR ALL CAMERA LOCATIONS, PROVIDE ONE (1) GREEN JACKETED CAT 6 CABLE IN 3/4" CONDUIT BACK TO ASSOCIATED DATA CLOSET.
5. FOR ALL WIRELESS ACCESS POINT LOCATIONS, PROVIDE ONE (1) YELLOW JACKETED CAT 6 CABLE IN 3/4" CONDUIT BACK TO ASSOCIATED DATA CLOSET.
6. PROVIDE AN ADDITIONAL 10%, OR ONE (1), WHICHEVER IS GREATER, OF THE FOLLOWING DEVICES WHICH ARE INCLUDED IN THE PROJECT, AND INSTALL THEM AT THE DIRECTION OF THE ARCHITECT, ENGINEER, OR AHJ DURING THE COURSE OF THE PROJECT. PROVIDE ALL REQUIRED CONDUIT, INTERCONNECTIONS, CONDUCTORS, PROGRAMMING, ETC. AS REQUIRED AT NO ADDITIONAL COST TO THE OWNER: INITIATING DEVICES (PULL STATIONS, SMOKE DETECTORS, THERMAL DETECTORS, ETC.), NOTIFICATION APPLIANCES (STROBES, HORN STROBES, SPEAKER STROBES, SPEAKERS, DUCT DETECTORS, ETC.), AND MONITORING MODULES.
7. VERIFY REQUIRED QUANTITY OF DUCT DETECTORS WITH DUCTWORK CONFIGURATION AS IT IS ACTUALLY INSTALLED. COORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

TELECOMMUNICATIONS GENERAL NOTES

1. PROVIDE 1" CONDUIT AND PULL STRING TO ACCESSIBLE LOCATION ABOVE CEILING AT EACH DATA OUTLET SHOWN. CABLING SHALL ROUTE TO TELEPHONE BACKBOARD IN IT ROOM. ALL TERMINATIONS SHALL BE BY CONTRACTOR.
2. OWNER SHALL PROVIDE THE WALL MOUNT DATA RACK, ALL ITEMS INCLUDED IN THE DATA RACK, AND ANY NECESSARY TELEPHONE EQUIPMENT.
3. PLYWOOD FOR BACKBOARDS SHALL BE 0'-1" AC INDOOR GRADE, FIRE RETARDANT, AND PAINTED AS SPECIFIED.
4. COMMON BOND RACKS, PATCH PANELS, CABLE SHIELDS, PROTECTORS, AND THE BUILDING MAIN ELECTRICAL GROUNDING CONDUCTORS SHALL BE, AT MINIMUM, #6 AWG INSULATED AND STRANDED COPPER. FASTENERS SHALL BE RECESSED AND ANCHORED.
5. THE CONTRACTOR IS CAUTIONED TO INSURE NO PAINT PRODUECTS COME IN CONTACT WITH ANY SPECIAL SYSTEM COMPONENTS INCLUDING, BUT NOT LIMITED TO, CABLES, COAX, CONDUCTORS, AND JACKS DURING CONSTRUCTION. IF ANY PAINT PRODUCT IS PLACED ON ANY COMPONENT, THE COMPONENT SHALL BE REPLACED FROM ITS POINT OF ORIGIN TO THE POINT OF TERMINATION.
6. CAT 6 CABLES FOR DATA OUTLETS SHALL HAVE BLUE JACKETS AND CAT 6 CABLES FOR VOICE OUTLETS SHALL HAVE WHITE JACKETS.

IDENTIFICATION OF EQUIPMENT GENERAL NOTES

1. ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL: PUNCHED OR DRILLED FOR SCREW MOUNTING. WHITE LETTERS ON A DARK-GRAY BACKGROUND. MINIMUM LETTER HEIGHT SHALL BE 3/8 INCH. LETTERING AND BACKGROUND COLORS AS INDICATED BELOW:
    - A. POWER CIRCUITS:
        - a. NORMAL: WHITE LETTERING ON BLACK BACKGROUND.
        - b. EMERGENCY LEGALLY REQUIRED STANDBY OR ESSENTIAL ELECTRICAL SYSTEM PRIOR TO ATS: BLACK LETTERING ON YELLOW BACKGROUND.
        - c. EMERGENCY OPTIONAL STANDBY: WHITE LETTERING ON PURPLE BACKGROUND.
        - d. UPS: BLACK LETTERING ON ORANGE BACKGROUND.
    - B. FIRE ALARM SYSTEM: BLACK LETTERING ON RED BACKGROUND.
2. LABELING INSTRUCTIONS
    - A. INDOOR EQUIPMENT: ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL. UNLESS OTHERWISE INDICATED, PROVIDE A SINGLE LINE OF TEXT WITH 1/2-INCH- HIGH LETTERS ON 1-1/2-INCH- HIGH LABEL; WHERE 2 LINES OF TEXT ARE REQUIRED, USE LABELS 2 INCHES HIGH.
    - B. OUTDOOR EQUIPMENT: ENGRAVED, LAMINATED ACRYLIC OR MELAMINE LABEL.
    - C. EQUIPMENT TO BE LABELED SHALL INCLUDE BUT NOT BE LIMITED TO:
        - A. PANELBOARDS, ELECTRICAL CABINETS, AND ENCLOSURES.
        - D. TRANSFORMERS.
        - E. EMERGENCY SYSTEM BOXES AND ENCLOSURES.
        - F. RECEPTACLES WITH PANEL AND CIRCUIT NUMBERS.
        - G. DISCONNECT SWITCHES.
        - H. ENCLOSED CIRCUIT BREAKERS.
        - I. POWER TRANSFER EQUIPMENT. (ATS/MTS)
        - M. FIRE-ALARM CONTROL PANEL AND ANNUNCIATORS
        - P. ALL JUNCTION BOXES. LABEL TO INCLUDE CIRCUIT NUMBERS (PANEL AND NUMBER).
        - R. ALL LIGHTING SWITCH PLATES SHALL HAVE CIRCUIT NUMBERS ON THE BACK OF THE PLATE. (PANEL AND NUMBER).

DEMOLITION GENERAL NOTES

1. THE LOCATIONS OF EXISTING CIRCUITS AND EQUIPMENT ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING ELECTRICAL DEVICES, EQUIPMENT, AND WIRING BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSE BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL EXISTING PORTIONS OF THE ELECTRICAL SYSTEMS.
2. THE CONTRACTOR SHALL REMOVE SUCH EXISTING WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.
3. ALL EQUIPMENT REMOVED THAT IS NOT BEING REUSED SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF AS REQUIRED. PRIOR TO START OF CONSTRUCTION, CONTRACTRO SHALL WALK AREAS TO BE RENOVATED WITH OWNER TO IDENTIFY AND DOCUMENT ITEMS TO BE SALVAGED FOR OWNER'S USE.
4. EXCEPT AS OTHERWISE NOTED, ALL EXISTING ELECTRICAL WORK WHICH WILL NOT BE RENDERED OBSOLETE AND WHICH MAY BE DISTURBED DUE TO ANY CHANGES REQUIRED UNDER THIS CONTRACT, SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION. OTHER ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD, UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS STUBBED OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.
5. WHERE EXISTING ELECTRICAL WORK INTERFERES WITH NEW WORK AND WHERE SUCH INSTALLATIONS ARE TO REMAIN IN USE, THE INSTALLATIONS SHALL BE DISCONTINUED AND RELOCATED AND/OR RECONNECTED TO COORDINATE WITH THE WORK INDICATED ON THE CONTRACT DRAWINGS AS SPECIFIED.
6. WHERE EXISTING RACEWAYS THAT ARE NOT TO BE REUSED INTERFERE WITH NEW WORK, THESE RACEWAYS SHALL BE REMOVED BACK TO THE NEAREST JUNCTION BOX OR PULL BOX AND THE OPENINGS BLANKED.
7. CONTRACTOR SHALL MAINTAIN CONTINUITY OF BRANCH CIRCUITS SERVING MULTIPLE ITEMS OF WHICH ONE OR MORE ARE BEING DEMOLISHED. CONDUCTORS AND CONDUITS FOR THOSE ITEMS BEING DEMOLISHED SHALL BE REMOVED AS FAR AS PRACTICABLE.
8. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXISTING ELECTRICAL DEVICES/EQUIPMENT AND DATA WIRING NOT REUSED OR NOT NECESSARY FOR THE COMPLETION OF THIS PROJECT.
9. DISCONNECT AND REMOVE ABANDONED PANELBOARDS, DISTRIBUTION EQUIPMENT, LIGHTING, AND DEVICES. REMOVE ASSOCIATED CONDUIT TO NEAREST ABOVE CEILING JUNCITION BOX.
10. IF ANY BRANCH CIRCUIT WIRING FEEDING EQUIPMENT TO REMAIN IN PLACE FOR REUSE IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE THE NEW BRANCH CIRCUIT WIRING OF THE SAME SIZE AND TYPE AS THAT OF THE EXISTING AT NO COST TO THE OWNER.
11. EXISTING DEVICES ARE SHOWN IN GRAY. CONDUIT AND WIRING ARE NOT GENERALLY SHOWN AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ADDITIONAL DEMOLITION WORK AND CLARIFICATION OF INDICATED WORK WILL BE GIVEN BY RFI.
12. COORDINATE THE REMOVAL AND REINSTALLATION (OR PROTECTION IN PLACE) OF EXISTING ELECTRICAL EQUIPMENT AND DEVICES WITH THE WORK OF OTHER TRADES TO REPLACE OR REFINISH EXISTING WALLS AND CEILINGS.
13. WHERE EXISTING CIRCUITS ARE BEING REMOVED IN EXISTING PANELS, PROVIDE A NEW, NEATLY TYPED DIRECTORY WHICH INDICATES WHERE "SPARE" BREAKERS ARE LOCATED. ANY EXISTING BREAKERS THAT ARE NOT FEEDING DEVICES SHALL REMAIN AND BE LABELED AS A "SPARE."

ABBREVIATIONS

A	AMPERE(S)	CATV	CABLE TELEVISION	EF	EXHAUST FAN	FOC	FIBER OPTIC CABLE
AC	ABOVE COUNTER (6" ABOVE BACKSPLASH)	CB	CIRCUIT BREAKER	EGC	EQUIPMENT GROUNDING CONDUCTOR	G, GND	GROUND
AF	AMPERE(S) FUSED	CKT	CIRCUIT	EMER.	EMERGENCY	GEC	GROUNDING ELECTRODE CONDUCTOR
AFCI	ARC FAULT CIRCUIT INTERRUPTER	CLG	CLG	EMT	ELECTRICAL METALLIC TUBING	GFCI	GROUND FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR	CORR	CORRIDOR	EQ	EQUAL	GRS	GALVANIZED RIGID STEEL
AFG	ABOVE FINISHED GRADE	CT	CURRENT TRANSFORMER	EQUIP.	EQUIPMENT	HH	HANDHOLE
AIC	ABOVE FINISHED GRADE	CTRL	CONTROLLER	EWC	ELECTRIC WATER COOLER	HP	HORSEPOWER
AT	AMP SYMMETRICAL INTERRUPTING CAPACITY RMS	D	TO BE DEMOLISHED	EWH	ELECTRICA WATER HEATER	KAIC	1,000 AMP SYMMETRICAL INTERRUPTING CAPACITY RMS
AWG	AMERICAN WIRE GAUGE	DISC.	DISCONNECT	EXIST.	EXISTING	KWH	1,000 WATT HOURS
BG	BELOW GRADE	DIST.	DISTRIBUTION	FACP	FIRE ALARM CONTROL PANEL	KVA	1,000 VOLT AMPERES
BLDG	BUILDING	DWG	DRAWING	FACPRA	FIRE ALARM CONTROL PANEL REMOTE ANNUNCIATOR	LAN	LOCAL AREA NETWORK
BKR	BREAKER	E	EXISTING TO REMAIN	FC	FOOTCANDLE	LC	LIGHTING CONTACTOR
C	CONDUIT	EC	EMPTY CONDUIT	FCU	FAN COIL UNIT	LTG	LIGHTING
CAT	CATEGORY	ECB	ENCLOSED CIRCUIT BREAKER	FLA	FULL LOAD AMPERE(S)	MCA	MINIMUM CIRCUIT AMPACITY

MCB	MAIN CIRCUIT BREAKER	NO	NORMALLY OPEN	SF	SUPPLY FAN	UGS	UNDERGROUND SECONDARY
MCM/KCMIL	1,000 CIRCULAR MILS	NU	WEATHERPROOF IN-USE COVER	S/N	SOLID NEUTRAL	UH	UNIT HEATER
MECH.	MECHANICAL	OH	OVERHEAD	SPD	SURGE PROTECTIVE DEVICE	UL	UNDERWRITER'S LABORATORY, INC.
MH	MANHOLE	OHE	OVERHEAD ELECTRICAL	STD	STANDARD	UON	UNLESS OTHERWISE NOTED
MLO	MAIN LUGS ONLY	OSP	OUTSIDE PLANT	TEL	TELEPHONE	V	VOLTS
MOCP	MAXIMUM OVERCURRENT PROTECTION	UPP	UTILITY POWER POLE	TELECOM	TELECOMMUNICATIONS	VAC	VOLTS ALTERNATING CURRENT
MTD	MOUNTED	PB	PULL BOX	TGB	TELECOMMUNICATIONS GROUND BUS	VDC	VOLTS DIRECT CURRENT
MTG	MOUNTING	PH	PHASE	TMGB	TELECOMMUNICATIONS MAIN GROUND BUS	VFD	VARIABLE FREQUENCY DRIVE
NC	NORMALLY CLOSED	PNL	PANEL	TTB	TELECOM TERMINAL BOARD	WH	WATER HEATER
NEC	NATIONAL ELECTRICAL CODE	PV	PHOTOVOLTAIC	TV	TELEVISION	WP	WEATHERPROOF
NEU	NEUTRAL	PVC	POLYVINYL CHLORIDE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION	XFMR	TRANSFORMER
NF	NON-FUSED	QTY	QUANTITY	TYP.	TYPICAL		
NIC	NOT IN CONTRACT	RCPT	RECEPTACLE	UG	UNDERGROUND		
NL	NIGHT LIGHT	REQ'D	REQUIRED	UGP	UNDERGROUND PRIMARY		

ALL SYMBOLS, ABBREVIATIONS, AND NOTES ABOVE ARE TYPICAL AND ARE NOT NECESSARILY USED IN THESE CONSTRUCTION DOCUMENTS

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CLIENT

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EXTERIOR RENOVATION

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PROJECT

revisions No.	Description	Date

project # C22-0072

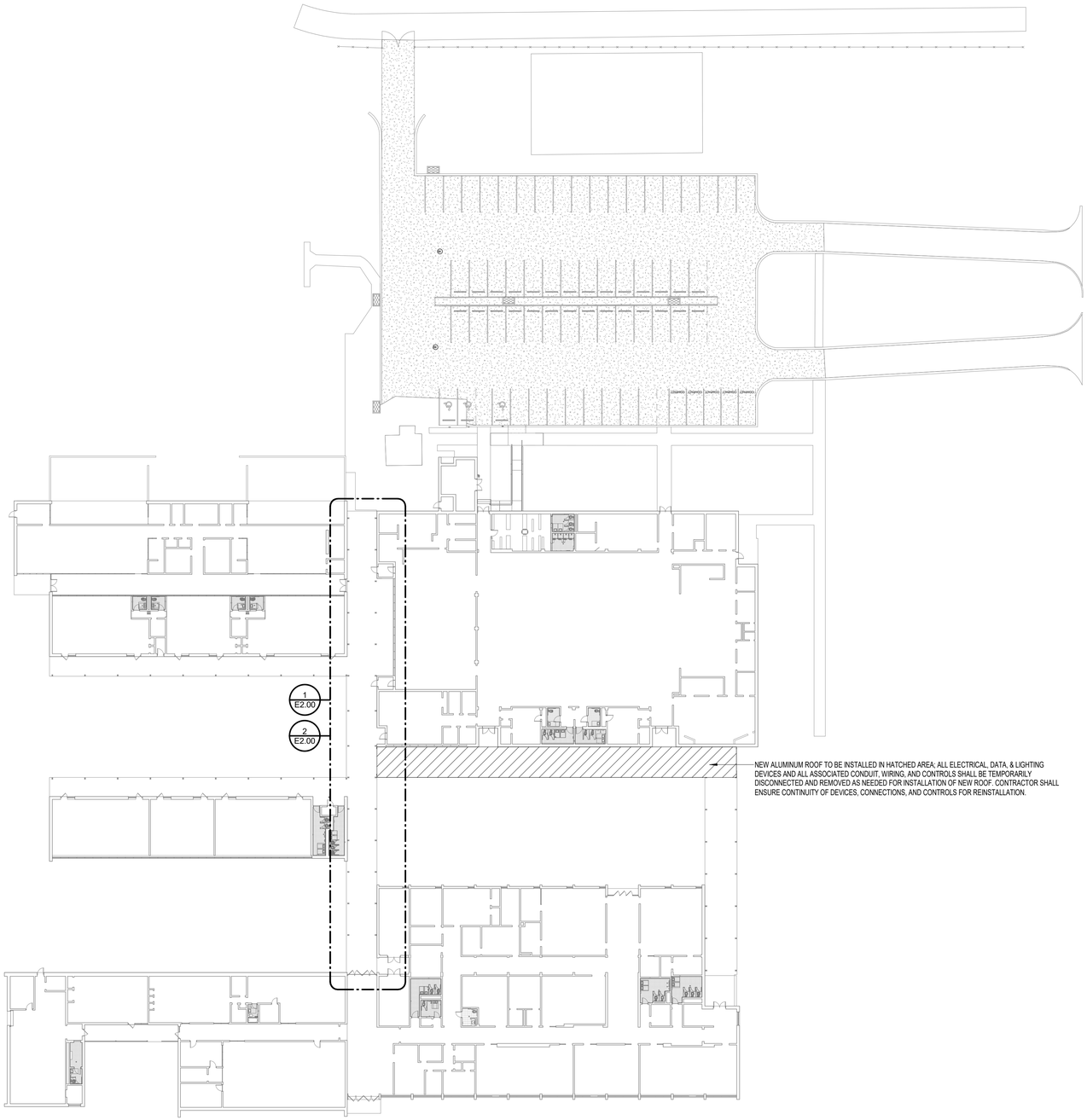
date September 5,2023

director

ELECTRICAL COVER SHEET

E0.00

September 5,2023



1 OVERALL PLAN
1" = 30'-0"

September 5,2023

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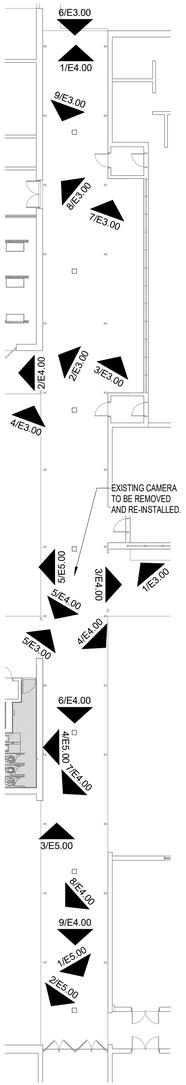
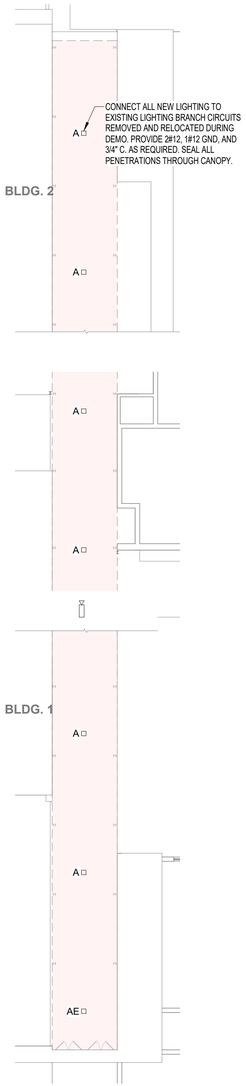
OVERALL PLAN

E1.00



1 EXISTING CANOPY ENLARGED DEMOLITION PLAN
1/16" = 1'-0"



2 NEW CANOPY ENLARGED LIGHTING PLAN
1/16" = 1'-0"

ELECTRICAL DEMOLITION NOTES:

1. THE CONTRACTOR SHALL REMOVE SUCH EXISTING WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.
2. ALL EQUIPMENT REMOVED THAT IS NOT BEING REUSED SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF AS REQUIRED.
3. EXCEPT AS OTHERWISE NOTED, ALL EXISTING ELECTRICAL WORK WHICH WILL NOT BE RENDERED OBSOLETE AND WHICH MAY BE DISTURBED DUE TO ANY CHANGES REQUIRED UNDER THIS CONTRACT, SHALL BE RESTORED TO ITS ORIGINAL OPERATING CONDITION. OTHER ELECTRICAL WORK OR MATERIAL RENDERED OBSOLETE SHALL BE ABANDONED WHERE CONCEALED AND REMOVED WHERE EXPOSED. OLD, UNUSED WIRING AND DEVICES SHALL BE REMOVED FROM THE ABANDONED (CONCEALED) CONDUITS. OUTLETS SHALL BE PROVIDED WITH BLANK COVERS. ANY CONDUITS STUBBED OUT OF MASONRY SURFACE SHALL BE CUT INTO SURFACE AND PATCHED.
4. WHERE EXISTING ELECTRICAL WORK INTERFERES WITH NEW WORK AND WHERE SUCH INSTALLATIONS ARE TO REMAIN IN USE, THE INSTALLATIONS SHALL BE DISCONTINUED AND RELOCATED AND/OR RECONNECTED TO COORDINATE WITH THE WORK INDICATED ON THE CONTRACT DRAWINGS AS SPECIFIED.
5. WHERE EXISTING RACEWAYS THAT ARE NOT TO BE REUSED INTERFERE WITH NEW WORK, THESE RACEWAYS SHALL BE REMOVED BACK TO THE NEARET JUNCTION BOX OR PULL BOX AND THE OPENINGS BLANKED.
6. CONTRACTOR SHALL MAINTAIN CONTINUITY OF BRANCH CIRCUITS SERVING MULTIPLE ITEMS OF WHICH ONE OR MORE ARE BEING DEMOLISHED. CONDUCTORS AND CONDUITS FOR THOSE ITEMS BEING DEMOLISHED SHALL BE REMOVED AS FAR AS PRACTICABLE.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXISTING ELECTRICAL EQUIPMENT, CONDUIT, CONDUCTORS, CABLING, RACEWAY ACCESSORIES, DATA CABLING, AND FIBER NOT REUSED OR NOT NECESSARY FOR THE COMPLETION OF THIS PROJECT. THIS SHALL INCLUDE ANY ABANDONED RACEWAYS, CONDUCTORS, CABLING, ETC. ENCOUNTERED.
8. IF ANY BRANCH CIRCUIT WIRING FEEDING EQUIPMENT TO REMAIN IN PLACE FOR REUSE IS DAMAGED DURING CONSTRUCTION, THE CONTRACTOR SHALL REPLACE THE NEW BRANCH CIRCUIT WIRING OF THE SAME SIZE AND TYPE AS THAT OF THE EXISTING AT NO COST TO THE OWNER.
9. COORDINATE THE REMOVAL AND REINSTILLATION (OR PROTECTION IN PLACE) OF EXISTING ELECTRICAL EQUIPMENT AND DEVICES WITH THE WORK OF OTHER TRADES TO REPLACE OR REFINISH EXISTING WALLS AND CEILINGS.
10. WHERE EXISTING CIRCUITS ARE BEING REMOVED IN EXISTING PANELS, PROVIDE A NEW, NEATLY TYPED DIRECTORY WHICH INDICATES WHERE "SPARE" BREAKERS ARE LOCATED. ANY EXISTING BREAKERS THAT ARE NOT FEEDING DEVICES SHALL REMAIN AND BE LABELED AS A "SPARE."

ELECTRICAL CONSTRUCTION NOTES:

1. REMOVE AND DISPOSE OF EXISTING WALKWAY LIGHTING FIXTURES AND BRANCH CIRCUIT CONDUITS. NOTE THE SOURCE OF POWER FOR THE WALKWAY LIGHTING SYSTEM. REMOVE ONLY THE MINIMUM AMOUNT OF CONDUIT NECESSARY FOR THE INSTALLATION OF THE REPLACEMENT WALKWAY COVER. UPON COMPLETION OF THE WALKWAY CANOPY PROVIDE NEW LIGHT FIXTURES AS INDICATED IN THE LIGHTING FIXTURE SCHEDULE. EXTEND EXISTING WALKWAY LIGHTING BRANCH CIRCUIT WITH 2#12, 1#12 GND & 3/4" C. ALL CANOPY MOUNTED CONDUIT SHALL BE RIGID GALVANIZED CONDUIT.
2. EXISTING CONDUIT/CONDUCTOR/CABLING ASSOCIATED WITH THE SPECIAL SYSTEMS (DATA, CAT6, CCTV, FIBER OBTIC, INTERCOM, FIRE ALARM, SECURITY, ETC.) AFFIXTED TO OR LAYING ON CANOPY SHALL BE DISCONNECTED AND REMOVED. REMOVE EXISTING SPECIAL SYSTEM DEVICES INCLUDING BUT NOT LIMITED TO SECURITY CAMERS, FIRE ALARM, AND INTERCOM DEVICES. NOTE THE CONDUIT/CONDUCTOR/CABLE TYPE/SIZE FOR REPLACEMENT. NOTE THE SOURCE OF SUPPLY OF EACH RUN. REMOVE ONLY THE MINIMUM AMOUNT OF CONDUIT NECESSARY FOR THE INSTALLATION OF THE REPLACEMENT WALKWAY CANOPY. UPON COMPLETION OF THE REPLACEMENT WALKWAY CANOPY REPLACE ALL SPECIAL SPECIAL CONDUITS, WIRING, AND DEVICES. SPLICES IN SPECIAL SYSTEM (DATA, CCTV, & FIBER) WILL NOT BE ALLOWED. THESE MUST BE REPLACED FROM THE POINT OF ORIGIN TO THEIR POINT OF TERMINATION. SPLICES IN ALL OTHER SPECIAL SYSTEMS (FIRE ALARM, INTERCOM, CCTV, AND SECURITY) CONDUCTORS WILL BE ALLOWED IF REQUIRED. THESE SPLICES MUST BE COMPLETED IN AN APPROPRIATELY SIZED NEMA-3R JUNCTION WITH MECHANICAL TERMINALS FASTENED TO THE BACK PANEL OR TERMINATIONS APPROPRIATE TO THE CONDUCTOR/CABLE AS REQUIRED.
3. PROVIDE CONDUIT FOR ANY SPECIAL SYSTEMS CABLING/FIBER CURRENTLY ROUTED ACROSS EXPOSED CANOPIES.
4. THERE ARE SEVERAL ELECTRICAL FEEDER AND BRANCH CIRCUIT CONDUITS ROUTED ABOVE AND BELOW THE EXISTING CANOPY. DISCONNECT AND REMOVE EXISTING CONDUIT/CONDUCTORS, JUNCTION BOXES, FITTINGS, ETC. NOTE THE SOURCE AND LOAD OF EACH CIRCUIT. NOTE THE CONDUCTOR AND CONDUIT SIZE AND REPLACE IN KIND. UPON COMPLETION OF THE CANOPY REPLACEMENT PROVIDE NEW CONDUIT AND WIRE FOR ALL CIRCUITS REMOVED. IF SPLICES ARE REQUIRED, THESE MUST BE COMPLETED IN AN APPROPRIATELY SIZED NEMA-3R JUNCTION WITH MECHANICAL TERMINALS FASTENED TO THE BACK PANEL OR TERMINATIONS APPROPRIATE TO THE CONDUCTOR/CABLE AS REQUIRED.
5. ALL CANOPY CONDUIT SHALL BE RIGID GALVANIZED STEEL. NO PVC CONDUIT SHALL BE PERMITTED.
6. ATTENTION: CONTRACTOR SHALL PERFORM A SITE WALK PRIOR TO BID TO ENSURE THAT ALL COSTS ASSOCIATED WITH CANOPY REMOVAL AND REPLACEMENT OF EXISTING ELECTRICAL AND SPECIAL SYSTEMS ARE INCLUDED IN THE BID.

ELECTRICAL SYMBOL LEGEND

(REFER TO DRAWINGS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS)

GENERAL

⟨1⟩	KEYNOTE
A-1,3	CIRCUIT TAG; PANEL AND CIRCUIT DESIGNATION AS INDICATED; E.G. PANEL "A", CIRCUIT #1,3

LIGHTING

(PROVIDE CONDUIT AND WIRE PER THE PANEL SCHEDULE FOR POWER AND PER THE MANUFACTURER'S SPECIFICATIONS FOR CONTROLS)

Aa	LIGHT FIXTURE; UPPERCASE LETTER(S) INDICATE FIXTURE TYPE; LOWERCASE LETTER(S) INDICATE ASSOCIATED CONTROLS ID; SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE DESCRIPTIONS AND MOUNTING TYPES
Ⓟ	PHOTOELECTRIC CELL. EXTERIOR RATED; AIM AND SHIELD SENSOR FROM INTERIOR AND EXTERIOR ARTIFICIAL LIGHT SOURCES

SECURITY (EQUIPMENT PROVIDED BY OWNER/OTHERS)

(EQUIPMENT PROVIDED BY OTHERS)

	JUNCTION BOX FOR CEILING MOUNTED CAMERA; PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING

ELECTRICAL GENERAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE AS ADOPTED BY THE AHJ.
2. THE WORDS "PROVIDE" AND "PROVIDED" AS USED HEREIN SHALL BE UNDERSTOOD TO MEAN, "PROVIDE COMPLETE IN PLACE," THAT IS "FURNISH AND INSTALL." EQUIPMENT AND MATERIAL INDICATED TO BE PROVIDED SHALL BE NEW UNLESS OTHERWISE NOTED AND SHALL BE OF THE MOST SUITABLE GRADE FOR THE PURPOSE INTEDED.
3. THE CONTRACTOR SHALL SUBMIT COPIES OF THE PRODUCT DATA, SHOP DRAWINGS, ETC. OF ALL MATERIALS NOTED ON THE DRAWINGS. ALL SUBMITTED PRODUCT DATA, SHOP DRAWINGS, ETC. SHALL BE MARKED WITH THE NAME OF THE PROJECT AND SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE MATERIAL HAS BEEN CHECKED BY THE CONTRACTOR.
4. WHERE CONFLICTS EXIST AMONG DRAWINGS, SPECIFICATIONS, AND EQUIPMENT SCHEDULES, THE MOST STRINGENT REQUIREMENT OR QUANTITY SHALL APPLY. NOTIFY THE ARCHITECT/ENGINEER OF ALL CONFLICTS FOR RESOLUTION OR INTERPRETATION.
5. OMISSION FROM THIS SHEET OF ANY ITEM SHOWN ELSEWHERE IN THE PLANS DOES NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY FOR ANY ASSOCIATED WORK.
6. COORDINATE INSTALLATION OF NEW ITEMS AND EQUIPMENT WITH THE OWNER'S REPRESENTATIVE AND THE WORK OF OTHER TRADES. THE CONTRACTOR SHALL INCUR ALL COSTS ASSOCIATED WITH THE RELOCATION OF EQUIPMENT CONFLICTING WITH NEW WORK BY OTHER TRADES THAT HAS NOT BEEN COORDINATED.
7. THE CONTRACTOR SHALL BE AWARE, ALL WORK IN THIS PROJECT IS OF A RETROFIT NATURE AND THE CONTRACTOR MAY EXPERIENCE EXISTING CONDITIONS IN THE FIELD NOT SPECIFICALLY DOCUMENTED ON THE CONSTRUCTION DOCUMENTS. THE INTENT OF THE CONSTRUCTION DOCUMENTS IS TO PROVIDE DESIGN SOLUTIONS TO ADDRESS THE VARIOUS TYPICAL CONDITIONS EXPECTED TO BE ENCOUNTERED DURING THE PERFROMANCE OF THE EXTERIOR RENOVATIONS. THE CONTRACTOR SHALL REVIEW AND DETERMINE ALL EXISTING CONDITIONS AND MAKE ALL ALLOWANCES PRIOR TO BIDDING. IF A CONDITION IS ENCOUNTERED WHICH HAS NOT BEEN ADDRESSED IN THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING PRIOR TO BIDDING. OTHERWISE THE CONDITION WILL BE ADDRESSED DURING CONSTRUCTION AT NO ADDITIONAL COST.
8. ALL EXISTING SPECIAL SYSTEMS ARE IN OPERATING CONDITIONS AND FULLY FUNCTIONAL AT THE TIME OF BIDDING. THE CONTRACTOR SHALL PROVIDE, IN WRITING, A LIST OF ANY SPECIAL SYSTEMS AND/OR COMPONENTS NOT FUNCTIONING PROPERLY PRIOR TO START OF WORK ON ANY PART OF THE SYSTEM. ANY INOPERATIVE DEVACE AT THE COMPLETION OF THIS PROJECT WILL BE ASSUMED TO HAVE BEEN DAMAGED AS PART OF THIS PROJECT AND SHALL BE REPAIRED/REPLACED AT NO ADDITIONAL COST.
9. ALL NEW SPECIAL SYSTEMS SHALL BE PROVIDED IN ACCORDANCE WITH THE SCHOOL DEPARTMENT OF TECHNOLOGY SERVICES WIRING SPECIFICATIONS.
10. THE CONTRACTOR IS CAUTIONED; THE PHOTO SHOWN HEREIN REPRESENT THE INTENT OF THE CONSTRUCTION DOCUMENTS TO PROVIDE TYPICAL EXAMPLES OF VARIOUS EXISTING CONDITIONS. THESE PHOTOS DO NOT IMPLY THIS IS THE ONLY LOCATION WHERE THIS CONDITION OCCURS, BUT THERE MAY BE SIMILAR CONDITIONS AT OTHER LOCATIONS.

LIGHTING FIXTURE SCHEDULE

NOTES:
** FINISH TO BE SELECTED BY ARCHITECT | FIXTURE COUNT IS PROVIDED FOR REFERENCE ONLY, CONTRACTOR IS RESPONSIBLE FOR DETERMINING EXACT QTY.

MARK	DESCRIPTION	LAMPS	VOLTS	LOAD	TEMP.	LUMENS	MOUNTING	APPROVED FIXTURES		COUNT
								MANUFACTURER	CATALOG NO.	
A	12"X12"X4" LED WET LOCATION LISTED - DIE ALUMINIM CANOPY LIGHT	LED	UNV	30 VA	4,000	3,500	SURFACE	VERSA LED	VR7-T-28L-QT-**	6
AE	12"X12"X4" LED WET LOCATION LISTED - DIE ALUMINIM CANOPY LIGHT WITH INTEGRAL EMERGENCY BATTERY BACKUP	LED	UNV	30 VA	4,000	3,500	SURFACE	VERSA LED	VR7-T-28L-QT-**-EBLED5W	1

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PROJECT

revisions No.	Description	Date

project # C22-0072
date September 5,2023
director

ELECTRICAL POWER PLAN

E2.00

1 PHOTO 1 - CANOPY MOUNTED PHOTOCELL
N.T.S.

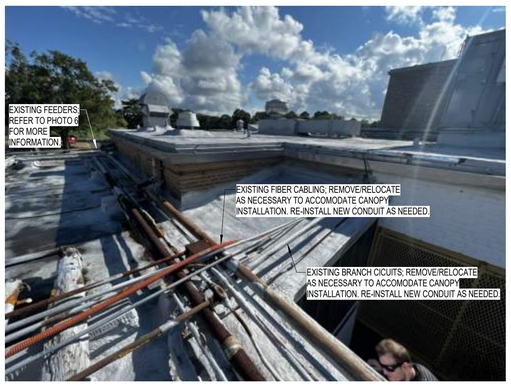
2 PHOTO 2 - CANOPY CONDUIT
N.T.S.

3 PHOTO 3 - CANOPY CONDUIT
N.T.S.

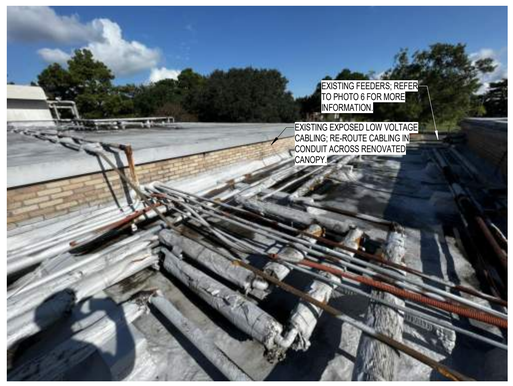
4 PHOTO 4 - CANOPY MOUNTED PHOTOCELL
N.T.S.

5 PHOTO 5 - CANOPY CONDUIT
N.T.S.

6 PHOTO 6 - CANOPY CONDUIT
N.T.S.



7 PHOTO 7 - CANOPY CONDUIT PENETRATION
N.T.S.



8 PHOTO 8 - CANOPY CONDUIT
N.T.S.

9 PHOTO 9 - CANOPY CONDUIT
N.T.S.

September 5,2023

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ELECTRICAL SITE PHOTOS

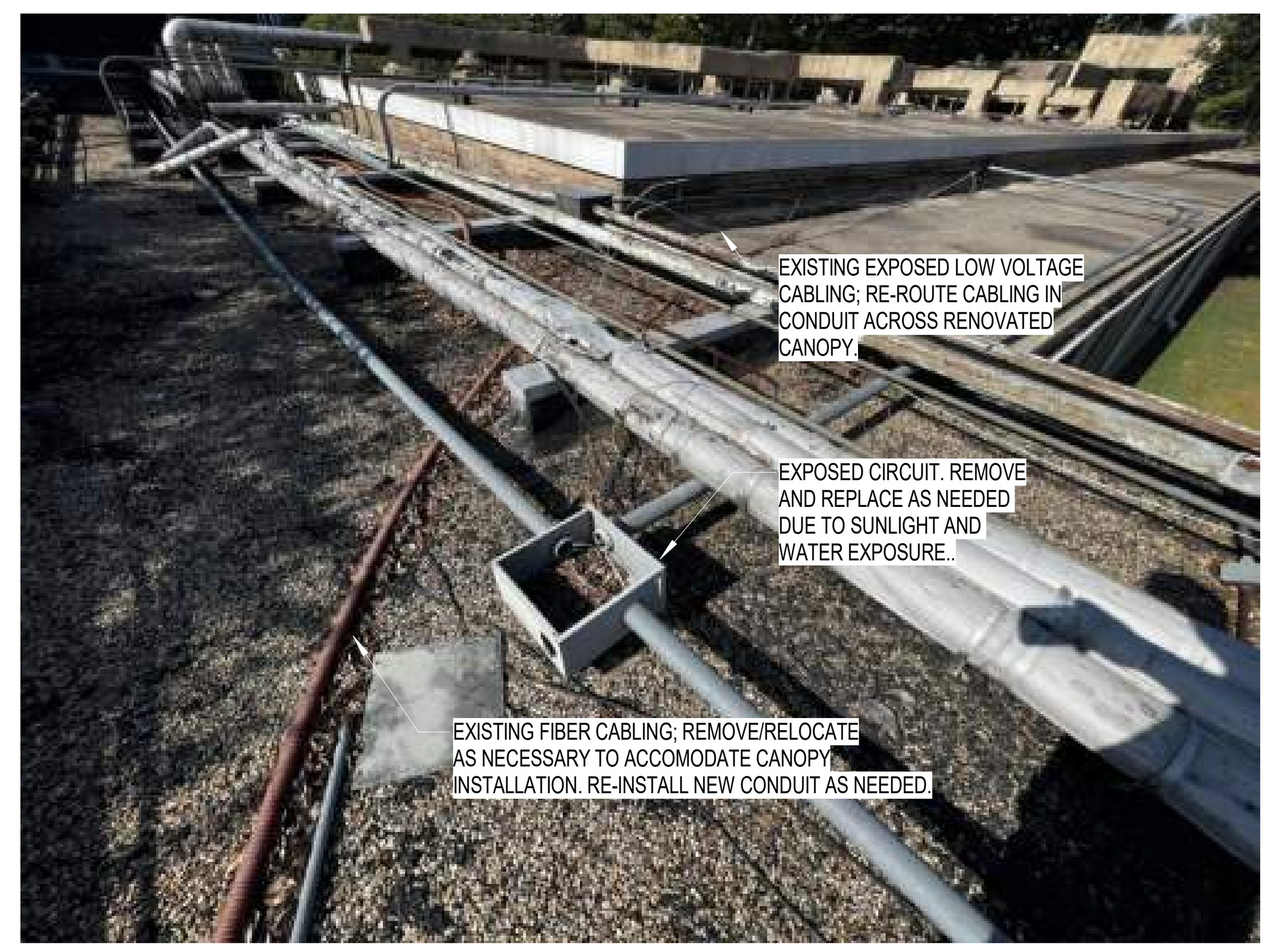
E3.00

1 PHOTO 10 - CANOPY CONDUIT
N.T.S.

2 PHOTO 11 - CANOPY CONDUIT
N.T.S.

3 PHOTO 12 - CANOPY CONDUIT
N.T.S.

4 PHOTO 13 - CANOPY CONDUIT
N.T.S.

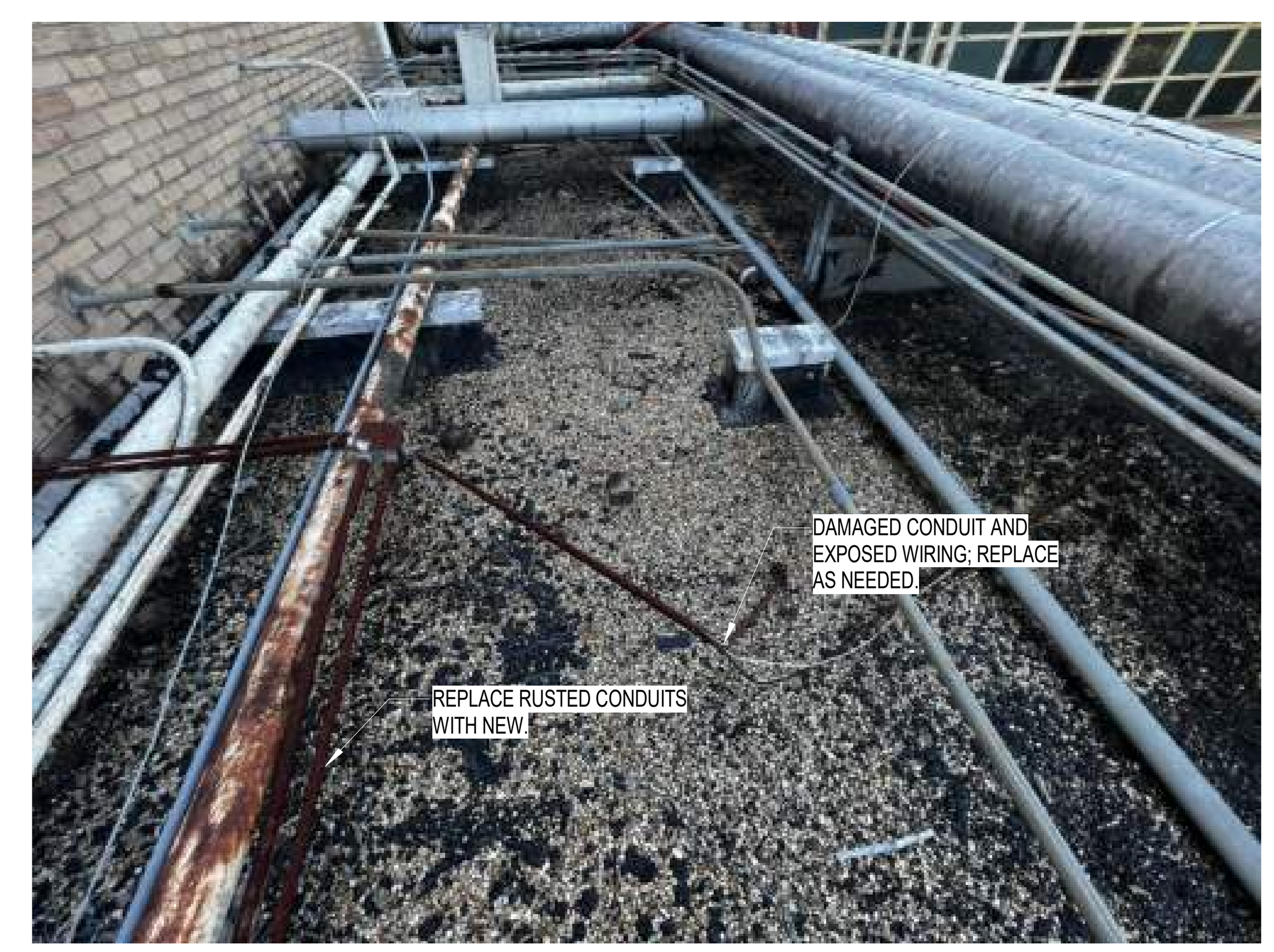


5 PHOTO 14 - CANOPY CONDUIT
N.T.S.

6 PHOTO 15 - CANOPY CONDUIT
N.T.S.

7 PHOTO 16 - CANOPY CONDUIT
N.T.S.

8 PHOTO 17 - CANOPY CONDUIT
N.T.S.



9 PHOTO 18 - CANOPY CONDUIT
N.T.S.

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ELECTRICAL SITE PHOTOS

E4.00

1 PHOTO 19 - CANOPY CONDUIT
N.T.S.

2 PHOTO 20 - CANOPY CONDUIT
N.T.S.

3 PHOTO 21 - CANOPY CONDUIT
N.T.S.

4 PHOTO 22 - CANOPY CONDUIT
N.T.S.

5 PHOTO 23 - CANOPY CONDUIT
N.T.S.

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ELECTRICAL SITE PHOTOS

E5.00