SOUTHERN UNIVERSITY AND A&M COLLEGE BATON ROUGE CAMPUS SU AG CENTER REQUEST FOR BID MAY 10, 2024 @ 10:30 AM FINANCIAL UNIT ADDITION-State Building # 12523 Former National Plant Date Center PROJECT NUMBER 20231010 Architect Firm: db Architecture of Acadiana, LLC Contact: David Beverly, AIA 233 Doucet Road, Suite # A2 Lafayette, LA 70503 337-205-3235 david@dbarchitectureofacadiana.com

MANDATORY PRE-BID CONFERENCE AND SITE VISIT: LOCATION:

APRIL 26, 2024 @ 10:30 AM Head House Building 9202 B.A. Little Drive Southern University Baton Rouge Campus Site Telephone No. 225-771-2143 or 225-954-1464

DEADLINE TO SUBMIT INQUIRIES: SUBMIT INQUIRIES TO: May 1, 2024 by 5:00 PM Linda Antoine Email: linda_antoine@subr.edu

DEADLINE TO RESPOND TO INQUIRIES May 3, 2024 by 5:00 PM

Note: Responses to inquiries/addenda are pasted on LAPAC (La State Procurement website) LAPAC website:

https://www.cfprd.doa.louisiana.gov/OSP/LaPAC/Agency/outMain.cfm It is the responsibility of the vendor to check LAPAC for addenda.

DEADLINE TO SUBMIT BID: SUBMIT BID TO: MAY 10, 2024 @ 10:30 AM Linda Antoine, Director Southern University Purchasing Department-P. O. Box 9534 or James L. Prestage Drive J. S. Clark Adm. Bldg. Annex, 1stFloor Baton Rouge, LA 70813 Telephone 225-771-2804 or 771-4587

LOUISIANA UNIFORM PUBLIC WORK BID FORM

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 10322 FINANCIAL UNIT ADDITION AG CENTER 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 and db Architecture of Acadiana, LLC.*

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:

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, *not applicable*

Alternate No. 1 Back-up Generator and Electrical Switch per drawings for the lump sum of:

	Dollars (\$)
NAME OF COMPANY:	/	
ADDRESS OF BIDDER:		
EMAIL		
PHONE	and a second	
LOUISIANA CONTRACTOR'S LICENSE NUMBER:		
PRINT NAME OF AUTHORIZED SIGNATORY OF BIDDER:		en anti a farma da anti a cara da antiga
TITLE OF AUTHORIZED SIGNATORY OF BIDDER:		
SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER:	and the second	
DATE.		

DATE:

Completion Time: _____ consecutive calendar days, or within the time that may be extended as stipulated in the contract. Liquidated Damages: **\$200 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 <u>Unit Price Form</u> shall be used if the contract includes unit prices. Otherwise it is not required and need not be included with the bid. The number of unit prices that may be included is not limited and additional sheets may be included if needed.

FO: Southern U	niversity and A&M	College	BID FOR: Bid Number 10522	
James J. Pi	estage Dr-J. S. Clar	k Administration Bldg. Annex		
Baton Rou	ge, LA 70813		FINANCIAL UNIT ADDITION	
UNIT PRICES: Th	is form shall be used f	or any and all work required by 1	the Bidding Documents and described as unit prices	. Amounts shall be stated in figures and only in figures.
DESCRIPTION:	Base Bid or A	vlt.#		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times orm reice)
DESCRIPTION:	Base Bid or A	\lt.#		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times Unit Price)
DESCRIPTION:	Base Bid or D	Alt.#		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times on trice)
DESCRIPTION:	Base Bid or 2	\\lt.#		In the nn Ice EVTENCION /Our metics times I fuit Duice)
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT FRICE EATENSION (Quantity units one tree)
DESCRIPTION:	Base Bid or	Alt.#		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times on i r rice)
DESCRIPTION:	Base Bid or	Alt.#		
REF. NO.	QUANTITY:	UNIT OF MEASURE:	UNIT PRICE	UNIT PRICE EXTENSION (Quantity times on Frice)
DESCRIPTION:	Base Bid or D	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 "DES	"RIPTION" is to be	provided by the Owner.		
All anontifies are es	timated. The contr	actor will be paid based upon a	actual quantities as verified by the Owner.	

TO:

LOUISIANA UNIFORM PUBLIC WORK BID FORM UNIT PRICE FORM

BID FOR: Bid Number 10322

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JOB SITE VISIT BID #10322 NAME OF PROJECT: FINANCIAL UNIT ADDITION SOUTHERN UNIVERSITY AND A & M COLLEGE BATON ROUGE, LOUISIANA SITE VISIT DATE: APRIL 26, 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:

Head House Building 9202 B.A. Little Drive

Southern University-Baton Rouge Campus

Site Telephone No. 225-771-2143, 225-955-1464, 337-344-8634

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

ВУ

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://www.cfprd.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: FINANCIAL UNIT ADDITION

<u>BID DUE DATE: MAY 10, 2024 @ 10:30 AM</u> <u>BID # 10322</u>

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:

<u>Bids should be mailed to:</u> 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: APRIL 26, 2024 @ 10:30 AM

INOUIRIES:

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.

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

PROJECT: FINANCIAL UNIT ADDITION

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

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.

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.
_____Federal Funded _____XXNon-Federal Funded

20. <u>E-VERIFY</u> (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

Federal Funded XX 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 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

<u>A CORPORATE RESOLUTION OR WRITTEN EVIDENCE OF THE AUTHORITY OF THE PERSON SIGNING</u> THE BID FOR THE PUBLIC WORK AS PRESCRIBED BY LOUISIANA REVISED STATUTE 38:2212 (B)(5)

<u>A copy of the applicable signature authority document/Board Resolution or LA Secretary of State</u> Registration must be submitted with bid.

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

REVISED

ADVERTISEMENT REQUEST FOR BID BID #10322 FINANCIAL UNIT ADDITION-STATE BUILDING # 12523 SOUTHERN UNIVERSITY AND A&M COLLEGE-BATON ROUGE SU AG CENTER

MAY 10, 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-MAY 10, 2024

Mandatory Pre-Bid Conference & Site Visit: April 26, 2024 @ 10:30 am Site Visit Location: Head House Building @ 9202 B.A. Little Drive (Southern University Campus) Baton Rouge, La 70813 Site Visit Telephone Contact Numbers: 225-771-2143, 337-344-8634 or 225-954-1464

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 May 1, 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 May 3, 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 <u>unopened</u>. 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 <u>http://www.ledsmallbiz.com</u>. Potential participants may also register at this website.

ALL BID SPECIFICATIONS CAN BE OBTAINED BY ACCESSING THE LA STATE PROCUREMENT WEBSITE https://www.cfprd.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: 72130000 General Building Construction; 72000000 Building and Construction, and Maintenance Services; 72131600 Commercial or Industrial Construction.

SOUTHERN UNIVERSITY & A&M COLLEGE AN EQUAL OPPORTUNITY EMPLOYER Linda A. Antoine, Director of Purchasing DATES ADVERTISED: APRIL 23, 24, & 25, 2024

INSURANCE REQUIREMENTS

Southern University and A&M College FINANCIAL UNIT ADDITION-BID # 10322

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.
- 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.
 - 1

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 <u>OR</u> 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, 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 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

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SOUTHERN UNIVERSITY FINANCIAL UNIT ADDITION

9110 B.A. Little Dr. (H Street), Baton Rouge, LA 70813

East Baton Rouge Parish





Project No.: 20231010

Southern University and A&M College Dennis J. Shields – President-Chancellor

Southern University Agricultural Research & Extension Center

Dr. Orlando McMeans – Chancellor-Dean

Southern University System Board of Supervisors

Myron Lawson – Chairman



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A002 GENERAL NOTES, ABBREVIATIONS & SYMBOLS A098 EXISTING PHOTOS & INFORMATION A100 LIFE SAFETY PLAN & DEMOLITION PLAN A101 SITE PLAN A105 STRUCTURAL SPECS A110 FRAMING PLAN A111 FOUNDATION PLAN

FLOOR PLAN & DETAILS

OPENING PLAN & REFLECTED CEILING PLAN

COVER SHEET

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A001

A112 A113 **PROJECT SHEET INDEX**

Sheet Name

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FFE FHC FIN

FL FLR FOBS FOW FPFG FR FT GTON Y THE CLARE OF A CADIANA, LLC FLR FOBS ELC TURE OF ACADIANA, LLC FL EVALUATE OF A CADIANA, LLC

HDW HGT HID

SEALED

HEGHT

HARDWARE

HIGH INTENSITY DISCHARGE

EJ

СТ

BLDG

TOP OF TACK BOARD

т.о. тв TO BE DETERMINED TBD

(A) WALL HUNG TYPE





3/30/2024 3:20:39 PM COPYRIGHT db/ARCHITECTURE of ACADIANA, LLC







GENERAL NOTES

FIRE RATED WALL ASSEMBLIES SHALL EXTEND TO FIRE RATED CEILINGS. FIRE PROTECTION SERVICE COMPANY LICENSED TO PERFORM

THE WORK SHALL INSTALL FIRE PROTECTION SYSTEM AND ALSO ENSURE ALL WORK CONFORMS TO ALL APPLICABLE CODES. CONTINUITY OF FIRE SEPARATION @ FIRE RATED WALLS SHALL BE 3.

MAINTAINED @ ALL PENETRATIONS, JOINTS, AND INTERSECTIONS USING FIRE RATED CAULKS, SEALANTS AND FILLERS.

	LIFE SAFETY LEGEND
SYMBOL	DESCRIPTION
⊖ F.E.	BRACKET MOUNTED FIRE EXTINGUISHER - RATED 3-A
(\underline{S})	SMOKE DETECTOR
EXIT	WALL MOUNT ILLUMINATED EXIT SIGN
EXIT	CLG MOUNT ILLUMINATED DIRECTIONAL EXIT SIGN
D.E.	DISTANT FROM EXIT TO EXIT
T.E.	TRAVEL DISTANCE FROM MOST REMOTE POINT
D.D.	DIAGONAL DISTANCE
MRP	MOST REMOTE POINT
	ENTRY/EXIT
	FIRE EXTINGUISHER
	FIRE EXTINGUISHER CABINET, SURFACE MOUNT LOCKED, MAX PROTRUSION 4" OR SEMI RECESSED INCLUDES FIRE EXTINGUISHER AND HOOK.
E.L.	EMERGENCY LIGHT FIXTURE
\bigotimes	EXIT LIGHT
$\bigotimes \downarrow$	EMERGENCY LIGHT ONE DIRECTION
$\downarrow \bigcirc \uparrow$	EMERGENCY LIGHT TWO DIRECTIONS
	ADA PUSH BUTTON
•	PATH OF TRAVEL

BID DOCUMENTS LIFE SAFETY PLAN & DEMOLITION PLAN

SOUTHERN UNIVERSITY

FINANCIAL UNIT ADDITION East Baton Rouge Parish

9110 B.A. Little Dr. (H Street), Baton Rouge, LA 70813 PROJECT ID: 20231010



TEL: 337.205.3235 EMAIL: david@dbarchitectureofacadiana.com WEBSITE: www.dbarchitectureofacadiana.com ADDRESS: 233 Doucet Rd, Suite A2, Lafayette, Louisiana, 70503

REVISION



PROJECT NUMBER 20231010 DATE: 03/25/2024

A100



STRUCTURAL NOTES

DESIGN CRITERIA

DESIGN CODES:

INTERNATIONAL BUILDING CODE (IBC), 2021 EDITION, PUBLISHED BY THE INTERNATIONAL CODE COUNCIL (ICC). ALL REFERENCED CODES AND SPECIFICATION NOTED SHALL BE THE LATEST APPROVED EDITIONS AND REVISIONS BY THE GOVERNMENTAL AGENCY HAVING JURISDICTION OVER THIS PROJECT (UNLESS OTHERWISE NOTED.)

DESIGN LOADS:

DEAD LOADS

i. R(OOF DEAD LOAD	10 PSF	
IVE LOAI i. R(DS OOF LIVE LOAD	20 PSF	
/IND LOA	ADS		
i. R0 ii. R iii. F iv. F v. V vi. V	OOF ZONE 1': OOF ZONE 1: ROOF ZONE 2: ROOF ZONE 3: /ALL ZONE 4: VALL ZONE 5:	+16.0 PSF / -27.8 +16.0 PSF / -48.4 +16.0 PSF / -63.8 +16.0 PSF / -63.8 +30.4 PSF / -32.9 +30.4 PSF / -40.7	PSF PSF PSF PSF PSF PSF
/IND LOA	ADS		
i. Ul ii. N iii. F iv. E v. M vi. C	LTIMATE DESIGN WI OMINAL DESIGN WI RISK CATEGORY EXPOSURE CATEGO IEAN ROOF HEIGHT GCPI	IND SPEED ND SPEED ORY EXPOSURE	130 MPH (3-SECOND GUST) 101 MPH (3-SECOND GUST) II B 15'-0" +/- 0.18
EISMIC I i. IM ii. S iii. S iv. S v. S vi. S	LOADS IPORTANCE FACTO DS SD SITE CLASS S S1	R	1.00 14.2% 16.2% E 0.089 0.058

vii. SEISMIC DESIGN CATEGORY С viii. BASIC SEISMIC FORCE RESISTING SYSTEM: LOAD BEARING TIMBER NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE.

SNOW LOADS i. Pg = 0 PSF

GENERAL

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING DIMENSIONS IN THE FIELD BEFORE CONSTRUCTION BEGINS.

2. ALL DIMENSIONS, DISCREPANCIES, OR CONFLICTS BETWEEN CONSTRUCTION DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. THE CONTRACTOR SHALL VERIFY ALL MECHANICAL, PLUMBING, AND MISCELLANEOUS OPENINGS AND ALL SLEEVES, BOLTS, AND OTHER RELATED ITEMS. NOTIFY THE ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC, NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT ARE LOCATED IN OR ON THE STRUCTURAL MEMBERS 3. THESE PLANS ARE NOT INTENDED TO CONVEY ANY PARTICULAR CONSTRUCTION SEQUENCE OR PROCEDURE AND REPRESENT THE FINISHED STRUCTURE. THE RESPECTIVE BIDDER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING ADEQUATE MEANS AND MEASURES TO ENSURE THE STABILITY OF THE BUILDING AND ITS COMPONENTS DURING CONSTRUCTION. THESE SHALL INCLUDE, BUT ARE NOT LIMITED TO: NECESSARY SHORING, SHEETING, TEMPORARY BRACING, DEWATERING, ETC. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT WHEN PLACED ON FRAMED FLOORS OR ROOFS. THE CONSTRUCTION MATERIAL LOAD SHALL NOT EXCEED THE DESIGN LIVE LOADS. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE THE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH. 4. OBSERVATIONS, VISITS, OR VERBAL COMMUNICATION DURING CONSTRUCTION BY A REPRESENTATIVE OF THE STRUCTURAL ENGINEER SHALL NEITHER BE CONSTRUED AS AN INSPECTION NOR APPROVAL OF CONSTRUCTION UNLESS STATED SO IN WRITING BY THE ENGINEER OBSERVATION VISITS DO NOT INCLUDE INSPECTION OF CONSTRUCTION MEANS AND METHODS AND ARE NOT CONTINUOUS AND DETAILED INSPECTION SERVICES WHICH ARE TO BE PERFORMED BY OTHERS. OBSERVATIONS ARE PERFORMED SOLELY FOR THE PURPOSE OF DETERMINING IF THE CONTRACTOR UNDERSTANDS DESIGN INTENT SHOWN IN CONTRACT DRAWINGS. 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY AND PROTECTION IN AND AROUND THE JOB SITE AND/OR ADJACENT PROPERTY.

FOUNDATIONS:

1. THE DESIGN BEARING CAPACITIES ARE AS FOLLOWS:

GRADE BEAMS: 1500 PSF

SPREAD FOOTINGS: 1500 PSF

2. FILL SHALL BE A LOW PI (T TO 15) NON-EXPANSIVE MATERIAL FREE OF ORGANIC AND DELETERIOUS MATERIALS. FILL SHALL BE PLACED IN **6" LIFTS WITHIN TWO PERCENTAGE POINTS OF** OPTIMUM MOISTURE CONTENT AND COMPACTED TO 95% MODIFIED PROCTOR.

FOUNDATION PREPARATION AND EARTHWORK:

1. THE CONTRACTOR SHALL PROVIDE FOR PROPER DEWATERING OF EXCAVATIONS FROM SURFACE WATER. GROUND WATER, SEEPAGE. ETC.

2. ALL ABANDONED UTILITIES, FOOTINGS, ETC., THAT INTERFERE WITH THE NEW CONSTRUCTION SHALL BE REMOVED. NOTIFY THE STRUCTURAL ENGINEER SHOULD ANY FOUNDATIONS FOR EXISTING STRUCTURES BE ENCOUNTERED THAT ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS.

3. FOOTINGS, GRADE BEAMS, SLABS, AND THICKENED SLAB SECTIONS SHALL BE PLACED TO THE DIMENSIONS SHOWN ON THE DRAWINGS AND OBSERVED FOR QUALITY ASSURANCE PRIOR TO PLACING CONCRETE AND REINFORCING. SHOULD SOIL ENCOUNTERED NOT BE APPROVED, DESIGNS, EXCAVATIONS, AND SITE WORK WILL BE ALTERED BY CHANGE ORDER. THE INSPECTION OF FOUNDATION FOOTINGS AND REINFORCEMENT AND THE PLACEMENT OF CONCRETE SHALL PROCEED IMMEDIATELY FOLLOWING APPROVAL. IF FOOTING EXCAVATIONS ARE TO REMAIN OPEN FOR MORE THAN ONE DAY, THE CONTRACTOR SHALL TAKE MEASURES TO REDUCE MOISTURE ENTRY OR EVAPORATION.

4. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN THE BUILDING PERIMETER SHALL BE MECHANICALLY COMPACTED IN LAYERS, TO THE APPROVAL OF THE SPECIAL INSPECTOR. 5. ALL TOPSOIL AND ORGANIC MATERIALS, INCLUDING TREES AND LARGE ROOTS, AND ANY DELETERIOUS MATERIALS SHALL BE STRIPPED FROM THE PROJECT AREA AND REPLACED WITH STRUCTURAL FILL.

SHOP DRAWINGS:

1. THE REVIEW OF SHOP DRAWINGS BY THE STRUCTURAL ENGINEER IS INTENDED ONLY TO MONITOR THE CONTRACTOR'S COMPREHENSION OF THE VARIOUS ASSEMBLIES. THIS REVIEW IS NOT A THOROUGH EXAMINATION OF THE WORK NOR IS IT AN ASSUMPTION OF RESPONSIBILITY BY THE ENGINEER FOR THE WORK OF OTHERS.

2. SHOP DRAWINGS ARE NOT A PART OF CONTRACT DOCUMENTS; THEREFORE, THE STRUCTURAL ENGINEER'S REVIEW DOES NOT CONSTITUTE AN AUTHORIZATION TO DEVIATE FROM THE TERMS AND CONDITIONS OF THE CONTRACT. 3. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW PRIOR TO FABRICATION.

4. SHOP DRAWINGS SHALL BE PREPARED UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF LOUISIANA AND INCLUDE COMPLETE DETAILS, SCHEDULES, PROCEDURES, AND DIAGRAMS FOR FABRICATION AND ASSEMBLY OF STRUCTURAL MEMBERS.

5. FABRICATORS SHALL DRAW THEIR OWN ERECTION PLANS. COPYING THE STRUCTURAL PLANS AND USING THEM AS ERECTION DRAWINGS IS NOT ACCEPTABLE.

6. PRIOR TO SUBMITTAL, THE CONTRACTOR SHALL REVIEW THE SHOP DRAWINGS AND MAKE ANY CORRECTIONS REQUIRED. THE CONTRACTOR SHALL STAMP AND SIGN THE DRAWINGS AS EVIDENCE THAT HE HAS REVIEWED THEM. 7. SHOP DRAWINGS SHALL BE FURNISHED FOR ALL STRUCTURAL COMPONENTS.

8. SHOP DRAWINGS WILL BE REJECTED FOR INCOMPLETENESS, LACK OF COORDINATION WITH OTHER PORTIONS OF THE CONTRACT DOCUMENT, LACK OF CALCULATIONS (IF REQUIRED), OR WHERE MODIFICATIONS OR SUBSTITUTIONS ARE INDICATED WITHOUT PRIOR REVIEW.



BRICK LINTEL SCHEDULE SPAN LENGTH LINTEL SIZE <4'-0" L5x3 1/2x3/8 SLV 4'-0" - 8'-0" L5x5x3/8 8'-0" - 10'-0" L7x4x3/8 > 10'-0" **RE: PLANS & DETAILS**

BRICK LINTEL NOTES:

LINTEL ANGLES SHALL HAVE A MINIMUM OF 8" BEARING AT SUPPORTS SLV = SHORT LEG VERTICAL

LINTEL SHALL BE SHORED DURING CONSTRUCTION

ALL LINTELS SHALL BE HOT-DIPPED GALVANIZED.

REBAR LAP SPLICE	REQUIREMENTS (MIN.)
LOCATION	SLABS AND FOUNDATIONS
BAR	4000 PSI
#3	15"
#4	19"
#5	24"
#6	29"
#7	42"
#8	48"

SPLICE NOTES:

LAP SPLICE LENGTHS ABOVE APPLY TO ALL REINFORCING BARS FOR THIS PROJECT, UNLESS SPECIFICALLY NOTED OTHERWISE IN THESE PLANS

ALL LAP SPLICES PROVIDED ABOVE ARE NORMAL WEIGHT CONCRETE AND GRADE 60 REINFORCING BARS IN TENSION. SPLICES FOR WALL AND SLAB BARS ARE BASED ON A MINIMUM OF 1" CLEAR COVER. LAP SPLICE LENGTHS PROVIDED IN THIS TABLE ARE BASED ON ACI 12.2 AND 12.15.

BID DOCUMENTS

STRUCTURAL SPECS

SOUTHERN UNIVERSITY **FINANCIAL UNIT ADDITION**

9110 B.A. Little Dr. (H Street), Baton Rouge, LA 70813 PROJECT ID: 20231010



TEL: 337.205.3235 EMAIL: david@dbarchitectureofacadiana.com WEBSITE: www.dbarchitectureofacadiana.com ADDRESS: 233 Doucet Rd, Suite A2, Lafavette, Louisiana, 70503

BY DATE



East Baton Rouge Paris

PROJECT NUMBER 20231010 03/25/2024

A105









DOOR				DO	OR						FR	AME				DETAIL	S	SILL				HDW
ILASS	TYPE C	OMMENTS		FIN	ISH	D	OOR MA	ATERIAL		TYF	ΡE		FINISH		HEAD	JAMB	SILL	MATERIAL		SILL FINISH		GROUP
NE	SOLID CO	ORE	MATCH	EXIS	STING - `	VIF WC	OD W/	VENEER	HOLL	OW MT	Ľ	PAINT			9/A113	10/A11	3	NONE	NONE		١	NO.3
F-TEMP	SOLID CO	ORE	MATCH	EXIS	STING - Y	VIF WC	OD W/	VENEER	HOLL	OW MT	Ľ	PAINT			9/A113	10/A11	3	NONE	NONE		1	NO.2
F-TEMP	SOLID CO	ORE	MATCH	EXIS	STING - `	VIF WC	OD W/	VENEER	HOLL	OW MT	Ľ	PAINT			9/A113	10/A11	3	NONE	NONE		1	NO.2
F-TEMP	SOLID CO	ORE	MATCH	EXIS	STING - Y	VIF WC	OD W/	VENEER	HOLL	OW MT	Ľ	PAINT			9/A113	10/A11	3	NONE	NONE		1	NO.2
F-TEMP	SOLID CO	ORE	MATCH	EXIS	STING - `	VIF WC	OD W/	VENEER	HOLL	OW MT	Ľ	PAINT			9/A113	10/A11	3	NONE	NONE		1	NO.2
L-TEMP	INSULAT	ED FRAME	MATCH	EXIS	STING - Y	VIF ALI	JMINUN	Λ	INSUL	ATED /	ALUMINUM	MATCI	H EXISITNO	G - VIF	= 6/A113	7/A113	8/A113	ALUMINUM	MATCH	EXISTING - Y	/IF N	NO.1
]	DETAILS	5			GLAZ	ZING												
FRAME C	OLOR	HARDWARE	Ξ																			
(EX	T)	FINISH	HEA	D	SILL	JAMB			TYI	PE		TYI	PE COMME	INTS	GLASS C	OLOR	E	BASIS OF DE	SIGN	SCREE	N SC	REEN T
	STINC		11/Δ?	101	6/111	13/111															NI/A	1





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EXTERIOR WALL

FLOOR

GROUT

F1

B1

SOUTHERN CLASSIC PEP051 106083 VELOUR TEXTURE ACME BRICK

B2 CEDAR VALLEY DTP121 127247 HERITAGE TEXTURE ACME BRICK

FLOOR

WALL BASE

WB1

TP1

ULINE

DOUBLE ROLL

DISPENSER

BASE BLACK

JOHNSONITE

MODULAR CARPET TILE 4" RUBBER WALL

WOODLOOK TILE DALTILE VICINITY NATURAL VC02 6" x 36"

INTERIOR PAINT

G1 GROUT LATICRET DESERT I

11570 CORDED CLOTH

60810 STAR GAZER

24" x 24" GLUEDOWN

TARKETT

P1 **BENJAMIN MOORE** 2112-60 **CEMENT GRAY**

P2 BENJAMIN 1666 IN THE MID HOUR

WALL PACK

SN1

ULINE

NAPKIN DISPOSAL

RECEPTACLE

TOILET PAPER WALL MOUNT

SD1 SOAP AUTO WALL-_ MOUNT DISPENSER TOUCHLESS ULINE

SF1

ZURN

AQUASENSE

CENTERSET

TOUCHLESS

SENSOR FAUCET

TE #56 KHAKI	F2 MODULAR CARPET TILE A0005 LOOP STITCH 42719 IBIZA BREEZE TARKETT 24" x 24" GLUEDOWN CEILING	TR1 P1 C1 D3 SF1 EF1 TP1 SN1 SD1 WB1 F3 F1 G1 P1	PAPER TOWEL DISPENSER/ V WALL CEILING LIGHTING DOOR FAUCET EXHAUST FAN TOILET PAPER DISPENSER SANITARY NAPKIN DISPOSAL SOAP DISPENSER WALL BASE FLOOR FLOOR GROUT WALL	VASTE SURFACE MOUNT TOWEL/ PAINT 2 X 4 PUEBLO LAY-I 2 X 4 PUEBLO LAY-I FLAT LED WOODGRAIN STAI AQUASENSE CENTERSET SENSO TOUCHLESS CEILING EXHAUST FAN CEILING EXHAUST FAN DOUBLE ROLL DISPI WALL MOUNT RECEPT/ SOAP AUTO WALL-MOUNT DISPEN 4" RUBBER WALL BASE MATCH PRO MODULAR CARPET TILE 24 X 24 6X36 WOOD LOOK CERAMI GROUT & SEALAH PAINT	VWASTE UNIT BE IN AR NED OR FAUCET 90 CFM ENSER ACLE SFF COUCHLESS FILE TO EXISTING DO FALL 4 GLUEDOWN TT IC TILE [] NT IC TILE []	BOBRICK SOBRICK SOBRIC	B-3949 2112-60 1864 Z6915-XL CFA-590-FA H-2546 H-3454 H-7174 570 CORDED CLO VICINITY 56 2112-60	SATIN FINISH ST COLOR: CE WHITE SQUARE L PRELUDE XL 15/1 SYSTEM WHITE B FINISH 12 GAUGE CPANL- 2X4-A REFER TO DC ADA COMPLIANT CHROME FINISH W/ STAINLES STAINLES STAINLES DITH COLOR: 60810 S NATURAI COLOR: DE COLOR: DE COLOR: CE
		C1 D1 WB1 L1 3	CEILING ENTRY DOOR WALL BASE LIGHTING FINISH SCHEDU SCALE: 1/8" = 1'-0"	2 X 4 PUEBLO LAY-I ALUMINUM STORE FRONT CO 4" RUBBER WALL BASE MATCH PRO FLAT LED	IN AR LOR: BLACK FILE TO EXISTING JOI SIGNAGE KEY	MSTRONG HNSONITE ITHONIA	1864	WHITE SQUARE L PRELUDE XL 15/1 SYSTEM WHITE B FINISH 12 GAUGE REFER TO DO COLOR: #40 CPANL- 2X4-A
I MOORE DNIGHT LED LIGH	C1 2 X 4 ARMSTRONG PUEBLA 1864 WHITE SQUARE LAY IN 1" THICK. NRC = .90 CAC = .90 T LIGHTING		000 Tation Tatio	000 1 000 1 0	000 ".j". OFFICE 1	000 		000 • OFFICE 1
L3 BEGA REFER TO SHEET A205	L1 2 X 4 FLAT PANEL LED - LITHONIA LIGHTING		2 UNIVERITY BLUE ROOM # BRAIL METAL TRIM PLASTIC COVER 5 UNISEX SCALE: 11/	SIGNAGE LEGEND SCALE: 1" = 1'-0" UNIVER UNIVER UNIVER UNIVER	RSITY YELLOW RSITY BLUE RITY BLUE	UNIVER: ME	SITY BLUE ROOM # BRAIL TAL TRIM PLASTIC COVER ROC SCAL	000 DM SIGNAGE E: 1 1/2" = 1'-0"
		DC		ISHES DOOR FRAME HED	/	SOLID WC STAIN = M	DOD 1/2 LITE MATCH EXISTING	G & CLEARCOAT
CFA-S50-FA F1 SCHAUST FAN IOAire CFA-590 0 CFM ENERG TAR LISTED	B-3949Image: FA transmission of the second se	TYE	PE A DRE FRON	T		B D W/ 1 EFER TC	//////////////////////////////////////	ASS SCHEDULE

FLOORING

FINANCIAL UNIT - NEW ADDITION INTERIOR FINISH SCHEDULE REF NUMBER MANUFACTURER MODEL NUMBER **DESCRIPTION** NOTE ITEM OFFICE (TYP) F2 FLOOR MODULAR CARPET TILE 24 X 24 GLUEDOWN COLOR: 42719 IBIZA BREEZE TARKETT A0005 LOOP STITCH P1 2112-60 COLOR: CEMENT GRAY PAINT BEN. MOORE WALL P2 COLOR: IN THE MIDNIGHT HOUR ACCENT WALL 1666 PAINT WALL W/ WINDOW BEN. MOORE C1 WHITE SQUARE LAY-IN ADD CEILING 2 X 4 PUEBLO LAY-IN ARMSTRONG 1864 PRELUDE XL 15/16" EXPOSED TEE SYSTEM WHITE BAKED ON PAINT FINISH 12 GAUGE HANG WIRE D2 DOOR WOOD WITH 1/2 GLASS REFER TO DOOR SCHEDULE L1 4 X 4 RECESSED PANEL INTERIOR LIGHTING WINDOWS ALUMINUM FRAME COLOR: BLACK COLOR: #40 BLACK WB1 WALL BASE 4" RUBBER WALL BASE MATCH PROFILE TO EXISTING JOHNSONITE CPANL- 2X4-AL06-SWW7-M2 LITHONIA FLAT LED LIGHTING RESTROOM F1 FLOOR 6X36 WOOD LOOK CERAMIC TILE DALTILE NATURAL VC02 VICINITY G1 GROUT **GROUT & SEALANT** LATICRETE 56 COLOR: DESERT KHAKI ADA COMPLIANT COLOR: WHITE T1 TOILET ECOVANTAGE TWO-PIECE TOILET TOUCHLESS ZURN GB1 GRAB BAR STRAIGHT GRAB BAR 36 BOBRICK 1/4" DIAMETER SATIN FINISH B-5806 GB2 GRAB BAR STRAIGHT GRAB BAR 42' BOBRICK 1/4" DIAMETER SATIN FINISH B-5806 VS1 WALL MOUNT SINK KINGSTON VANITY SINK KOHLER K-2007-0 WHITE ULTRA THICK ENAMEL

	AL SYMBOL LEGEND
ENERAL	
$\langle 1 \rangle$	KEYNOTE
A-1,3	CIRCUIT TAG; PANEL AND CIRCUIT DESIGNATION AS INDICATED; E.G. PANEL "A", CIRCUIT #1,3
/IRE, CONDUI	IT, AND RACEWAY
	ABOVE-SLAB CONDUIT & WIRE/CABLING
	BELOW-SLAB CONDUIT & WIRE/CABLING; 3/4" MINIMUM CONDUIT SIZE UON
	HOMERUN TO PANEL; TICK MARKS INDICATED NUMBER OF WIRES
ISTRIBUTION	L
	PANELBOARD, SWITCHBOARD, OR OTHER DISTRIBUTION EQUIPMENT AS NOTED; INSTALL WITH SUFFICIENT WORKING SPACE AND CLEARANCES TO MEET ALL REQUIREMENTS OF NEC SECTION 110.26.
GEN-ANNC	GENERATOR REMOTE ANNUNCIATOR PANEL; PROVIDE CONDUIT/CABLING TO GENERATOR AS REQUIRED PER THE MANUFACTURER'S SPECIFICATIONS.
	ONNECTIONS
	SIGHT OF THE EQUIPMENT SERVED WITHIN SIGHT OF THE EQUIPMENT SERVED WITH 36" MINIMUM CLEAR WORKING SPACE IN FRONT OF THE SWITCH; DO NOT MOUNT DIRECTLY TO EQUIPMENT
J	JUNCTION BOX
Μ	JUNCTION BOX FOR MOTORIZED DAMPER
S ^M	MOTOR RATED SWITCH WITH THERMAL OVERLOAD; LOCATE WITHIN SIGHT OF THE EQUIPMENT SERVED; DO NOT MOUNT DIRECTLY TO EQUIPMENT; WHEN LOCATED ABOVE CEILING, MOUNT TO STRUCTURAL MEMBER NEARBY.
6	ELECTRICAL MOTOR, HORSEPOWER AS NOTED
OWER DEVIC	ES
PROVIDE CON	
⊕	DUPLEX RECEPTACLE MOUNTED FLUSH TO CEILING OR MOUNTED TO STRUCTURE IN AREAS WITH NO CEILING; SUBSCRIPT (WHEN USED): CR - CORD REFI
O ‡	ABOVE-COUNTER DUPLEX RECEPTACLE; MOUNT AT 4" ABOVE COUNTER OR BACKSPLASH OR 44" (WHICHEVER IS LOWER)
•	GFCI DUPLEX RECEPTACLE
€‡	ABOVE-COUNTER GFCI DUPLEX RECEPTACLE; MOUNT AT 4" ABOVE COUNTER OR BACKSPLASH OR 44" (WHICHEVER IS LOWER)
\	QUADRAPLEX RECEPTACLE
\$ ‡	ABOVE-COUNTER QUADRAPLEX RECEPTACLE; MOUNT AT 4" ABOVE COUNTER OR BACKSPLASH OR 44" (WHICHEVER IS LOWER)
\ominus	SPECIAL PURPOSE RECEPTACLE; VERIFY NEMA CONFIGURATION WITH THE MANUFACTURER OF THE EQUIPMENT SERVED
Θ	VOICE/DATA/POWER FLUSH FLOOR BOX

A	DUPLEX RECEPTACLE FLUSH FLOOR BOX

⊕ QUADRAPLEX RECEPTACLE FLUSH FLOOR BOX

 \bullet RECEPTACLE SWITCHING; EDGE SHADING INDICATES: NONE - DEVICE NOT SWITCHED LEFT - BOTTOM (DUPLEX) OR LEFT TWO (QUAD) SWITCHED RIGHT - TOP (DUPLEX) OR RIGHT TWO (QUAD) SWITCHED

PUBLIC ADDRESS (PROVIDE 3/4"EC WITH PULL STRING FROM THE DEVICE LOCATION SHOWN ON THE DRAWINGS TO AN ACCESSIBLE LOCATION ABOVE CEILING)

(PA) PA SYSTEM SPEAKER

V PA SYSTEM SPEAKER VOLUME CONTROL

Ι PA SYSTEM SPEAKER MOUNT CALL-IN SWITCH

ABBREVIATIONS

A	AMPERE(S)	CATV	CABLE TELEVISION
AC	ABOVE COUNTER (6" ABOVE BACKSPLASH)	СВ	CIRCUIT BREAKER
AF	AMPERE(S) FUSED	CKT	CIRCUIT
AFCI	ARC FAULT CIRCUIT INTERRUPTER	CLG	CLG
AFF	ABOVE FINISHED FLOOR	CORR	CORRIDOR
AFG	ABOVE FINISHED GRADE	СТ	CURRENT TRANSFORMER
AIC	AMP SYMMETRICAL INTERRUPTING CAPACITY RMS	CTRL	CONTROLLER
AT	AMPERE(S) TRIP	D	TO BE DEMOLISHED
AWG	AMERICAN WIRE GAUGE	DISC.	DISCONNECT
BG	BELOW GRADE	DIST.	DISTRIBUTION
BLDG	BUILDING	DWG	DRAWING
BKR	BREAKER	E	EXISTING TO REMAIN
С	CONDUIT	EC	EMPTY CONDUIT
CAT	CATEGORY	ECB	ENCLOSED CIRCUIT BREAKER

TELECOMMUI	NICATIONS DRS TO BE PER THE OWNER'S STANDARDS IF APPLICABLE)	FIRE ALA (PROVIDE AND CON
	TELECOM TERMINAL BOARD; 0'-1" THICK AC INDOOR GRADE, FIRE RETARDANT PLYWOOD, PAINTED AS SPECIFIED BY THE ARCHITECT OR OWNER	FACP
•	DUPLEX DATA OUTLET; PROVIDE 1"C TO AN ACCESSIBLE LOCATION ABOVE CEILING, TWO (2) BLUE CAT 6 CABLES FROM THE OUTLET TO THE	
	TELECOM TERMINAL BOARD	
	DUPLEX DATA OUTLET, AS ABOVE, MOUNTED FLUSH TO CEILING OR MOUNTED TO STRUCTURE IN AREAS WITH NO CEILING	EK SK
\checkmark	DUPLEX DATA OUTLET, AS ABOVE, MOUNTED ABOVE COUNTER) (X
▼	DATA/VOICE OUTLET; PROVIDE 1"C TO AN ACCESSIBLE LOCATION ABOVE CEILING, ONE (1) BLUE AND ONE (1) WHITE CAT 6 CABLES FROM THE OUTLET TO THE TELECOM TERMINAL BOARD	BX SX
\triangleleft	VOICE OUTLET; PROVIDE 1"C TO AN ACCESSIBLE LOCATION ABOVE CEILING, ONE (1) WHITE CAT 6 CABLE FROM THE OUTLET TO THE TELECOM TERMINAL BOARD	©
	DUPLEX DATA FLUSH FLOOR BOX; PROVIDE 1"C TO AN ACCESSIBLE LOCATION ABOVE CEILING, ONE (1) BLUE CAT 6 CABLE FROM THE OUTLET TO THE TELECOM TERMINAL BOARD	© (\$
WAP	WIRELESS ACCESS POINT (BY OWNER): PROVIDE 1"C	SECURIT (EQUIPM)
(VI) U	TO AN ACCESSIBLE LOCATION ABOVE CEILING, ONE (1) BLUE CAT 6 CABLE FROM THE ACCESS POINT LOCATION TO THE TELECOM TERMINAL BOARD	KP
	LEGRAND EVOLUTION 4-GANG OR APPROVED EQUAL TV WALL BOX WITH ONE DUPLEX RECEPTACLE, ONE DUPLEX DATA OUTLET, ONE COAX OUTLET, AND ONE SPARE GANG; PROVIDE 1"C, TWO (2) BLUE CAT 6 CABLES AND 1"C, ONE (1) CATV CABLE FROM THE BOX TO THE TELECOM TERMINAL BOARD: PROVIDE CONDULT AND	DC
50	WIRE FOR POWER PER THE PANEL SCHEDULE.	CR
	COMBO RECESSED FLOOR BOX WITH TWO (2) DUPLEX RECEPTACLES, FOUR (4) DATA OUTLETS (UNDER A SINGLE PLATE), AND SPEAKER CONNECTIONS; PROVIDE 1-1/4"C TO AN ACCESSIBLE LOCATION ABOVE CEILING, FOUR (4) BLUE CAT 6	ES
	CABLES FROM THE BOX TO THE TELECOM TERMINAL BOARD. ROUTE 1"EC WITH PULLSTRING FROM THE BOX TO THE TV WALL BOX IN THE SAME ROOM FOR SPEAKER CABLING. PROVIDE CONDUIT AND WIRE FOR POWER PER THE PANEL SCHEDULE.	۰
LIGHTING (PROVIDE CON	NDUIT AND WIRE PER THE PANEL SCHEDULE FOR POWER	MDK
	MANUFACTURER'S SPECIFICATIONS FOR CONTROLS)	
	Aa TYPE; LOWERCASE LETTER(S) INDICATE FIXTURE CONTROLS ID; SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE DESCRIPTIONS AND MOUNTING TYPES	HK
X	EXIT LIGHT FIXTURE. ARROWS (IF USED) INDICATE DIRECTION. FILLED IN QUADRANT(S) INDICATE NUMBER AND ORIENTATION OF ILLUMINATED FACES. LETTER(S) INDICATE FIXTURE TYPE. SEE LIGHTING FIXTURE SCHEDULE FOR FIXTURE DESCRIPTION.	SOUND
(OS)	CEILING MOUNTED OCCUPANCY SENSOR WITH 360°	(M)
	COVERAGE, LOCATE AND INSTALL PER THE MANUFACTURER'S RECOMMENDATIONS; TEST AND ADJUST SENSITIVITY AFTER INSTALLATION AND SET TIME DELAY AS REQUIRED BY THE OWNER	SP -
VS	CEILING MOUNTED OCCUPANCY SENSOR, AS ABOVE,	(SP)
P	PHOTOELECTRIC CELL, EXTERIOR RATED; AIM AND SHIELD SENSOR FROM INTERIOR AND EXTERIOR	HEALTH (PROVIDE ON THE L
	ARTIFICIAL LIGHT SOURCES	D
S	SWITCH; SUBSCRIPT (WHEN USED):	+⊖
	NONE - SINGLE POLE TOGGLE SWITCH 3 - THREE-WAY SWITCH	+0
	D - LINEAR SLIDE DIMMER SWITCH 3D - THREE-WAY LINEAR SLIDE DIMMER SWITCH O - WALL MOUNTED OCCUPANCY SENSOR	s-⊖ ⊢∕î>

- 30 THREE-WAY SWITCH WITH OCCUPANCY SENSOR
- a,b,c etc. SWITCH ID

FI

:	EXHAUST FAN	FOC	FIBER OPTIC CABLE	MCB	MAIN CIRCUIT BREAKER	NO	NORMALLY OPEN	SF	SUPPLY FAN
ЭС	EQUIPMENT GROUNDING CONDUCTOR	G, GND	GROUND	MCM/KCMIL	1,000 CIRCULAR MILS	NU	WEATHERPROOF IN-USE COVER	S/N	SOLID NEUTRAL
IER.	EMERGENCY	GEC	GROUNDING ELECTRODE CONDUCTOR	MECH.	MECHANICAL	ОН	OVERHEAD	SPD	SURGE PROTECTIVE DEVICE
ΛT	ELECTRICAL METALLIC TUBING	GFCI	GROUND FAULT CIRCUIT INTERRUPTER	MH	MANHOLE	OHE	OVERHEAD ELECTRICAL	STD	STANDARD
Q	EQUAL	GRS	GALVANIZED RIGID STEEL	MLO	MAIN LUGS ONLY	OSP	OUTSIDE PLANT	TEL	TELEPHONE
QUIP.	EQUIPMENT	HH	HANDHOLE	MOCP	MAXIMUM OVERCURRENT PROTECTION	UPP	UTILITY POWER POLE	TELECOM	TELECOMMUNICATIONS
VC	ELECTRIC WATER COOLER	HP	HORSEPOWER	MTD	MOUNTED	PB	PULL BOX	TGB	TELECOMMUNICATIONS GROUND BUS
VH	ELECTRIC WATER HEATER	KAIC	1,000 AMP SYMMETRICAL INTERRUPTING CAPACITY RMS	MTG	MOUNTING	PH	PHASE	TMGB	TELECOMMUNICATIONS MAIN GROUND BUS
(IST.	EXISTING	KWH	1,000 WATT HOURS	NC	NORMALLY CLOSED	PNL	PANEL	TTB	TELECOM TERMINAL BOARD
CP	FIRE ALARM CONTROL PANEL	KVA	1,000 VOLT AMPERES	NEC	NATIONAL ELECTRICAL CODE	PV	PHOTOVOLTAIC	TV	TELEVISION
CPRA	FIRE ALARM CONTROL PANEL REMOTE ANNUNCIATOR	LAN	LOCAL AREA NETWORK	NEU	NEUTRAL	PVC	POLYVINYL CHLORIDE	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
;	FOOTCANDLE	LC	LIGHTING CONTACTOR	NF	NON-FUSED	QTY	QUANTITY	TYP.	TYPICAL
U	FAN COIL UNIT	LTG	LIGHTING	NIC	NOT IN CONTRACT	RCPT	RECEPTACLE	UG	UNDERGROUND
A	FULL LOAD AMPERE(S)	MCA	MINIMUM CIRCUIT AMPACITY	NL	NIGHT LIGHT	REQ'D	REQUIRED	UGP	UNDERGROUND PRIMARY

(REFER TO DRAWINGS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS)

FIRE ALARM (PROVIDE CONDUIT AND WIRE PER THE PANEL SCHEDULE FOR POWER ONDUIT AND CABLING PER THE MANUFACTURER'S SPECIFICATIONS)

- FIRE ALARM CONTROL PANEL
- FIRE ALARM SYSTEM PULL STATION
- FIRE ALARM SYSTEM STROBE
- FIRE ALARM SYSTEM CHIME/STROBE
- FIRE ALARM SYSTEM HORN/STROBE
- FIRE ALARM SYSTEM SPEAKER/STROBE
- FIRE ALARM SYSTEM CEILING MOUNT STROBE
- FIRE ALARM SYSTEM CEILING MOUNT CHIME/STROBE
- FIRE ALARM SYSTEM CEILING MOUNT HORN/STROBE
- FIRE ALARM SYSTEM CEILING MOUNT SPEAKER/STROBE FIRE ALARM SYSTEM CARBON MONOXIDE DETECTOR
- FIRE ALARM SYSTEM THERMAL DETECTOR
- FIRE ALARM SYSTEM DUCT SMOKE DETECTOR
- FIRE ALARM SYSTEM SMOKE DETECTOR

(EQUIPMENT PROVIDED BY OWNER/OTHERS)

- JUNCTION BOX FOR KEYPAD; INSTALL 48" AFF AND PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING
- JUNCTION BOX FOR DOOR CONTACT (MAGNETIC LOCK); PROVIDE 3/4"EC WITH PULL STRING FROM THE DOOR FRAME TO THE JUNCTION BOX AND FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING
- JUNCTION BOX FOR CARD READER; PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING
- JUNCTION BOX FOR ELECTRIC STRIKE LOCK; PROVIDE 3/4"EC WITH PULL STRING FROM THE DOOR FRAME TO THE JUNCTION BOX AND FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING
- JUNCTION BOX FOR DOOR OPERATOR; PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING NEAR THE CONTROLLED DOOR
- JUNCTION BOX FOR MOTION DETECTOR; PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING
- JUNCTION BOX FOR CEILING MOUNTED CAMERA; PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING
- JUNCTION BOX FOR WALL MOUNTED CAMERA; PROVIDE 3/4"EC WITH PULL STRING FROM THE JUNCTION BOX TO AN ACCESSIBLE LOCATION ABOVE CEILING

E 1"EC WITH PULL STRING FROM THE DEVICE LOCATION SHOWN DRAWINGS TO AN ACCESSIBLE LOCATION ABOVE CEILING)

- FLOOR MOUNTED MICROPHONE OUTLET
- CEILING MOUNTED SPEAKER
- WALL MOUNTED SPEAKER

E 1"EC WITH PULL STRING FROM THE DEVICE LOCATION SHOWN DRAWINGS TO AN ACCESSIBLE LOCATION ABOVE CEILING

- DOCTOR'S DICTATION
- NURSE CALL SYSTEM EMERGENCY CALL-IN STATION
- NURSE CALL SYSTEM BEDSIDE PATIENT STATION
- NURSE CALL SYSTEM STAFF STATION
- NURSE CALL SYSTEM CORRIDOR DOME LIGHT
- NURSE CALL SYSTEM CODE BLUE STATION

ELECTRICAL GENERAL NOTES

- ALL ELECTRICAL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL 1. ELECTRICAL CODE AS ADOPTED BY THE AHJ. 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. ROUTE NEW CONDUIT AND WIRING CONCEALED IN WALLS AND CEILING WHERE POSSIBLE. COORDINATE INSTALLATION OF
- EXPOSED CONDUIT AND WIRING WITH THE ARCHITECT. 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. 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, FTC.
- CONTRACTOR IS RESPONSIBLE FOR OVER-CURRENT PROTECTIVE DEVICE SHORT CIRCUIT, COORDINATION, AND ARC-FLASH STUDIES.
- 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.
- 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.
- 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
- 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.
- 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.
- OMISSION FROM THIS SHEET OF ANY ITEM SHOWN ELSEWHERE IN THE PLANS DOES NOT RELIEVE THE CONTRACTOR 12. FROM THE RESPONSIBILITY FOR ANY ASSOCIATED WORK.
- 13. 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.
- COORDINATE ALL ASPECTS OF NEW SERVICE WITH UTILITY COMPANY AND INCLUDE ALL COSTS IN BID. WARNING TAPE SHALL BE INSTALLED 12 TO 18 INCHES BELOW GRADE OVER ALL CONDUITS.
- PROVIDE 1/4" MINIMUM DIAMETER PULL ROPE. PULL ROPE SHALL NOT BE NYLON STRING.
- FOR SERVICE ENTRANCE CONDUITS, UTILIZE LONG RADIUS (36") CONDUIT BENDS.
- ALL CONDUIT RISERS FROM UNDERGROUND SHALL HAVE RIGID METAL ELLS AND RISERS. PRIOR TO CONSTRUCTION, VERIFY THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES. AVOID DISTURBANCE OF 19. EXISTING UTILITIES NOT INCLUDED IN THIS PROJECT.
- SET SCREW CONDUIT FITTINGS SHALL NOT BE PERMITTED. 20.

LIGHTING GENERAL NOTES

- VERIFY THE EXACT LOCATION OF ALL LIGHTING SWITCHES WITH THE ARCHITECT PRIOR TO ROUGH-IN. VERIFY THE EXACT LOCATION OF ALL LIGHTING FIXTURES WITH THE ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ROUGH-IN.
- VERIFY THE EXACT LOCATION OF CEILING MOUNTED OCCUPANCY SENSORS WITH THE MANUFACTURER'S
- SPECIFICATIONS PRIOR TO INSTALLATION FOR MAXIMUM PERFORMANCE
- 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. WALL MOUNT TYPE "Z" FIXTURES ABOVE DOOR AS SHOWN ON DRAWINGS. COORDINATE WITH THE ARCHITECT PRIOR TO
- ROUGH-IN
- MOUNT TYPE "EM" FIXTURES 8'-0" AFF UNLESS OTHERWISE NOTED. 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
- ALL VANITY FIXTURES SHALL BE MOUNTED WITH 0'-3" OF SPACE BETWEEN THE BOTTOM OF THE FIXTURE AND THE TOP OF THE MIRROR UNI ESS OTHERWISE NOTED.
- VERIFY THE EXACT MOUNTING LOCATION FOR ANY PHOTOELECTRIC CELLS WITH THE ARCHITECT PRIOR TO ROUGH-IN. ALL PHOTOELECTRIC CELLS MUST FACE NORTH. CONTRACTOR SHALL CONFIRM COMPATIBILITY OF ALL LIGHTING CONTROL DEVICES/SWITCHES/DIMMERS WITH LIGHTING 10.
- FIXTURES AND BALLASTS/DRIVERS PRIOR TO SUBMITTAL. COORDINATE LOCATION OF LIGHT FIXTURES IN MECHANICAL ROOMS WITH DIVISION 15/23 PLANNED EQUIPMEN LOCATION AND DUCT INSTALLATION. WALL MOUNT LIGHTS OR PROVIDE PENDANT MOUNTING AS REQUIRED TO
- ILLUMINATE THE SPACE. WHERE MULTIPLE OCCUPANCY SENSORS ARE SHOWN IN THE SAME AREA, MOTION DETECTION BY ONE SENSOR SHALL 12. ILLUMINATE ALL LIGHTING IN THE RESPECTIVE AREA.

TELECOMMUNICATIONS GENERAL NOTES

- PROVIDE 1" CONDUIT AND TWO (2) CAT 6 CABLES AT EACH DATA OUTLET SHOWN. ROUTE TO ABOVE CEILING AND ROUTE TO TELEPHONE BACKBOARD IN IT ROOM. TERMINATE AND CONNECT STATION CABLES TO EXISTING PATCH PANEL IN THE EXISTING DATA RACK INDICATED. FOLLOWING THE OWNER'S LABELING CONVENTIONS FOR ALL HORIZONTAL CABLING. OWNER SHALL PROVIDE THE WALL MOUNT DATA RACK, ALL ITEMS INCLUDED IN THE DATA RACK, AND ANY NECESSARY
- TELEPHONE EQUIPMENT. PLYWOOD FOR BACKBOARDS SHALL BE 0'-1" AC INDOOR GRADE, FIRE RETARDANT, AND PAINTED AS SPECIFIED. 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. SUBMIT DIGITAL PHOTOGRAPHS OF ALL TERMINATIONS TO MAIN ELECTRICAL SERVICE GROUNDING MEANS. ALL BACKBOARDS SHALL BE EQUIPPED WITH D-RINGS SPACED AT 1'-0" APART AROUND ALL EDGES OF THE PLYWOOD TO
- SUPPORT CABLE AND WIRE. CAT 6 CABLES FOR DATA OUTLETS SHALL HAVE BLUE JACKETS AND CAT 6 CABLES FOR VOICE OUTLETS SHALL HAVE WHITE JACKETS.

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INDEX - E
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E200
E300

SPECIAL SYSTEMS GENERAL NOTES

VERIFY EXACT LOCATION, VOLTAGE, PHASE, AMPERAGE, ETC. OF ALL MECHANICAL EQUIPMENT WITH MECHANICAL CONTRACTOR PRIOR TO ORDERING ELECTRICAL GEAR.

NTERCONNECT THE HOOD EXHAUST AND SUPPLY FANS WITH HOOD EXTINGUISHING SYSTEM SUCH THAT WHEN HOOD (TINGUISHING SYSTEM IS ACTIVATED, THE EQUIPMENT BELOW THE HOOD AND HOOD SUPPLY FAN ARE DE-ENERGIZED ND THE HOOD EXHAUST FAN WILL START IF NOT RUNNING.

NTERCONNECT THE HOOD EXTINGUISHING SYSTEM WITH THE FIRE ALARM SYSTEM IF APPLICABLE. OR ALL CAMERA LOCATIONS, PROVIDE ONE (1) GREEN JACKETED CAT 6 CABLE IN 3/4" CONDUIT BACK TO ASSOCIATED ATA CLOSET.

FOR ALL WIRELESS ACCESS POINT LOCATIONS, PROVIDE ONE (1) YELLOW JACKETED CAT 6 CABLE IN 3/4" CONDUIT BACK O ASSOCIATED DATA CLOSET. ROVIDE AN ADDITIONAL 10%, OR ONE (1), WHICHEVER IS GREATER, OF THE FOLLOWING DEVICES WHICH ARE INCLUDED

I THE PROJECT, AND INSTALL THEM AT THE DIRECTION OF THE ARCHITECT, ENGINEER, OR AHJ DURING THE COURSE OF HE PROJECT. PROVIDE ALL REQUIRED CONDUIT, INTERCONNECTIONS, CONDUCTORS, PROGRAMMING, ETC. AS EQUIRED AT NO ADDITIONAL COST TO THE OWNER: INITIATING DEVICES (PULL STATIONS, SMOKE DETECTORS, THERMAL ETECTORS, ETC.), NOTIFICATION APPLIANCES (STROBES, HORN STROBES, SPEAKER STROBES, SPEAKERS, DUCT ETECTORS, ETC.), AND MONITORING MODULES.

/ERIFY REQUIRED QUANTITY OF DUCT DETECTORS WITH DUCTWORK CONFIGURATION AS IT IS ACTUALLY INSTALLED. OORDINATE WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN.

DEMOLITION GENERAL NOTES

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. THE CONTRACTOR SHALL REMOVE SUCH EXISTING WORK AS CALLED FOR ON THE DRAWINGS OR AS REQUIRED TO CLEAR THE AREAS OF NEW CONSTRUCTION.

ALL EQUIPMENT REMOVED THAT IS NOT BEING REUSED SHALL REMAIN THE PROPERTY OF THE OWNER OR SHALL BE DISPOSED OF AS REQUIRED.

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.

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.

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. 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. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AND DATA WIRING

NOT REUSED OR NOT NECESSARY FOR THE COMPLETION OF THIS PROJECT. 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. 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. 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. 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."

WHERE NEW LOADS ARE CONNECTED TO EXISTING PANELS, AND WHERE LOADS ARE REARRANGED IN EXISTING PANELS AS PART OF THIS PROJECT, UPDATE THE RESPECTIVE PANEL DIRECTORY SO AS TO PROVIDE A COMPLETE, ACCURATE, AND TYPEWRITTEN PANEL SCHEDULE. THE NEW PANEL SCHEDULE SHALL INCOPORATE ALL EXISTING LOADS, INCLUDING LOADS "EXISTING TO REMAIN". PROVIDE ALL REQUIRED TESTING AND INVESTIGATIONS NECESSARY TO ACCOMPLISH THIS

INDEX - ELECTRICAL SHEETS

E000	ELECTRICAL COVER SHEET
E100	ELECTRICAL PLANS
E200	RISER DIAGRAM
E300	ELECTRICAL DETAILS & SCHEDULES
E400	ELECTRICAL SPECIFICATIONS

Baton Rouge, LA 70820 parisheng.com | #24-007

BID DOCUMENTS

ELECTRICAL COVER SHEET

SOUTHERN UNIVERSITY FINANCIAL UNIT ADDITION

801 Harding Blvd, Baton Rouge, LA 70813 East Baton Rouge Parish PROJECT ID: 20231010

TEL: 337.205.3235 EMAIL: david@dbarchitectureofacadiana.com WEBSITE: www.dbarchitectureofacadiana.com ADDRESS: 233 Doucet Rd, Suite A2, Lafayette, Louisiana, 70503

E000

UNDERGROUND SECONDARY UGS UNIT HEATER UH UNDERWRITER'S LABORATORY, INC. UON UNLESS OTHERWISE NOTED VOLTS VAC VOLTS ALTERNATING CURRENT VDC VOLTS DIRECT CURRENT VFD VARIABLE FREQUENCY DRIVE WATER HEATER WH WP WEATHERPROOF XFMR TRANSFORMER

BY DATE REVISION

NOTES: * FINISH TO	D BE SELECTED BY ARCHITECT											
									BASIS OF DESIGN	ACCEPTABL	E ALTERNATIVE	
MARK	DESCRIPTION	LAMPS	VOLTS	LOAD	TEMP.	LUMENS	MOUNTING	MANUFACTURER	CATALOG NO.	MANUFACTURER	CATALOG NO.	COUNT
					•							
А	2'X4' FULLY SWITCHABLE FLAT PANEL	LED	120	55 VA	4000K	6,000	CEILING	LITHONIA LIGHTING	CPANL-2X4-AL06-SWW7-M2	COLUMBIA LIGHTING	CBT24-LS35	9
A2	2'X4' FULLY SWITCHABLE FLAT PANEL	LED	120	43 VA	4000K	5,000	CEILING	LITHONIA LIGHTING	CPANL-2X4-AL06-SWW7-M2	COLUMBIA LIGHTING	CBT24-LS35	2
EM	EMERGENCY LIGHTING UNIT EQUIPMENT WITH TWO ADJUSTABLE LED HEADS. INTEGRAL BATTERY WITH SELF-DIAGNOSTICS.	LED	120	5 VA	N/A	N/A	WALL	LITHONIA LIGHTING	ELM6L	COLUMBIA LIGHTING	CU2HLB	1
S	LED SIGN LIGHT WITH 27.5" ARM	LED	120	11 VA	4000K	930	WALL	BEGA LIGHTING	B77756-K4-**	HYDREL LIGHTING	PLACER-A-P2-80CRI-40K-120- 55DEG-FLC-CN5-S24-C1-**	1
W	ARHITECTURAL LED WALL PACK	LED	120	36 VA	4000K	5,300	WALL	LITHONIA LIGHTING	TWR1-LED-ALO-SWW2-UVOLT-PE-DDBTXD	EXO OUTDOOR LIGHTING	WGH1-LS-4K-PC	6
Х	EXIT SIGN WITH RED LETTERS. PROVIDE WITH NUMBER OF FACES AND DIRECTIONAL ARROWS AS INDICATED.	LED	120	1 VA	N/A	N/A	WALL/CEILING	LITHONIA LIGHTING	EDG-1-R-RMR-EL	COMPASS LIGHTING	CAR	1
Ζ	WET LOCATION LED EMERGENCY UNIT EQUIPMENT WITH INTEGRAL BATTERY BACKUP	LED	120	3 VA	4000K	635	WALL	LITHONIA LIGHTING	AFF-OEL-**-UVOLT-LTP-SDRT-WT	DUAL-LITE	PG-B	1

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DEMOLITION NOTE:

THE CONTRACTOR SHALL INSTALL THE NEW SERVICE EQUIPMENT AND FEED PRIOR TO THE DEMOLITION OF THE EXISTING SERVICE EQUIPMENT AND FEED SO AS TO MINIMIZE THE LENGTH OF THE OUTAGE.

4-WIRE FEEDER SCHEDULE							
STD. FUSE OR BKR TRIP SIZE	# OF SETS	WIRE QUANTITY AND SIZE	CONDUIT SIZE (MINIMUM)				
Ε	EX.	EXISTING FEEDER TO BE REUSED	EX.				
30	1	4#10 THWN, 1#10 GND	3/4"				
60	1	4#6 THWN, 1#8 GND	1-1/4"				
100	1	4#3 THWN, 1#8 GND	1-1/4"				
125	1	4#1 THWN, 1#6 GND	1-1/2"				
150	1	4#1/0 THWN, 1#6 GND	2"				
200	1	4#3/0 THWN, 1#4 GND	2"				
225T	1	3#4/0 THWN, 1#4 GND	2"				
300	1	4#350 THWN MCM, 1#4 GND	3"				
400	2	4#3/0 THWN, 1#3 GND	2-1/2"				
600	2	4#350 THWN MCM, 1#1 GND	3"				
800	3	4#300 THWN MCM, 1#1/0 GND	3"				
NOTES: 1. ALL FEEDER SIZES LISTED MAY NOT BE SHOWN IN POWER RISER DIAGRAM. 2. ELECTRICAL CONTRACTOR TO VERIFY SIZE REQUIRED IF WIRE TYPES OTHER THAN THOSE LISTED ABOVE ARE USED. 3. REFER TO THE LATEST EDITION OF THE NEC FOR CONDUIT TYPES REQUIRED PER THEIR TABLES. 4. ALL CONDUCTORS TO BE COPPER. 5. "VD" INDICATES WIRE UPSIZED FOR VOLTAGE DROP.							

BID DOCUMENTS

SIZE SH	HOWN IS U	PSIZED FO	R POTENTIAL VOLTAGE DRO	P.					
	(C	Circuit Description	CONDUIT	GND	WIRE	POLES	TRIP	СКТ
			REC-OFFICE 1	3/4"	#12	2#12	1	20 A	2
.2 kVA			REC-HALL	3/4"	#12	2#12	1	20 A	4
	0.7 kVA	0.7 kVA	REC-OFFICE 3	3/4"	#12	2#12	1	20 A	6
			EF-2 (17 W)	3/4"	#12	2#12	1	20 A	8
.6 kVA			INTERIOR LIGHTING	3/4"	#12	2#12	1	20 A	10
	4.2 kVA	1.4 kVA	CI 1 3	3/4"	#10	3#10	2	25 A	12
			00-5	5/4	#10	5#10	2	23 A	14
.5 kVA			EXTERIOR REC	3/4"	#12	2#12	1	20 A	16
	16.6 kVA	5.0 kVA		11	11	11	2	60 4	18
			EXISTING LOAD CENTER	16	16		2	00 A	20
.5 kVA			GENERATOR JKT HTR	3/4"	#12	2#12	1	20 A	22
	0.9 kVA	1.5 kVA	GENERATOR BATT CHGR	3/4"	#12	2#12	1	20 A	24
			SPARE				1	20 A	26
.0 kVA			SPARE				1	20 A	28
	0.0 kVA	0.0 kVA	SPARE				1	20 A	30
			SPARE				1	20 A	32
.0 kVA			SPARE				1	20 A	34
	0.0 kVA	0.0 kVA	SPARE				1	20 A	36
									38
.0 kVA			SPD				3	60 A	40
	0.0 kVA	0.0 kVA							42
Ά	3099	7 VA							
			-						

r	Estimated Demand	Panel	Totals
	0 VA		
	8320 VA	Total Conn. Load:	81795 VA
	1097 VA	Total Est. Demand:	79411 VA
	3780 VA	Total Conn.:	227 A
	63404 VA	Total Est. Demand:	220 A
	1010 VA		
	1800 VA		

ELECTRICAL SPECIFICATIONS

PART 1 0 GENERAL

<u>PART 1.</u> 1.1 A.	<u>Ceneral</u> <u>GENERAL</u> <u>CONDITIONS</u> 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. The word "shall" where used, is to be understood, as mandatory and the word "should" as advisory. "May" is used in the general Conditions.	2.7 A.	VOICE & DATA STATION CABLES Voice and data station wiring shall be Category 6 enhanced (Cat 6e) 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 e transmission characteristics as specified by ANSI/EIA/TIQA-568- D214. Cables shall have a back and exclusion wire shall be constructed of a twisted pair sharing one sheath. Cable shall have Category 6 e transmission characteristics as precified by ANSI/EIA/TIQA-568- D214. Cables shall have a sheath and exclusion of a twisted pair sharing one sheath. Cable shall have Category 6 e transmission characteristics as precified by ANSI/EIA/TIQA-568- D214. Cables shall be and exclusion of a twisted pair sharing one sheath of material as as the sheather of the characteristics as the sheath shall be all weather able able.	2.14 A.
1.2	MINIMUM STANDARDS		be GRAY. Data station cables shall be BLUE.	В.
A. 1.3	Applicable rules of the National Electrical Code apply as a minimum standard for this contract, but do not replace or reduce any specific requirement herein. LAWS, PERMITS AND FEES The entire electrical work hold apply as a minimum standard for this Contract, but do not replace or reduce any specific requirement herein.	2.8 A.	LED LIGHTING Lighting fixtures with LED light sources shall meet the following fixture and light source requirements 1. LED Color Temperature - Cool White (CW), 5800K nom., CRI > 70 2. Line Values - University Values - 100, 277 units	
Α. <u>PART 2.</u> 2.1	Decord and the entire electrical work shall comply with the rules and regulations of the State, including the State Fire Marshal and State Board of Health, whether so shown on plans or not. <u>0 PRODUCTS</u> RACEWAYS AND FITTINGS Raceways permitted on this project shall be not dipped galvanized rigid steel conduit: electrical metallic tubing (EMT): flexible metallic tubing: and liquid-tight flexible metal conduit. All conduits		 Line Voltage - Universal Voltage 120-277 Volts Governmental Standards - LM79 and LM80 Compliant Expected Lamp Life - LED Life Rating (L70 B10) 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 (TS) measurement obtained with the LED chip package operating in given testing and in a given stabilized ambient environment) under LII 1598 environments and directly correlated to LED nackage manufacturers LESNA LM-80-08 data. Predicted 	C.
B.	shall be new and shall be an approved type specially designed and manufactured for their purpose. EMT fittings shall be water tight, compression type. Setscrew connector fittings shall not be		 (L70 B10) Limits (@ 25°C luminaire ambient operating environment): Greater than 60,000 hours @ 350mA Drive Current Driver - Components must be fully encased in potting material for moisture resistance, and must comply with IEC and FCC standards Surge Protection - Surge protection must be provided including separate sure protection built into electronic driver 	
C.	Galvanized conduit furnished in accordance with these specifications shall be of mild steel piping, galvanized inside and outside, and shall conform in all respects to the American Standard Association rigid Steel Conduit Specification C80.1-1959 and Underwriter's Laboratories Specifications.		 Rechanical - Luminaire LED system components to be low copper aluminum, with high performance heat sink(s) designed specifically for LED luminaires. No active cooling reatures (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. Brivers shall be provided with a minimum warranty of 5 years. 	
2.2 A.	OUTLET AND SWITCH BOXES Outlet boxes in concealed conduit systems shall be flush mounted. Boxes shall be galvanized steel of sufficient size to accommodate devices shown and shall have raised covers where required to meet requirements of NEC Article 314. All boxes shall be stamped, one piece, galvanized steel, of proper size and shape for conduits entering them, and shall be UL listed and NEC approved for the intended use.	2.9 A.	OCCUPANCY SENSORS Sensor shall be a self-contained dual voltage ceiling mounted device capable of directly switching loads upon detection of human activity. Sensor must be circular, and mount to either a single gang enclosure, or surface mount to a round pancake box.	D.
В.	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. Outlet boxes for switches in concealed work shall be standard switch boxes of required number of gangs. Outlet boxes for receptacles, telephone, and communication use in concealed work shall be 4 inch square, not less than 1-1/2 inches deep.	В.	Sensor must be rated for 120 through 277 VAC and be capable of switching zero to 1200 watts of electronic ballast loads. Sensors must be capable of parallel wiring for multi-sensor applications.	E.
C.	Boxes are not to be installed back to back in walls. Do not use long, extended boxes that would effectively couple light and sound between adjoining spaces.	2.10 A.	SURGE PROTECTION DEVICES FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS Transient voltage surge suppression (TVSS) shall be in accordance with the following standards: 1 Underwriters Laboratory (UL)	F
2.3 A.	WIRE (600 VOLT AND BELOW) 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. Unless noted otherwise or specified, insulation shall be type MC, 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°C) with 300-volt insulation minimum. Wires shall be		 American National Standards Institute (ANSI) Institute of Electrical and Electronics Engineers (IEEE) National Electrical Manufacturers Association (NEMA) National Fire Protection Association (NFPA) 	G.
D	of the single conductor type. Sizes No. 8 AWG and larger shall be stranded. Sizes No. 12 thru No. 14 shall be single strand solid copper.		 Occupational Safety and Health Act (OSHA) Federal Information Processing Standards, Pub 94 (FIPS) ANSI/FEEE C62.41 Recommended Produce for Surge Veltages 	Ц
В.	length of the wire with surface printing at regular intervals on all conductors and for neutral conductors.		 ANSI/IEEE C62.41, Recommended Practice for Surge Voltages in Low-Voltage C Power Circuits, Category C ANSI/IEEE C62.45, Guide on Surge Testing for Equipment Connected to Low-Voltage AC Power Circuits. 	п. I.
2.4 A.	CIRCUIT BREAKER PANELBOARDS Panelboards shall be sized as shown on the drawings and schedules, and shall be the bolted breaker panelboard type. All panelboard bussing shall be copper. Load centers are not acceptable.		 UL 1449, Current Edition - Transient Voltage Surge Suppressors NEMA LS-1 (1992), Low Voltage Surge Protective Devices 	J.
В.	Panelboard shall be dead front safety type with main breaker or main lugs, as required by Code. Panelboards shall have single, feed through, or double lugs to accommodate feeder conductors. Panelboards with neutrals shall have a neutral buss and a neutral bar insulated from the enclosure for terminating feeder and branch circuit neutral conductors. Each panelboard shall have an equipment grounding bar connected to the cabinet for terminating feeder and branch circuit ground conductors.	P	13. NEC Article 285 Manufacturers meeting these requirements will be accepted. Submittal information must include 1 est Reports from a NRTL (R&B Labs preferred) showing single impulse testing matching label rating, including fuses, UL documents showing SVR ratings and symmetrical fault current withstand ratings, and NRTL report showing the device capable of surviving a minimum of 5,000 impulses using 10x1000s waveform.	<u>PART</u> 3.1
C.	All breakers shall be bolt on type. Panelboards for 120/208 volt service shall be GE type NLAB, Square D type NQOD, Siemens type CDP_7, Eaton POW-R-LINE series, or equal. Panelboards for 277/480 volt service shall be Square D type NEHB. Siemens type Sentron. Faton POW-R-I INF series, or equal.	В.	Electrical Requirements: 1. System voltage shall be as indicated on drawings. 2. The TVSS shall be UL Tested and labeled as a complete assembly to a symmetrical fault current rating greater than or equal to the rating of the connected panel, in accordance with	A.
D.	Replacement breakers to be installed in existing panels shall be fully compatible with the existing panel and shall be sized as shown on the Drawings. Breakers shall be bolt-on breaker type to match existing breakers or plug-on breaker type if plug-on breakers are utilized in panel. If both bolt-on and plug-on breakers exist in the panel, bolt-on breakers shall be installed.		 NEC Article 285, without the requirement of a dedicated breaker feeder to obtain the fault current withstand rating. The Voltage Protection Rating (VPR) shall be tested with the integral disconnect in accordance with UL-1449, Third Edition. The UL VPR values shall not exceed the following (including disconnect). If the device is remote mounted it shall be fed by a circuit breaker and the UL VPR rating shall include the breaker in series with the TVSS. VPR Values Wye Module: 	3.2 A.
2.5 A.	SAFETY SWITCHES Furnish and install safety switches as shown on the Drawings. All switches shall be fused NEMA Heavy Duty Type HD and Underwriter's Laboratories listed. All switches shall have blades that are fully visible in the "OFF" position with the door open. Switches shall be dead-front construction with permanently attached arc suppressers. Lugs shall be UL listed for copper and aluminum conductor and front removable. All current carrying parts shall be plated to resist corrosion. Switches shall be quick-make, quick-break type. During operation of the switch, the movable contacts shall not be able to be restrained by the handle once the closing or the opening action of the contacts has been initiated. Switches shall have cover interlocks to prevent opening of the switch door while the switch is in the "ON" position or closing the switch with the door open. Switch shall have padlocking capabilities in the "OFF" position.		 120/208 volt L-N 700, N-G 700, L-G 700 277/480 volt L-N 1500, N-G 1500, L-G 1500 4. Protection and Filtering Elements The TVSS shall have a maximum surge current rating of: Service Entrance 300kA per mode Distribution Panel 200kA per mode Branch Panel 100kA per mode 	3.3 A.
В.	Safety switches shall be rated 600 volts for 480 volt service and rated 240 volts for 208 volt service. Switches shall be motor rated when used for motor loads. Switches shall be NEMA 1 enclosed for indoor applications and NEMA 3R for outdoor or wet area locations.		 Devices that derive a maximum surge current rating by adding test results of individual components are not acceptable. Systems using selenium, gas tubes or silicon avalanche diodes in surge current path are not acceptable. The Maximum Continuous Operating Voltage (MCOV) for all voltage configurations shall be 115% of nominal or greater. Standard Monitoring features: 	3.4 A.
C.	Safety switches shall be Square D Heavy Duty Class 3110 type, Eaton Heavy Duty type, Siemens Heavy Duty Vacu-Break type, or prior approved equal.		 Operational status indicating lights. Audible alarm and alarm indicating light and test switch. Dry contacts for remote monitoring purposes. 	В.
2.6 A.	WIRING DEVICES Unless otherwise specified, all outlets including voice/data outlets shall be fitted with cover plates. Cover plates shall be standard size, uniform in design and finish for switches, receptacles and other outlets requiring cover plates.		iv. Transient voltage surge counter. 7. Equipment Mounting a. Switchboard & Distribution Panel TVSS The TVSS device shall include an integral disconnect switch which has been tested to the surge current rating of the TVSS and	C.
В.	Wiring devices shall be as listed. The color of device shall match color of outlet cover plate. It shall be the responsibility of the Contractor to provide plugs, receptacles, and fittings required for any equipment furnished or installed or connected under the contract. Color shall be white unless otherwise directed by the Owner.		match or exceed the fault current rating of the board per NEC 285. The Disconnect must switch the phases and neutral. Use of circuit breakers for disconnect mean is not acceptable due to impedance and the requirement for neutral disconnect. The TVSS shall be externally mounted next to the switchboard or distribution panel. The TVSS device shall be externally mounted next to the panel.	D.
	Leviton P&S Hubbell	2 11	b. Branch panel LVSS The LVSS device shall be externally mounted next to the panel.	±. 35
	Single pole 1221-I 20AC1-I 1221-I Three-way 1223-I 20AC3-I 1223-I	A.	The 70 kW/87.5 kVA diesel generator shall be rated: 1. 120/208 Volt, 3-phase, 4-wire, 60 Hertz and shall operate at 1800 rpm. 2. 216 sKVA at 30% voltage dip. Submit alternator motor starting curves for review.	A.
	Duplex Receptacle: 20A, 125V, NEMA 5-20R 5362-I 5363-I	B.	3. Minimum of four (4) cylinders and 293 cu. in. displacement. The generator housing shall be furnished factory-assembled to the generator set base and radiator cowling. The enclosure shall be Sound Attenuated Level 1 (73.4 dBA @ 23') and shall be primed for correction and failsh painted with the manufacturer's standard color using a two stop electro costing paint process or equal.	3.6 A.
	20A, 125V, Feed Through, NEMA 5-20R 6899-1 2091-S GF-5362-1	C.	The generator shall be Cummins #C70N6, MTU #4R0120-DS80, or approved equal.	
C.	Quad receptacles shall be 20 amp, 125 volt rated, NEMA 5-20R, with two (2) duplex receptacles or single four-plex device.	2.12	SUB-BASE DIESEL TANK	3.7 A.
D.	Weatherproof receptacles shall be GFCI duplex receptacles as specified under WIRING DEVICES, mounted in cast iron type FD conduit box and fitted with gasketed metal cover with spring. Weatherproof receptacles shall be flush mounted in exterior walls.	A.	Ine sub-base fuel tank shall be UL 142 listed with decking and handrails and shall have a capacity for continuous operation of the generator at 100% load for 48 hours. The tank shall be UL 142 listed and labeled. The tank shall have the following features: 1. Tank rails and lifting eyes rated for the full dry weight of the tank, generator set, and enclosure. 2. Electrical stub ups. 3. Normal and operation of the generator at 100% load for 48 hours. The tank shall be UL 142	2 0
			 Lockable fuel fill. Mechanical fuel level gauge. High and low level switches to indicate fuel level. Lock datastar switches 	3.0 A.
			 Leak delettor switch. The sub-base tank shall include a welded steel containment basin, sized at a minimum of 110% of the tank capacity to prevent escape of fuel into the environment in the event of a tank rupture. 	3.9 A.
			 Fill port with overfill protection valve. 5 gallon fill/spill dam or bucket. Tank design shall meet the regional requirements for the Project location. 	В.
		2.13 A.	FUEL MAINTENANCE SYSTEM The sub-base tank shall have a fuel maintenance system with a minimum flow rate of 3,600 gallons per day and shall be powered by a 120 Volt, 1-phase electrical conneciton. Fuel maintenance system shall be AXI #STS-6000-SX-F or approved equal.	C.

Taggle Switcher: 20A 120/277V	Leviton	P&S	Hubbell
Single pole Three-way	1221-l 1223-l	20AC1-I 20AC3-I	1221-l 1223-l
Duplex Receptacle: 20A, 125V, NEMA 5-20R	5362-I	5362-I	5363-1
Ground Fault Circuit Interrupter: 20A, 125V, Feed Through, NEMA 5-20R	6899-1	2091-S	GF-5362-I

Voice const resist B2.1. be Gl	e and data station wiring shall be Category 6 enhanced (Cat 6e) communications wire and cable. Station Cable shall be four-pair, unshielded, twisted pair, inside station cable, and shall be tructed 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 tant, polyvinyl chloride. Station wire shall be constructed of 4 twisted pair sharing one sheath. Cable shall have Category 6 e transmission characteristics as specified by ANSI/EIA/TIQA-568-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). Voice cable shall RAY. Data station cables shall be BLUE.
LED Lighti 1. 2. 3. 4.	LIGHTING ing fixtures with LED light sources shall meet the following fixture and light source requirements LED Color Temperature - Cool White (CW), 5800K nom., CRI > 70 Line Voltage - Universal Voltage 120-277 volts Governmental Standards - LM79 and LM80 Compliant Expected Lamp Life - LED Life Rating (L70 B10) to be 60,000 hours to 100,000 hours; Defined as time of operation (in hours) to 30% lumen depreciation (i.e. 70% lumen minimum provide the second
5. 6. 7.	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 (L70 B10) Limits (@ 25°C luminaire ambient operating environment): Greater than 60,000 hours @ 350mA Drive Current Driver - Components must be fully encased in potting material for moisture resistance, and must comply with IEC and FCC standards Surge Protection - Surge protection must be provided including separate sure protection built into electronic driver 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
8.	bars must be all mounted to a twist-lock tool-less assembly for ease of installation and trouble- shooting. Drivers shall be provided with a minimum warranty of 5 years.
OCC Sense gang	UPANCY SENSORS or shall be a self-contained dual voltage ceiling mounted device capable of directly switching loads upon detection of human activity. Sensor must be circular, and mount to either a single enclosure, or surface mount to a round pancake box.
Sens applic	or must be rated for 120 through 277 VAC and be capable of switching zero to 1200 watts of electronic ballast loads. Sensors must be capable of parallel wiring for multi-sensor cations.
SURO Trans 1. 2.	GE PROTECTION DEVICES FOR LOW-VOLTAGE ELECTRICAL POWER CIRCUITS sient voltage surge suppression (TVSS) shall be in accordance with the following standards: Underwriters Laboratory (UL) American National Standards Institute (ANSI)
3. 4. 5.	Institute of Electrical and Electronics Engineers (IEEE) National Electrical Manufacturers Association (NEMA) National Fire Protection Association (NFPA)
6. 7. 8.	Occupational Safety and Health Act (OSHA) Federal Information Processing Standards, Pub 94 (FIPS) ANSI/IEEE C62.41, Recommended Practice for Surge Voltages in Low-Voltage
9. 10. 11. 12.	ANSI/IEEE C62.45, Guide on Surge Testing for Equipment Connected to Low-Voltage AC Power Circuits. UL 1449, Current Edition - Transient Voltage Surge Suppressors NEMA LS-1 (1992), Low Voltage Surge Protective Devices
13.	NEC Article 285 Manufacturers meeting these requirements will be accepted. Submittal information must include Test Reports from a NRTL (R&B Labs preferred) showing single impulse testing matching label rating, including fuses, UL documents showing SVR ratings and symmetrical fault current withstand ratings, and NRTL report showing the device capable of surviving a minimum of 5,000 impulses using 10x1000s waveform.
Electi 1. 2	rical Requirements: System voltage shall be as indicated on drawings. The TVSS shall be UIL Tested and labeled as a complete assembly to a symmetrical fault current rating greater than or equal to the rating of the connected papel, in accordance with
3.	NEC Article 285, without the requirement of a dedicated breaker feeder to obtain the fault current withstand rating. The Voltage Protection Rating (VPR) shall be tested with the integral disconnect in accordance with UL-1449, Third Edition. The UL VPR values shall not exceed the following (including disconnect). If the device is remote mounted it shall be fed by a circuit breaker and the UL VPR rating shall include the breaker in series with the TVSS. VPR Values Wye Module: 120/208 volt L-N 700, N-G 700, L-G 700
4.	27//480 volt L-N 1500, N-G 1500, L-G 1500 Protection and Filtering Elements The TVSS shall have a maximum surge current rating of: Service Entrance 300kA per mode Distribution Panel 200kA per mode Branch Panel 100kA per mode
5. 6.	Devices that derive a maximum surge current rating by adding test results of individual components are not acceptable. Systems using selenium, gas tubes or silicon avalanche diodes in surge current path are not acceptable. The Maximum Continuous Operating Voltage (MCOV) for all voltage configurations shall be 115% of nominal or greater. Standard Monitoring features: i. Operational status indicating lights.
7	 ii. Audible alarm and alarm indicating light and test switch. iii. Dry contacts for remote monitoring purposes. iv. Transient voltage surge counter.
7.	 a. Switchboard & Distribution Panel TVSS The TVSS device shall include an integral disconnect switch which has been tested to the surge current rating of the TVSS and match or exceed the fault current rating of the board per NEC 285. The Disconnect must switch the phases and neutral. Use of circuit breakers for disconnect mean is not acceptable due to impedance and the requirement for neutral disconnect. The TVSS shall be externally mounted next to the switchboard or distribution panel. The TVSS device shall be externally mounted next to the switchboard or distribution panel. The TVSS device shall be externally mounted next to the panel.
DIES	EL GENERATOR
The 7 1. 2. 3.	 V0 kW/87.5 kVA diesel generator shall be rated: 120/208 Volt, 3-phase, 4-wire, 60 Hertz and shall operate at 1800 rpm. 216 sKVA at 30% voltage dip. Submit alternator motor starting curves for review. Minimum of four (4) cylinders and 293 cu. in. displacement.
The g prime	generator housing shall be furnished factory-assembled to the generator set base and radiator cowling. The enclosure shall be Sound Attenuated Level 1 (73.4 dBA @ 23') and shall be ad for corrosion protection and finish painted with the manufacturer's standard color using a two step electro-coating paint process or equal.
The g	generator shall be Cummins #C70N6, MTU #4R0120-DS80, or approved equal.
The s listed 1. 2. 3.	sub-base fuel tank shall be UL 142 listed with decking and handrails and shall have a capacity for continuous operation of the generator at 100% load for 48 hours. The tank shall be UL 142 and labeled. The tank shall have the following features: Tank rails and lifting eyes rated for the full dry weight of the tank, generator set, and enclosure. Electrical stub ups. Normal and emergency vents.
4. 5.	Lockable fuel fill. Mechanical fuel level gauge. High and law lavel switches to indicate fuel level
0. 7. 8.	Leak detector switch. The sub-base tank shall include a welded steel containment basin, sized at a minimum of 110% of the tank capacity to prevent escape of fuel into the environment in the event of a tank rupture.
9. 10. 11.	Fill port with overfill protection valve. 5 gallon fill/spill dam or bucket. Tank design shall meet the regional requirements for the Project location.
FUEL The s syste	- MAINTENANCE SYSTEM sub-base tank shall have a fuel maintenance system with a minimum flow rate of 3,600 gallons per day and shall be powered by a 120 Volt, 1-phase electrical conneciton. Fuel maintenance m shall be AXI #STS-6000-SX-F or approved equal.

2.14 AUTOMATIC TRANSFER SWITCH

- The Electrical Contractor shall furnish and install automatic transfer switches as described herein and on the Drawings. The unit shall work together as a system for detecting normal power failure, starting the stand-by power system, and transferring the loads. The unit shall be UL listed and shall have a 24-hour continuous duty rating. The transfer switch shall include a 2-year, comprehensive warranty.
- Sequence of Operation: When the voltage on any phase of the normal source is reduced to 70% of rated voltage for 3 seconds a pilot contact shall close to initiate starting of the standby plant. When the standby plant is delivering not less than 90% of rated voltage and 95% of rated frequency, the load shall be transferred to the emergency source. When the normal source has been restored to not less than 90% of rated voltage on all phases, the load shall be transferred to the normal source after a time delay of 0 to 30 minutes (adjustable). The standby plant shall run for 10 minutes (adjustable) unloaded and then automatically shut down and be ready to start upon the next failure of the normal source. If the standby plant should fail while carrying the load, retransfer to the normal source shall be made instantaneously upon restoration of the normal source on all phases. Inspection and operational tests shall be conducted in the presence of the Architect, to indicate that the switch satisfies the specifications.

C. The transfer switch shall be furnished with an accessories package containing the following items:

- Auxiliary contacts operate on normal line failure. Auxiliary contact closed on emergency.
- Auxiliary contact closed on normal.
- Pilot light to indicate switch is in emergency position.
- Pilot light to indicate switch is in normal position. Solid state undervoltage sensing - three phase.
- Adjustable time delay on retransfer to normal.
- Adjustable time delay on transfer to emergency. Push-Button retransfer to normal.
- Push-Button transfer to emergency. 10.
- 11. In-phase transfer monitor.
- D. Construction and Performance: The automatic transfer switch shall be a double throw switch operated by a reliable electrical mechanism momentarily energized. There shall be a direct mechanical coupling to facilitate transfer in 3 cycles or less. The normal and emergency contacts shall be mechanically interlocked such that failure of any coil or disarrangement of any part shall not permit a neutral position.
- The ATS shall be a 2-Pole, Solid Neutral transfer switch, with a time delay neutral position or in-phase monitor. The neutral conductor shall not be switched. ATS shall have a delayed neutral position to allow motor voltage transients to decay before transferring two live sources.
- The contact structure shall consist of a main current carrying contact, which is a silver alloy with a minimum of 50% silver content. The main current carrying contacts shall be protected by F. refractory arcing contacts on all sizes. Main and arcing contacts shall be fully visible without major disassembly to facilitate inspection and maintenance. All relays shall be continuous duty industrial type with wiping contacts. All Owner interface contacts shall be rated 10 amperes minimum. All coils, relays, timers and accessories shall be readily front accessible.
- G. A manual handle shall be provided for maintenance purposes. A disconnect switch shall be provided to defeat automatic operation during maintenance, inspection or manual operation. The switch shall be mounted in a NEMA enclosure suitable for the environment in which it is installed.
- Switches composed of molded case breakers, motor starters or other components not specifically designed for automatic transfer switch duty will not be approved. Η.
- I. The transfer switch shall be Asco 300 series, or Onan OTEC series, or approved equal.
- Automatic Transfer Switch Shall be; J.
- 400A OTEC Transfer Switch, 3ph, 3-Pole, 208V, NEMA 3R, Open Transition, 400A Asco 300 Series. or equal. PART 3.0 EXECUTION

WIRING - GENERAL 3.1

A. Unless otherwise specified, all wiring shall be installed in conduit. No wire shall be smaller than No. 12 unless noted otherwise. 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.

3.2 CONDUIT - MATERIALS AND METHODS Conduit shall be installed as per NEC and NEMA regulations and the manufacturer's recommendations. Electrical Metallic Tubing shall be used for feeders, branch circuit and communications A. and control wiring. In places where EMT is permitted, 1/2" through 2" sizes shall be the only sizes permitted. Fittings for EMT shall be the compression ring type fittings. Communications wiring may be installed without conduits above accessible ceilings.

3.3 MOUNTING HEIGHTS Unless otherwise noted on the drawings or required by the Architect, the following mounting heights shall apply: Toggle Switches - 4'-0"; Receptacles - 1'-6"; Communication Outlets - 1'-6" (48" Α. for wall phone); Panelboards - 6'-0" to top; Safety Switches - 5'-0" to top; Motor Control Equipment - 5'-0" to top; Wiring Devices above counters - 0'-6" above counter top; Fire Alarm Manual Stations - 4'-0"; Fire Alarm Annunciation Devices - 80" or 6" below ceiling (whichever is lower)

- 3.4 COMMUNICATIONS WIRING INSTALLATION
- 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. Wiring installation shall be tested after completion of installation. Test results and as-built documents will be provided to architect in both hard copy and electronic copy, furnished on a CD.
- Wiring map/as built documents showing voice and data outlets, device numbers, room locations, and termination locations will be displayed in each wiring closet.
- Wireless drop wiring shall be punched down on a separate punch down block at the end of the data punch down blocks. The wireless punch down block shall be a different color.
- Voice and data wiring routed above accessible ceilings shall be supported on J-hooks, and shall be loose bundled using Velcro wraps. Voice and data wire bundles shall not include power wiring D.
- or wiring for other low voltage systems (fire alarm, intercom, security, CCTV, etc.).
- COMMUNICATIONS SYSTEM CABLES ROUTED EXPOSED ABOVE CEILINGS SHALL BE PLENUM RATED. LIGHTING INSTALLATION 3.5
- Unless otherwise specified, lighting fixtures shall be permanently installed and connected to the wiring system. The Contractor shall support each fixture, independently from the building Α. 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. Flexible conduit used for fixture whips shall be at least twelve (12) inches, but not more than 48 inches long.
- 3.6 OVERCURRENT PROTECTIVE DEVICE SHORT-CIRCUIT STUDY Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Δ Manual calculations are unacceptable. Computer software developers shall comply with IEEE 399 and IEEE 551 and software shall be capable of plotting and diagramming time-current-
- characteristic curves as part of its output.
- OVERCURRENT PROTECTIVE DEVICE COORDINATION STUDY 3.7 Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable. Computer software developers shall comply with IEEE 242 and IEEE 399 and software shall be capable of plotting and diagramming time-currentcharacteristic curves as part of its output. Computer software shall report device settings and raitings of all overcurrent protective devices and shall demonstrate selective coordination by computer-generated, time-current coordination plots.
- OVERCURRENT PROTECTIVE DEVICE ARC-FLASH STUDY 3.8 Studies shall use computer programs that are distributed nationally and are in wide use. Software algorithms shall comply with requirements of standards and guides specified in this Section. Manual calculations are unacceptable. Computer software developers shall comply with IEEE 1584 and NFPA 70E.

3.9 FACTORY TESTS

- Generator and Automatic Transfer Switch, along with associated equipment, shall be fully tested at the factory for function and performance. Α. Generator set factory tests on the equipment shall be performed at rated load and rated PF. Generator sets that have not been factory tested at rated PF will not be acceptable. Tests shall
- include: run at full load, maximum power, voltage regulation, transient and steady-state governing, single step load pickup, and function of safety shutdowns. Provide a certified factory test report to engineer.
- C. Transfer equipment factory tests: Each transfer switch supplied shall be factory tested before shipment. Factory tests shall include a complete functional test of the transfer switch controls, including calibration of the voltage sensors.

3.10 FUEL

A. The diesel fuel tank shall be supplied with one complete fuel filling. At the completion of all start-up testing and training, the Contractor shall re-fill diesel fuel tank. The expense of initial full fuel tank and fuel for testing and start-up shall be included in project price.

3.11 TRAINING

The equipment supplier shall provide training for the facility operating personnel covering operation and maintenance of the equipment provided. The training program shall be not less than 4 Α. hours in duration and the class size shall be limited to 5 persons. Training date shall be coordinated with the facility owner.

BID DOCUMENTS

ELECTRICAL SPECIFICATIONS

SOUTHERN UNIVERSITY FINANCIAL UNIT ADDITION

801 Harding Blvd, Baton Rouge, LA 70813 East Baton Rouge Parish PROJECT ID: 20231010

TEL: 337.205.3235 EMAIL: david@dbarchitectureofacadiana.com WEBSITE: www.dbarchitectureofacadiana.com ADDRESS: 233 Doucet Rd, Suite A2, Lafayette, Louisiana, 70503

BY DATE

03/25/2024

MECHANICAL GENERAL NOTES

1.	ALL WORK BY CONTRACTORS SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES, INCLUDING THE CURRENT INTERNATIONAL ENERGY CONSERVATION CODE.
2.	MATERIALS FURNISHED UNDER THE CONTRACT SHALL BE NEW & SHALL BEAR THE UL LABEL WHERE APPLICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEFECTIVE MATERIALS & WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE YEAR AFTER
	COMPLETION & ACCEPTANCE BY THE OWNER, LONGER IF STATED OTHERWISE ELSEWHERE IN THE SPECIFICATION.
3.	CONTRACTOR SHALL INSTALL SYSTEMS WITHOUT INTERFERENCE & PROVIDE MANUFACTURER'S RECOMMENDED AIR & SERVICE CLEARANCES. CONTRACTOR SHALL COORDINATE WITH ALL TRADES & DISCIPLINES.
4.	MECHANICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR ON LOCATION OF ALL FIRE & SMOKE WALL PENETRATIONS. GENERAL CONTRACTOR SHALL FRAME OUT OPENING AS REQUIRED FOR LIFE SAFETY DAMPERS. PROVIDE LIFE SAFETY DAMPERS WHERE SHOWN ON
	DRAWINGS AND WHERE REQUIRED BY NFPA AND LOCAL BUILDING CODES.
5.	ALL FIRE DAMPERS SHALL BE 2-HOUR RATED UNLESS SPECIFIED OR NOTED OTHERWISE ON DRAWINGS AND/OR SPECIFICATIONS.
6.	SEAL ALL FIRE WALL PENETRATIONS (DUCT, PIPE, ETC.) WITH UL-LISTED FIRE CAULK IN ACCORDANCE WITH NFPA 101.
7.	MECHANICAL CONTRACTOR SHALL COORDINATE BETWEEN ELECTRICAL AND OTHER TRADES FOR PENETRATIONS AT WALLS, FLOORS AND ROOFS, EXACT EQUIPMENT LOCATIONS, AND REQUIRED EQUIPMENT SERVICE AND AIR FLOW CLEARANCE.
8.	INSTALLATION OF DUCTWORK SHALL TAKE PRECEDENCE OVER INSTALLATION OF PLUMBING PIPING THAT IS NOT GRADE SENSITIVE (SEWER, STORM DRAINAGE, GREASE WASTE, ETC.) AND ELECTRICAL CONDUIT. CONTRACTOR TO COORDINATE CEILING SPACE AVAILABLE, EXACT
	MECHANICAL ROOM LAYOUT, DUCT AND PIPE ROUTING AND EXACT EQUIPMENT LOCATIONS WITH GENERAL, ELECTRICAL, STRUCTURAL AND PLUMBING CONTRACTORS. PROVIDE OFFSETS AND TRANSITIONS AT OBSTRUCTIONS WHERE REQUIRED AT NO ADDITIONAL COST TO THE OWNER.
9.	MECHANICAL CONTRACTOR SHALL COORDINATE WITH GENERAL CONTRACTOR AND ARCHITECT PRIOR TO INSTALLATION OF THERMOSTATS/TEMPERATURE SENSORS ON WALL. COORDINATE THERMOSTATS/TEMPERATURE SENSORS WITH ALL WALL MOUNTED FURNISHINGS (ART, SCREENS,
	FURNITURE, ETC.). LOCATE THERMOSTATS AND HUMIDISTATS 4' ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED.
10.	CONTRACTOR SHALL VISIT THE SITE FOR INSPECTION REGARDING ANY WORK REQUIRED TO COMPLETE THE SCOPE OF WORK FOR THE PROJECT PRIOR TO BID. THERE SHALL BE NO ADDITIONAL COST TO THE OWNER FOR BIDDERS AWARDED THE WORK FOR FAILURE TO EXAMINE SITE
	PRIOR TO BID.
11.	CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS AND VISIT THE SITE AND COORDINATE DUCT, PIPE AND EQUIPMENT SIZES AND ROUTING. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINEER WHERE DISCREPANCIES OCCUR BETWEEN CONTRACT DOCUMENTS AND
	EXISTING CONDITIONS.
12.	CONTRACTOR SHALL REVIEW CEILING SPACE AND MECHANICAL ROOM SPACE AVAILABLE FOR DUCT, PIPING AND EQUIPMENT AND MAKE REQUIRED ALLOWANCES FOR THE SIZE AND ROUTING OF DUCT, PIPING AND EQUIPMENT.
13.	MECHANICAL CONTRACTOR TO REVIEW CEILING SPACE AVAILABLE AND VERIFY FIELD MEASUREMENTS AND COORDINATION DRAWINGS PRIOR TO FABRICATING DUCT. BRANCH DUCT RUNS SHOWN DIAGRAMMATICALLY; CONTRACTOR SHALL ROUTE BRANCH DUCT RUNS IN MOST DIRECT
	MANNER.
14.	COORDINATE EXACT LOCATION OF ALL SLAB, FLOOR, WALL AND ROOF PENETRATIONS WITH EXISTING STRUCTURAL BEAMS, JOIST AND COMPONENTS. DO NOT CUT OR MODIFY EXISTING STRUCTURAL COMPONENTS WITHOUT APPROVAL FROM STRUCTURAL ENGINEER.
15.	CONTRACTOR SHALL VERIFY EQUIPMENT TO BE SUPPLIED TO PROJECT CAN BE INSTALLED IN SPACE PROVIDED AND ALL SERVICE AND AIRFLOW CLEARANCES MAINTAINED PRIOR TO ORDERING EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS REQUIRED FOR
	EQUIPMENT THAT IS SUPPLIED THAT IS DIFFERENT THAN EQUIPMENT THAT IS BASIS OF DESIGN.
16.	UNDER NO CIRCUMSTANCES SHALL EQUIPMENT AND RELATED SYSTEM COMPONENTS FOUND POSITIVE FOR MOLD, MILDEW, ASBESTOS, HARMFUL BACTERIA OR ANY OTHER CONTAMINATION BE PLACED INTO SERVICE.
17.	INSTALL DUCT SLEEVES IN WALLS AS HIGH AS POSSIBLE, DUCT SLEEVE SHALL EXTEND PAST WALL PENETRATION ON BOTH SIDES MINIMUM 24". RETURN AIR TRANSFER SLEEVES SHALL BE PROVIDED WITH TWO (2) DUCT ELBOWS.
18.	COORDINATE ALL UNDERGROUND PIPING & WORK WITH EXISTING SYSTEMS, INCLUDING EXISTING SYSTEMS PRIOR
	TO BEGINNING WORK. MARKED UTILITIES AND EXISTING SYSTEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AND REPAIRED BACK TO ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CONSTRUCTION CONTRACT.
19.	MODEL NUMBERS SCHEDULED/SPECIFIED REPRESENT THE TYPE AND QUALITY OF EQUIPMENT REQUIREMENTS. CONTRACTOR SHALL REVIEW SUBMITTALS AND VERIFY EQUIPMENT SIZES, QUALITY AND PERFORMANCE REQUIREMENTS MEET SPECIFICATIONS
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ZU.	ALL CONDENSATE LINES SHALL BE RIGID COPPER, INSULATED WITH CELLULAR FORM UNLESS NOTED OTHERWISE OR SUBMITTED AND APPROVED BY MECHANICAL ENGINEER. SUPPORT WITH UNISTRUT PIPE EVERY 4" AND AT TURNS. PROVIDE NEOPRENE SLEEVES BETWEEN UNISTRUT AND CODDED CONDENSATE LINE
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23.	EXPOSED DUCT WORK SHALL BE PAINT GRIPPED SHEET METAL UNLESS INDICATED OTHERWISE. ALL EXPOSED DUCT TO BE PAINTED IN FIELD BY PAINTING CONTRACTOR DURING CONSTRUCTION. COORDINATE WITH ARCHITECT & MECHANICAL ENGINEER PRIOR TO INSTALLATION OF
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	NORMAL VIEW OF THE DUCT AND SPIRALS SHALL BE CONTINUOUS. THREADED RODS FROM HANGER STRAPS SHALL BE NEATLY CLIPPED AND SECURED WITHOUT EACESS. GREATER ATTENTION TO APPEARANCE FOR EAPOSED DUCT IS EAPECTED AND DENTED/SCARRED DUCTS SHALL NOT
24	
24. 25	PROVIDE ELECTRICAL DISCONNECTS FOR MECHANICAL EQUIPMENT (VAV DOZES, FANS, VFDS, ETC.) FACTORT INSTALLED DT EQUIPMENT MANUFACTORER UNLESS NOTED OTHERWISE. COORDINATE WITH ELECTRICAL CONTRACTOR.
20.	
20.	STEEL OD NONCODDODING HADDING DE STICK ON LADELS STALL DE MINIMUM 3/0 ENGRAVED DEACH LETTERS ON WHITE DACKGROUND, CONSTRUCTED OF MINIMUM T WIDE, LENGTH AS REQUIRED LAMINATED PEASITC. SECORELT PASTEMENT WITH STAINLESS
27	EXHAUST OUTLETS SHALL BE LOCATED MINIMUM 10' EDOM ANY AID INTAKE OR ODERARI E RUU DING ODENING
28	INDOOR MINISPLITS, FAN COIL UNITS AND CEILING CASSETTES SHALL HAVE GRAVITY DRAINAGE WHERE POSSIBLE, PROVIDE WITH INTEGRAL CONDENSATE PUMPS WHERE NOT POSSIBLE
29.	PROVIDE RETURN AIR GRILLES OPEN TO RETURN AIR PLENUM WITH SOUND ATTENUATING BOOT ON REAR OF GRILLE (RIGID DUCT WITH INSULATED LINER & TWO ELBOWS, END OPEN TO RETURN AIR PLENUM). CONTRACTOR HAS OPTION TO PROVIDE PRICE MODEL #RAC RETURN AIR CANOPY
	ON REAR OF RETURN AIR GRILLES OPEN TO RA PLENUM IN LIEU OF SOUND ATTENUATING BOOT.
30.	ELECTRONIC BALANCING DAMPERS : MANUAL DAMPER AT INACCESSIBLE LOCATIONS:
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31.	 90.1. PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 30.2. INACESSIBLE LOCATIONS: 30.2.1. ABOVE GYPSUM BOARD/HARD CEILING 30.2.2. WHERE LOCATED HIGHER THAN 4-0" ABOVE ACCESSIBLE CEILING TILE 30.2.3. WHERE LOCATED HIGHER THAN 4-0" FROM FINISHED FLOOR 30.2.4. REFER TO ARCHITECTURAL REFLECTED CEILING DRAWINGS FOR REFLECTED CEILING PLAN 30.3. ELECTRONIC BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REMOTE BALANCING DAMPER SHALL BE 12 VOLT DC POWER BALANCE SYSTEM (DAMPER, PULSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HAND HELD POWER PACK). PROVIDE WALL/CEILING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILING MOUNTED ON WALL. ALL ACCESS PORTS TO BE PROPERLY LABELED NUMERICALLY BY RESPECTIVE AR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER & ARCHITECT PRIOR TO INSTALLING ANY ACCESS PORT ABOVE ACCESSIBLE CEILINGS. PROVIDE TILE IDENTIFICATION WHER LOCATED ABOVE CEILING, PROVIDE DRAWING IDENTIFYING PORT LOCATION & PORT SCHEDULE AS PART OF CLOSE OUT DOCUMENTS. PROVIDE U.L. LISTED SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN ON THE DOWNSTREAM SIDE OF THE FILTERS IN ALL RECIRCULATING AR SYSTEMS HANDLING OVER 2000 C.F.M. NOTE: SMOKE DETECTORS TO BE WIRED TO BUILDING FIRE ALARM SYSTEM BY FIRE ALARM CONTRACTOR, IS TO PROVIDE AND INSTALL ALL WIRING, TERMINATIONS, ETC. TO PROVIDE A COMPLETE, PROPERLY FUNCTIONING AND OPERATING SYSTEM. PROVIDE U.L. LISTED SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN ON THE DOWNSTREAM SIDE OF THE FILTERS IN ALL RECIRCULATING AR SYSTEMS HANDLING OVER 2000 C.F.M. NOTE: SMOKE DETECTORS TO BE WIRED TO BUILDING FIRE ALARM SYSTEM BY FIRE ALARM CONTRACTOR, IS TO PROVIDE AND INSTALL ALL WIRING, TERMINATIONS,
31. 32.	 90.1. PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 30.2. INACESSIBLE LOCATIONS: 30.2.1. ABOVE GYPSUM BOARD/HARD CEILING 30.2.2. WHERE LOCATED HIGHER THAN 4'-0' ABOVE ACCESSIBLE CEILING TILE 30.2.3. WHERE LOCATED DAVIE (4'-0' FROM FINISHED FLOOR 30.2.4. REFER TO ARCHITECTURAL REFLECTED CEILING DRAWINGS FOR REFLECTED CEILING PLAN 30.2.6. REFER TO ARCHITECTURAL REFLECTED CULING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REFORTE BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REMOTE BALANCING DAMPER SHALL BE 12 VOLT DC POWER BALANCE SYSTEM (DAMPER, PULSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HAND HELD POWER PACK). PROVIDE WALL/CEILING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILING MOUNTED ON WALL. ALL ACCESS PORTS TO BE PROPORENLY LABELED NUMERICALLY BY RESPECTIVE AIR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH ECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LICACION WITH MECHANICAL ENGINEER ARCHITECT PRIOR TO INSTALLING ANY ACCESS PORT ABOVE ACCESSIBLE CEILINGS. PROVIDE THE IDENTIFICATION WHERE LOCATED ABOVE CEILING, PROVIDE DRAWING IDENTIFYING PORT LOCATION & PORT SCHEDULE AS PART OF CLOSES OUT DOWNSTREAM SIDE OF THE FILTERS IN ALL RECIRCULATING AIR SYSTEMS HANDLING OVER 2000 C.F.M. NOTE: SMOKE DETECTORS TO BE WIRED TO BUILDING FIRE ALARM SYSTEM BY FIRE ALARM CONTRACTOR IS TO PROVIDE AND INSTALL ALL WIRING, TERMINATIONS, ETC. TO PROVIDE A COMPLETE, PROPERLY FUNCTIONING AND OPERATING SYSTEM. PROVIDE UL LISTED SMOKE DAMPER IN THE MAIN SUPPLY WICT IND RETURN ON THE DOWNSTREAM SIDE OF THE FILTERS IN ALL RECIRCULATING AND OPERATING SYSTEM. PROVIDE SMOKE DAMPER IN THE MAIN S
31. 32. 33.	 90.1. PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 10.2. INACESSIBLE LOCATIONS: 10.2.1. ABOVE GYPSUM BOARDI/HARD CEILING 30.2.2. WHERE LOCATED HIGHER THAN 4-0" ABOVE ACCESSIBLE CEILING TILE 30.2.3. WHERE LOCATED ABOVE 14-0" FROM FINISHED FLOOR 30.2.4. REFER TO ARCHITECTURAL REFLECTED CEILING DRAWINGS FOR REFLECTED CEILING PLAN 31.5.1. BENOTION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 31.6. REMOTE BALANCING DAMPER SHALL BE 12 VOLT DC POWER BALANCE SYSTEM (DAMPER, PULSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HAND HELD POWER PACK). PROVIDE WALL/CEILING ACCESS PORT ON WALL. ALL ACCESS PORTS TO BE PROPERLY LABELED NUMERICALLY BY RESPECTIVE AIR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER RACHITECT PRIOR TO INSTALLING ANY ACCESS PORT ABOVE ACCESSIBLE CEILINGS. PROVIDE TILE IDENTIFICATION WHERE LOCATED ABOVE CELING, PROVIDE VALL/CEILING ACCESS PORT STO BE PROPERLY LABELED NUMERICALLY BY RESPECTIVE AIR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER RACHITECT PRIOR TO INSTALLING ANY ACCESS PORT ABOVE ACCESSIBLE CEILINGS. PROVIDE THE FILTERS IN ALL RECIRCULATING AIR SYSTEM & ROOM DAMPER SERVES. COORDINATE BUTHY ING PORT LOCATION & PORT SCHEDULE AS PART OF CLOSE OUT DOCUMENTS. PROVIDE ULL LISTED SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN ON THE DOWNSTREAM SIDE OF THE FILTERS IN ALL RECIRCULATING AIR SYSTEMS HANDLING OVER 2000 C.F.M. NOTE: SMOKE DETECTORS TO BE WIRED TO BUILDING FIRE ALARM SYSTEM BY FIRE ALARM PROVIDE SMOKE DAMPER IN THE MAIN SUPPLY & RETURN DUCT IN ALL ARE MANDLING OVER 15,000
31. 32. 33.	 90.1. PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 30.2. INACESSIBLE LOCATIONS: 30.2.1. ABOVE GYPSUM BOARD/HARD CEILING 30.2.2. WHERE LOCATED HIGHER THAN 4-0° ABOVE ACCESSIBLE CEILING TILE 30.2.3. WHERE LOCATED ABOVE 14-0° FROM FINISHED FLOOR 30.2.4. REFET TO ARCHITECTURAL REFLECTED CEILING DRAWINGS FOR REFLECTED CEILING PLAN 30.3. ELECTRONIC BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REMOTE BALANCING DAMPER SHALL BE 12 VOLT DC POWER BALANCE SYSTEM (DAMPER, PLUSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HALD POWER PACK). PROVIDE WALL/CEILING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILING MOUNTED ON WALL. ALL ACCESS PORT STO BE PROPERLY LABELED NUMERICALLY BY RESPECTIVE AIR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PRIOR TO LOSTIN ON UNTH MECHANICAL ROEL CEILINGS. PROVIDE TILL IDENTIFICATION WHERE LOCATED ABOVE CLUING, PLOYED EWALLON TO LOCATION & PORT SCHEDULE AS PART OF CLOSE SUBLE CEILING BALANCE SYSTEM (DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER & ARCHITECT PRIOR TO INSTALLING ANY ACCESS PORT ABOVE ACCESSIBLE CEILINGS. PROVIDE TILE IDENTIFICATION WHERE LOCATED ABOVE CLUING, PROVIDE BALANCING DENTIFYING PORT DLOCATION & PORT SCHEDULE AS PART OF CLOSE SUBLE CEILINGS. PROVIDE TILE IDENTIFICATION WHERE LOCATED ABOVE CEILING, ROVIDE DRAWING IDENTIFYING PORT DLOCATION & PORT SCHEME & COORDINATE EVERT. PROVIDE ULL LISTED SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN ON THE DOWNSTREAM SIDE OF THE FILTERS IN ALL RECIRCULATING AIR SYSTEMS HANDLING OVER 2000 C.F.M. NOTE: SMOKE DETECTORS TO BE WIRED TO BUILDING FIRE ALARM SYSTEM BY FIRE ALARM CONTRACTOR IS TO PROVIDE AND RETURN ON THE DOWNSTREAM SIDE OF THE FILTERS IN ALL RECIRCULATING AIR SYSTEMS HANDLING OVER 2000 C.F.M. NOTE: SMOK
31. 32. 33.	 a) 1. PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS a) 20. INACESSIBLE COCATED MEDARD/HARD CEILING a) 2.1. ABOVE GYPSUM BOARD/HARD CEILING a) 2.2. WHERE LOCATED HIGHER THAN 4'-0' ABOVE ACCESSIBLE CEILING TILE a) 2.3. WHERE LOCATED ABOVE 14'-0' FROM FINISHED FLOOR a) 2.4. REFER TO ARCHITECTURAL REFLECTED CEILING BOAWINGS FOR REFLECTED CEILING PLAN a) 2.4. REFER TO ARCHITECTURAL REFLECTED CEILING BAUWINGS FOR REFLECTED CEILING PLAN a) 2.4. REFER TO ARCHITECTURAL REFLECTED CEILING BAUWINGS FOR REFLECTED CEILING PLAN a) 2.4. REFER TO ARCHITECTURAL REFLECTED CEILING BAUMONGS FOR REFLECTED CEILING PLAN a) 2.4. REFER TO ARCHITECT PROVIDE WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. a) 4. REMOTE BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. a) 4. REMOTE BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. a) 4. REMOTE BALANCING DAMPER SHALL BE PROVERLY LABELED NUMERICALLY BY RESPECTIVE AIR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER PRIOR TO INSTALLING ANY ACCESS PORT SON DE THE BILTISTICATION WHERE LOCATED ABOVE CEILING, ROVIDE DRAWING IDENTIFYING PORT LOCATION & PORT SCHEDULE AS PART OF CLOSE OUT DOCUMENTS. POOVIDE U, LISTED SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN ON THE FUNCTIONS. PROVIDE THE LIDENTIFICATION WHERE LOCATED ABOVE CEILING, ROVIDE CRAWING IDENTIFYING PORT LOCATION & PORT SCHEDULE AS PART OF CLOSE OUT DOCUMENTS. POOVIDE CONTRACTOR IS TO PROVIDE AND INSTALL ALL WIRING, TERMINATIONS, ETC. TO PRO
31. 32. 33. 34.	 90.1 PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 90.2 INACESSIBLE LOCATIONS: 90.2.1 ABOVE GYPSUM BOARDHARD CELLING 90.2.2 WHERE LOCATED HIGHER THAN 4-0" ABOVE ACCESSIBLE CELLING TILE 90.2.3 WHERE LOCATED ABOVE 14:0" FROM FINISHED FLOOR 90.2.4 REFER TO ARCHITECTURAL REFLECTED CELLING DRAWINGS FOR REFLECTED CELLING PLAN 91.4 REFER TO ARCHITECTURAL REFLECTED OTHERWISE. 92.4 REFER TO ARCHITECTURAL REFLECTED OT POWER BALANCE SYSTEM (DAMPER, PULSE ACTUATOR, CAT 5 CABLE, WALL OR CELLING PLATE AND HAND HELD POWER PACK). PROVIDE WALL/CELLING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CELLING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 90.4 REMOTE BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 91.4 REMOTE BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 92.4 REFER TO ARCHITECT PROVIDE ON WALL. ALL ACCESS PORT TO DE PROPERLY LABELED NUMERICALLY BRESPECTIVE AR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PRIOR TO LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER PRIOR TO INSTALLING ANY ACCESS PORT BADIVE ACCESSIBLE CELLINGS. PROVIDE THE ENDERTIFICATION WHERE LOCATED ABOVE CELLING, PROVIDE DAWING IDENTIFYING PORT LOCATION & PORT SCHEDULE AS PART OF CLOSE OUT DOCUMENTS. 92.0 VIDE DOCUMENTS TO DE VIDE COLOSS PORT ADIVE ACCESSIBLE CELINGS. PROVIDE THE FILTERS IN ALL RECLICULATING AIR SYSTEMS HANDLING OVER THE ALARM SYSTEM BY FIRE ALARM SYSTEM STAME DIDE CONFERCTIVE AND AND INSTALL ALL WIRING, FERTIMATIONS, ETC. TO PROVIDE A COMPLETE, PROPERLY FUNCTIONING
31. 32. 33. 34. 35. 36.	 31.1. PROVIDE RENOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE CALLING THAN 4-0' ABOVE ACCESSIBLE COLTIONS 32.2. INACESSIBLE LOCATED ADDOVE 14-0' FROM FINISHED FLOOR 32.3. WHERE LOCATED DADOVE 14-0' FROM FINISHED FLOOR 32.4. REFER TO ARCHITECTURAL REFLECTED CEILING BRAWINGS FOR REFLECTED CEILING PLAN 33.5. ELECTRONIC BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REFER TO ARCHITECTURAL REFLECTED CEILING BRAINNES FOR REFLECTED CEILING PLAN 30.3. ELECTRONIC BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REFER TO ARCHITECT PRIOR TO INSTALL BE 12 VOLT D COPWER BALANCE SYSTEM (DAMPER, PLUSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HAND HELD POWER PACK). PROVIDE WALL/CEILING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILING MOUNTED ON WALL. ALL ACCESS SPORTS TO BE PROPERY LABELED MUMERICALLY BY RESPECTIVE AIR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PROR TO LOBELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER & ARCHITECT PRIOR TO INSTALLING ANY ACCESS PORT ADOVE ACCESSIBLE CEILINGS. PROVIDE TILE IDENTIFICATION WHERE LOCATION BADVE CATED ABOVE CEILING, PROVIDE DRAWING IDENTIFYING PORT LOCATION & A PORT SCHEDULE AS PART OF CLOSE OUT DOCUMENTS. PROVIDE LU. LISTED SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN ON THE DOWNSTREAM BIDE OF THE FLITERS IN ALL RECIRCULATING ARX SYSTEM & HANDLING OVER 2000 CF.M. NOTE: SOKKE DETECTORS IN THE MAIN SYSTEM STEM. FROME DAMPER'S TO BE INTERCONNECTED TO SMOKE DETECTORS. PROVIDE SMOKE DAMPER IN THE MAIN SUPPLY & RETURN DUCT IN ALL ARL WRING, STET. TO PROVIDE A COMPLETE, PROPERLY FLUCTIONING AND OPERATING SYSTEM. PROVIDE SMOKE DAMPER IN THRE MAIN
31. 32. 33. 34. 35. 36.	 30.1. PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 30.2. INACSSIBLE LOCATED ADDVE 14-0° FROM FINISHED FLORG 30.2.1. ABOVE GYPSUM BOARDIHARD CEILING 30.2.2. WHERE LOCATED ADDVE 14-0° FROM FINISHED FLORG 30.2.3. WHERE LOCATED ADDVE 14-0° FROM FINISHED FLORG 30.2.4. REFER TO ARCHITECTURAL REFLECTED CEILING DRAWINGS FOR REFLECTED CEILING PLAN 30.3. ELECTRONIC BALANCING DAMPER SHALL BE FOUDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REFEO TONIC BALANCING DAMPER SHALL BE TOUDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. 30.4. REMOTE BALANCING DAMPER SHALL BE 12 VOLT DC POWER BALANCE SYSTEM (DAMPER, PULSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HAND HELD POWER PACK). PROVIDE WALL/CEILING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILING MOUNTED ON WALL. ALL ACCESS PORTS TO BE PROPERLY LABELED DAVIDE TILE IDENTIFICATION WHERE LOCATED BADVE CEILING. PROVIDE WALL/CEINING DAVITYPINT MECHANICAL ENGINEER A RAVITED TROT ROTALING ANY ACCESS PORT ON WALL. ALL ACCESS PORTS TO BE PROPERLY LABELED DAVIDE TILE IDENTIFICATION WHERE LOCATED BADVE CEILING. PROVIDE BALANCING IDENTIFIVING PORT LOCATION & PORT SCHEDULGA EO ADDITEL LOCATION WITH MECHANICAL ENGINEER A RAVITED FORT DUCATION & PORT SCHEDULG ADDITE LOCATION & PORT SCHEDULG ADDITE LOCATION & PORT SCHEDULG ADDITE LOCATION WITH MECHANG AND SYSTEMS HANDLING OVER 1500 C.F.M. NOTE: SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN TO RUBE TE FORDER TO BUILDING FIRE ALARM CONTRACTOR IS TO PROVIDE BADVE ATO BUINTRALING AND SYSTEMS HANDLING OVER 15000 C.F.M. NOTE: SMOKE DETECTORS IN THE MAIN SUPPLY BURCTONING DETECTORS IN DEL RECORTER DAD DOR SALL BE ALARM SYSTEM BY FIRE ALARM SYSTEM BY FIRE ALARM SUSTEM BY FIRE ALARM SUP
31. 32. 33. 34. 35. 36. 37.	 a) PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS a) INACCESSIBLE LOCATIONS: a) MERE LOCATE DADOX 14:0° FROM INSHED FLOOR a) INACCESSIBLE COLITIONS: a) WHER LOCATED ADOX 14:0° FROM INSHED FLOOR a) INACCESSIBLE COLITIONS FOR REFLECTED CEILING DRAWINGS FOR REFLECTED CEILING PLAN a) INACCESSIBLE COLITIONS: a) INACCESSIBLE COLITIONS: a) INACCESSIBLE COLITIONS DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR:50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. a) IELECTRONIC BALANCING DAMPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR:50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. a) IELECTRONIC BALANCING DAMPER SHALL BE 12 VOLT DO POWER BALANCE SYSTEM (DAMPER, PLUSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HAND HELD POWER PACK), PROVIDE WALL/CEILING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILINGS. PROVIDE THE IDENTIFICTION WHER LOCATED ABOVE COLORDINATE UCATION A MORE LOCATED ABOVE COLORDINATE UNCLATOR WITH MECHANICAL LOCATED ABOVE COLORDINATE UNCLATOR WITH MECHANICAL LOCATED ABOVE COLORDINATE UNCLATION WITH MECHANICAL ALONG DAMPERS TO BE WIRED TO BUILDING FIRE ALARM SYSTEM & ROOM DAMPER STREME STEME ALARM SYSTEM STREME ADOUT DOCUMENTS. PROVIDE UL LISTED SMOKE DETECTORS IN THE MAIN SUPPLY DUCT AND RETURN ON THE DOWNSTREAM SIDE OF THE FLITERS IN ALL RECIRCULATING AIR SYSTEMS HANDLING OVER 5.000 AUD OPERATING BURD TO BUILDING FIRE ALARM SYSTEM BY FIRE ALARM CONTRACTOR IS TO PROVIDE AND INSTALL ALL WINNG, TERMINATIONS, ECT ON PROVIDE A COMPLEX SYSTEMS HANDLING OVER 5.000 AUD OS MALL SA REGUIRED AN
31. 32. 33. 34. 35. 36. 37. 38.	 920.1 PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 922.1 NACKSBILE LOCATION BOADHARD CELING 922.2 WHERE LOCATED HIGHER THAN 4-0" ABOVE 14-0" FROM FINISHED FLOOR 922.2 WHERE LOCATED HIGHER THAN 4-0" ABOVE 14-0" FROM FINISHED FLOOR 923.2 WHERE LOCATED HIGHER THAN 4-0" ABOVE 14-0" FROM FINISHED FLOOR 923.4 WHERE LOCATED ABOVE 14-0" FROM FINISHED FLOOR 924.4 WHERE LOCATED ABOVE 14-0" FROM FINISHED FLOOR 925.4 WHERE LOCATED MORE THAN 4-0" ABOVE 14-0" FROM FINISHED FLOOR 926.4 REFER TO ARCHITECTURAL REFLECTED CELING DRAWINGS FOR REFLECTED CELING PLAN 927.4 REMOTE BALANCING DAMPER SHALL BE PROVIDED WITH POSITION IDIDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL UNLESS INDICATED OTHERWISE. 924. REMOTE BALANCING DAWPER SHALL BE PROVIDED WITH POSITION INDICATOR AND SHALL BE GREENHECK MODEL RBDR-50 (ROUND) & RBD-10 (RECTANGULAR) OR APPROVED EQUAL UNLESS INDICATED OTHERWISE. 924. REMOTE BALANCING DAWPER SHALL BE 12 VOLT DC POWER BALANCE SYSTEM (DAWPER, PUISE A CUATOR), CAT 5 CABLE, WALL OR CELING, PLATE AND HAND HELD POWER PACK), PROVIDE DRAWING IDENTIFYING PORT TO LOBE ON WALL WITHIN CLOSEST MECHANICAL ENGINEER PROVE DE CULING NUMBERICALLY BY RESPECTIVE AIR SYSTEM S ROM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PROTO TO LABLEG & CORDITATE LOCATION WHERE LOCATED ABOVE CELING, PROVIDE DRAWING IDENTIFYING PORT CLOCATION APORT SCHLUG & SOPRIT TO AUXE SUPER TO DOLUMENTS. PROVIDE LU LISTED SINKE DA THE CONTRACTOR IS TO PROVIDE AND RETURN ON THE DOWNSTREAM SIDE OF THE FLITERS IN ALL RECIRCULATION AND OPERATING SYSTEM. PROVIDE SUNCKE DAMPER IN THE MAIN SUPPLY DUCT AND RETURN ON THE DOWNSTREAM SIDE OF THE FLITERS IN ALL RECIRCULATION AND OPERATING SYSTEM. PROVIDE SWOKE DAMPER IN THE MAIN SUPPLY DUCT AND RETURN ON THE SLOW FLOOR SIDE OFTERS IN THE RECORDECT DO SUNKE DAMPERS TO BE INTERCONNECTED T
31. 32. 33. 34. 35. 36. 37. 38. 39.	 98.01. PROVIDE REMOVE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 10. INACCESSIBLE LOCATION HOLD SELING 20.21. ABOVE GYPSUM BOARDHABD CELING 20.22. WHERE LOCATED HORE THAN 4-70 ADOVE ACCESSIBLE CELING TILE 20.23. WHERE LOCATED HORE THAN 4-70 ADOVE ACCESSIBLE CELING FLAT 20.24. REFER TO ARCHITECTURAL REFLECTED CELING DRAWINGS FOR RELECTED CELING PLAN 20.24. REFER TO ARCHITECTURAL REFLECTED CELING DRAWINGS FOR RELECTED CELING PLAN 20.24. REFER TO ARCHITECTURAL REFLECTED CELING DRAWINGS FOR RELECTED CELING PLAN 20.24. REFER TO ARCHITECTURAL REFLECTED CELING DRAWINGS FOR RELECTED CELING PLAN 20.24. REFER TO ARCHITECT PROM FUNCTION ON WALL WITHIN CLOSEST MECHANICAL ROM OR ABOVE ACCESSIBLE CELINGS PORTS TO BE PROPREYL VABLED NUMERICALL 'N RESPECTIVE AIR X00 MAPRER SERVES. COORDINATE WITH MECHANICAL ENNIRER PROVED TO LOCATION WITH MECHANICAL ENNIRE PROVED TO LOCATION WITH MECHANICAL ENNIRE PROVED TO DECINING TO LOCATION WITH MECHANICAL ENNIRE PROVED TO DECINING ADVER SOBIEL CELINGS PROVED THE ENNIR MECHANICAL ALL WIRING TERMINATIONS, ETC. TO PROVIDE ACCESSIBLE CELINGS PROVED THE ENNIR UNTER AN UNDER TO NATE AND UNCE TO NATURE MECHANICAL UNIT ON WILL WITHING. TERMINATIONS, ETC. TO PROVIDE ACCESS PARELS AND RESPECTIVE AIR ARY SYSTEM ANDUNG OG CF.M. NOTE: SMOKE DETECTORS TO BE WIRED TO BUILDING FIRE ALARM SYSTEM AND MACHITECT. TROVIDE FIRE ALARM SUPPLY A RETURN DUCT IN ALL AIR MANDING VERT ENDINGS. REFRENCE ARCHITECTURAL DRAWINGS FOR RATED CELINGS. COCESS PARELS ANS REQUIRED. COORDINATE HELECONDECING DRATE LOCATION SIN
31. 32. 33. 34. 35. 36. 37. 38. 39. 40.	 91. PROVIDE REMOTE BALANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 100. INACCESSIBLE LOCATION DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS 322. WHERE LOCATED HIGHER THAN 4:0° ABOVE ACCESSIBLE CEILING TILE 322. WHERE LOCATED HIGHER THAN 4:0° ABOVE 14:0° RAOW FINSHED FLOOR 323. WHERE LOCATED HIGHER THAN 4:0° ABOVE FILO DENING BAVINGS FOR REFLECTED CEILING PLAN 324. KEFER TO ARCHITECTURAL REFLECTED CEILING DRAWINGS FOR REFLECTED CEILING PLAN 325. ELECTORING BALANCING DAMPER SHALL BE 12 VOLT DC POWER BALANCE SYSTEM (DAMPER, PLUSE ACTUATOR, CAT 5 CABLE, WALL OR CEILING PLATE AND HAND HELD POWER PACK, PROVIDE WALL/CEILING ACCESS FORT TO MULI WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILING MONTTED ON WALL WITHIN CLOSEST MECHANICAL ROOM OR ABOVE ACCESSIBLE CEILING MONTTED ON WALL. UL ALCESS PORTS TO BE PROPERY LYABELED UNIVERVICALLY BY RESPECTIVE AR SYSTEM & ROOM DAMPER SERVES. CORDINATE WITH MECHANICAL KINGINEERPRIST ON E DEPORTY TO RESPECTIVE AR SYSTEM & ROOM DAMPER SERVES. CORDINATE WITH MECHANICAL KINGINEERPRIST OR ENDORMER SERVES. 970 VIDE UL LISTED SMOKE DEFECTORS IN THE MAIN SUPPLY DUCT IN ALL ALL WIRING, SET OT PROVIDE A COMPERTEL FLORED FUNCTION MARKET SET OF SCORDINATE WITH MECHANICAL KINGINEERPRIST OF E DEPORTY SERVES AND AD DAMPER SERVES. 970 VIDE UL LISTED SMOKE DEFECTORS IN THE MAIN SUPPLY AD AND RETURN TON THE DOWNSTREAM SUB C FT. IN DROVIDE A COMPERTE, PROPERLY FUNCTIONING AND OPERATING AR SYSTEM SHANDLING OVER SOME DETECTORS TO BE WIRED TO BUILDING FIRE ALARM ON THE DOWNSTREAM SUB C FT. IN DROVIDE A COMPERTE THE TURE SHANDLING OVER SYSTEM. 970 VIDE CENTRE DAVING PORTUCE AND THE ALLER BROVED FILE LING ACCESS PARLES SANE. SHALL SHARE MOVIDE TO SMOKE DETECTORS. 970 VIDE CENTRE CORDINATE CLOCRE AND REAL ALL WINNE, SUBTE CEILING SUBTE CEILING SUBTER. 970 VIDE SMOKE DAMPERTIN THE MAIN SUPPLY A RETURN DUCT IN ALL ARK HONDUNG OVER ISSUE CE
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 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 	 a) PROVIDE REMORD BAUARUNG GAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS b) INACESSIBLE ICACITODS: c) INACESSIBL
 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 	 PROVIDE RENOTE BLANCING DAMPER WITH POSITION INDICATOR AT INACCESSIBLE MANUAL VOLUME DAMPERS INACESSIBLE LOCATIONS: INACESSIBLE LOCATIONS: WHERE LOCATED AROVE 14/2º FROM FINISHED FLOOR WHERE LOCATED AROVE 14/2º FROM FINISHED FLOOR REFERITO CONTED HIGHERT HANA 40º ABOVE ACCESSIBLE CELING TILE INACESSIBLE CELING NUMBER SHALL BE VERONDED WITH POSITION INDICATOR AND SHALL BE GEENHECK MODEL RBDR 30 (ROUND) & RDD-10 (RECTANOLLAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. REFERITO CARLING DAMPER SHALL BE UPONDED WITH POSITION INDICATOR AND SHALL BE GEENHECK MODEL RBDR 30 (ROUND) & RDD-10 (RECTANOLLAR) OR APPROVED EQUAL, UNLESS INDICATED OTHERWISE. RELECTRONIC BALANCING DAMPER SHALL BE UPONDE TO BE PROPER. VL LABELED NUMBER CALLY BY RESPECTIVE AR SYSTEM & ROOM DAMPER SERVES. COORDINATE MULCIELING ACCESS PORT ON WALL WITHIN CLOSEST MECHANICS. RENDER & ARADIFICT PRIOR TO INSTALLING ANY ACCESS PORT STO BE PROPER. VL LABELED NUMBERCALLY BY RESPECTIVE AR SYSTEM & ROOM DAMPER SERVES. COORDINATE WITH MECHANICAL ENGINEER PROPER VL LABELING & COORDINATE LOCATION WITH MECHANICAL ENGINEER ARADIFUT MONTO TO LABLING ANY ACCESS PORT DO HARDEN SERVES. RENDEE & ARADIFICT PRIOR TO INSTALLING ANY ACCESS PORT ADD RETURNO, THE ADD/WIST REAL ARADIE SONGE DETECTORS. IT ME HANNEN DOWNET RUCE AND ALL RECORCULTING AND SERVES. RENDEE SAMCE DETECTORS IN THE AMAR CONTRACTORS TO BE WIRED TO DISTLATE DOWNSTRAMA DE DOWNSTRAMA DE DOWNSTRAMA DERVERT NO ENTITION DE MULTIPLE ACCESS PARELS AS REQUIRED COORDINATE LOCATION MARKER TO BE INTERCOMENCE TO DISTLATE DATA DAVING DEVENTION DE DALLING AND ACCESSIBLE CELINGS. REVENTION TO AND ACCESSIBLE CELINGS. DOWNSTRAMA DERVENT SE MENTER DOWNSTRAMA DE DOWNSTRAMA DE DETECTORS. REVONDE ENCLOS TOR RUCENTING TO MULTIPLE ACCESS PARELS AS REQUIRED ACCORDINATE LECTOR. REVONDE ENCLOS TOR RUCENTING DE MULTIPLICATION TO ALLE DENSTRAMA DAVI
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60. ALL EQUIPMENTS SUPPLIED TO THE PROJECT SHALL BE PER SPECIFICATIONS. OBTAINING APPROVED SUBMITTALS DOES NOT RELIEVE THE CONTRACTOR/SUPPLIER OF PROVIDING ALL FEATURES, OPTIONS AND ACCESSORIES INCLUDED WITHIN THE CONSTRUCTION DOCUMENTS.

MECHANICAL SYMBOL LEGEND GENERAL

THERMAL DESIGN CONDITIONS

	INDOOR			OUTDOOR		
ROOM DESCRIPTION	SUMMER		WINTER	SUMMER WINTE		WINTER
	DB(°F)	RH(%)	DB(°F)	DB(°F)	WB(°F)	DB(°F)
CONDITIONED AREAS	75°	50%	70°	95°	80°	20°

WB(°F): WET BULB RH(%): RELATIVE HUMIDITY

INDEX - MECHANICAL SHEETS		
M001	MECHANICAL COVER SHEET	
M101	MECHANICAL PLAN	
M201	MECHANICAL DETAILS	
M301	MECHANICAL DETAILS & SCHEDULES	

(REFER TO DRAWINGS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS)

DUCT WITH FIRE DAMPER
DUCT WITH SMOKE DAMPER
DUCT WITH COMBINATION FIRE/SMOKE DAMPER
DUCT WITH MOTORIZED DAMPER
DUCT WITH HUMIDIFIER
DUCT WITH ACCESS DOOR
R/A GRILLE; SEE SCHEDULE FOR SIZE
E/A GRILLE; SEE SCHEDULE FOR SIZE
4-WAY S/A DIFFUSER; SEE SCHEDULE FOR SIZE
3-WAY S/A DIFFUSER; SEE SCHEDULE FOR SIZE
2-WAY S/A DIFFUSER; SEE SCHEDULE FOR SIZE
1-WAY S/A DIFFUSER; SEE SCHEDULE FOR SIZE

ABBREVIATION LEGEND

AC	AIR CONDITIONING
ACCU	AIR COOLED CONDENSING UNIT
AFF	ABOVE FINISHED FLOOR
AFS	AIR FLOW STATION
ΔMR	
CHR	
CH2	
COMP	
CV CW	
CWR	
CWP	
CWS	CONDENSER WATER SUPPLY
DR	DRY BULB TEMP (DEG F)
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DPS	DIFFERENTIAL PRESSURE SWITCH
DWG	DRAWING
DX	
EA	
EDH	ELECTRIC DUCT HEATER
EER	
EF	EXHAUST FAN
EL	ELEVATION
ELEC	ELECTRICAL
ENI	
ECU	
ERU	
ESP FT	EXTERNAL STATIC PRESSURE
EI	
EUH	
EVAP	
EX	
EXI	EXTERNAL
FD	
FLA	FULL LUAD AMPS

FPM FEET PER MINUTE

FV	FACE VELOCITY
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GPH	GALLONS PER HOUR
GUH	GAS UNIT HEATER
HC	HEATING COIL
HP	HORSEPOWER
HR	HOUR
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
ID	INSIDE DIAMETER
IN	INCHES
KW	KILOWATTS
LVG	LEAVING
MA	MIXED AIR
MAX	MAXIMUM
MD	MOTORIZED DAMPER
MECH	MECHANICAL
NG	NATURAL GAS
MIN	MINIMUM
MVD	MANUAL VOLUME DAMPER
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOC.
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAU	OUTSIDE AIR UNITS
OS&Y	OUTSIDE STEM AND YOKE
0Z	OUNCES (PRESSURE)
PD	PRESSURE DROP
PIAC	
P51	
RA	
REF	
SA SA	
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SE	SUPPLY AIR FAN
SP	STATIC PRESSURE
SPEC	SPECIFICATIONS
TEMP	TEMPERATURE
TOD	TOP OF DUCT
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LISTED
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
W /	WITH
W/O	WITHOUT
WB	WET BULB (DEG F)









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BY DATE REVISION PROJECT NUMBER: 20231010 DATE: 03/25/2024 ENGINEER 03/25/2024 M101



HANGER RO	D SCHEDULE
PIPE SIZE	ROD DIA.
1/4" - 2"	3/8"
2-1/2" - 3-1/2"	1/2"



	DULE - AIR	HAN	IDL	ING	U	NITS	5														
							NON	MINAL		SU AIRFLOW	PPLY FAN	мото	R	DX	COOL	ING COIL			D	(COOLII	
MARK		DESCR	PTIO	N			TC	ONS	SA	OA	EXT SP	QTY PO	WER	TOT	CAP	SENS C	CAP E	ADB	EAWB	LADB	LAWB
AHU-3	DX SPLIT AIR HA	NDLER	WITH	H ELEC	CTRIC	C HEAT		2	925 CFM	100 CFM	0.50 in-wg	1 0.	5 hp	24000	Btu/h	19200 B	8tu/h 76.	.27 °F	63.95 °F	55 °F	54 °F
1. PR 2. PR 3. PR 4. DR 5. INS 6. PR 7. AP	ROVIDE SINGLE PC ROVIDE WITH COM ROVIDE 4" TALL 16 IXILIARY DRAIN PA RAIN LINE. FIELD R ROVIDE FULL SIZE STALL WITH MANU ROVIDE MANUAL V PROVED MANUFA	INT ELE MERCIA GA. GAL N, ROU ^T DUTE 3/ PLENUM FACTUR DLUME I CTUREF	CTRIC PRC VANIZ E CO 4" CO ON E ER'S DAMP S: LE	CAL CO DGRAMM ZED STI DNDENS PPER C 30TTOM RECOM ER ON NNOX,	NNEC MABL EEL D SATE COND M/REA MMEN OUTS TRAN	Ction. E thef Drain F Drain S Drain Sensat Ar of A Ided Se Side Aii Ne, Caf	Rmost, Pan Wi E Drai Air Han Ervice R And R Rier.	at. Th Flo Rom Al In Line Ndling Cleaf Retur	at Switch (C Jxiliary Drai To Hub Drain Unit. Length Rance. Ensuf N Air Duct.	ONDENSING U N PAN TO HUB N. CONDENSAT H AS REQUIREI RE THAT PROP	NIT TO DE-ENER(DRAIN, PROVIDE E LINE SHALL BE D FOR BRANCH D ER CLEARANCE F	Gize when F Shut off V Rigid Insul Uct Connec Or Filter R	LOAT S ALVE (1 ATED C CTIONS EMOVA	WITCH I Normal Opper. .l Is pr	s tripf Ly CLC Ovided	ped) unde Sed) in A D.	ER ENTIR	e unit. ′ drain	PROVIDE PAN CONI	NIPPLE C DENSATE	<u>p</u> N
SCHED	DULE - CO	NDEI	NSI	NG	UN	ITS					COMPRESSOR				E.	AN		FLF	CTRICAL	SERVIC	F
MARK		DESCR	PTIO	N			NON	MINAL ONS		TYPE		REF. TY TYPE	AMB TE	IENT MP	QTY	POWER	VOLTS	PH	FREQ	MCA	
CU-3	DX SP		IDEN	SER; A	NC			2		SCROLL		R-410A	95	°F	1	0.17 hp	208 V	1	60 Hz	14.6	A 25 A
. PR . LIC TO PR . INS . AP	ROVIDE SUCTION A QUID AND SUCTION ENSURE PROPEF ROVIDE 4" HIGH CC STALL WITH MANU PPROVED MANUFA	CCUMU I LINES OPERA NCRETI FACTUR CTUREF	LATOI SHALI TION E HOU ER'S S: LE	RS. L BE SIJ AND C/ JSEKEE RECON NNOX,	ZED A APAC PING MEN TRAN	Accor Xity. 3 Pad W Ided Ai Ne, Caf	DING T VITH CH RFLOW RFLER.	TO THE HAMFEI V AND S	MANUFACTUR RED EDGES (R SERVICE CLEA	ER'S RECOMM EINFORCED W RANCES.	IENDATIONS WITH	I CONSIDERA	TIONS GE OF	FOR AL	L ACCE IT FOO	ssories, Tprint of	, LENGTH N ALL SID	of Rui	NS, TURNS	S AND RIS	ES
SCHED	DULE - FAN	IS				FAN	N					FAI		OR							
MARK		TYPE				AIRFL	.OW	MIN E	KT ESP MAX	SONES R	PM DRIVE	POWER	R VOL	TS	PH	FREQ	VEIGHT				CONTROL
7. PR 8. PR BU AN 9 AP	ROVIDE FACTORY I ROVIDE PRE-FABRI JILDING MANUFAC ID GENERAL CONT PROVED MANUFA	UPPLY F Finishe Cated I Furer / Ractoi Cturef	ANS S ON ROOF ND T R PRIC	SHALL ALL SUI CURB HE EQU OR TO (ial o Be ai Rfac For Jipme Orde Fck i	iverlo Mca Ra Ce expo All Ro Ent Ma Ering e Loren	ad Pro Ated Fi Osed T Oof Mo Nufac Equipn Cook	OR BO TO VIEV DUNTED CTUREF MENT. BROAL	TH AIR AND SC /. FANS. ALL RC TO MAINTAIN	DUND. DOF CURBS SH	IALL BE CONSTRU TIES. COORDINA ⁻	JCTED IN ACC TE WITH THE	ORDAN METAL	NCE WIT BUILDIN	TH THE NG MAN	METAL UFACTUR	ER				
7. PR 8. PR BU 9. AP	ROVIDE FACTORY ROVIDE PRE-FABRI JILDING MANUFAC ID GENERAL CONT PROVED MANUFA	UPPLY F CATED I FURER / RACTOI CTUREF	ANS SON ROOF ND T R PRIC S: GF	SHALL ALL SUL CURB HE EQU OR TO (REENHE ES	AL O BE AI RFAC FOR JIPME ORDE ECK, I	DVERLO MCA RA CE EXP(ALL RO ENT MA ERING E LOREN	AD PRO ATED FU DSED T DOF MO NUFAC EQUIPN COOK,	OR BO TO VIEV DUNTED CTUREF MENT. , BROAI	TH AIR AND SC V. FANS. ALL RC R TO MAINTAIN N, DAYTON.	DUND. DOF CURBS SH	IALL BE CONSTRI TIES. COORDINA ⁻	JCTED IN ACC	Cordai Metal	NCE WIT BUILDIN	TH THE NG MAN	METAL UFACTUR	ER				
AND MARK	ROVIDE FACTORY ROVIDE PRE-FABRI JILDING MANUFAC ID GENERAL CONT PROVED MANUFA DULE - AIR	UPPLY F INISHE: CATED I TURER / RACTOI CTUREF DEV	ANS SON ROOF ND T R PRICES: GF		AL O BE AI RFAC FOR J JIPME ORDE ECK, I	AMPER	AD PRI ATED FI DSED T DOF MO NUFAC EQUIPM COOK,	or Bo To Viev Dunted Cturef Ment. , Broai	TH AIR AND SC V. FANS. ALL RC R TO MAINTAIN N, DAYTON.	DUND. DOF CURBS SH	IALL BE CONSTRUTIES. COORDINA	JCTED IN ACC	CORDAN	NCE WIT BUILDIN	I'H THE NG MAN	METAL UFACTUR	2ER		NE	CK	
PR BU AN AP CHED MARK	ROVIDE FACTORY I ROVIDE PRE-FABRI JILDING MANUFAC ID GENERAL CONT PROVED MANUFA DULE - AIR SUPPLY		ANS S ON A ROOF ND T R PRICE X PRICE X I		IAL O BE AI RFAC FOR J JIPME ORDE ECK, I	NVERLO MCA RA CE EXPO ALL RO ENT MA ERING E LOREN		OR BO TO VIEV DUNTED CTUREF MENT. , BROAN	TH AIR AND SC V. FANS. ALL RC R TO MAINTAIN N, DAYTON.	DUND. DOF CURBS SH ALL WARRAN D SQUARI	IALL BE CONSTRUTIES. COORDINAT	JCTED IN ACC TE WITH THE	CORDAN	NCE WIT BUILDIN		METAL UFACTUR FACE SIZ	2ER 	TY	NE PE JND	CK	5 IZE 6
A B B B B B C B C D D C C D D C C D D C C D C C D	SUPPLY SUPPLY RETURN		ANS SON A ROOF ND T R PRICE S: GF VICI ND T R PRICE S: GF VICI ND T R PRICE S: GF			NVERLO MCA RA CE EXP(ALL RO ENT MA ERING E LOREN		OR BO TO VIEV DUNTED CTUREF MENT. , BROAN	TH AIR AND SC V. FANS. ALL RC R TO MAINTAIN N, DAYTON.	DUND. DOF CURBS SH I ALL WARRAN I ALL WARRAN	ALL BE CONSTRUTIES. COORDINAT	UCTED IN ACC TE WITH THE ER ER ER ER ER ER ER				METAL UFACTUR FACE SIZ 24 X 24 24 X 24 24 X 24 24 X 24	ER	TY ROI ROI ROI RE	PE JND JND JND CT	СК 5 24	6 8 10 X 24
7. PR 8. PR BU AN 9. AP SCHED MARK A B C D NOTES: 1. RE 2. AL 3. MA 4. FO 5. AP	CVIDE FACTORY I ROVIDE PRE-FABRI JILDING MANUFAC ID GENERAL CONT PROVED MANUFAC DULE - AIR SERVICE SUPPLY SUPPLY SUPPLY SUPPLY RETURN EFER TO ARCHITEC L GRILLES AND DI ANUFACTURERS A DR BIDDING, FIGUF PROVED MANUFA	UPPLY F INISHE CATED I TURER A RACTOI CTUREF DEV JIIINS CTUREF	ANS SON A ROOF ND T R PRICES: GF A A A A A A A A A A A A A A A A A A A	VINGS F ALL CON BLCE, NA		CEILING TITUS		. PROV NISH UN ALAIRE	TH AIR AND SC FANS. ALL RC FANS. ALL RC TO MAINTAIN N, DAYTON. DE PLASTER F ILESS SPECIFI SIS OF DESIGN SQUARE NECI	DUND. DOF CURBS SH I ALL WARRAN SQUARI SQUARI SQUARI DUVER FACE V FRAME FOR G'Y IED OTHERWIS I AND QUALITY K GRILLES AND	ALL BE CONSTRUTIES. COORDINAT	JCTED IN ACC TE WITH THE ER ER ER ER ER ER ER ER ER ER ER ER ER	LATIOI SHALL LED. N TO F	NCE WIT BUILDIN BE SUIT		METAL UFACTUR FACE SIZ 24 X 24 24 X 24 24 X 24 24 X 24 OR FIELD 1 DUCTS.	PAINTING	TY ROI ROI ROI G WITH	PE JND JND CT		SIZE 6 8 10 X 24 AL PREPAR

UPSTREAM OF ANY FILTERS, DUCT CONNECTIONS, ETC. PROVIDE LOCAL AUDIO/VISUAL ALARM IN VISIBLE AREA ON NEARBY WALL.

- EMERGENCY DRAIN PAN TO BE CONSTRUCTED OUT OF 18 GA. GALVANIZED SHEET METAL AND TO BE OF ALL WELDED CONSTRUCTION. DRAIN PAN DIMENSIONS TO BE 4" HIGH AND EXTEND A MINIMUM OF 6" ALL AROUND AHU.
- ALL REFRIGERANT LINES SHALL BE SIZED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFRIGERANT LINES SHALL BE ROUTED EXPOSED THROUGH ATTIC OR CEILING SPACE AND DOWN EXTERIOR WALL TO RESPECTIVE CONDENSING UNIT. TURN REFRIGERANT
- LINES OUT OF EXTERIOR WALL 0'-6" ABOVE GRADE AND SEAL WALL PENETRATION WATER TIGHT. CONDENSATE DRAIN LINE SHALL BE INSTALLED WITH "P-TRAP" AND SHALL BE INSULATED. CONDENSATE DRAIN LINE SHALL BE ROUTED WITH DISCHARGE TO NEAREST HUB DRAIN AND MUST MAINTAIN MINIMUM 2" AIR GAP BETWEEN DRAIN TERMINATION AND HUB DRAIN RIM. COORDINATE
- NEAREST HUB DRAIN LOCATION WITH PLUMBING PLAN. ALL REFRIGERANT AND CONDENSATE DRAIN LINES SHALL BE ROUTED IN SUCH A MANNER AS TO NOT BLOCK OR OBSTRUCT ANY ACCESS (FILTER, COOLING COIL, FAN, ECT.) TO AIR HANDLING UNIT.



WATER TIGHT.

GENERAL NOTES:

1.

DETAIL - HORIZONTAL DX AIR HANDLING UNIT

	ELECTRIC HEAT COIL						ELECTRICAL SERVICE					
MAX FACE	MIN	тот										
VELOCITY	STAGES	CAP	BTU/H	EADB	LADB	VOLTS	PH	FREQ	MCA	MOCP	WEIGHT	MANUFACTURER / MODEL
500 FPM	1	7.5 kW	25600 Btu/h	64.59 °F	90.21 °F	208 V	1	60 Hz	50 A	50 A	175 lb	LENNOX CBA27UHE-024 OR APPROVED EQUAL

SCHED	SCHEDULE - BIPOLAR IONIZATION DEVICES										
								MIN. ION	ELEC	RICAL	
MARK	AHU	FLOW TYPE	MAX SA	ACTUAL SA	ACTUAL OA	PRESSURE DROP	MOUNTING LOCATION	DENSITY (IONS/CC)	VOLTS	WATTS	MANUFACTURER / MODEL
BI-3	AHU-3	CAV	2400 CFM	925 CFM	100 CFM	0.05 in-wg	SUPPLY DUCT	200 MILLION	24 V	14 W	GLOBAL PLASMA SOLUTIONS DM-2 OR PRIOR APPROVED EQUAL
NOTES:											

BASIS OF DESIGN: GPS AIR: SUBSTIT
IF CONTRACTOR SUBSTITUTES BASI
ION OUTPUT FROM THE NPBI DEVICE
SUBSTITUTION OF PRODUCTS WITH
BI-POLAR IONIZATION SYSTEMS REC

	PROVIDE WITH SELF-CLEANING FEAT
,	MUST DE LU 2008 ZEDO OZONE CEDI

SCHEE	ULE - GRA	VITY VEN	ITILATO	RS			
MARK	SERVICE	AIRFLOW	THROAT SIZE	ROOF OPENING	THROAT VELOCITY	STATIC PRESSURE DROP	MANUFACTURER / MODEL
				•			
GV-2	EXHAUST	75 CFM	8"×8"	12"x12"	203 FPM	0.004 in-wg	GREENHECK GRSR-8 OR APPROVED EQUAL
GV-1	EXHAUST	75 CFM	8"×8"	12"x12"	203 FPM	0.004 in-wg	GREENHECK GRSR-8 OR APPROVED EQUAL

SCHED	ULE - GRA	VITY VEN	ITILATO	RS			
MARK	SERVICE	AIRFLOW	THROAT SIZE	ROOF OPENING	THROAT VELOCITY	STATIC PRESSURE DROP	MANUFACTURER / MODEL
GV-2	EXHAUST	75 CFM	8"×8"	12"x12"	203 FPM	0.004 in-wg	GREENHECK GRSR-8 OR APPROVED EQUAL
GV-1	EXHAUST	75 CFM	8"×8"	12"x12"	203 FPM	0.004 in-wg	GREENHECK GRSR-8 OR APPROVED EQUAL

NOTES:

- 1. ALUMINUM CONSTRUCTION HOUSING, 1/2" ALUMINUM MESH BIRDSCREEN. HOOD SHALL HAVE HINGED OPENING OR SHALL BE ABLE TO BE COMPLETELY REMOVED FROM BASE.
- METAL ROOF. 4. 1" THICK HOOD INSULATION.
- 5. PROJECT.
- 6. COORDINATE WITH ARCHITECT ON FINISH/COLOR.

EER	WEIGHT	MANUFACTURER / MODEL	
13.5	175 lb	LENNOX ML14XC1-024 OR APPROVED EQUAL	

	MANUFACTURER / MODEL	
OF EXHAUST FAN	GREENHECK SP-A90 OR APPROVED EQUAL	

MATERIAL	FINISH	MANUFACTURER / MODEL
ALUMINUM	BAKED ENAMEL	PRICE MODEL ASCD OR APPROVED EQUAL
ALUMINUM	BAKED ENAMEL	PRICE MODEL ASCD OR APPROVED EQUAL
ALUMINUM	BAKED ENAMEL	PRICE MODEL ASCD OR APPROVED EQUAL
ALUMINUM	BAKED ENAMEL	PRICE MODEL 630 OR APPROVED EQUAL

ATION.



CONDENSING UNIT SHALL BE MOUNTED ON 4" THICK CONCRETE PAD TO EXTEND A MINIMUM OF 6" ALL AROUND UNIT. CONDENSING UNITS SHALL BE LOCATED WITH A MINIMUM OF 3'-0" CLEARANCE BETWEEN UNITS. 2. ALL REFRIGERANT LINES SHALL BE SIZED IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. REFRIGERANT LINES SHALL BE ROUTED UP EXTERIOR WALL AND EXPOSED THROUGH ATTIC OR CEILING SPACE TO RESPECTIVE AIR HANDLING UNIT. SEAL WALL PENETRATION

TUTIONS MUST BE APPROVED BY THE ENGINEER, SUBJECT TO SPECIFICATION OF COMPLIANCE.

SIS OF DESIGN WITH ANOTHER MANUFACTURER, CONTRACTOR SHALL COORDINATE ALL ELECTRICAL AND MECHANICAL CHANGES.

E SHALL BE MEASURED IN IONS PER CUBIC CENIMETER (IONS/CC) AND VERIFIABLE WITH FIELD INSTRUMENTATION PER THE MANUFACTURER'S INSTRUCTIONS. I MATHEMATICALLY CALCULATED, NOT MEASURABLE, ION FLOW IN IONS/SECOND ARE NOT ACCEPTABLE.

QUIRING REPLACEMENT PARTS, INCLUDING GAS TUBES ARE NOT ACCEPTABLE. MOUNT NEEDLEPOINT BI-POLAR ION GENERATOR WHERE INDICATED ON PLANS AND SCHEDULES.

ATURE. SYSTEMS WITHOUT SELF-CLEANING SHALL NOT BE ACCEPTABLE. MUST BE UL-2998 ZERO OZONE CERTIFIED BY EITHER UL OR ETL. MUST BE CARB COMPLIANT FOR CALIFORNIA APPLICATIONS.

PROVIDE WITH PREFABRICATED ROOF CURB. COORDINATE WITH GENERAL CONTRACTOR ON EXACT HEIGHT REQUIRED FOR COUNTER FLASHING & INSTALLATION OF ROOF CURB ON SLOPED

CONTRACTOR SHALL COORDINATE & VERIFY EXACT ROOF OPENING REQUIRED WITH MANUFACTUER OF ACTUAL EQUIPMENT SUPPLIED TO

7. APPROVED MANUFACTURERS: GREENHECK, LOREN COOK, UNITED ENERTECH.





MECHANICAL SPECIFICATIONS:

15010 BASIC MECHANICAL REQUIREMENTS

GENERAL REQUIREMENTS

"PROVIDE" MEANS FURNISH AND INSTALL. THIS CONTRACTOR SHALL ALSO INSTALL MATERIALS FURNISHED "BY OTHERS" AND/OR OWNFR.

CONTRACTOR IS RESPONSIBLE FOR A COMPLETE SYSTEM. ALL EQUIPMENT AND RELATED ITEMS BY HVAC CONTRACTOR UNLESS OTHERWISE NOTED IN THESE SPECIFICATIONS.

IT IS THE INTENT OF THESE CONSTRUCTION DOCUMENTS TO DEPICT ENGINEERED DUCT, PIPE, AND EQUIPMENT ARRANGEMENTS THAT MINIMIZE CONFLICTS AND/OR INTERFERENCES WITH STRUCTURES AND OTHER TRADES. FINAL CONSTRUCTION COORDINATION WITH OTHER TRADES TO AVOID SUCH CONFLICTS IS THE RESPONSIBILITY OF THIS HVAC SUBCONTRACTOR.

DIFFERENCES AND/OR CONFLICTS BETWEEN CONTRACT DRAWING AND SPECIFICATION AND SHOP DRAWINGS, SHALL BE CALLED TO THE ENGINEERS ATTENTION. IF DIFFERENCES AND/OR CONFLICTS ARE NOT NOTED TO CONTRACTOR PRIOR TO CONTRACT. CONTRACTOR SHALL DETERMINE GOVERNING CONDITION AND SUBCONTRACTOR SHALL PERFORM WORK AT NO ADDITIONAL COST TO THE OWNER.

TRADE NAMES ARE USED TO ESTABLISH QUALITY. SUBSTITUTIONS OF EQUIVALENT QUALITY MAY BE USED IF PRIOR APPROVED BY THE ENGINEER.

RECORD DRAWINGS

PROVIDE RECORD DRAWINGS SHOWING LOCATIONS OF ALL CHANGES IN EQUIPMENT, PIPING AND DUCT ARRANGEMENTS. DRAWINGS SHALL BE RED PENCIL ON BLUE OR BLACK LINE PRINTS, DETAILS AND SCHEDULES SHALL BE KEPT UP TO DATE ON A DAILY BASIS. THESE DRAWINGS SHALL BE AVAILABLE TO THE BUILDER OR HIS REPRESENTATIVE AT THE JOB SITE.

AT COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL SUBMIT UPDATED PRINTS TO THE BUILDER, BEFORE RECEIPT OF FINAL PAYMENT.

MATERIALS FURNISHED BY OWNER

WILL BE RECEIVED, CHECKED FOR PROPER ACCESSORIES AND STORED AT THE SITE IN A CONVENIENT LOCATION FOR THE CONTRACTOR. UNLESS OTHERWISE SPECIFIED, ALL EQUIPMENT INDICATED IN THE SPECIFICATIONS, DETAILS, SCHEDULES, AND/OR ON THE DRAWINGS AS "FURNISHED BY OWNER" WILL BE FURNISHED BY OWNER AND INSTALLED BY THE CONTRACTOR. ALL OTHER EQUIPMENT AND MATERIALS SHALL BE PROVIDED BY THE CONTRACTOR.

<u>CONTRACTOR'S EQUIPMENT STORAGE</u> EQUIPMENT STORED AT THE SITE SHALL BE ADEQUATELY PROTECTED FROM THE WEATHER.

CONTRACTOR TO LUBRICATE BEARINGS AS REQUIRED, INSTALL BELTS AND CHECK FOR PROPER BELT TENSION AND MOTOR ROTATION, INSTALL ALL SAFETY DEVICES, RELIEF VALVES, AND FILTERS. CONNECT ALL DAMPER LINKAGES AND REMOVE ALL SHIPPING HOLD DOWN CLAMPS AND BLOCKING.

<u>SYSTEM BALANCING</u>

OBTAIN THE SERVICES OF AN INDEPENDENT AIR BALANCE AND TESTING AGENCY WHICH SPECIALIZES IN THE TESTING, AND BALANCING OF HEATING, VENTILATING, AIR CONDITIONING SYSTEMS: TO TEST: ADJUST AND BALANCE ALL SUPPLY, RETURN, AND EXHAUST SYSTEMS.

ALL WORK TO BE PERFORMED IN COMPLETE ACCORDANCE WITH THE ASSOCIATED AIR BALANCE COUNCIL (AABC) NATIONAL STANDARDS FOR FIELD MEASUREMENTS AND INSTRUMENTATION, LATEST ADDITION, THOSE SECTIONS APPLICABLE TO AIR DISTRIBUTION.

<u>EQUIPMENT SUPPORT</u>

ALL HEATING DEVICES AND EQUIPMENT SHALL BE SECURELY MOUNTED TO THE BUILDING STRUCTURE AND SHALL NOT DEPEND UPON CEILING OR WALL SURFACES FOR THEIR SUPPORT. THEY SHALL BE INCAPABLE OF BEING ROTATED OR DISPLACED. THE SUPPORT ATTACHMENT SHALL ADEQUATELY SUPPORT THE WEIGHT OF THE FIXTURE, DEVICE, OR EQUIPMENT PLUS THE WEIGHT OF THE SUPPORT ATTACHMENT.

BUILDER WILL PAINT ALL EXTERIOR EXPOSED HVAC EQUIPMENT INCLUDING DUCTS, PIPES, LOUVERS, ETC. WHICH ARE SCRATCHED OR MARRED DURING CONSTRUCTION.

HVAC CONTRACTOR IS RESPONSIBLE FOR PROTECTING AND KEEPING CLEAN HVAC EQUIPMENT DURING INSTALLATION. HVAC CONTRACTOR TO TEST EACH SYSTEM OR PIECE OF EQUIPMENT INSTALLED AND REPORT TO BUILDER ANY EQUIPMENT DAMAGE OR MALFUNCTION.

ELECTRICAL CONTRACTOR (E.C.) SHALL PROVIDE ALL POWER WIRING INCLUDING CONDUIT, WIRE AND CONNECTIONS. ALL STARTERS, FUSES, AND DISCONNECTS BY OTHERS EXCEPT WHERE SPECIFIED AS PART OF PACKAGE EQUIPMENT. STARTERS THAT COME WITH EQUIPMENT SHALL BE AUTOMATIC AND HAVE T.O.L. APPROPRIATE COVERS AND INTERLOCKS. ALL MOTORS LESS THAN 1/2 HP ARE 115/60/1 WITH INTEGRAL THERMAL OVERLOAD UNLESS OTHERWISE SPECIFIED.

ELECTRICAL CONTRACTOR SHALL LABEL ALL REMOVABLE PANELS FOR DISCONNECTS IN EQUIPMENT CABINETS WITH NAMEPLATE FURNISHED BY BUILDER (LABELED "ELECTRICAL SERVICE DISCONNECT LOCATED BEHIND THIS PANEL.")

SUBMIT TO THE ENGINEER FOR REVIEW IMMEDIATELY AFTER AWARD OF CONTRACT, SIX (6) COPIES OF COMPLETE DESCRIPTIVE INFORMATION AND DIMENSIONAL DATA ON ALL ITEMS OF EQUIPMENT, MATERIALS, AND ACCESSORIES. SUBMIT ALL SHOP DRAWINGS AT ONE TIME. PIECE MEAL SUBMISSION SHALL NOT BE ACCEPTABLE.

"AS BUILT DRAWINGS": CONTRACTOR SHALL BE FURNISHED WITH ONE (1) SET OF BLUE OR BLACK LINE PRINTS, ON WHICH CONTR. SHALL SHOW ANY CHANGES IN THE WORK CAUSED BY UNFORESEEN CIRCUMSTANCES AND THESE DRAWINGS SHALL BE TURNED OVER TO THE ENGINEER IN GOOD ORDER PRIOR TO FINAL ACCEPTANCE OF THE BLDG. ENGINEER IN TURN PREPARE RECORD DRAWINGS FROM INFORMATION FURNISHED BY CONTR.

"PARTS CATALOG": FURNISH TO THE ENGINEER FOR THE OWNER, THREE (3) COMPLETE SETS OF PARTS CATALOGS AND OPERATING INSTRUCTIONS BOUND IN LARGE BINDERS FOR HIS USE. CONTR. SHALL INSTRUCT OWNER'S OPERATOR IN THE PROPER CARE, OPERATION, LUBRICATION, AND MAINTENANCE OF MECHANICAL EQUIPMENT INSTALLED.

GUARANTEE AND SERVICE

GUARANTEE ALL EQUIPMENT, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR FOLLOWING DATE OF ACCEPTANCE. GUARANTEE ALL EQUIPMENT CONTAINING ALL RECIPROCATING REFRIGERATION COMPRESSORS FULL FIVE (5) YEARS COVERING COMPRESSORS, LABOR, AND REFRIGERANT. GUARANTEE DOES NOT INCLUDE NORMAL MAINTENANCE ITEMS.

15050 BASIC MATERIALS AND METHODS

MECHANICAL IDENTIFICATION EQUIPMENT STENCILS SHALL IDENTIFY THE TYPE AND SERVICE WITH THE SAME NAMES, NUMBERS, AND/OR LETTERS USED TO IDENTIFY THE EQUIPMENT ON THE DRAWINGS. ALL STARTERS SHALL BE SIMILARLY STENCILED. OMIT IDENTIFICATION OF MINOR HEATING EQUIPMENT LOCATED IN THE ROOM IT SERVES, SUCH AS CONVECTORS, FINNED PIPE, UNIT HEATERS, ETC.

VIBRATION ISOLATORS INSTALL VIBRATION ISOLATORS AS SHOWN ON DETAILS OR AS NOTED ON SCHEDULES.

PIPE INSULATION - REFRIGERANT SUCTION & CONDENSATE DRAIN LINES INSTALL 3/4 INCH ARMAFLEX PER MANUFACTURER'S INSTRUCTIONS. ALL OUTSIDE LINES TO BE PAINTED WITH ARMAFLEX WB OUTDOOR FINISH. FOR LINES IN CEILING PLENUMS USE 1-1/2 INCH GLASS FIBER WITH INTEGRAL VAPOR BARRIER. MUST HAVE A CONTINUOUS SEALED VAPOR BARRIER ON ALL SUCTION LINES.

PIPE INSULATION - HOT AND COLD WATER DOMESTIC PIPING INSULATE ALL HW AND CW PIPING IN EXTERIOR WALLS AND IN ATTIC SPACE W/ 3/4 INCH THK. FIBERGLASS INSULATION WITH FRJ JACKET, ALL JOINTS AND ELBOWS SHALL BE NEATLY MITERED AND SEALED COVERED PVC COVER/JACKET.

REFRIGERATION PIPING HVAC CONTRACTOR TO INSTALL PRE-CLEANED, (DRIED AND SEALED) FACTORY REFRIGERANT LINE SETS. SEE DRAWINGS FOR SIZES AND ROUTING.

REFRIGERATION SYSTEMS PIPE WORK

PROVIDE OIL TRAPS AND DOUBLE RISERS IN REFRIGERANT SUCTION AND HOT GAS LINES WHERE REQUIRED TO PREVENT OIL SLUDGING AT THE COMPRESSOR AND TO INSURE PROPER LUBRICATION.

PIPE SLEEVES: WROUGHT IRON OR STEEL OF SUFFICIENT SIZE FOR PIPING INSTALLATION IN FLOORS, WALLS, BELOW GRADE, AND GRADE BEAMS WHERE PIPING PASSES THROUGH. PVC MAY ONLY BE USED WHERE SPECIFICALLY NOTED.

HORIZONTAL PIPING ABOVE GRADE: RIGIDLY SUPPORTED ON MALLEABLE IRON SPLIT RING HANGERS; SUPPORTS FOR TWO OR MORE SYSTEMS OF PIPING RUN PARALLEL AND WITH SAME GRADE, TRAPEZE HANGERS MAY BE USED. USE ALL THREADED RODS FOR HANGERS AND SUPPORTS.

MAXIMUM SPACING OF SUPPORTS AND HANGERS FOR HORIZONTAL RUNS OF PIPE: FIVE (5) FEET FOR SOIL; TEN (10) FEET FOR PIPE OTHER THAN SOIL EXCEPT PIPING 1-1/2 INCH AND SMALLER SUPPORT EVERY SIX (6) FEET. PROVIDE GALVANIZED IRON SHIELDS BETWEEN HANGERS AND PIPE COVERING ON INSULATED PIPING. NO STRAP HANGERS OR WIRE WILL BE ACCEPTED.

SET INSERTS IN CONCRETE FOR HANGER RODS AND DUCT HANGERS WHERE APPLICABLE

CONTR. SHALL SUPPORT DUCTWORK IN STRICT ACCORDANCE TO SMACNA STANDARDS, REFER TO DUCTWORK SPECIFICATION, THIS SHEET

ACCESS PANELS

FACTORY MADE ACCESS DOORS AND FRAMES, PRIME COAT FINISH, SCREWDRIVER LATCH(S) OF SUITABLE SIZE AS REQUIRED. ACCESS PANELS IN RATED CEILING TO HAVE SAME RATING AS CEILING. ACCESS PANELS IN LINED DUCTWORK TO BE DOUBLE WALL TYPE WITH INSULATION SANDWICHED IN BETWEEN, SAME INSULATION VALUE AS ADJACENT DUCTWORK. WHERE VALVES, DAMPERS, CONTROLS, FIRE DAMPERS, SMOKE DAMPERS AND DETECTORS, REHEAT COILS, ETC. ARE CONCEALED IN WALLS OR NON-ACCESSIBLE CEILINGS, INSTALL FACTORY MADE ACCESS DOORS AND FRAMES.

FLOOR, WALL, AND CEILING PLATES (ESCUTCHEONS)

WHERE ANY PIPE OR RISERS PASS EXPOSED THROUGH WALLS, PARTITIONS, FLOORS OR CEILING, USE CHROME PLATED FLOOR OR CEILING PLATES. PLATES SHALL BE LARGE ENOUGH TO COMPLETELY CLOSE HOLE AROUND THE PIPES AND BE ROUND WITH THE LEAST DIMENSION NOT LESS THAN 1-1/2" LARGER THAN THE DIAMETER OF THE PIPE. PLATES SHALL BE SECURED IN AN APPROVED MANNER.

CUTTING AND PATCHING CUT ALL OPENINGS AS REQUIRED FOR THE WORK UNDER THIS SECTION. PATCHING SHALL BE DONE BY THE CRAFT WHOSE WORK IS INVOLVED. FURNISH AND INSTALL ALL NECESSARY SLEEVES, THIMBLES, HANGERS, INSERTS, ETC., AT SUCH TIME AND IN SUCH A MANNER SO AS NOT TO DELAY OR INTERFERE WITH WORK OF OTHER TRADES. NO BEAMS OR JOISTS SHALL BE CUT. AFTER RESURFACING HAS BEEN DONE, ANY FURTHER CUTTING, PATCHING AND PAINTING SHALL BE DONE AT THE EXPENSE OF THE CONTRACTOR.

<u>15400 PLUMBING</u>

ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE LOUISIANA STATE SANITARY CODE ALONG WITH ALL LOCAL CODES, ORDINANCES, AND REGULATIONS.

SLOPE DRAINAGE LINES, 3" AND SMALLER, 1/4" PER FOOT AND LINES 4" AND LARGER 1/8" PER FOOT.

SANITARY SEWER PIPING: ASTM D2556, PVC-DWV, SCHEDULE 40 SEWER PIPE WITH PVC FITTINGS, SOLVENT WELD JOINTS, ASTM D2564

SANITARY SEWER PIPING: SERVICE WEIGHT ASTM A74 HUB-AND-SPIGOT OR CISPI 301HUBLESS CAST IRON PIPE, ALL FITTING SHALL MATCH PIPE IN STANDARDS AND QUALITY. JOINTS SHALL BE CISPI HSN COMPRESSION TYPE WITH ASTM C564 NEOPRENE GASKET OR CISPI 310 NEOPRENE GASKET AND STANLESS STEEL CLAMP AND SHIELD ASSEMBLIES, JOINT SHALL MATCH PIPE IN STANDARDS AND QUALITY

WATER PIPING: COPPER TUBING, ASTM B88 TYPE "I " SOFT DRAWN (UNDERGROUND) AND TYPE "I " HARD (ABOVE SI AB) DRAWN WITH ANSI/ASME B16.29 WROUGHT COPPER FITTINGS, JOINT SILVER SOLDERED NO JOINTS ALLOWED UNDERGROUND.

CONTRACTOR SHALL PROVE EITHER AIR CHAMBERS (MIN. 18" HIGH) OR SHOCK ABSORBERS AT ALL FIXTURES TO PREVENT WATER HAMMER, APPLIES ALL RISER DIAS. SUPPORT ALL PIPING W/ CLEVIS TYPE HANGERS, EIGHT (8) FOOT CENTERS.

CONTRACTOR SHALL PROVIDE NEW WATER SERVICE. CONTRACTOR SHALL OBTAIN PRICES FROM LOCAL WATER COMPANY FOR THEIR REQUIRED SERVICES. PRICES SHALL INCLUDE ALL NECESSARY EQUIPMENT, LABOR, ETC. FOR TIE-INS TO MAIN INCLUDING COST OF BUT NOT LIMITED TO ALL METERS, FEES, PERMITS, ETC.

PLUMBING CONTRACTOR SHALL INSTALL AND CONNECT ALL OWNER FURNISHED EQUIP. REQUIRING SERVICES (WATER OR SANITARY WASTE).

CONTRACTOR SHALL PROVIDE NEW SANITARY SEWER SERVICES. CONTRACTOR SHALL COORDINATE WITH CITY-PARISH FOR LOCATION OF TIE-IN ALONG WITH INCLUDING COSTS OF ALL PERMITS, FEES, ETC. IN HIS BID. BEFORE COMMENCING WORK CHECK ALL INVERT ELEVATIONS FOR SEWER CONNECTIONS, CONFIRM INVERTS AND ENSURE THAT THESE CAN BE PROPERLY CONNECTED WITH PROPER SLOPE FOR DRAINAGE.

CONTRACTOR SHALL PROVIDE EXTERIOR CLEANOUTS EVERY 75 FEET AND AT ALL TURNS.

PITCH HORIZONTAL PIPING DOWN IN THE DIRECTION OF REFRIGERANT FLOW NOT LESS THAN 1 INCH IN 40 FEET.

ALL PIPES THRU WALL TO BE EQUIPPED WITH ESCUTCHEONS, CHROME PLATED.

15650 REFRIGERATION

<u>AIR HANDLING UNIT / CONDENSIN</u> CONTRACTOR SHALL PROVIDE SPLIT TYPE DX AIR CONDITIONING SYSTEM COMPRISING OF HORIZONTAL AIR HANDLING UNITS WITH ELECTRIC HEAT AND AIR COOLED CONDENSING UNITS. UNIT SIZES AND CAPACITIES SHALL BE AS SPECIFIED ON THE DWGS. SYSTEM DESIGN AROUND YORK AND TRANE.

15850 AIR HANDLING

ALL RIGHTS AND LEFTS FOR FAN UNITS SHALL BE DETERMINED BY LOOKING INTO THE AIR OUTLET. CLOCKWISE AND COUNTERCLOCKWISE ROTATION SHALL BE DETERMINED BY VIEWING FROM THE DRIVE SIDE.

HVAC CONTRACTOR SHALL FURNISH AND SUPPLY EXHAUST FANS OF TYPE, CAPACITY AND SIZED AS SPECIFIED IN THE EXHAUST FAN EQUIPMENT SCHEDULE.

ALL CABINET TYPE FANS SHALL COME EQUIPPED WITH SPEED CONTROLLERS. ALL ROOF MOUNTED FANS SHALL COME WITH PREFABRICATED ROOF CURBS, REFER TO ARCH. DWGS. FOR ROOF SLOPE.

15880 AIR DISTRIBUTION

VERIFY ALL DIMENSIONS. DIMENSIONS SHOWN ARE METAL TO METAL AREAS. ALL DUCTWORK SHALL HAVE MAXIMUM 5% LEAKAGE.

GALVANIZED SHEET METAL DUCTWORK FIRST QUALITY, COLD ROLLED, GALVANIZED, OPEN HEARTH SOFT STEEL SHEETS, CAPABLE OF DOUBLE SEAMING WITHOUT FRACTURE. TRANSVERSE JOINTS ON RECTANGULAR DUCTWORK WITH SLIPS AND DRIVES SHALL HAVE DRIVES BENT OVER AT CORNERS. GAUGES AND JOINT CONNECTORS PER LOCAL CODES, SMACNA, OR ASHRAE RECOMMENDATIONS AND THE FOLLOWING UNLESS OTHERWISE NOTED. FLEX DUCT WILL BE PERMITTED. FOR RUN-OUTS SHORTER THAN 10 FEET AND THE LAST 4 FEET OF A RUN OUT.

ALL DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH SMACNA LOW PRESSURE DUCT STANDARD, 2 INCH S.P. WITH THE FOLLOWING METAL THICKNESS.

ROUND DUCTS - SNAP LOCK

UP TO 12 DIAMETER #26 GAUGE MINIMUM. 13 INCH TO 18 INCH DIAMETER #24 GAUGE MINIMUM 19 INCH TO 24 INCH DIAMETER #22 GAUGE MINIMUM

SPIRAL LOCK SEAM ROUND DUCTS MAY BE ONE GAUGE LIGHTER THAN GAUGES SHOWN.

RECTANGULAR DUCTS AND PLENUMS MAXIMUM SIDE UP TO 12 INCH #26 GAUGE MINIMUM MAXIMUM SIDE 13 INCH TO 30 INCH #24 GAUGE MINIMUM MAXIMUM SIDE 31 INCH TO 50 INCH #22 GAUGE MINIMUM MAXIMUM SIDE 51 INCH TO 84 INCH #20 GAUGE MINIMUM MAXIMUM SIDE 85 INCH AND UP #18 GAUGE MINIMUM

AS NOTED ON DRAWINGS #16 GAUGE

BROKEN OR BEADED.

FOR GREATER THAN 24 INCHES USE REINFORCEMENT AS LISTED IN LATEST SMACNA LOW PRESSURE SHEET METAL CONSTRUCTION GUIDE, SECURELY HUNG, BRACED AND STIFFENED TO PREVENT BREATHING, RATTLING, VIBRATION AND SAGGING.

DUCT SIZES 19 INCHES WIDE AND LARGER WHICH HAVE MORE THAN 10 SQUARE FEET OF UNBRACED PANEL SHALL BE CROSS

SUPPORT ALL DUCTS IN ACCORDANCE WITH SMACNA, EXCEPT WIRE HANGERS SHALL NOT BE PERMITTED. DUCTS 36 INCHES OR LARGER SHALL HAVE TRAPEZE TYPE HANGERS SUSPENDED WITH THREADED ROD.

SEAL ALL DUCTWORK SERVING SYSTEMS HAVING FANS RATED FOR LESS THAN 2 INCHES STATIC PRESSURE IN ACCORDANCE WITH SMACNA, SEAL CLASS C. ALL TRANSVERSE JOINTS, FITTING CONNECTIONS, AND SQUARE OR RECTANGULAR TO ROUND CONNECTIONS IN DUCTWORK SHALL BE SEALED USING ADHESIVE TYPE SLIPS, DUCT SEALER OR HARD CAST. ROUND TO ROUND CONNECTIONS WITH FIRM FIT AND SEALED, SEAL ALL DUCTWORK SERVING SYSTEMS HAVING FANS RATED FOR 2 INCHES STATIC PRESSURE OR GREATER IN ACCORDANCE WITH SMACNA SEAL CLASS A. ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, DUCT WALL PENETRATIONS TO BE SEALED.

BRANCH TAKEOFFS NOT TO EXCEED 45 DEGREES. PROVIDE A VOLUME DAMPER IN EACH AND EVERY BRANCH OF SUPPLY, RETURN AND EXHAUST DUCT. (SEE FLOOR PLANS AND DETAILS).

NO FIBERGLASS DUCT WILL BE ALLOWED ON THIS PROJECT

CANVAS CONNECTORS 18 OUNCE FIREPROOF CANVAS OR NEOPRENE AT ALL FANS AND HVAC UNITS (EXCEPT ROOF VENTILATORS AND VANE AXIAL FANS WITH COMPANION FLANGES).

DUCT INSULATION

INSULATION PRODUCTS PER NFPA-90A WITH 25 OR LESS FLAME SPREAD AND 50 OR LESS SMOKE DEVELOPMENT RATINGS. NO PLASTIC LINERS OR COVERS PERMITTED.

DUCT LINER INSULATION

OWENS-CORNING AEROFLEX OR EQUIVALENT MANVILLE LINACOUSTIC OR KNAUF DUCT LINER M FIRE RESISTANT MATTE FACED GLASS FIBER DUCT LINER. 1-1/2 LB DENSITY. CERTIFIED EROSION RESISTANT DUCT LINER FOR DUCT AIR VELOCITIES UNDER 2000 F/P/M. K APPROX. 0.24 AT 50 DEGREES F. DUCT LINERS SHALL BE ADHERED TO THE SHEET METAL WITH A 100% COVERAGE OF ADHESIVE, AND ALL EXPOSED LEADING EDGES AND ALL TRANSVERSE JOINTS COATED WITH ADHESIVE. DUCT LINER SHALL BE CUT TO ASSURE OVERLAPPED AND COMPRESSED LONG-LONGITUDINAL CORNER JOINTS. THE DUCT LINER SHALL BE ADDITIONALLY SECURED WITH MECHANICAL FASTENERS WHICH SHALL COMPRESS THE DUCT LINER SUFFICIENTLY TO HOLD IT FIRMLY IN PLACE. FOR VELOCITIES TO 2000 F/P/M.

FASTENERS SHALL START WITHIN 3 INCHES OF THE UPSTREAM TRANSVERSE EDGES OF THE DUCT LINER AND 3 INCHES FROM THE LONGITUDINAL JOINTS AND SHALL BE SPACED A MINIMUM OF 12 INCHES O.C. AROUND THE PERIMETER OF THE DUCT, EXCEPT THAT THEY MAY BE A MAXIMUM OF 12 INCHES FROM A CORNER BREAK. ELSEWHERE THEY SHALL BE A MAXIMUM OF 18 INCHES O.C. EXCEPT THAT THEY SHALL BE PLACED NOT MORE THAN 6 INCHES FROM A CORNER BREAK.

DUCT WRAP INSULATION OWENS-CORNING FIBERGLASS ALL-SERVICE FACED DUCT WRAP INSULATION, OR EQUAL. INSTALL DUCT WRAP INSULATION WITH FACING OUTSIDE SO THAT TAPE FLAP OVERLAPS INSULATION AND FACING OF ADJACENT PIECE OF DUCT WRAP. INSULATION SHALL BE TIGHTLY BUTTED. IF DUCTS ARE RECTANGULAR, INSTALL SO INSULATION IS NOT EXCESSIVELY COMPRESSED AT DUCT CORNERS. SEAMS SHALL BE STAPLED APPROX. 6 INCHES ON CENTER WITH OUTWARD CLINCHING STAPLES.

SEAL SEAMS WITH PRESSURE-SENSITIVE TAPE MATCHING THE FACING. WHERE RECTANGULAR DUCTS ARE 24 INCHES IN WIDTH OR GREATER, DUCT WRAP INSULATION SHALL BE ADDITIONALLY SECURED TO THE BOTTOM OF THE DUCT WITH MECH. FASTENERS SUCH AS PINS AND SPEED CLIP WASHERS, SPACED ON 18 INCH CENTERS (MAXIMUM) TO PREVENT SAGGING OF INSULATION. ADJACENT SECTIONS OF WRAP INSULATION SHALL BE TIGHTLY BUTTED WITH THE 2 INCH TAPE FLAP OVERLAPPING. SEAL ALL TEARS, PUNCTURES, AND OTHER PENETRATIONS OF THE DUCT WRAP INSULATION FACING WITH TAPE OR MASTIC TO PROVIDE A VAPOR TIGHT SYSTEM.

DUCT INSULATION LOCATION

RETURN AIR DUCT INSULATION.

DUCT ACCESSORIES TURNING VANES

TURNING VANES TO BE DOUBLE WALL FABRICATED PER SMACNA STANDARDS.

VOLUME DAMPERS

ALL DUCTS 12" DEEP AND LARGER. OPEN. VOLUME DAMPERS WHERE SHOWN ON DRAWING.

BACK DRAFT DAMPERS PREFCO PHL, OR EQUIVALENT.

DUCT ACCESS PANELS

<u>GRILLES AND DIFFUSERS</u>

WRAP ALL RECTANGULAR AND ROUND EXHAUST DUCTS AND EXHAUST PLENUMS AT ROOF EXHAUST FANS WITH 1-1/2 INCH THICK DUCT WRAP INSULATION. WRAP FOR ENTIRE LENGTH. LINE ALL EXHAUST GRILLE BOOTS WITH 1/2" DUCT LINER.

WRAP ALL RECTANGULAR SUPPLY AIR DUCTS WITH 2" WRAP. LINEAR DIFFUSER BOOTS W/ 1" THICK DUCT LINER. WRAP ALL ROUND SUPPLY AIR DUCTS AND DUCTS 4" OR LESS IN ANY DIMENSION WITH 2" DUCT WRAP INSULATION.

WRAP ALL RECTANGULAR DUCTS WITH 2" DUCT WRAP. GRILLE BOOTS W/ 1" THICK DUCT LINER. INSTALL RETURN GRILLE ACOUSTICAL PLENUMS FURNISHED BY BUILDER. WRAP ALL ROUND DUCTS AND DUCTS 4" OR LESS IN ANY DIMENSION WITH 2" THICK DUCT WRAP

MANUAL VOLUME DAMPERS, FABRICATED PER SMACNA STANDARDS, W/ LOCKING QUADRANT. PROVIDE MULTIBLADE DAMPERS FOR

BALANCING DAMPERS WIDTH OF THE BRACH TAKEOFF. PROVIDE CEILING ACCESS FOR OPERATING DAMPERS. LEAVE ALL DAMPERS

INSTALL PER MANUFACTURER'S INSTRUCTIONS. SEE SCHEDULE INTERLOCKED, FELT EDGED BLADE, ADJUSTABLE SPRING LOADED.

FOR MAINTENANCE, CLEANING, RESETTING, OR EXAMINATION. AIR TIGHT HINGED ACCESS DOORS W/ FELT OR TUBULAR NEOPRENE GASKET. WITH CAM LATCHES (NOT SCREWS). KARP OR EQUIVALENT. INSULATED AT INSULATED DUCTS.

ALL GRILLES AND DIFFUSERS SHALL BE AS INDICATED ON THE PLANS AND SHALL BE EQUIPPED W/ OPPOSED BLADE DAMPERS AND HAVE A WHITE BAKED ON ENAMEL FINISH UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS.

FILTERS FURNISHED W/ ALL AIR HANDLING UNITS AND FURNACES. SEE SCHEDULES. SPARE FILTERS PROVIDED WHERE INDICATED IN SCHEDULE. HVAC CONTRACTOR IS REQ'D DURING AND AT THE COMPLETION OF THE BUILDING CONSTRUCTION TO PROVIDE NEW REPLACEMENT AIR FILTERS OF EQUAL EFFICIENCY AT ALL HVAC UNITS USED DURING CONSTRUCTION.



Baton Rouge, LA 70820 parisheng.com | #24-007 **BID DOCUMENTS MECHANICAL & PLUMBING SPECIFICATIONS** SOUTHERN UNIVERSITY FINANCIAL UNIT ADDITION 801 Harding Blvd, Baton Rouge, LA 70813 East Baton Rouge Parish PROJECT ID: 20231010 TEL: 337.205.3235 EMAIL: david@dbarchitectureofacadiana.com WEBSITE: www.dbarchitectureofacadiana.com ADDRESS: 233 Doucet Rd, Suite A2, Lafavette, Louisiana, 70503 # BY DATE REVISION PROJECT NUMBER 20231010 03/25/2024 **MP00** /03/25/2024

PLUMBING GENERAL NOTES

1. 2	ALL WORK BY CONTRACTORS SHALL CONFORM TO ALL APPLICABLE FEDERAL, STATE AND LOCAL BUILDING CODES, INCLUDING THE CURRENT INTERNATIONAL ENERGY CONSERVATION CODE.
2.	COMPLETION & ACCEPTANCE BY THE CONTRACT SHALL BE NEW & SHALL BEAK THE OL LABEL WHERE APPLICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEPECTIVE WILL COMPLETION & ACCEPTANCE BY THE OWNER, LONGER IF STATED OTHERWISE ELSEWHERE IN THE SPECIFICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEPECTIVE WILL CONTRACTOR ACCEPTANCE BY THE OWNER, LONGER IF STATED OTHERWISE ELSEWHERE IN THE SPECIFICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEPECTIVE WILL CONTRACTOR ACCEPTANCE BY THE OWNER, LONGER IF STATED OTHERWISE ELSEWHERE IN THE SPECIFICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE GUARANTEED AGAINST DEPECTIVE WILL CONTRACTOR ACCEPTANCE BY THE OWNER, LONGER IF STATED OTHERWISE ELSEWHERE IN THE SPECIFICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE AGAINST DEPECTIVE WILL CONTRACTOR ACCEPTANCE BY THE OWNER, LONGER IF STATED OTHERWISE ELSEWHERE IN THE SPECIFICABLE, UNLESS NOTED OTHERWISE. ALL WORK SHALL BE AGAINST DEPECTIVE WILL ALL FOUNDER A DEPECTIVE AGAINST DEP
3.	GUARANTEES. CONTRACTOR SHALL INSTALL SYSTEMS WITHOUT INTERFERENCE & PROVIDE MANUFACTORER'S RECOMMENDED AIR & SERVICE CLEARANCES. INSTALL ALL EQUIPMENT IN STRICT ACCORDANCE WITH MA GUARANTEES. CONTRACTOR SHALL COORDINATE WITH ALL TRADES & DISCIPLINES.
4.	CONTRACTOR SHALL FIELD VERIFY EXACT LOCATION, INVERT/ DEPTH/ ELEVATIONS OF EXISTING SANITARY SEWER, DOMESTIC WATER, FIRE WATER, NATURAL GAS, STORM DRAINAGE, ETC. PRIOR TO AN
5.	PRELIMINARY SEWER INVERT PIPE PLAN: CONTRACTOR SHALL PROVIDE DRAWING (NO LESS THAN 1/8"=1'-0" SCALE) SHOWING PROPOSED INVERTS OF ALL SUBSURFACE PIPING (SANITARY SEWER, STORI LOCATION & SEWER INVERT OF SANITARY SEWER CONNECTION TO MECHANICAL ENGINEER & ARCHITECT FOR REVIEW & APPROVAL PRIOR TO INSTALLATION. NO ADDITIONAL COST WILL BE PROVIDED FOR DRAWING PROPOSED INVERTS OF ALL SUBSURFACE PIPING (SANITARY SEWER, STORI LOCATION & SEWER INVERT OF SANITARY SEWER CONNECTION TO MECHANICAL ENGINEER & ARCHITECT FOR REVIEW & APPROVAL PRIOR TO INSTALLATION. NO ADDITIONAL COST WILL BE PROVIDED FOR DRAWING PROPOSED INVERTS OF ALL SUBSURFACE PIPING (SANITARY SEWER, STORI LOCATION & SEWER INVERT OF SANITARY SEWER CONNECTION TO MECHANICAL ENGINEER & ARCHITECT FOR REVIEW & APPROVAL PRIOR TO INSTALLATION. NO ADDITIONAL COST WILL BE PROVIDED FOR DRAWING PROPOSED INVERTOR TO INSTALLATION. NO ADDITIONAL COST WILL BE PROVIDED FOR DRAWING PROPOSED INVERTOR TO INSTALLATION.
6.	COORDINATE ALL UNDERGROUND PIPING & WORK WITH EXISTING SYSTEMS, INCLUDING EXISTING UTILITIES, SEWER, GAS, DOMESTIC WATER, CHILLED/HEATING WATER, ELECTRIC DUCT BANKS AND POW
7.	TO BEGINNING WORK. MARKED UTILITIES AND EXISTING SYSTEMS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AND REPAIRED BACK TO ORIGINAL CONDITION BY THE CONTRACTOR AT NO ADDI PLUMBING CONTRACTOR SHALL COORDINATE WITH MECHANICAL CONTRACTOR ON LOCATION OF ALL FLOOR DRAINS & HUB DRAINS AS NOT TO INTERFERE WITH EQUIPMENT & EQUIPMENT PADS. COORD
8	THE INSTALLATION SHOWN FOR DRAIN. COORDINATE HEIGHT OF HUB DRAINS FOR FAN COIL UNITS & CEILING CASSETTES.
9.	CONTRACTOR SHALL VISIT THE SITE FOR INSPECTION REGARDING ANY WORK REQUIRED TO COMPLETE THE SCOPE OF WORK FOR THE PROJECT PRIOR TO BID. THERE SHALL BE NO ADDITIONAL COST T
10.	PRIOR TO BID. CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS AND VISIT THE SITE AND COORDINATE PIPE ROUTING & EQUIPMENT INSTALLATION. CONTRACTOR SHALL NOTIFY THE ARCHITECT AND ENGINE
11.	CONDITIONS. CONTRACTOR SHALL REVIEW CEILING SPACE AND MECHANICAL ROOM SPACE AVAILABLE FOR PIPING AND EQUIPMENT AND MAKE REQUIRED ALLOWANCES FOR THE SIZE OF EQUIPMENT AND ROUTING (BE INSTALLED IN SPACE PROVIDED AND ALL SERVICE CLEARANCES MAINTAINED PRIOR TO ORDERING EQUIPMENT. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MODIFICATIONS REQUIRED FOR EQU
12	DESIGN. PIPING SHOWN DIAGRAMMATICALLY, POLITE PIPING IN MOST DIRECT MANNER AVOIDING ORSTRUCTIONS NOT INDICATED, PROVIDE FITTINGS, DEESETS, ETC., EOR POLITING OF PIPING TO AVOID ORSTRU
12. 13.	COORDINATE EXACT LOCATION OF ALL SLAB, FLOOR, WALL AND ROOF PENETRATIONS WITH EXISTING STRUCTURAL BEAMS, JOIST AND COMPONENTS. DO NOT CUT OR MODIFY EXISTING STRUCTURAL
14. 15.	UNDER NO CIRCUMSTANCES SHALL EQUIPMENT AND RELATED SYSTEM COMPONENTS FOUND POSITIVE FOR MOLD, MILDEW, ASBESTOS, HARMFUL BACTERIA OR ANY OTHER CONTAMINATION BE PLACED MODEL NUMBERS SCHEDULED/SPECIFIED REPRESENT THE TYPE AND QUALITY OF EQUIPMENT REQUIRED TO MEET THE DESIGN REQUIREMENTS. CONTRACTOR SHALL REVIEW SUBMITTALS AND VERIEY
16.	PRIOR TO SUBMITTING FOR APPROVAL. EQUIPMENT THAT DIFFERS FROM BASIS OF DESIGN IS SUBJECT TO REJECTION. CONTRACTOR TO COORDINATE ALL DIFFERENCE IN EQUIPMENT WITH ELECTRICA PROVIDE PERMANENT LABELS FOR ALL EQUIPMENT (WATER HEATERS, MIXING VALVES, PUMPS, EXPANSION TANKS, ETC.). LABELS SHALL BE MINIMUM 3/8" ENGRAVED BLACK LETTERS ON WHITE BACKGR SECURELY EASTENED TO EQUIPMENT WITH STAINLESS STEEL OR NONCORRODING HARDWARE, STICK ON LABELS NOT ACCEPTABLE
17.	SANITIZE & DISINFECT THE POTABLE WATER SYSTEM IN ACCORDANCE WITH INTERNATIONAL PLUMBING CODE (CURRENT ENFORCEABLE EDITION) & LOCAL BUILDING CODES. TEST SYSTEM FOR LEAKS.
18.	PROVIDE VALVES WHERE INDICATED ON DRAWINGS & AS REQUIRED FOR PROPER OPERATION OF PIPING SYSTEM. PROVIDE ACCESS PANELS AS REQUIRED FOR ACCESS TO VALVES. PROVIDE SHUT OFF BRANCH LINES.
19.	PLUMBING FIXTURES SHALL BE INSTALLED PLUMB & LEVEL TO SUPPORTING SURFACES. PROVIDE WALL MOUNTED BACKING PLATES OR CARRIER ASSEMBLIES FOR WALL HUNG FIXTURES. INSTALL FIXTUR
20.	PROVIDE ALL PLUMBING FIXTURES WITH ACCESSIBLE STOPS, PROVIDE ALL EQUIPMENT WITH ACCESSIBLE SHUT OFF VALVES.
21. 22.	MAINTAIN 6" BETWEEN FLUSH VALVE, VACUUM BREAKER, CRITICAL LEVEL TAILPIECE & OVERFLOW RIM OF WATER CLOSETS.
23. 24	PROVIDE SLEEVES FOR ALL PIPING THRU GRADE BEAMS AND/OR 1" CLOSED CELLULAR FOAM AS TO ISOLATE THE PIPING FROM THE CONCRETE IN EVENT BUILDING SETTLES.
24. 25.	INSTALL ALL SUBSURFACE PRESSURGED IN DIRECTORE AND/OR TRAINING IN ALL FROME GAS, ETC.) MINIMUM 36" BELOW GRADE. NOTIFY MECHANICAL ENGINEER & ARCHITECT IF EXISTING
26.	ALL SUBSURFACE PIPING OUTSIDE OF BUILDING. SMOKE TEST ALL SANITARY SEWER & VENT PIPING PRIOR TO CLOSURE OF WALLS.
27.	PLUG OR CAP ALL PIPING. PIPING SHALL NOT BE LEFT OPEN ENDED (INCLUDING WHEN STORED ON SITE & DURING CONSTRUCTION).
28. 29.	GRADE SENSITIVE PIPING (SANITARY SEWER, VENT, STORM DRAINAGE, ETC.) SHALL TAKE PRECEDENCE OVER ALL OTHER INSTALLATIONS. COORDINATE WITH ALL DISCIPLINES PRIOR TO & DORING CONS COORDINATE PIPE PENETRATIONS WITH ELECTRICAL & MECHANICAL CONTRACTOR.
30.	PROVIDE FLASHING & COUNTER-FLASHING AS REQUIRED TO MAINTAIN THE WATERPROOFING INTEGRITY OF THE BUILDING AS REQUIRED FOR THE INSTALLATION OF PIPES, CONDUIT, EQUIPMENT, ETC.
31. 32.	(WHICHEVER DATE IS EARLIER). ASSUME RESPONSIBILITY FOR ALL EXPENSES INCURRED FOR REPAIR & REPLACEMENT FOR OTHER TRADES WHERE CAUSED BY DEFECTS. CONTRACTOR TO INCLUDE IN BID PROVIDING A COMPLETE SET OF COORDINATION DRAWINGS FOR ALL PIPING & PARTICIPATE WITH OTHER SUBS FOR PROVIDING COORDINATION DRAWINGS & INCLUDE //
33.	DOCUMENTS. PROVIDE ALL LABOR. MATERIAL & APPLIANCES AS REQUIRED FOR THE INSTALLATION & TESTING OF THE SYSTEM & INCLUDE ALL COST FOR LICENSES. PERMITS. CERTIFICATE FILING & INSPECTIONS REC
34.	PROVIDE CLEANOUTS WHERE SHOWN ON DRAWINGS & WHERE SPECIFIED BELOW:
	34.1. PROVIDE 2-WAT EXTERIOR CLEANOUTS AT ALL SEWER LINES EXTING FROM UNDER THE BUILDING SLAB. 34.2. PROVIDE CLEANOUT AT BASE OF RISER WITH ACCESS DOORS FOR SANITARY SEWER & STORM DRAINAGE RISER FROM SECOND FLOOR LEVEL AND ABOVE.
	34.3. PROVIDE CLEANOUTS AT CHANGES IN DIRECTIONS GREATER THAN 45°.
	34.5. PROVIDE CLEANOUTS EVERY 50 FEET FOR 3" & UNDER PIPING.
	34.6. PROVIDE 6" CLEANOUTS ON PIPING 6" & LARGER. 34.7. PROVIDE CLEANOUT MATCHING PIPE SIZES FOR PIPING 4" & LINDER
35.	CONTRACTOR SHALL CLEAN ALL CONCRETE, DIRT & DEBRIS ON ALL EXTERIOR VALVE COVERS, EXTERIOR CLEANOUTS & MANHOLE COVERS AT PROJECT COMPLETION & APPLY TWO-PART BLACK EPOXY
36.	EXTERNAL SEALS. PROVIDE REDUCED PRESSURE ZONE BACKFLOW PREVENTER ON COLD WATER LINES SERVING ICE MAKERS & HUMIDIFIERS. ROUTE DRAIN FROM BFP TO DRAIN SERVING ASSOCIATED EQUIPMENT UNLES
37.	PROVIDE DIELECTRIC FITTING WHERE DISSIMILAR METALS ARE CONNECTED.
38. 39.	DO NOT ROUTE PIPING CONTAINING WATER CLOSETS WITH FLUSH VALVE HANDLES OR FLUSH LEVER (FOR TANK TYPE WATER CLOSETS) POINTING TOWARDS "OPEN" SIDE OF WATER CLOSET STALL AS REQUIRED F DO NOT ROUTE PIPING CONTAINING WATER OVER ELECTRIC EQUIPMENT.
40.	PROVIDE ACCESS PANELS FOR EQUIPMENT, VALVES, ETC. WHERE LOCATED ABOVE NON ACCESSIBLE CEILING. ACCESS PANELS SHALL BE LARGE ENOUGH FOR REQUIRED ADJUSTMENT & MAINTENANCE RATED ACCESS PANELS WHERE REQUIRED IN RATED CEILINGS. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN & DRAWINGS FOR RATED CEILING LOCATIONS.
41.	ALL TRAPS SUBJECT TO EVAPORATION (FLOOR DRAINS, HUB DRAINS, ETC.) SHALL BE PROVIDED WITH A TRAP PRIMER.
42. 43.	PROVIDE WATER HAMMER ARRESTORS IN ACCORDANCE WITH PDI WHZUT & ASSETUTO COMPLAINT. PROVIDE ALL POTABLE WATER SYSTEMS WITH LEAD FREE PIPING, SOLDER & FLUX.
44.	COORDINATE ROUGH IN LOCATIONS WITH APPROVED TOILET PARTITION SHOP DRAWINGS & ARCHITECTURAL ELEVATION DRAWINGS.
45. 46.	ALL AUTOMATIC TRAP PRIMERS SHALL BE ASSE 1018 COMPLIANT. MANHOLE REQUIREMENTS:
	46.1. ALL MANHOLES SHALL BE PRECAST CONCRETE TYPE CONFORMING TO ASTM C478/C478M.
	46.3. ALL MANHOLE RUBBER GASKETS FOR CONCRETE PIPE AND MANHOLES SHALL CONFORM TO ASTM C443/C443M. 46.3. ALL MANHOLE TOPS FRAMES & COVERS SHALL CONFORM TO ASTM A48.
	46.4. SEWER MANHOLES BASE SHALL BE CONCRETE POURED ON STABILIZED SOIL OR AGGREGATE SUBBASE WITH INSIDE SURFACES SLOPED A MINIMUM OF 2 INCHES PER FOOT TO THE PIPE FLOW (WATERSTOP OR GASKET MATERIALS AND GROUTED. MANHOLE TOP FRAMES AND COVERS SHALL BE CLASS 30 GRAY CAST IRON CONFORMING TO ASTM A48/A48M, MACHINED FOR PROPER FIT (PERCENT OF THE SPECIFIED WEIGHT FOR EACH CASTING. COVERS SHALL HAVE THE WORD "SEWER" CAST IN LARGE LETTERS. SIMILAR, SEALED COVERS WITH GASKETS AND CAP SCREWS OR E
47.	WATER HEATERS SHALL HAVE THE FOLLOWING REQUIRED SAFETY DEVICES: TEMPERATURE & PRESSURE RELIEF VALVE, ASSE 1017 COMPLAINT THERMOSTATIC MIXING VALVE, INTERNAL CUTOFF DEVICE BREAKER INSTALLED ON COLD WATER LINE TO WATER HEATER (ANTI-SIPHON DEVICE).
48.	PROVIDE ALL SUMP PUMPS WITH CHECK VALVE & GATE VALVE INSTALLED ON THE DISCHARGE OF THE SUMP PUMP.
49. 50	PROVIDE MILDEW-RESISTANT WHITE SILICONE SEALANT BEAD AROUND BASE OF ALL FIXTURES. PROVIDE 1" THICK CONTINUOUS INSULATION ON ALL PIPING PENETRATING THE ROOF INSULATION SHALL BE FROM UNDERSIDE OF ROOF DECK ALONG ALL LATERALS & TO 6" RELOW LAST ABOVE CELLIN
50. 51.	PROVIDE HIGH & LOW BRACING FROM STRUCTURE ON PIPING PENETRATING THROUGH THE ROOF TO PREVENT MOVEMENT THAT WOULD AFFECT WATERPROOFING OF ROOF FLASHING.
52.	PROVIDE SUPPORTS FOR ROOF MOUNTED HORIZONTAL PIPING WITH SPACING & IN A MANNER ENDORSED BOTH BY PIPE MANUFACTURER & ROOF MANUFACTURER. SUPPORTS SHALL BE DESIGNED FOR
53.	NOVENENT OF PENNS WITHOUT AFFECTING THE ROUFING STSTEM. PROVIDE & COORDINATE PROVISIONS FOR PIPE PROTECTION BENEATH HANDICAP LAVATORIES WHERE REQUIRED BY APPLICABLE CODES & WHERE INDICATED WITHIN TOILET ACCESSORIES.
54. 55	PROVIDE SLEEVES SIZED FOR PASSAGE OF PIPING, FULL INSULATION THICKNESS & INSTALLATION OF FIRE-STOP AND/OR SEALANT ON ALL DOMESTIC WATER, SANITARY VENT, FIRE WATER & NATURAL G

BING PENETRATIONS (VENTS, FLASHING, ETC.) THROUGH ROOF. COORDINATE WITH ARCHITECT FOR CO GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PAINTING, CUTTING & PATCHING OF EXISTING FLOORS, WALLS & PARTITIONS IN EXISTING BUILDING & FOR RESTORING AREA TO ORIGINAL CONDITION THAT IS ACCEPTABLE TO ARCHITECT. 56. OWNER SHALL HAVE FIRST RIGHT OF REFUSAL & UPON REFUSAL FOR ALL EXISTING MATERIAL & EQUIPMENT REMOVED UNDER THE CONTRACT SHALL BE HAULED OFF SITE AS DEBRIS. CONTRACTOR SHALL COORDINATE & PLAN INSTALLATION OF NEW WORK & CONNECTIONS TO EXISTING UTILITIES IN A MANNER TO MINIMIZE SHUTDOWN. CONTRACTOR SHALL COORDINATE WITH OWNER ON ANY SHUTDOWN REQUIRED THAT AFFECTS EXISTING OCCUPIED PORTIONS OF THE 58. BUILDING AND/OR ANY SURROUNDING EXISTING FACILITIES.

WATERIALS & WORKMANSHIP FOR A PERIOD OF NOT LESS THAN ONE YEAR AFTER ANUFACTURER'S RECOMMENDATIONS AS REQUIRED TO MAINTAIN WARRANTIES &

ANY CONSTRUCTION. CONTRACTOR TO NOTIFY THE MECHANICAL ENGINEER & ARCHITECT RM DRAINAGE, DOMESTIC WATER, FIRE WATER, CHILLED/HEATING WATER, ETC.) & EXACT FOR REINSTALLING SUBSURFACE PIPING IF PRELIMINARY INVERT PIPING PLAN IS NOT

WER. NOT ALL EXISTING SYSTEMS SHOWN. COORDINATE ALL EXISTING SYSTEMS PRIOR DITIONAL COST TO THE CONSTRUCTION CONTRACT. RDINATE NEW FLOOR DRAIN & HUB LOCATION WHERE EQUIPMENT DOES NOT ALLOW FOR

NETRATING WALLS EXPOSED TO VIEW/WITHIN FINISHED AREAS. TO THE OWNER FOR BIDDERS AWARDED THE WORK FOR FAILURE TO EXAMINE SITE VEER WHERE DISCREPANCIES OCCUR BETWEEN CONTRACT DOCUMENTS AND EXISTING

OF PIPING. CONTRACTOR SHALL VERIFY EQUIPMENT TO BE SUPPLIED TO PROJECT CAN UIPMENT THAT IS SUPPLIED THAT IS DIFFERENT THAN EQUIPMENT THAT IS BASIS OF UCTIONS & AS REQUIRED FOR A COMPLETE PLUMBING SYSTEM.

COMPONENTS WITHOUT APPROVAL FROM STRUCTURAL ENGINEER. ED INTO SERVICE. Y EQUIPMENT SIZES, QUALITY AND PERFORMANCE REQUIREMENTS MEET SPECIFICATIONS AL CONTRACTOR. ROUND, CONSTRUCTED OF MINIMUM 1" WIDE, LENGTH AS REQUIRED LAMINATED PLASTIC.

F VALVES AT ALL HOSE BIBBS & ON COLD & HOT WATER BRANCHES TO ISOLATE THE URES WITH TRAPS IN A MANNER WHERE TRAPS ARE EASILY REMOVED FOR SERVICE &

(TURE. ALL WALL CLEANOUTS MAY NOT BE SHOWN FOR CLARITY OF DRAWINGS.

OF SUPPORTS FOR PIPING & EQUIPMENT. G TIE-IN LOCATIONS DO NOT ALLOW. PROVIDE CODE COMPLIANT DEPTH OF COVER FOR

STRUCTION.

R FROM DATE OF ACTUAL USE OF EQUIPMENT OR OCCUPANCY OF SPACES BY OWNER E ALL ABOVE CEILING DISCIPLINES ON FLOOR PLANS AT SCALE SIMILAR TO BID QUIRED BY AUTHORITIES HAVING JURISDICTION.

Y COATING THAT SHALL DRY TO HARD FINISH. APPLY COATING PRIOR TO INSTALLATION OF

ESS INDICATED OTHERWISE.

FOR ADA COMPLIANCE.

E. COORDINATE COLOR & LOCATION WITH ARCHITECT. PROVIDE FIRE AND/OR SMOKE

/ CHANNEL. ALL PIPE CONNECTIONS AND JOINTS SHALL BE SEALED WITH APPROVED OF COVERS IN FRAME, COATED WITH COAL-TAR PITCH VARNISH AND NOT LESS THAN 93 BOLTS SHALL BE USED WHERE SUBJECT TO FLOODING. CE TO CUT ENERGY SOURCE TO WATER HEATER & ANSI Z21.22 COMPLIANT VACUUM

ING ELBOW JOINT.

R UNBINDING SURFACE OR WITH NON-CORRODING ROLLERS TO ALLOW FOR THERMAL

GAS PIPING PENETRATING THROUGH WALLS.

GENERAL 1 SECTION (1) GENERAL NOTE SECTION SYMBOL NEW WORK M101/ - SHEET NUMBER EXISTING TO REMAIN _____ 1 DEMO NOTE 1 DETAIL SYMBOL M101 SHEET NUMBER ----- EXISTING TO BE DEMOLISHED 1 REVISION TAG NEW EQUIPMENT OR FIXTURE $\langle / / \rangle$ RE: 1 / M101 SHEET REFERENCE TAG SHEET NUMBER _____MATCHLINE 1 / M101 MATCHLINE ---- (1) GRID LINE <u>PIPING</u> 90° ELBOW ---- SANITARY VENT PIPING — – — COLD WATER PIPING

PLUMBING SYMBOL LEGEND

	HOT WATER PIPING	−−−−−⊳	TRANSITION	<u> </u> бн
<u> </u>	SANITARY SEWER PIPING		45° WYE	4
—_GW—_	GREASE WASTE PIPING	J	SANITARY TEE	——————————————————————————————————————
SD	STORM DRAIN PIPING	<u>,</u>	COMBINATION WYE AND 8TH	
—FW	FIRE WATER PIPING	++	COUPLING	X
NG	NATURAL GAS PIPING	+ <u>F</u> +	DOUBLE SANITARY VENT	—-I⊽I—
VAC	VACUUM PIPING		DOUBLE SANITARY TEE	
0	OXYGEN PIPING		DOUBLE SANITARY LONG SWEEP TEE	
N	NITROGEN PIPING) >		
——A——	AIR PIPING	\longrightarrow	DOUBLE WYE	
NO	NITROUS OXIDE PIPING]	CAP	

EDICAL GAS			
0	OXYGEN OUTLET		RECESSED VALVE BOX
	VACUUM INLET		LOCAL ALARM
	MEDICAL AIR OUTLET		MASTER ALARM
	N20 OUTLET		AREA ALARM
X	CO2 OUTLET	Ŷ	MAIN LINE GAUGE
——ഗ	VACUUM BOTTLE SLIDE	P	PRESSURE SWITCH

INDEX - PLUMBING SHEETS		
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(REFER TO DRAWINGS AND SPECIFICATIONS FOR FURTHER REQUIREMENTS)

- HOSE BIBB DOWNSPOUT NOZZLE BALL VALVE CHECK VALVE
 - GATE VALVE
 - DOMESTIC WATER SHUTOFF RE: DETAIL
 - SOLENOID VALVE
 - ----- GASCOCK
 - INLINE RECIRCULATION PUMP

ABBREVIATION LEGEND

AIR CONDITIONING

AC

ACCU	AIR COOLED CONDENSING UNIT	(
AFF	ABOVE FINISHED FLOOR	(
AFS	AIR FLOW STATION	(
		Č
AIVID		r I
AS	AIR SEPARATOR	ł
AV	AIR VENT	ł
BAS	BUILDING AUTOMATION SYSTEM	ł
BDD	BACKDRAFT DAMPER	ŀ
BFP	BACKFLOW PREVENTER	I
BOD	BOTTOM OF DUCT	I
BTUH	BRITISH THERMAL UNIT PER HOUR	ł
CC	COOLING COIL	L
CFH	CUBIC FEET PER HOUR	I
CFM	CUBIC FEET PER MINUTE	N
СН	CHILLER	N
CHWCF	CHILLED WATER CHEMICAL FEED	N
CHP		
CHR		
CHS		Ň
COMP		N
		I N
		1
		ſ
CI	COOLING TOWER	ſ
CV	CONTROL VALVE	ſ
CW	COLD WATER	1
CWCF	CONDENSER WATER CHEMICAL FEED	(
CWR	CONDENSER WATER RETURN	(
CWP	CONDENSER WATER PUMP	(
CWS	CONDENSER WATER SUPPLY	(
DB	DRY BULB TEMP (DEG F)	(
DDC	DIRECT DIGITAL CONTROL	F
DN	DOWN	F
DP	DIFFERENTIAL PRESSURE	F
DPS	DIFFERENTIAL PRESSURE SWITCH	F
DWG	DRAWING	F
DX	DIRECT EXPANSION	F
FΔ		F
EDH		ļ
		י ב
		1
	ELECTRICAL	č
ENI		
ECU	ELECTRIC CONDENSING UNIT	
ERU		
ESP	EXTERNAL STATIC PRESSURE	,
ET	EXPANSION TANK	1
EUH	ELECTRIC UNIT HEATER	٦
EVAP	EVAPORATOR	٦
EX	EXHAUST	٦
EXT	EXTERNAL	ι
FA	FRESH AIR	ι
FC/FCU	FAN COIL UNIT	١
FD	FIRE DAMPER	١
FT	FEET	Ň

FLA FULL LOAD AMPS FPM FEET PER MINUTE

FV	FACE VELOCITY
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
GPH	GALLONS PER HOUR
GUH	GAS UNIT HEATER
HC	HEATING COIL
HP	HORSEPOWER
HR	HOUR
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER BETURN
חו	
IN	
11N K(\//	
LVG	
MA	
MAX	
MD	MOTORIZED DAMPER
MECH	MECHANICAL
NG	NATURAL GAS
MIN	MINIMUM
MVD	MANUAL VOLUME DAMPER
NC	NORMALLY CLOSED
NFPA	NATIONAL FIRE PROTECTION ASSOC.
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OUTSIDE AIR
OAF	OUTSIDE AIR FAN
OAU	OUTSIDE AIR UNITS
OS&Y	OUTSIDE STEM AND YOKE
OZ	OUNCES (PRESSURE)
PD	PRESSURE DROP
PTAC	PACKAGED TERMINAL AIR CONDITIONER
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
REF	REFERENCE
RH	RELATIVE HUMIDITY
RHC	REHEAT COIL
RND	ROUND
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DAMPER
SEER	SEASONAL ENERGY EFFICIENCY RATIO
SF	SUPPLY AIR FAN
SP	STATIC PRESSURE
SPEC	SPECIFICATIONS
TEMP	TEMPERATURE
TOD	TOP OF DUCT
TSP	TOTAL STATIC PRESSURE
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LISTED
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
W/O	WITHOUT

WB WET BULB (DEG F)



7600 Innovation Park Drive 225.332.0222 Baton Rouge, LA 70820 parisheng.com | #24-007 **BID DOCUMENTS** PLUMBING COVER SHEET SOUTHERN UNIVERSITY FINANCIAL UNIT ADDITION 801 Harding Blvd, Baton Rouge, LA 70813 East Baton Rouge Parish PROJECT ID: 20231010 ARCHITECTURE OF ACADIANA, LLC TEL: 337.205.3235 EMAIL: david@dbarchitectureofacadiana.com WEBSITE: www.dbarchitectureofacadiana.com ADDRESS: 233 Doucet Rd, Suite A2, Lafayette, Louisiana, 70503 # BY DATE REVISION PROJECT NUMBER: 20231010 DATE 03/25/2024 P001 /03/25/2024



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PLUMBING SITE PLAN GENERAL NOTES

- CONTRACTOR SHALL VISIT THE SITE FOR INSPECTION REGARDING EXISTING SITE UTILITIES & NEW UTILITIES REGARDING ANY WORK REQUIRED TO COMPLETE THE SCOPE OF WORK FOR THE PROJECT PRIOR TO BID. THERE SHALL BE NO ADDITIONAL COST TO THE OWNER FOR BIDDER AWARDED THE PROJECT FOR DISCREPANCIES & FAILURE TO EXAMINE EXISTING SITE CONDITIONS PRIOR TO BID.
- ALL EXISTING SITE SANITARY SEWER, ROUTING, MANHOLES, CLEANOUTS, ETC. SHOWN ARE APPROXIMATE ONLY SHALL BE FIELD VERIFIED PRIOR TO COMMENCEMENT OF WORK. LOCATIONS SHOWN ARE BASED ON EXISTING DRAWINGS DATED 1997. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS, LOCATIONS, DIRECTION OF FLOW, INVERTS, ETC. PRIOR TO BIDDING AS TO ENSURE NEW SEWER SYSTEM CAN BE INSTALLED WITHOUT CONFLICT.
 EXACT LOCATION & INVERT OF UTILITIES NOT KNOWN. CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXISTING SUBSURFACE
- UTILITIES & ASSOCIATED INVERTS THAT CONFLICT WITH NEW UTILITIES SHOWN. <u>SANITARY SEWER TIE IN:</u> CONTRACTOR SHALL VERIFY EXACT LOCATION & INVERT OF EXISTING MANHOLES, SANITARY SEWER WYE,
- SANITARY SEWER LINE. VERIFY SLOPE & FLOW PRIOR TO MAKING ANY CONNECTION. COORDINATE WITH LOCAL UTILITY COMPANIES PRIOR TO OFFSETTING EXISTING UTILITIES. JOINING OF SITE SANITARY SEWER SHALL BE ACCOMPLISHED BY ELASTOMERIC GASKET JOINTS CONFORMING WITH ASTM D3212, GASKET MATERIAL SHALL BE SUITABLE FOR USE WITH SEWAGE AND CONFORM TO ASTM F477. ALL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL AHJ STANDARDS & MUNICIPALITY FOR SANITARY SEWER. CONTRACT MUNICIPAL/PUBLIC WORKS FOR COORDINATION OF CONNECTION TO SEWER & INCLUDE ALL COST, PERMITTING, FEES, ETC. AS REQUIRED FOR INSTALLATION OF NEW SANITARY SEWER SERVICE. PROVIDE BACKWATER VALVE WHERE REQUIRED.
- EXISTING SANITARY SEWER PIPING VERIFICATION: A. CONTRACTOR SHALL VIDEO CAMERA ALL EXISTING SANITARY SEWER PIPING THAT IS TO REMAIN & BE REUSED TO VERIFY EXACT CONDITION & SLOPE OF PIPING. SUBMIT VIDEO CAMERA FOOTAGE TO MECHANICAL ENGINEER FOR REVIEW & APPROVAL PRIOR TO COMMENCEMENT OF DEMOLITION WORK.
- B. ALL EXISTING SITE SANITARY SEWER PIPING THAT IS TO REMAIN & BE REUSED SHALL BE JETTED. EXISTING SUBSURFACE UTILITIES NON-DESTRUCTIVE VERIFICATION:
- CONTRACTOR SHALL FIGURE IN BID PERFORMING ASCE 38-02 "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATE" UTILITY QUANTITY LEVEL A & B TO VERIFY EXACT LOCATION AND SIZE OF ALL EXISTING SUBSURFACE UTILITIES.
- B. HAND DIG ALL LOCATIONS AS TO DETERMINE EXACT SIZE, DEPTH, LOCATION AND TYPE OF EXISTING SUBSURFACE UTILITIES. UPON VERIFICATION, PROVIDE DRAWING OF UTILITIES INDICATING SIZE, TYPE, ROUTING, AND LOCATION TO ARCHITECT AND MECHANICAL ENGINEER FOR REVIEW AND COMMENT.
- ANY EXISTING UTILITIES DAMAGED DURING SUBSURFACE UTILITY VERIFICATION, DEMOLITION, OR RELOCATION SHALL BE REPAIRED BY CONTRACTOR AT CONTRACTOR'S EXPENSE.
 IF EXISTING NON-CONDUCTIVE SUBSURFACE PIPING ARE FOUND; CONTRACTOR SHALL PROVIDE COPPER TRACER WIRE AND
- WARNING TAPE (FOR ALL NEW AND EXISTING NON-CONDUCTIVE SUBSURFACE PIPING WITHIN SCOPE OF BUILDING SITE). WARNING TAPE SHALL HAVE BRIGHTLY COLORED, METALLIC CORE, NON-DETERIORATING, MINIMUM 2" WIDE, ID RIBBON TAPE, SET AT WHICHEVER IS SHALLOWER: 12" ABOVE TOP OF PIPE OR 24" BELOW FINISHED GRADE.
- E. PROVIDE NEW PIPE SUPPORTS AS REQUIRED FOR THE DEMOLITION AND RENOVATION SCOPE OF WORK. PIPE SUPPORTS AND STANDS SHALL MATCH EXISTING.
- F. CONTRACTOR SHALL PROVIDE PROVISIONS FOR PROTECTING EXISTING UTILITIES WHERE SUBJECT TO DAMAGE DUE TO NEW SEWER SYSTEM INSTALLATION.
 <u>COORDINATION DRAWINGS:</u>
- A. CONTRACTOR SHALL INCLUDE IN BID TO PROVIDE COORDINATION DRAWING OF SUBSURFACE UTILITIES & SANITARY SEWER INVERTS, ROUTING & DIRECTION OF FLOW. COORDINATION DRAWINGS OF SITE SUBSURFACE UTILITIES & EXISTING SANITARY SEWER SYSTEM SHALL BE SUBMITTED TO MECHANICAL ENGINEER, ARCHITECT & GENERAL CONTRACTOR FOR REVIEW & APPROVAL PRIOR TO COMMENCEMENT OF NEW WORK.
- B. CONTRACTOR SHALL NOTIFY MECHANICAL ENGINEER & ARCHITECT IMMEDIATELY WHERE EXISTING UTILITIES AND/OR DISCREPANCIES DO NOT ALLOW FOR INSTALLATION OF NEW SEWER SYSTEM FOR FURTHER DIRECTION.
- AS BUILT DRAWINGS: A. CONTRACTOR SHALL PROVIDE AS BUILT DRAWING SET OF EXISTING & NEW SITE UTILITIES LOCATED WITHIN AREA OF WORK WITH CLOSEOUT DOCUMENTS. PROVIDE COPY TO MECHANICAL ENGINEER, ARCHITECT & OWNER.
- A. COORDINATE WITH OWNER MINIMUM 10 BUSINESS DAYS PRIOR TO ANY REQUIRED UTILITY SHUTDOWNS REQUIRED FOR WORK.

PLUMBING SITE PLAN KEY NOTES

7.

- 1 REPLACE EXISTING UNDERGROUND DOMESTIC WATER SHUT OFF VALVE WITH NEW UNDERGROUND SHUT OFF VALVE IN CAST IRON VALVE BOX MARKED "WATER". PROVIDE NEW PIPE INSULATION AT EXISTING DOMESTIC WATER PIPING ABOVE GRADE.
- 2 EXISTING PRIVATE SEWER SYSTEM & PUMP PORT APPROXIMATELY THIS LOCATION SHALL BE DISCONNECTED, CAPPED, PUMPED OUT, AND ABANDONED IN PLACE. ALL EXISTING SANITARY SEWER PIPING ROUTED TO EXISTING PRIVATE SEWER SYSTEM SHALL BE ROUTED TO NEW GRAVITY FLOW SEWER SYSTEM TO EXISTING MANHOLE. FIELD VERIFY EXACT LOCATION, INVERTS, SIZE, DIRECTION OF FLOW & CONDITION OF EXISTING SANITARY SEWER SYSTEM. FIELD VERIFY EXISTING CONDITIONS & COORDINATE WITH MECHANICAL ENGINEER, ARCHITECT & OWNER PRIOR TO ANY DISCONNECTION OF EXISTING SEPTIC SYSTEM.
- CONTRACTOR SHALL REPLACE DAMAGED EXTERIOR SANITARY SEWER CLEANOUT WITH NEW 2-WAY 4" CLEANOUTS APPROXIMATELY THIS LOCATION. PROVIDE NEW CLEANOUTS WITH 24"x24"x6" CONCRETE SLAB WITH CHAMFERED EDGES & CAST IRON SEWER BOX MARKER "SEWER". REFER TO DETAIL.
- 4 CONTRACTOR SHALL FIELD VERIFY EXISTING ELEVATION OF MANHOLE COVER OF THE NEAREST UPSTREAM MANHOLE & PROVIDE BACKWATER VALVE WHERE EXISTING & NEW PLUMBING FIXTURES WITHIN BUILDING ARE INSTALLED AT LOCATION WITH FINISHED FLOOR BELOW ELEVATION OF MANHOLE COVER. BACKWATER VALVE SHALL BE INSTALLED WITH ACCESS TO WORKING PARTS & SHALL COMPLY WITH ASME A112.14.1.
- 5 REMOVE EXISTING SANITARY SEWER PIPING ROUTED TO PRIVATE SEWER SYTEM TO APPROXIMATELY THIS LOCATION. PROVIDE NEW SANITARY SEWER PIPING AS SHOWN & CONNECT TO EXISTING. FIELD VERIFY EXISTING CONDITIONS.
- 6 CONTRACTOR SHALL FIELD VERIFY EXISTING SANITARY MANHOLE INVERT PRIOR TO BID. WHERE EXISTING INVERT DOES NOT ALLOW FOR CONNECTION OF NEW SANITARY SEWER SYSTEM AT 1/8" PER FOOT SLOPE ON NEW 6" SEWER PIPE, CONTRACTOR SHALL INCREASE SEWER PIPE SIZE TO 8" & SLOPE AT 1/16" PER FOOT IF REQUIRED FOR NEW SEWER SYSTEM CONNECTION. WHERE 8" SEWER PIPE IS REQUIRED, A MANHOLE SHALL BE PROVIDED WITHIN 200' FROM THE EXISTING BUILDING EXTERIOR SEWER CLEANOUT.
- ROUTE NEW SANITARY SEWER PIPING TO EXISTING SEWER PIPING THIS AREA. EXISTING SEWER FROM EXISTING HEADHOUSE SHOWN ON WEST SIDE OF BUILDING NOT ABLE TO BE FIELD VERIFIED DURING TIME OF SITE INSPECTION. CONTRACTOR SHALL INVESTIGATE EXISTENCE, ROUTING, LOCATION & INVERT OF SEWER PIPING THIS AREA PRIOR TO BID.
- 8 EXISTING METAL ACCESS COVER THIS LOCATION MARKED "MECHANICAL". ASSEMBLY FILLED WITH WATER DURING TIME OF INSPECTION, EXACT USE UNKNOWN. CONTRACTOR SHALL FIELD VERIFY EXISTING COVER & ASSEMBLY IS NOT A SANITARY SEWER MANHOLE PRIOR TO COMMENCEMENT OF SITE WORK & ORDERING EQUIPMENT/MATERIAL. NOTIFY MECHANICAL ENGINEER & ARCHITECT IMMEDIATELY IF EXISTING ASSEMBLY IS DETERMINED TO BE SANITARY SEWER MANHOLE FOR FURTHER DIRECTION.
- (9) REPLACE CLEANOUT. IF NOT EXISTING, PROVIDE NEW CONCRETE COLLAR & NEW VALVE BOX. PROVIDE NEW CLEANOUTS WHERE EXISTING CLEANOUTS ARE SPACED FURTHER THAN 100'-0" IN DEVELOPED LENGTH. FIELD VERIFY CONDITIONS.



BID DOCUMENTS PLUMBING SITE PLAN SOUTHERN UNIVERSITY FINANCIAL UNIT ADDITION 801 Harding Blvd, Baton Rouge, LA 70813 East Baton Rouge Parish PROJECT ID: 20231010 OF ACADIANA, LLC TEL: 337.205.3235 EMAIL: david@dbarchitectureofacadiana.com WEBSITE: www.dbarchitectureofacadiana.com ADDRESS: 233 Doucet Rd, Suite A2, Lafayette, Louisiana, 70503 # BY DATE REVISION PROJECT NUMBER 20231010 03/25/2024 **P100** /03/25/2024





				CONNEC	FION SIZE			ACCESSORIES / TRIM
MARK	DESCRIPTION	MANUFACTURER / MODEL	WASTE	VENT	CW	HW	FAUCET	MISCELLANEOUS ITEMS
6"CO	SANITARY FLOOR CLEANOUT	ZURN ZN1400; WADE 6000-STD; JAY R SMITH 4031 SERIES; JOSAM 55000; MIFAB C1220						
WC-1	FLOOR MOUNTED WHITE VITREOUS CHINA PRESSURE ASSISTED TANK TYPE WATER CLOSET (1.6 GPF); ADA COMPLIANT	AMERICAN STANDARD 2467.016; KOHLER K-3493; ZURN Z5560	4"	3"	1/2"			SEAT: AMERICAN STANDARD 5901.100; CHURCH 9500 SSCT
L-1	20" X 18" WALL HUNG WHITE VITREOUS CHINA LAVATORY WITH OVERFLOW AND CENTER FAUCET HOLE	AMERICAN STANDARD 9024.001EC OR APPROVED EQUAL	2"	2"	1/2"	1/2"	AMERICAN STANDARD 605B.102 & PK00.HAC POWER KIT (120V POWER SUPPLY, COORDINATE WITH ELECTRICAL)	2" CAST BRASS "P" TRAP WITH CLEAN OUT; GRID STRAINER DRAIN
HB-FP	FREEZE PROOF WALL HYDRANT WITH FLUSH MOUNTED WALL BOX	WOODFORD B65; JAY R SMITH 5519; MIFAB MHY-25; ZURN Z1300; JOSAM 71000			3/4"			TO BE SUPPLIED WITH (2) LOOSE TEE KEYS
3"FD	FLOOR DRAIN WITH 6" SQUARE ADJUSTABLE NICKEL BRONZE STRAINER AND CAST IRON BODY	JAY R SMITH 2005; WADE 1100G; ZURN Z415S; JOSAM 3000-S; MIFAB F1100-S						
4"CO	SANITARY FLOOR CLEANOUT	ZURN ZN1400; WADE 6000-STD; JAY R SMITH 4031 SERIES; JOSAM 55000; MIFAB C1220						

NOTES:

7.

HOSE BIBBS:

Α.

- PROVIDE STAINLESS STEEL HARDWARE (BOLTS. ETC.) FOR ATTACHING ALL PLUMBING FIXTURES.
- PROVIDE 3/8" ANGLE STOP SUPPLIES WITH LOOSE KEY STOP FOR ALL WATER CLOSETS, SINKS, LAVATORIES, WATER COOLERS, ETC. PROVIDE CARRIER PER THE MANUFACTURER'S RECOMMENDATIONS/REQUIREMENTS FOR ALL WALL HUNG FIXTURES.
- CLEANOUTS SHALL BE THE SAME SIZE AS THE SANITARY SEWER PIPE.
- PROVIDE WATER TEMPERATURE LIMITING DEVICE CONFORMING TO ASSE 1070 TO LIMIT THE TEMPERED WATER TO A MAXIMUM OF 110°F FOR ALL LAVATORIES.
- ALL LAVATORIES SHALL BE ADA COMPLIANT. PROVIDE 29" CLEARANCE FROM THE FLOOR TO THE BOTTOM OF THE LAVATORY APRON. EXPOSED DRAIN AND WATER PIPING SHALL NOT INTERFERE WITH REQUIRED KNEE CLEARANCE. PROVIDE TWO-PIECE, SNAP-ON, PVC INSULATED COVER; TRUEBRO #HANDI LAV-GUARD OR APPROVED EQUAL.
 - WHERE WALL THICKNESS DOES NOT ALLOW FOR INSTALLATION OF HOSE BIBB SPECIFIED, PROVIDE NARROW MODERATE CLIMATE WALL HYDRANT WITH BRONZE BODY, SATIN FINISH, STAINLESS STEEL BOX, SCREW DRIVER OPERATED STOP VALVE AND TEE HANDLE, WADE MODEL HY-1 OR APPROVED EQUAL.

|--|

- $\langle 1 \rangle$ SEE SITE PLAN FOR CONTINUATION.
- 2 1/2" GRAVITY TRAP PRIMER LINE FROM LAVATORY. ROUTE 1/2" LINE CONCEALED IN WALL AND BELOW GRADE TO FLOOR DRAIN. RE: DETAIL.
- (3) 2" HUB DRAIN WITH FUNNEL ABOVE CEILING FOR MECHANICAL EQUIPMENT CONDENSATE. COORDINATE EXACT LOCATION WITH THE MECHANICAL CONTRACTOR PRIOR TO ROUGH-IN. INSULATE HUB DRAIN TRAP AND HORIZONTAL DRAIN LINE BACK TO VERTICAL PIPE DROP. PROVIDE HUB DRAIN WITH TRAP GUARD (PROVENT SYSTEMS #TG23FHD OR EQUAL). RE DETAIL.
- (4) ROUTE NEW 1" DOMESTIC COLD WATER PIPING AS SHOWN TO EXISTING DOMESTIC COLD WATER PIPING OF SUFFICIENT SIZE AND CONNECT, PROVIDE SHUT OFF VALVE AT NEW PIPING CONNECTION. VERIFY EXACT LOCATION AND SIZE OF EXISTING DOMESTIC WATER PIPING PRIOR TO BID.
- $\langle 5 \rangle$ ELECTRIC INSTANTANEOUS WATER HEATER MOUNTED ON WALL BELOW LAVATORY. PROVIDE SUPPORTS/FRAMING AS REQUIRED FOR PROPER SUPPORT. PROVIDE SHUT OFF VALVES ON ALL WATER LINES TO AND FROM WATER HEATER. COORDINATE EXACT LOCATION WITH THE GENERAL CONTRACTOR PRIOR TO ROUGH-IN. ROUTE DOMESTIC HOT WATER TO THE ASSOCIATED PLUMBING FIXTURES AS SHOWN.
- $\langle 6 \rangle$ REMOVE EXISTING HOSE BIBB FROM EXISTING EXTERIOR WALL AND PROVIDE NEW HOSE BIBB AT NEW LOCATION AS SHOWN. PATCH RESULTING WALL OPENING AS REQUIRED. CAP EXISTING WATER PIPING AS REQUIRED IN A MANNER AS TO NOT PROHIBIT EXISTING FLOW. FIELD VERIFY EXACT LOCATION OF EXISTING HOSE BIBB AND COORDINATE REMOVAL WITH GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. COORDINATE NEW LOCATION OF HOSE BIBB WITH THE GENERAL CONTRACTOR AND OWNER PRIOR TO CONSTRUCTION.

SCHEDULE - WATER HEATERS - ELECTRIC, INSTANTANEOUS

		TEM	PERATURE	RISE	ELEMENT	ELECTR	RICAL S	SERVICE		
MARK	TURN ON GPM	0.35 GPM	0.5 GPM	1.0 GPM	CAPACITY	VOLTS	PH	FREQ	WEIGHT	
IWH-1	0.2 GPM	35 °F	25 °F	12 °F	1.8 kW	120 V	1	60 Hz	10 lb	EEMAX LAVADVA

NOTES:

COORDINATE PIPING INSTALLATION WITH THE MANUFACTURER'S RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS. WATER HEATERS SHALL BE THERMOSTATIC TYPE & SHALL HAVE MINIMUM 0.2 GPM TURN ON. UNITS SHALL HAVE ABS-UL-94 5VA RATED COVER, ALLOW MOUNTING IN AY DIRECTION, ELEMENT SHALL BE REPLACEABLE CARTRIDGE INSERT, SHALL HAVE REPLACEABLE FILTER IN INLET

- CONNECTOR, ELEMENT SHALL BE IRON FREE, NICKEL CHROME MATERIAL. WATER HEATER SHALL UTILIZE COMPLEX CONTROL ALGORITHM, ACTIVELY MANAGING POWER APPLICATION TO REAL TIME SYSTEM DEMAND, INTEGRATED FLOW METER, INLET & OUTLET TEMPERATURE SENSOR PROVIDE DATE TO ALLOW UNIT TO INSTANTLY ADAPT TO VARIATIONS IN PARAMETERS. HEATER SHALL BE FITTED WITH 3/8" COMPRESSION FITTINGS & HAVE MAX
- OPERATING PRESSURE OF 150 PSI. ACCESSIBLE DIAGNOSTIC FEATURES INCLUDE ERROR/FAULT DISPLAY. COORDINATE INSTALLATION WITHIN MILLWORK WITH ARCHITECT & GENERAL CONTRACTOR PRIOR TO ROUGH IN. ENSURE WATER HEATER INSTALLATION DOES NOT CONFLICT WITH ADA 5. CLEARANCE REQUIREMENTS FOR PLUMBING FIXTURES PRIOR TO ORDERING.





-LAVATORY

-FLOOR DRAIN

DETAIL - EXTERIOR CLEANOUT N.T.S.

WALL

3. ALL NOTES ARE TYPICAL FOR EACH CLEANOUT.

GENERAL NOTES: 1. CLEANOUTS SHALL HAVE MINIMUM INSTALLED CLEARANCES: 12" FOR CLEANOUTS SMALLER THAN 3"; 18" FOR CLEANOUTS 3" AND LARGER. 2. COORDINATE ROUGH IN HEIGHT OF ALL CLEANOUTS WITH SLAB/FINISHED FLOOR HEIGHT PRIOR TO SLAB BEING POURED.

-TAILPIECE

-"P" TRAP







COORDINATE ROUGH IN HEIGHT OF ALL CLEANOUTS WITH SLAB/FINISHED FLOOR HEIGHT PRIOR TO SLAB BEING POURED.









PROJECT MANUAL For

FINANCIAL UNIT ADDITION, AGRICULTURE SOUTHERN UNIVERSITY

BATON ROUGE, LOUISIANA

Architect's Project No.: 20231010

Southern University and A&M College

Bid Documents - March 25, 2024



db Architecture of Acadiana, LLC. 233 Doucet Road, Suite #A2 Lafayette, LA 70503 Tel: 337.205.3235



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PART 1 - GENERAL

- 1.1 PROJECT MANUAL
 - A. VOLUME .
 - 1. Financial Unit Addition, Agriculture.
 - 2. Southern University.
 - 3. Baton Rouge, Louisiana.
 - 4. Architect Project No. 20231010.
 - 5. DB ARCHITECTURE OF ACADIANA, LLC.
 - 6. 233 DOUCET RD, STE A2.
 - 7. Lafayette, La, 70503.
 - 8. Phone: 337-205-3235.
 - 9. Website: www.dbarchitectureofacadiana.com.
 - 10. Issued: 03/25/2024.
 - 11. Copyright 2024, DB ARCHITECTURE OF ACADIANA, LLC.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 000101

DOCUMENT 000107 - SEALS PAGE

PART 1 - GENERAL

1.1 DESIGN PROFESSIONALS OF RECORD

- A. Architect:
 - 1. David Beverly.
 - 2. 7575.
 - 3. Responsible for Divisions 01-49 Sections except where indicated as prepared by other design professionals of record.
- B. Architect Firm:
 - 1. DB ARCHITECTURE OF ACADIANA, LLC.
 - 2. AF0617.
 - 3. Responsible for Divisions 01-49 Sections except where indicated as prepared by other design professionals of record.
- C. Civil Engineer:
 - 1. FORTE AND TABLADA, INC.
 - 2. Firm: EF.0000330.
 - 3. Responsible for Structural details and structural sheet specifications.
- D. Mechanical Engineer, Plumbing:
 - 1. Parish Engineering, LLC.
 - 2. Firm: EF.0007229.
 - 3. Responsible for MEP drawings and sheet specifications.
- E. Mechanical Engineer, HVAC:
 - 1. Parish Engineering, LLC.
 - 2. Firm: EF.0007229.
 - 3. Responsible for MEP drawings and sheet specifications.
- F. Electrical Engineer:
 - 1. Parish Engineering, LLC.
 - 2. Firm: EF.0007229.
 - 3. Responsible for MEP drawings and sheet specifications.

DB ARCHITECTURE OF ACADIANA 20231010 Southern University Financial Unit Addition Baton Rouge, Louisiana

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF DOCUMENT 000107

DOCUMENT 000115 - LIST OF DRAWING SHEETS

PART 1 - GENERAL

1.1 LIST OF DRAWINGS

A. Drawings: Drawings that will be enumerated in the Owner/Contractor Agreement as part of the Contract Documents are listed on the Table of Contents page of the separately bound drawing set titled BID DOCUMENTS, dated 03/25/2024, as modified by subsequent Addenda and Modifications.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF DOCUMENT 000115

DOCUMENT 001116 - INVITATION TO BID

PART 1 - GENERAL

1.1 PROJECT INFORMATION

- A. Notice to Bidders: Bidders are invited to submit Bids for Project as described in this Document in accordance with the Instructions to Bidders.
- B. Project Identification: FINANCIAL UNIT ADDITION, AGRICULTURE, SOUTHERN UNIVERSITY.
 - 1. Project Located: 9110 B. A. Little Drive (H Street), Baton Rouge, La, 70807
- C. Owner: Southern University and A&M College.
 - 1. Owner's Rep: Ervin Antoine
- D. Architect: DB ARCHITECTURE OF ACADIANA, LLC, 233 DOUCET RD, STE A2, LAFAYETTE, LA, 70503; 337-205-3235; INFO@DBARCHITECTUREOFACADIANA.COM.
- E. Project Description: Project consists of This project consists of a new addition to the existing Agricultural Financial Unit and is 1,041 s.f. of new offices and restroom.
- F. Construction Contract: Bids will be received for the following Work:
 - 1. General Contract (all trades) BIDS WILL BE ON A LUMP SUM BASIS.

1.2 BID SUBMITTAL AND OPENING

- A. Bid Submittal, Printed: Owner will receive sealed Bids until the bid time and date at the location indicated below. Owner will consider Bids prepared in compliance with the Instructions to Bidders issued by Owner, and delivered as follows:
 - 1. REFER TO INSTRUCTIONS TO BIDDERS.
- 1.3 BID SECURITY
 - A. REFER TO INSTRUCTIONS TO BIDDERS.
- 1.4 PREBID MEETINGS
 - A. Prebid Meeting, In Person: A prebid meeting for all Bidders will be held at PROJECT

INVITATION TO BID

SITE on TBD at 10:00 a.m., local time. Prospective prime Bidders are required to attend.

- 1.5 BIDDING DOCUMENTS
 - A. Bidding Documents, Electronic: Obtain access after TBD by contacting DB ARCHITECTURE OF ACADIANA, LLC; INFO@DBARCHITECTUREOFACADIANA.COM. Online access will be provided to prime Bidders only.
 - B. REFER TO INSTRUCTIONS TO BIDDERS.
- 1.6 TIME OF COMPLETION
 - A. By submitting a Bid, Bidder represents that Bidder will begin the Work on receipt of the Notice to Proceed and will complete the Work within the Contract Time indicated in the Bidding Documents.
- 1.7 LIQUIDATED DAMAGES
 - A. REFER TO INSTRUCTIONS TO BIDDERS.
- 1.8 BIDDER'S QUALIFICATIONS
 - A. REFER TO INSTRUCTIONS TO BIDDERS.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF DOCUMENT 001116

INSTRUCTIONS TO BIDDERS

COMPLETION TIME:

The Bidder shall agree to fully complete the contract within (240) consecutive calendar days, subject to such extensions as may be granted under Paragraph 8.3, in the General Conditions and the Supplementary Conditions, and acknowledges that this construction time will start on or before the date specified in the written "Notice to Proceed" from the Owner.

LIQUIDATED DAMAGES:

The Bidder shall agree to pay as Liquidated Damages the amount of (<u>Two Hundred</u>) Dollars (\$200) for each consecutive calendar day for which the work is not complete, beginning with the first day beyond the contract completion date stated on the "Notice to Proceed" or as amended by change order.

ARTICLE 1

DEFINITIONS

1.1 The Bid Documents include the following:

Advertisement for Bids

Instructions to Bidders Bid Form Bid Bond General Conditions of the Contract for Construction. AIA Document A201, 2017 Edition Supplementary Conditions Contract Between Owner and Contractor and Performance and Payment Bond Affidavit User Agency Documents (if applicable) Change Order Form Partial Occupancy Form Recommendation of Acceptance Asbestos Abatement (if applicable) Other Documents (if applicable) Specifications & Drawings Addenda issued during the bid period and acknowledged in the Bid Form

1.2 All definitions set forth in the General Conditions of the Contract for Construction, AIA Document A201 and the Supplementary Conditions are applicable to the Bid Documents.

1.3 Addenda are written and/or graphic instruments issued by the Architect prior to the opening of bids, which modify or interpret the Bid Documents by additions, deletions, clarifications, corrections and prior approvals.

1.4 A bid is a complete and properly signed proposal to do the work or designated portion thereof for the sums stipulated therein supported by data called for by the Bid Documents.

1.5 Base bid is the sum stated in the bid for which the Bidder offers to perform the work described as the base, to which work may be added, or deleted for sums stated in alternate bids.

1.6 An alternate bid (or alternate) is an amount stated in the bid to be added to the amount of the base bid if the corresponding change in project scope or materials or methods of construction described in the Bid Documents is accepted.

1.7 A Bidder is one who submits a bid for a prime Contract with the Owner for the work described in the Bid Documents.

1.8 A Sub-bidder is one who submits a bid to a Bidder for materials and/or labor for a portion of the work.

1.9 Where the word "Architect" is used in any of the documents, it shall refer to the Prime Designer of the project, regardless of discipline.

ARTICLE 2

PRE-BID CONFERENCE

2.1 A Pre-Bid Conference shall be held at least 10 days before the date for receipt for bids. The Architect shall coordinate the setting of the date, time and place for the Pre-Bid Conference with the User Agency and shall notify in writing the Owner and all who have received sets of the Bid Documents to

attend. The purpose of the Pre-Bid Conference is to familiarize Bidders with the requirements of the Project and the intent of the Bid Documents, and to receive comments and information from interested Bidders. If the Pre-Bid Conference is stated in the Advertisement for Bids to be a Mandatory Pre-Bid Conference, bids shall be accepted only from those bidders who attend the Pre-Bid Conference. Contractors who are not in attendance for the **entire** Pre-Bid Conference will be considered to have not attended.

2.2 Any revision of the Bid Documents made as a result of the Pre-Bid Conference shall not be valid unless included in an addendum.

ARTICLE 3

BIDDER'S REPRESENTATION

3.1 Each Bidder by making his bid represents that:

3.1.1 He has read and understands the Bid Documents and his bid is made in accordance therewith.

3.1.2 He has visited the site and has familiarized himself with the local conditions under which the work is to be performed.

3.1.3 His bid is based solely upon the materials, systems and equipment described in the Bid Documents as advertised and as modified by addenda.

3.1.4 His bid is not based on any verbal instructions contrary to the Bid Documents and addenda.

3.1.5 He is familiar with Code of Governmental Ethics requirement that prohibits public servants and/or their immediate family members from bidding on or entering into contracts; he is aware that the Designer and its principal owners are considered Public Servants under the Code of Governmental Ethics for the limited purposes and scope of the Design Contract with the State on this Project (see Ethics Board Advisory Opinion, No. 2009-378 and 2010-128); and neither he nor any principal of the Bidder with a controlling interest therein has an immediate family relationship with the Designer or any principal within the Designer's firm (see La. R.S.

42:1113). Any Bidder submitting a bid in violation of this clause shall be disqualified and any contract entered into in violation of this clause shall be null and void.

3.2 The Bidder must be fully qualified under any State or local licensing law for Contractors in effect at the time and at the location of the work before submitting his bid. In the State of Louisiana, Revised Statutes 37:2150, et seq. will be considered, if applicable.

The Contractor shall be responsible for determining that all of his Sub-bidders or prospective Subcontractors are duly licensed in accordance with law.

ARTICLE 4

BID DOCUMENTS

4.1 Copies

4.1.1 Bid Documents may be obtained from the Architect for a deposit as stated in the Advertisement for Bids. The deposit will be refunded as stated in the Advertisement for Bids. <u>No deposits will be refunded on Bid Documents returned later than ten days after receipt of bids.</u>

4.1.1.2 As an alternative method of distribution, the Designer may provide the Bid Documents in electronic format. They may be obtained without charge and without deposit as stated in the Advertisement for Bids.

4.1.1.2.1 If electronic distribution is available, printed copies will not be available from the Designer, but arrangements can be made to obtain them through most reprographic firms and/or plan rooms.

4.1.1.2.2 If electronic distribution is available, the reproduction cost on the first paper plan set acquired by bona fide prime bidders will be fully refunded by the Designer upon delivery of the documents to the Designer in good condition no later than ten days after receipt of bids.

4.1.1.2.3 If electronic distribution is available, all other plan holders are responsible for their own reproduction costs.

4.1.2 Complete sets of Bid Documents shall be used in preparing bids; neither the Owner nor the Architect assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bid Documents.

4.1.3 The Owner or Architect in making copies of the Bid Documents available on the above terms, do so only for the purpose of obtaining bids on the work and do not confer a license or grant for any other use.

4.2 Interpretation or Correction of Bid Documents

4.2.1 Bidders shall promptly notify the Architect of any ambiguity, inconsistency or error which they may discover upon examination of the Bid Documents or of the site and local conditions.

4.2.2 Bidders requiring clarification or interpretation of the Bid Documents shall make a written request to the Architect, to reach him at least seven days prior to the date for receipt of bids.

4.2.3 Any interpretation, correction or change of the Bid Documents will be made by addendum. Interpretations, corrections or changes of the Bid Documents made in any other manner will not be binding and Bidders shall not rely upon such interpretations, corrections and changes.

4.3 Substitutions

4.3.1 The materials, products and equipment described in the Bid Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution. No substitutions shall be allowed after bids are received.

4.3.2 No substitution will be considered unless written request for approval has been submitted by the Proposer and has been received by the Architect at least seven (7) working days prior to the opening of bids. (La. R.S. 38:2295(C)) Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including model numbers, drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or work that incorporation of the substitute would require shall be included. It

shall be the responsibility of the proposer to include in his proposal all changes required of the Bid Documents if the proposed product is used. Prior approval, if given, is contingent upon supplier being responsible for any costs which may be necessary to modify the space or facilities needed to accommodate the materials and equipment approved.

4.3.3 If the Architect approves any proposed substitution, such approval shall be set forth in an addendum. Bidders shall not rely upon approvals made in any other manner.

4.4 Addenda

4.4.1 Addenda will be transmitted to all who are known by the Architect to have received a complete set of Bid Documents.

4.4.2 Copies of addenda will be made available for inspection wherever Bid Documents are on file for that purpose.

4.4.3 Except as described herein, addenda shall not be issued within a period of seventy-two (72) hours prior to the advertised time for the opening of bids, excluding Saturdays, Sundays, and any other legal holidays. If the necessity arises of issuing an addendum modifying plans and specifications within the seventy-two (72) hour period prior to the advertised time for the opening of bids, then the opening of bids shall be extended at least seven but no more than twenty-one (21) working days, without the requirement of re-advertising. Southern University and A&M College shall be consulted prior to issuance of such an addendum and shall approve such issuance. The revised time and date for the opening of bids shall be stated in the addendum.

4.4.4 Each Bidder shall ascertain from the Architect prior to submitting his bid that he has received all addenda issued, and he shall acknowledge their receipt on the Bid Form.

4.4.5 The Owner shall have the right to extend the bid date by up to (30) thirty days without the requirement of re-advertising. Any such extension shall be made by addendum issued by the Architect.

ARTICLE 5

BID PROCEDURE

5.1 Form and Style of Bids

5.1.1 Bids shall be submitted on the Louisiana Uniform Public Work Bid Form provided by the Architect for this project.

5.1.2 The Bidder shall ensure that all applicable blanks on the bid form are completely and accurately filled in.

5.1.3 Bid sums shall be expressed in both words and figures, and in case of discrepancy between the two, the written words shall govern.

5.1.4 Any interlineation, alteration or erasure must be initialed by the signer of the bid or his authorized representative.

5.1.5 Bidders are cautioned to complete all alternates should such be required in the Bid Form. Failure to submit alternate prices will render the bid non responsive and shall cause its rejection.

5.1.6 Bidders are cautioned to complete all unit prices should such be required in the Bid Form. Unit prices represent a price proposal to do a specified quantity and quality of work. Unit prices are incorporated into the base bid or alternates, as indicated on the Unit Price Form, but are not the sole components thereof.

5.1.7 Bidder shall make no additional stipulations on the Bid Form nor qualify his bid in any other manner.

5.1.8 Written evidence of the authority of the person signing the bid for the public work shall be submitted in accordance with La. R.S. 38:2212 (B)(5).

5.1.9 On any bid in excess of fifty thousand dollars (\$50,000.00), the Contractor shall certify that he is licensed under La. R.S. 37: 2150-2173 and show his license number on the bid above his signature or his duly authorized representative.

5.2 Bid Security

5.2.1 No bid shall be considered or accepted unless the bid is accompanied by bid security in an

amount of five percent (5.0%) of the base bid and all alternates.

The bid security shall be in the form of a certified check or cashier's check drawn on a bank insured by the Federal Deposit Insurance Corporation, or a Bid Bond written by a surety company licensed to do business in Louisiana and signed by the surety's agent or attorney-in-fact. The Bid Bond shall be written on the provided Bid Bond Form, and the surety for the bond must meet the qualifications stated thereon. The Bid Bond shall include the legal name of the bidder be in favor of the Southern University and A&M College, and shall be accompanied by appropriate power of attorney. The Bid Bond must be signed by both the bidder/principal and the surety in the space provided on the provided Bid Bond Form. Failure by the bidder/principal or the surety to sign the bid bond shall result in the rejection of the bid.

Bid security furnished by the Contractor shall guarantee that the Contractor will, if awarded the work according to the terms of his proposal, enter into the Contract and furnish Performance and Payment Bonds as required by these Bid Documents, within fifteen (15) days after written notice that the instrument is ready for his signature.

Should the Bidder refuse to enter into such Contract or fail to furnish such bonds, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as penalty.

5.2.2 The Owner will have the right to retain the bid security of Bidders until either (a) the Contract has been executed and bonds have been furnished, or (b) the specified time has elapsed so that bids may be withdrawn, or (c) all bids have been rejected.

5.3 Submission of Bids

5.3.1 The Bid shall be sealed in an opaque envelope. The bid envelope shall be identified on the outside with the name of the project, and the name, address, and license number of the Bidder.

The envelope shall not contain multiple bid forms, and will be received until the time specified and at the place specified in the Advertisement for Bids. It shall be the specific responsibility of the Bidder to deliver his sealed bid to Southern University and A&M College at the appointed place and prior to the announced time for the opening of bids. Late delivery of a bid for any reason, including late delivery by United States Mail, or express delivery, shall disqualify the bid.

If the bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "Bid Enclosed" on the face thereof. Such bids shall be sent by Registered or Certified Mail, Return Receipt Requested, addressed to:

Southern University and A&M College Purchasing Department P.O. Box 9534 Baton Rouge, Louisiana, 70813. Bids sent by express delivery shall be delivered to: Southern University and A&M College Purchasing Department

James Prestage Drive Baton Rouge, Louisiana, 70813.

5.3.2 Bids shall be deposited at the designated location prior to the time on the date for receipt of bids indicated in the Advertisement for Bids, or any extension thereof made by addendum. Bids received after the time and date for receipt of bids will be returned unopened.

5.3.3 Bidder shall assume full responsibility for timely delivery at location designated for receipt of bids.

5.3.4 Oral, telephonic or telegraphic bids are invalid and shall not receive consideration. Owner shall not consider notations written on outside of bid envelope which have the effect of amending the bid. Written modifications enclosed in the bid envelope, and signed or initialed by the Contractor or his representative, shall be accepted.

5.4 Modification or Withdrawal of Bid

5.4.1 A bid may not be modified, withdrawn or canceled by the Bidder during the time stipulated in the Advertisement for Bids, for the period following the time and bid date designated for the receipt of bids, and Bidder so agrees in submitting his bid, except in accordance with R.S. 38:2214 which states, in part, "Bids containing patently obvious, unintentional, and substantial mechanical, clerical, or mathematical errors, or errors of unintentional omission of a substantial quantity of work, labor, material, or services made directly in the compilation of the bid, may be withdrawn by the contractor if clear and convincing sworn, written evidence of such

errors is furnished to the public entity within fortyeight hours of the bid opening excluding Saturdays, Sundays, and legal holidays".

5.4.2 Prior to the time and date designated for receipt of bids, bids submitted early may be modified or withdrawn only by notice to the party receiving bids at the place and prior to the time designated for receipt of bids.

5.4.3 Withdrawn bids may be resubmitted up to the time designated for the receipt of bids provided that they are then fully in conformance with these Instructions to Bidders.

5.4.4 Bid Security shall be in an amount sufficient for the bid as modified or resubmitted.

5.5 Prohibition of Discriminatory Boycotts of Israel

By submitting a bid, the bidder certifies and agrees that the following information is correct:

In preparing its bid, the bidder has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israel-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The bidder has also not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. The Owner reserves the right to reject any bid if this certification is subsequently determined to be false and to terminate any contract awarded based on such a false response.

ARTICLE 6

CONSIDERATION OF BIDS

6.1 Opening of Bids

6.1.1 The properly identified Bids received on time will be opened publicly and will be read aloud, and a tabulation abstract of the amounts of the base bids and alternates, if any, will be made available to Bidders.

6.2 Rejection of Bids

6.2.1 The Owner shall have the right to reject any or all bids and in particular to reject a bid not accompanied by any required bid security or data required by the Bid Documents or a bid in any way incomplete or irregular.

6.3 Acceptance of Bid

6.3.1 It is the intent of the Owner, if he accepts any alternates, to accept them in the order in which they are listed in the Bid Form. Determination of the Low Bidder shall be on the basis of the sum of the base bid and the alternates accepted. However, the Owner shall reserve the right to accept alternates in any order which does not affect determination of the Low Bidder.

ARTICLE 7

POST-BID INFORMATION

7.1 Submissions

7.1.1 At the Pre-Construction Conference, the Contractor shall submit the following information to the Architect.

7.1.1.1 A designation of the work to be performed by the Contractor with his own forces.

7.1.1.2 A breakdown of the Contract cost attributable to each item listed in the Schedule of Values Form (attached). No payments will be made to the Contractor until this is received.

7.1.1.3 The proprietary names and the suppliers of principal items or systems of material and equipment proposed for the work.

7.1.1.4 A list of names and business domiciles of all Subcontractors, manufacturers, suppliers or other persons or organizations (including those who are to furnish materials or equipment fabricated to a special design) proposed for the principal portions of the work. It is the preference of the Owner that, to the greatest extent possible or practical, the Contractor utilize Louisiana Subcontractors, manufacturers, suppliers and labor. 7.1.2 The General Contractor shall be responsible for actions or inactions of Subcontractors and/or material suppliers.

The General Contractor is totally responsible for any lost time or extra expense incurred due to a Subcontractor's or Material Supplier's failure to perform. Failure to perform includes, but is not limited to, a Subcontractor's financial failure, abandonment of the project, failure to make prompt delivery, or failure to do work up to standard. Under no circumstances shall the Owner mitigate the General Contractor's losses or reimburse the General Contractor for losses caused by these events.

7.1.3 The lowest responsive and responsible bidder shall submit to the Architect and the Owner within ten days after the bid opening a letter/letters from the manufacturer stating that the manufacturer will issue the roof system guarantee complying with the requirements of Southern University and A&M College based on the specified roof system and include the name of the applicator acceptable to the manufacturer at the highest level of certification for installing the specified roof system. This manufacturer shall be one that has received prior approval or is named in the specifications.

In accordance with La. R.S. 38:2227 [references La R.S. 38:2212(A)(3)(c)(ii), which has since been renumbered as La R.S. 38:2212(B)(3)], La. R.S. 38:2212.10 and La. R.S. 23:1726(B) the apparent low bidder on this project shall submit the completed Attestations Affidavit (Past Criminal Convictions of Bidders, Verification of Employees and Certification Regarding Unpaid Workers Compensation Insurance) form found within this bid package to Southern University and A&M College within 10 days <u>after</u> the opening of bids.

ARTICLE 8

PERFORMANCE AND PAYMENT BOND

8.1 Bond Required

8.1.1 The Contractor shall furnish and pay for a Performance and Payment Bond written by a company licensed to do business in Louisiana, which shall be signed by the surety's agent or attorney-in-fact, in an amount equal to 100% of the Contract amount. Surety must be listed currently on the U. S. Department of Treasury Financial Management Service List (Treasury List) as approved for an amount equal to or greater than the contract amount, or must be an insurance company domiciled in Louisiana or owned by Louisiana residents. If surety is qualified other than by listing on the Treasury list, the contract amount may not exceed fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance and may not exceed the amount of \$500,000. However, a Louisiana domiciled insurance company with at least an A- rating in the latest printing of the A. M. Best's Key Rating Guide shall not be subject to the \$500,000 limitation, provided that the contract amount does not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide nor fifteen percent of policyholders' surplus as shown by surety's most recent financial statements filed with the Louisiana Department of Insurance. The Bond shall be signed by the surety's agent or attorney-in-fact. The Bond shall be in favor of the Southern University and A&M College.

8.2 Time of Delivery and Form of Bond

8.2.1 The Bidder shall deliver the required bond to the Owner simultaneous with the execution of the Contract.

8.2.2 Bond shall be in the form furnished by Southern University and A&M College, entitled CONTRACT BETWEEN OWNER AND CONTRACTOR AND PERFORMANCE AND PAYMENT BOND, a copy of which is included in the Bid Documents. 8.2.3 The Bidder shall require the Attorney-in-Fact who executes the required bond on behalf of the surety to affix thereto a certified and current copy of his power of Attorney.

ARTICLE 9

FORM OF AGREEMENT BETWEEN OWNER AND CONTRACTOR

9.1 Form to be Used

9.1.1 Form of the Contract to be used shall be furnished by Southern University and A&M College, an example of which is bound in the Bid Documents.

9.2 Award

9.2.1 After award of the Contract, the successful Bidder, if a corporation, shall furnish to the Owner the most current copy of a Disclosure of Ownership Affidavit on file with the Secretary of State.

9.2.2 In accordance with Louisiana Law, when the Contract is awarded, the successful Bidder shall, at the time of the signing of the Contract, execute the Non-Collusion Affidavit included in the Contract Documents

9.2.3 When this project is financed either partially or entirely with State Bonds, the award of this Contract is contingent upon the sale of bonds by the State Bond Commission. The State shall incur no obligation to the Contractor until the Contract Between Owner and Contractor is duly executed.

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General Conditions of the Contract for Construction

for the following PROJECT: (Name and location or address)

Financial Unit Addition, Agriculture Southern University and A&M College 9110 B.A. Little Drive (H Street) Baton Rouge, La, 70807

THE OWNER:

(Name, legal status and address)

Southern University and A&M College 801 Harding Blvd Baton Rouge, La, 70807

THE ARCHITECT: (Name, legal status and address)

DB Architecture of Acadiana, LLC 233 Doucet Rd, Ste A2 Lafayette, La, 70503

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14 TERMINATION OR SUSPENSION OF THE CONTRACT



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ARTICLE 1 GENERAL PROVISIONS

§ 1.1 Basic Definitions

§ 1.1.1 The Contract Documents

The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect. Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.

§ 1.1.2 The Contract

The Contract Documents form the Contract for Construction. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification. The Contract Documents shall not be construed to create a contractual relationship of any kind (1) between the Contractor and the Architect or the Architect's consultants, (2) between the Owner and a Subcontractor or a Sub-subcontractor, (3) between the Owner and the Architect or the Architect's consultants, or (4) between any persons or entities other than the Owner and the Contractor. The Architect shall, however, be entitled to performance and enforcement of obligations under the Contract intended to facilitate performance of the Architect's duties.

§ 1.1.3 The Work

The term "Work" means the construction and services required by the Contract Documents, whether completed or partially completed, and includes all other labor, materials, equipment, and services provided or to be provided by the Contractor to fulfill the Contractor's obligations. The Work may constitute the whole or a part of the Project.

§ 1.1.4 The Project

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part and which may include construction by the Owner and by Separate Contractors.

§ 1.1.5 The Drawings

The Drawings are the graphic and pictorial portions of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.

§ 1.1.6 The Specifications

The Specifications are that portion of the Contract Documents consisting of the written requirements for materials, equipment, systems, standards and workmanship for the Work, and performance of related services.

§ 1.1.7 Instruments of Service

Instruments of Service are representations, in any medium of expression now known or later developed, of the tangible and intangible creative work performed by the Architect and the Architect's consultants under their respective professional services agreements. Instruments of Service may include, without limitation, studies, surveys, models, sketches, drawings, specifications, and other similar materials.

§ 1.1.8 Initial Decision Maker

The Initial Decision Maker is the person identified in the Agreement to render initial decisions on Claims in accordance with Section 15.2. The Initial Decision Maker shall not show partiality to the Owner or Contractor and shall not be liable for results of interpretations or decisions rendered in good faith.

§ 1.2 Correlation and Intent of the Contract Documents

§ 1.2.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results.

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§ 1.2.1.1 The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, then that provision shall be revised to the extent necessary to make that provision legal and enforceable. In such case the Contract Documents shall be construed, to the fullest extent permitted by law, to give effect to the parties' intentions and purposes in executing the Contract.

§ 1.2.2 Organization of the Specifications into divisions, sections and articles, and arrangement of Drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

§ 1.2.3 Unless otherwise stated in the Contract Documents, words that have well-known technical or construction industry meanings are used in the Contract Documents in accordance with such recognized meanings.

§ 1.3 Capitalization

Terms capitalized in these General Conditions include those that are (1) specifically defined, (2) the titles of numbered articles, or (3) the titles of other documents published by the American Institute of Architects.

§ 1.4 Interpretation

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In the interest of brevity the Contract Documents frequently omit modifying words such as "all" and "any" and articles such as "the" and "an," but the fact that a modifier or an article is absent from one statement and appears in another is not intended to affect the interpretation of either statement.

§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service

§ 1.5.1 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and retain all common law, statutory, and other reserved rights in their Instruments of Service, including copyrights. The Contractor, Subcontractors, Sub-subcontractors, and suppliers shall not own or claim a copyright in the Instruments of Service. Submittal or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's or Architect's consultants' reserved rights.

§ 1.5.2 The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice. if any, shown on the Instruments of Service. The Contractor, Subcontractors. Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect's consultants.

§ 1.6 Notice

§ 1.6.1 Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

§ 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203TM–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document

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G202™_2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

ARTICLE 2 OWNER § 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's authorized representative.

§ 21.2 The Owner shall furnish to the Contractor, within fifteen days after receipt of a written request, information necessary and relevant for the Contractor to evaluate, give notice of, or enforce mechanic's lien rights. Such information shall include a correct statement of the record legal title to the property on which the Project is located, usually referred to as the site, and the Owner's interest therein.

§ 2.2 Evidence of the Owner's Financial Arrangements

§ 2.2.1 Prior to commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract. The Contractor shall have no obligation to commence the Work until the Owner provides such evidence. If commencement of the Work is delayed under this Section 2.2.1, the Contract Time shall be extended appropriately.

§ 2.2.2 Following commencement of the Work and upon written request by the Contractor, the Owner shall furnish to the Contractor reasonable evidence that the Owner has made financial arrangements to fulfill the Owner's obligations under the Contract only if (1) the Owner fails to make payments to the Contractor as the Contract Documents require; (2) the Contractor identifies in writing a reasonable concern regarding the Owner's ability to make payment when due; or (3) a change in the Work materially changes the Contract Sum. If the Owner fails to provide such evidence, as required, within fourteen days of the Contractor's request, the Contractor may immediately stop the Work and, in that event, shall notify the Owner that the Work has stopped. However, if the request is made because a change in the Work materially changes the Contract Sum under (3) above, the Contractor may immediately stop only that portion of the Work affected by the change until reasonable evidence is provided. If the Work is stopped under this Section 2.2.2, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided in the Contract Documents.

§ 2.2.3 After the Owner furnishes evidence of financial arrangements under this Section 2.2, the Owner shall not materially vary such financial arrangements without prior notice to the Contractor.

§ 2.2.4 Where the Owner has designated information furnished under this Section 2.2 as "confidential." the Contractor shall keep the information confidential and shall not disclose it to any other person. However, the Contractor may disclose "confidential" information, after seven (7) days' notice to the Owner, where disclosure is required by law, including a subpoena or other form of compulsory legal process issued by a court or governmental entity, or by court or arbitrator(s) order. The Contractor may also disclose "confidential" information to its employees, consultants, sureties, Subcontractors and their employees, Sub-subcontractors, and others who need to know the content of such information solely and exclusively for the Project and who agree to maintain the confidentiality of such information.

§ 2.3 Information and Services Required of the Owner

§ 2.3.1 Except for permits and fees that are the responsibility of the Contractor under the Contract Documents, including those required under Section 3.7.1, the Owner shall secure and pay for necessary approvals, easements, assessments and charges required for construction, use or occupancy of permanent structures or for permanent changes in existing facilities.

§ 2.3.2 The Owner shall retain an architect lawfully licensed to practice architecture, or an entity lawfully practicing architecture, in the jurisdiction where the Project is located. That person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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§ 2.3.3 If the employment of the Architect terminates, the Owner shall employ a successor to whom the Contractor has no reasonable objection and whose status under the Contract Documents shall be that of the Architect.

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. The Contractor shall be entitled to rely on the accuracy of information furnished by the Owner but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services.

§ 2.3.6 Unless otherwise provided in the Contract Documents, the Owner shall furnish to the Contractor one copy of the Contract Documents for purposes of making reproductions pursuant to Section 1.5.2.

§ 2.4 Owner's Right to Stop the Work

If the Contractor fails to correct Work that is not in accordance with the requirements of the Contract Documents as required by Section 12.2 or repeatedly fails to carry out Work in accordance with the Contract Documents, the Owner may issue a written order to the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right for the benefit of the Contractor or any other person or entity, except to the extent required by Section 6.1.3.

§ 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner or the Architect, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

ARTICLE 3 CONTRACTOR

§ 3.1 General

§ 3.1.1 The Contractor is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Contractor shall be lawfully licensed, if required in the jurisdiction where the Project is located. The Contractor shall designate in writing a representative who shall have express authority to bind the Contractor with respect to all matters under this Contract. The term "Contractor" means the Contractor or the Contractor's authorized representative.

§ 3.1.2 The Contractor shall perform the Work in accordance with the Contract Documents.

§ 3.1.3 The Contractor shall not be relieved of its obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the Architect in the Architect's administration of the Contract, or by tests, inspections or approvals required or performed by persons or entities other than the Contractor.

§ 3.2 Review of Contract Documents and Field Conditions by Contractor

§ 3.2.1 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become generally familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

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§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

§ 3.2.3 The Contractor is not required to ascertain that the Contract Documents are in accordance with applicable laws. statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, but the Contractor shall promptly report to the Architect any nonconformity discovered by or made known to the Contractor as a request for information in such form as the Architect may require.

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction. Unless the Architect objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

§ 3.3.2 The Contractor shall be responsible to the Owner for acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and other persons or entities performing portions of the Work for, or on behalf of, the Contractor or any of its Subcontractors.

§ 3.3.3 The Contractor shall be responsible for inspection of portions of Work already performed to determine that such portions are in proper condition to receive subsequent Work.

§ 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

§ 3.4.2 Except in the case of minor changes in the Work approved by the Architect in accordance with Section 3.12.8 or ordered by the Architect in accordance with Section 7.4, the Contractor may make substitutions only with the consent of the Owner, after evaluation by the Architect and in accordance with a Change Order or Construction Change Directive.

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§ 3.4.3 The Contractor shall enforce strict discipline and good order among the Contractor's employees and other persons carrying out the Work. The Contractor shall not permit employment of unfit persons or persons not properly skilled in tasks assigned to them.

§ 3.5 Warranty

§.3.5.1 The Contractor warrants to the Owner and Architect that materials and equipment furnished under the Contract will be of good quality and new unless the Contract Documents require or permit otherwise. The Contractor further warrants that the Work will conform to the requirements of the Contract Documents and will be free from defects, except for those inherent in the quality of the Work the Contract Documents require or permit. Work, materials, or equipment not conforming to these requirements may be considered defective. The Contractor's warranty excludes remedy for damage or defect caused by abuse, alterations to the Work not executed by the Contractor, improper or insufficient maintenance, improper operation, or normal wear and tear and normal usage. If required by the Architect, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment.

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

§ 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect.

§ 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for the building permit as well as for other permits, fees, licenses, and inspections by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

§ 3.7.2 The Contractor shall comply with and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities applicable to performance of the Work.

§ 3.7.3 If the Contractor performs Work knowing it to be contrary to applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of public authorities, the Contractor shall assume appropriate responsibility for such Work and shall bear the costs attributable to correction.

§ 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

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§ 3.8 Allowances

§ 3.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by allowances shall be supplied for such amounts and by such persons or entities as the Owner may direct, but the Contractor shall not be required to employ persons or entities to whom the Contractor has reasonable objection.

§ 3.8.2 Unless otherwise provided in the Contract Documents,

- .1 allowances shall cover the cost to the Contractor of materials and equipment delivered at the site and all required taxes, less applicable trade discounts;
- .2 Contractor's costs for unloading and handling at the site, labor, installation costs, overhead, profit, and other expenses contemplated for stated allowance amounts shall be included in the Contract Sum but not in the allowances; and
- whenever costs are more than or less than allowances, the Contract Sum shall be adjusted accordingly .3 by Change Order. The amount of the Change Order shall reflect (1) the difference between actual costs and the allowances under Section 3.8.2.1 and (2) changes in Contractor's costs under Section 3.8.2.2.

§ 3.8.3 Materials and equipment under an allowance shall be selected by the Owner with reasonable promptness.

§ 3.9 Superintendent

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§ 3.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during performance of the Work. The superintendent shall represent the Contractor, and communications given to the superintendent shall be as binding as if given to the Contractor.

§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Architect may notify the Contractor, stating whether the Owner or the Architect (1) has reasonable objection to the proposed superintendent or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

§ 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. The schedule shall contain detail appropriate for the Project, including (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

§ 3.10.2 The Contractor, promptly after being awarded the Contract and thereafter as necessary to maintain a current submittal schedule, shall submit a submittal schedule for the Architect's approval. The Architect's approval shall not be unreasonably delayed or withheld. The submittal schedule shall (1) be coordinated with the Contractor's construction schedule, and (2) allow the Architect reasonable time to review submittals. If the Contractor fails to submit a submittal schedule, or fails to provide submittals in accordance with the approved submittal schedule, the Contractor shall not be entitled to any increase in Contract Sum or extension of Contract Time based on the time required for review of submittals.

§ 3.10.3 The Contractor shall perform the Work in general accordance with the most recent schedules submitted to the Owner and Architect.

§ 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and

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delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

§ 3.12 Shop Drawings, Product Data and Samples

§ 3.12.1 Shop Drawings are drawings, diagrams, schedules, and other data specially prepared for the Work by the Contractor or a Subcontractor, Sub-subcontractor, manufacturer, supplier, or distributor to illustrate some portion of the Work.

§ 3.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the Contractor to illustrate materials or equipment for some portion of the Work.

§ 3.12.3 Samples are physical examples that illustrate materials, equipment, or workmanship, and establish standards by which the Work will be judged.

§ 3.12.4 Shop Drawings, Product Data, Samples, and similar submittals are not Contract Documents. Their purpose is to demonstrate how the Contractor proposes to conform to the information given and the design concept expressed in the Contract Documents for those portions of the Work for which the Contract Documents require submittals. Review by the Architect is subject to the limitations of Section 4.2.7. Informational submittals upon which the Architect is not expected to take responsive action may be so identified in the Contract Documents. Submittals that are not required by the Contract Documents may be returned by the Architect without action.

§ 3.12.5 The Contractor shall review for compliance with the Contract Documents, approve, and submit to the Architect, Shop Drawings, Product Data, Samples, and similar submittals required by the Contract Documents, in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the Owner or of Separate Contractors.

§ 3.12.6 By submitting Shop Drawings, Product Data, Samples, and similar submittals, the Contractor represents to the Owner and Architect that the Contractor has (1) reviewed and approved them, (2) determined and verified materials, field measurements and field construction criteria related thereto, or will do so, and (3) checked and coordinated the information contained within such submittals with the requirements of the Work and of the Contract Documents.

§ 3.12.7 The Contractor shall perform no portion of the Work for which the Contract Documents require submittal and review of Shop Drawings, Product Data, Samples, or similar submittals, until the respective submittal has been approved by the Architect.

§ 3.12.8 The Work shall be in accordance with approved submittals except that the Contractor shall not be relieved of responsibility for deviations from the requirements of the Contract Documents by the Architect's approval of Shop Drawings, Product Data, Samples, or similar submittals, unless the Contractor has specifically notified the Architect of such deviation at the time of submittal and (1) the Architect has given written approval to the specific deviation as a minor change in the Work, or (2) a Change Order or Construction Change Directive has been issued authorizing the deviation. The Contractor shall not be relieved of responsibility for errors or omissions in Shop Drawings, Product Data, Samples, or similar submittals, by the Architect's approval thereof.

§ 3.12.9 The Contractor shall direct specific attention, in writing or on resubmitted Shop Drawings, Product Data, Samples, or similar submittals, to revisions other than those requested by the Architect on previous submittals. In the absence of such notice, the Architect's approval of a resubmission shall not apply to such revisions.

§ 3.12.10 The Contractor shall not be required to provide professional services that constitute the practice of architecture or engineering unless such services are specifically required by the Contract Documents for a portion of the Work or unless the Contractor needs to provide such services in order to carry out the Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures. The Contractor shall not be required to provide professional services in violation of applicable law.

§ 3.12.10.1 If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will

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specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional. whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 If the Contract Documents require the Contractor's design professional to certify that the Work has been performed in accordance with the design criteria, the Contractor shall furnish such certifications to the Architect at the time and in the form specified by the Architect.

§ 3.13 Use of Site

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The Contractor shall confine operations at the site to areas permitted by applicable laws, statutes, ordinances, codes, rules and regulations, lawful orders of public authorities, and the Contract Documents and shall not unreasonably encumber the site with materials or equipment.

§ 3.14 Cutting and Patching

§ 3.14.1 The Contractor shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly. All areas requiring cutting, fitting, or patching shall be restored to the condition existing prior to the cutting, fitting, or patching, unless otherwise required by the Contract Documents.

§ 3.14.2 The Contractor shall not damage or endanger a portion of the Work or fully or partially completed construction of the Owner or Separate Contractors by cutting, patching, or otherwise altering such construction, or by excavation. The Contractor shall not cut or otherwise alter construction by the Owner or a Separate Contractor except with written consent of the Owner and of the Separate Contractor. Consent shall not be unreasonably withheld. The Contractor shall not unreasonably withhold, from the Owner or a Separate Contractor, its consent to cutting or otherwise altering the Work.

§ 3.15 Cleaning Up

§ 3.15.1 The Contractor shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract. At completion of the Work, the Contractor shall remove waste materials, rubbish, the Contractor's tools, construction equipment, machinery, and surplus materials from and about the Project.

§ 3.15.2 If the Contractor fails to clean up as provided in the Contract Documents, the Owner may do so and the Owner shall be entitled to reimbursement from the Contractor.

§ 3.16 Access to Work

The Contractor shall provide the Owner and Architect with access to the Work in preparation and progress wherever located.

§ 3.17 Royalties, Patents and Copyrights

The Contractor shall pay all royalties and license fees. The Contractor shall defend suits or claims for infringement of copyrights and patent rights and shall hold the Owner and Architect harmless from loss on account thereof, but shall not be responsible for defense or loss when a particular design, process, or product of a particular manufacturer or manufacturers is required by the Contract Documents, or where the copyright violations are contained in Drawings, Specifications, or other documents prepared by the Owner or Architect. However, if an infringement of a copyright or patent is discovered by, or made known to, the Contractor, the Contractor shall be responsible for the loss unless the information is promptly furnished to the Architect.

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§ 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), but only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

§ 3.18.2 In claims against any person or entity indemnified under this Section 3.18 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, the indemnification obligation under Section 3.18.1 shall not be limited by a limitation on amount or type of damages, compensation, or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts. disability benefit acts, or other employee benefit acts.

ARTICLE 4 ARCHITECT

§ 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

§ 4.1.2 Duties, responsibilities, and limitations of authority of the Architect as set forth in the Contract Documents shall not be restricted, modified, or extended without written consent of the Owner, Contractor, and Architect. Consent shall not be unreasonably withheld.

§ 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents.

§ 4.2.2 The Architect will visit the site at intervals appropriate to the stage of construction, or as otherwise agreed with the Owner, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) known deviations from the Contract Documents, (2) known deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

§ 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

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§ 4.2.5 Based on the Architect's evaluations of the Contractor's Applications for Payment, the Architect will review and certify the amounts due the Contractor and will issue Certificates for Payment in such amounts.

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employées, or other persons or entities performing portions of the Work.

§ 4.2.7 The Architect will review and approve, or take other appropriate action upon, the Contractor's submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. The Architect's action will be taken in accordance with the submittal schedule approved by the Architect or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the Contractor as required by the Contract Documents. The Architect's review of the Contractor's submittals shall not relieve the Contractor of the obligations under Sections 3.3, 3.5, and 3.12. The Architect's review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 4.2.8 The Architect will prepare Change Orders and Construction Change Directives, and may order minor changes in the Work as provided in Section 7.4. The Architect will investigate and make determinations and recommendations regarding concealed and unknown conditions as provided in Section 3.7.4.

§ 4.2.9 The Architect will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion pursuant to Section 9.8; receive and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract and assembled by the Contractor pursuant to Section 9.10; and issue a final Certificate for Payment pursuant to Section 9.10.

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

§ 4.2.11 The Architect will interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, will not show partiality to either, and will not be liable for results of interpretations or decisions rendered in good faith.

§ 42.13 The Architect's decisions on matters relating to aesthetic effect will be final if consistent with the intent expressed in the Contract Documents.

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents. The Architect's response to such requests will be made in writing within any time limits agreed upon or otherwise with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information.

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ARTICLE 5 SUBCONTRACTORS

§ 5.1 Definitions

§ 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform a portion of the Work at the site. The term "Subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Subcontractor or an authorized representative of the Subcontractor. The term "Subcontractor" does not include a Separate Contractor or the subcontractors of a Separate Contractor.

§ 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform a portion of the Work at the site. The term "Sub-subcontractor" is referred to throughout the Contract Documents as if singular in number and means a Sub-subcontractor or an authorized representative of the Sub-subcontractor.

§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work

§ 5.2.1 Unless otherwise stated in the Contract Documents, the Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Architect may notify the Contractor whether the Owner or the Architect (1) has reasonable objection to any such proposed person or entity or (2) requires additional time for review. Failure of the Architect to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 5.2.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

§ 5.2.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected Subcontractor was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute Subcontractor's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

§ 5.2.4 The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner or Architect makes reasonable objection to such substitution.

§ 5.3 Subcontractual Relations

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By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor's Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.4 Contingent Assignment of Subcontracts

§ 5.4.1 Each subcontract agreement for a portion of the Work is assigned by the Contractor to the Owner, provided that

- assignment is effective only after termination of the Contract by the Owner for cause pursuant to Section 14.2 and only for those subcontract agreements that the Owner accepts by notifying the Subcontractor and Contractor; and
 - .2 assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

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When the Owner accepts the assignment of a subcontract agreement, the Owner assumes the Contractor's rights and obligations under the subcontract.

§ 5.4.2 Upon such assignment, if the Work has been suspended for more than 30 days, the Subcontractor's compensation shall be equitably adjusted for increases in cost resulting from the suspension.

§ 5.4.3 Upon assignment to the Owner under this Section 5.4, the Owner may further assign the subcontract to a successor contractor or other entity. If the Owner assigns the subcontract to a successor contractor or other entity, the Owner shall nevertheless remain legally responsible for all of the successor contractor's obligations under the subcontract.

ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS § 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

§ 6.1.2 When separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "Contractor" in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

§ 6.1.3 The Owner shall provide for coordination of the activities of the Owner's own forces and of each Separate Contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with any Separate Contractors and the Owner in reviewing their construction schedules. The Contractor shall make any revisions to its construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, Separate Contractors, and the Owner until subsequently revised.

§ 6.1.4 Unless otherwise provided in the Contract Documents, when the Owner performs construction or operations related to the Project with the Owner's own forces or with Separate Contractors, the Owner or its Separate Contractors shall have the same obligations and rights that the Contractor has under the Conditions of the Contract, including, without excluding others, those stated in Article 3, this Article 6, and Articles 10, 11, and 12.

§ 6.2 Mutual Responsibility

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§ 6.2.1 The Contractor shall afford the Owner and Separate Contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.

§ 6.2.2 If part of the Contractor's Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor's Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner's or Separate Contractor's completed or partially completed construction is fit and proper to receive the Contractor's Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

§ 6.2.3 The Contractor shall reimburse the Owner for costs the Owner incurs that are payable to a Separate Contractor because of the Contractor's delays, improperly timed activities or defective construction. The Owner shall be responsible to the Contractor for costs the Contractor incurs because of a Separate Contractor's delays, improperly timed activities, damage to the Work or defective construction.

§ 6.2.4 The Contractor shall promptly remedy damage that the Contractor wrongfully causes to completed or partially completed construction or to property of the Owner or Separate Contractor as provided in Section 10.2.5.

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§ 6.2.5 The Owner and each Separate Contractor shall have the same responsibilities for cutting and patching as are described for the Contractor in Section 3.14.

§ 6.3 Owner's Right to Clean Up

If a dispute arises among the Contractor, Separate Contractors, and the Owner as to the responsibility under their respective contracts for maintaining the premises and surrounding area free from waste materials and rubbish, the Owner may clean up and the Architect will allocate the cost among those responsible.

ARTICLE 7 CHANGES IN THE WORK

§ 7.1 General

§ 7.1.1 Changes in the Work may be accomplished after execution of the Contract, and without invalidating the Contract, by Change Order, Construction Change Directive or order for a minor change in the Work, subject to the limitations stated in this Article 7 and elsewhere in the Contract Documents.

§ 7.1.2 A Change Order shall be based upon agreement among the Owner, Contractor, and Architect. A Construction Change Directive requires agreement by the Owner and Architect and may or may not be agreed to by the Contractor. An order for a minor change in the Work may be issued by the Architect alone.

§ 7.1.3 Changes in the Work shall be performed under applicable provisions of the Contract Documents. The Contractor shall proceed promptly with changes in the Work, unless otherwise provided in the Change Order, Construction Change Directive, or order for a minor change in the Work.

§ 7.2 Change Orders

§ 7.2.1 A Change Order is a written instrument prepared by the Architect and signed by the Owner, Contractor, and Architect stating their agreement upon all of the following:

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

§ 7.3 Construction Change Directives

§ 7.3.1 A Construction Change Directive is a written order prepared by the Architect and signed by the Owner and Architect, directing a change in the Work prior to agreement on adjustment, if any, in the Contract Sum or Contract Time, or both. The Owner may by Construction Change Directive, without invalidating the Contract, order changes in the Work within the general scope of the Contract consisting of additions, deletions, or other revisions, the Contract Sum and Contract Time being adjusted accordingly.

§ 7.3.2 A Construction Change Directive shall be used in the absence of total agreement on the terms of a Change Order.

§ 7.3.3 If the Construction Change Directive provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods:

- .1 Mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 Unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 Cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee: or
- .4 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall determine the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in the Agreement, or if no such amount is set forth in the Agreement, a reasonable amount. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

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- Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed:

Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others:

Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change; and

.5 Costs of supervision and field office personnel directly attributable to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

§ 7.3.6 Upon receipt of a Construction Change Directive, the Contractor shall promptly proceed with the change in the Work involved and advise the Architect of the Contractor's agreement or disagreement with the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

§ 7.3.7 A Construction Change Directive signed by the Contractor indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual net cost as confirmed by the Architect. When both additions and credits covering related Work or substitutions are involved in a change, the allowance for overhead and profit shall be figured on the basis of net increase, if any, with respect to that change.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

§ 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

ARTICLE 8 TIME

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§ 8.1 Definitions

§ 81.1 Unless otherwise provided, Contract Time is the period of time, including authorized adjustments, allotted in the Contract Documents for Substantial Completion of the Work.

§ 8.1.2 The date of commencement of the Work is the date established in the Agreement.

§ 8.1.3 The date of Substantial Completion is the date certified by the Architect in accordance with Section 9.8.

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§ 8.1.4 The term "day" as used in the Contract Documents shall mean calendar day unless otherwise specifically defined.

§ 8.2 Progress and Completion

§ 8.2.1 Time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the Contractor confirms that the Contract Time is a reasonable period for performing the Work.

§ 8.2.2 The Contractor shall not knowingly, except by agreement or instruction of the Owner in writing, commence the Work prior to the effective date of insurance required to be furnished by the Contractor and Owner.

§ 8.2.3 The Contractor shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

§ 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending mediation and binding dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then the Contract Time shall be extended for such reasonable time as the Architect may determine.

§ 8.3.2 Claims relating to time shall be made in accordance with applicable provisions of Article 15.

§ 8.3.3 This Section 8.3 does not preclude recovery of damages for delay by either party under other provisions of the Contract Documents.

ARTICLE 9 PAYMENTS AND COMPLETION

§ 9.1 Contract Sum

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§ 9.1.1 The Contract Sum is stated in the Agreement and, including authorized adjustments, is the total amount payable by the Owner to the Contractor for performance of the Work under the Contract Documents.

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

§ 9.2 Schedule of Values

Where the Contract is based on a stipulated sum or Guaranteed Maximum Price, the Contractor shall submit a schedule of values to the Architect before the first Application for Payment, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.3 Applications for Payment

§ 9.3.1 At least ten days before the date established for each progress payment, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require, such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers, and shall reflect retainage if provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

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§ 9.3.1.2 Applications for Payment shall not include requests for payment for portions of the Work for which the Contractor does not intend to pay a Subcontractor or supplier, unless such Work has been performed by others whom the Contractor intends to pay.

§ 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. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials. and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site.

§ 9.3.3 The Contractor warrants that title to all Work covered by an Application for Payment will pass to the Owner no later than the time of payment. The Contractor further warrants that upon submittal of an Application for Payment all Work for which Certificates for Payment have been previously issued and payments received from the Owner shall, to the best of the Contractor's knowledge, information, and belief, be free and clear of liens, claims, security interests, or encumbrances, in favor of the Contractor, Subcontractors, suppliers, or other persons or entities that provided labor, materials, and equipment relating to the Work.

§ 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor, or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1: or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means, methods, techniques, sequences, or procedures; (3) reviewed copies of requisitions received from Subcontractors and suppliers and other data requested by the Owner to substantiate the Contractor's right to payment; or (4) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect may withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, unless security acceptable to the Owner is provided by the Contractor;
- failure of the Contractor to make payments properly to Subcontractors or suppliers for labor, materials .3 or equipment;

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reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum; amage to the Owner or a Separate Contractor;

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easonable evidence that the Work will not be completed within the Contract Time, and that the unpaid alance would not be adequate to cover actual or liquidated damages for the anticipated delay; or epeated failure to carry out the Work in accordance with the Contract Documents.

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

§ 9.5.3 When the reasons for withholding certification are removed, certification will be made for amounts previously withheld.

§ 9.5.4 If the Architect withholds certification for payment under Section 9.5.1.3, the Owner may, at its sole option, issue joint checks to the Contractor and to any Subcontractor or supplier to whom the Contractor failed to make payment for Work properly performed or material or equipment suitably delivered. If the Owner makes payments by joint check, the Owner shall notify the Architect and the Contractor shall reflect such payment on its next Application for Payment,

§ 9.6 Progress Payments

§ 9.6.1 After the Architect has issued a Certificate for Payment, the Owner shall make payment in the manner and within the time provided in the Contract Documents, and shall so notify the Architect.

§ 9.6.2 The Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

§ 9.6.3 The Architect will, on request, furnish to a Subcontractor, if practicable, information regarding percentages of completion or amounts applied for by the Contractor and action taken thereon by the Architect and Owner on account of portions of the Work done by such Subcontractor.

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

§ 9.6.5 The Contractor's payments to suppliers shall be treated in a manner similar to that provided in Sections 9.6.2, 9.6.3 and 9.6.4.

§ 9.6.6 A Certificate for Payment, a progress payment, or partial or entire use or occupancy of the Project by the Owner shall not constitute acceptance of Work not in accordance with the Contract Documents,

§ 9.6.7 Unless the Contractor provides the Owner with a payment bond in the full penal sum of the Contract Sum, payments received by the Contractor for Work properly performed by Subcontractors or provided by suppliers shall be held by the Contractor for those Subcontractors or suppliers who performed Work or furnished materials, or both, under contract with the Contractor for which payment was made by the Owner. Nothing contained herein shall require money to be placed in a separate account and not cominingled with money of the Contractor, create any fiduciary liability or tort liability on the part of the Contractor for breach of trust, or entitle any person or entity to an award of punitive damages against the Contractor for breach of the requirements of this provision.

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

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§ 9.7 Failure of Payment

If the Architect does not issue a Certificate for Payment, through no fault of the Contractor, within seven days after receipt of the Contractor's Application for Payment, or if the Owner does not pay the Contractor within seven days after the date established in the Contract Documents, the amount certified by the Architect or awarded by binding dispute resolution, then the Contractor may, upon seven additional days' notice to the Owner and Architect, stop the Work until payment of the amount owing has been received. The Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shutdown, delay and start-up, plus interest as provided for in the Contract Documents.

§ 9.8 Substantial Completion

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§ 9.8.1 Substantial Completion is the stage in the progress of the Work when the Work or designated portion thereof is sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended use.

§ 9.8.2 When the Contractor considers that the Work, or a portion thereof which the Owner agrees to accept separately, 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 will make an inspection to determine whether the Work or designated portion thereof is substantially complete. 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 or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, 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 Work or designated portion thereof is substantially complete, the Architect will prepare a Certificate of Substantial Completion that shall establish the date of Substantial Completion; establish responsibilities of the Owner and Contractor for security, maintenance, heat, utilities, damage to the Work and insurance; and fix the time within which the Contractor shall finish all items on the list accompanying the Certificate. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof unless otherwise provided in the Certificate of Substantial Completion.

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner and Contractor for their written acceptance of responsibilities assigned to them in the Certificate. Upon such acceptance, and consent of surety if any, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.9 Partial Occupancy or Use

§ 9.9.1 The Owner may occupy or use any completed or partially completed portion of the Work at any stage when such portion is designated by separate agreement with the Contractor, provided such occupancy or use is consented to by the insurer and authorized by public authorities having jurisdiction over the Project. Such partial occupancy or use may commence whether or not the portion is substantially complete, provided the Owner and Contractor have accepted in writing the responsibilities assigned to each of them for payments, retainage, 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 a 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. The stage of the progress of the Work shall be determined by written agreement between the Owner and Contractor or, if no agreement is reached, by decision of the Architect.

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

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§ 9.9.3 Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

§ 9.10 Final Completion and Final Payment

§ 9.10.1 Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect will promptly make such inspection. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

§ 9.10.2 Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect (1) an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied, (2) a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect, (3) a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents, (4) consent of surety, if any, to final payment, (5) documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties, and (6) if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner. If a Subcontractor refuses to furnish a release or waiver required by the Owner, the Contractor may furnish a bond satisfactory to the Owner to indemnify the Owner against such lien, claim, security interest, or encumbrance. If a lien, claim, security interest, or encumbrance remains unsatisfied after payments are made, the Contractor shall refund to the Owner all money that the Owner may be compelled to pay in discharging the lien, claim, security interest, or encumbrance, including all costs and reasonable attorneys' fees.

§ 9.10.3 If, after Substantial Completion of the Work, final completion thereof is materially delayed through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

§ 9.10.4 The making of final payment shall constitute a waiver of Claims by the Owner except those arising from

- liens. Claims, security interests, or encumbrances arising out of the Contract and unsettled; .1
- .2 failure of the Work to comply with the requirements of the Contract Documents:
- terms of special warranties required by the Contract Documents; or .3
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

§ 9.10.5 Acceptance of final payment by the Contractor, a Subcontractor, or a supplier, shall constitute a waiver of claims by that payee except those previously made in writing and identified by that payee as unsettled at the time of final Application for Payment.

ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY

§ 10.1 Safety Precautions and Programs

The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract.

§ 10.2 Safety of Persons and Property

§ 10.2.1 The Contractor shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to

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.1 employees on the Work and other persons who may be affected thereby:

the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

§ 10.2.2 The Contractor shall comply with, and give notices required by applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities, bearing on safety of persons or property or their protection from damage, injury, or loss.

§ 10.2.3 The Contractor shall implement, erect, and maintain, as required by existing conditions and performance of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards; promulgating safety regulations; and notifying the owners and users of adjacent sites and utilities of the safeguards.

§ 10.2.4 When use or storage of explosives or other hazardous materials or equipment, or unusual methods are necessary for execution of the Work, the Contractor shall exercise utmost care and carry on such activities under supervision of properly qualified personnel.

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

§ 10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the Owner and Architect.

§ 10.2.7 The Contractor shall not permit any part of the construction or site to be loaded so as to cause damage or create an unsafe condition.

§ 10.2.8 Injury or Damage to Person or Property

If either party suffers injury or damage to person or property because of an act or omission of the other party, or of others for whose acts such party is legally responsible, notice of the injury or damage, whether or not insured, shall be given to the other party within a reasonable time not exceeding 21 days after discovery. The notice shall provide sufficient detail to enable the other party to investigate the matter.

§ 10.3 Hazardous Materials and Substances

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§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance not addressed in the Contract Documents and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons resulting from a material or substance, including but not limited to asbestos or polychlorinated biphenyl (PCB), encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons

or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

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promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up.

§ 10.3.3 To the fullest extent permitted by law, the Owner shall indemnify and hold harmless the Contractor, Subcontractors, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work in the affected area if in fact the material or substance presents the risk of bodily injury or death as described in Section 10.3.1 and has not been rendered harmless, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), except to the extent that such damage, loss, or expense is due to the fault or negligence of the party seeking indemnity.

§ 10.3.4 The Owner shall not be responsible under this Section 10.3 for hazardous materials or substances the Contractor brings to the site unless such materials or substances are required by the Contract Documents. The Owner shall be responsible for hazardous materials or substances required by the Contract Documents, except to the extent of the Contractor's fault or negligence in the use and handling of such materials or substances.

§ 10.3.5 The Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

§ 10.3.6 If, without negligence on the part of the Contractor, the Contractor is held liable by a government agency for the cost of remediation of a hazardous material or substance solely by reason of performing Work as required by the Contract Documents, the Owner shall reimburse the Contractor for all cost and expense thereby incurred.

§ 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7.

ARTICLE 11 INSURANCE AND BONDS

§ 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

§ 11.1.3 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.

§ 11.1.4 Notice of Cancellation or Expiration of Contractor's Required Insurance. Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner of such impending or actual cancellation or expiration. Upon receipt of notice from the Contractor, the Owner shall, unless the lapse in coverage arises from an act

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or omission of the Owner, have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by the Contractor. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

§ 11.2 Owner's Insurance

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§ 11.2.1 The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

§ 11.2.2 Failure to Purchase Required Property Insurance. If the Owner fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the Contract Documents, the Owner shall inform the Contractor in writing prior to commencement of the Work. Upon receipt of notice from the Owner, the Contractor may delay commencement of the Work and may obtain insurance that will protect the interests of the Contractor, Subcontractors, and Sub-Subcontractors in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall be equitably adjusted. In the event the Owner fails to procure coverage, the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent the loss to the Owner would have been covered by the insurance to have been procured by the Owner. The cost of the insurance shall be charged to the Owner by a Change Order. If the Owner does not provide written notice, and the Contractor is damaged by the failure or neglect of the Owner to purchase or maintain the required insurance, the Owner shall reimburse the Contractor for all reasonable costs and damages attributable thereto.

§ 11.2.3 Notice of Cancellation or Expiration of Owner's Required Property Insurance. Within three (3) business days of the date the Owner becomes aware of an impending or actual cancellation or expiration of any property insurance required by the Contract Documents, the Owner shall provide notice to the Contractor of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Contractor: (1) the Contractor, upon receipt of notice from the Owner, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall be equitably adjusted; and (3) the Owner waives all rights against the Contractor, Subcontractors, and Sub-subcontractors to the extent any loss to the Owner would have been covered by the insurance had it not expired or been cancelled. If the Contractor purchases replacement coverage, the cost of the insurance shall be charged to the Owner by an appropriate Change Order. The furnishing of notice by the Owner shall not relieve the Owner of any contractual obligation to provide required insurance.

§ 11.3 Waivers of Subrogation

§ 11.3.1 The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

§ 11.3.2 If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance

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The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

§11.5 Adjustment and Settlement of Insured Loss

§ 11.5.1 A loss insured under the property insurance required by the Agreement shall be adjusted by the Owner as fiduciary and made payable to the Owner as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Owner shall pay the Architect and Contractor their just shares of insurance proceeds received by the Owner, and by appropriate agreements the Architect and Contractor shall make payments to their consultants and Subcontractors in similar manner.

§ 11.5.2 Prior to settlement of an insured loss, the Owner shall notify the Contractor of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Contractor shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Contractor does not object, the Owner shall settle the loss and the Contractor shall be bound by the settlement and allocation. Upon receipt, the Owner shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Contractor timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Owner may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

ARTICLE 12 UNCOVERING AND CORRECTION OF WORK § 12.1 Uncovering of Work

§ 12.1.1 If a portion of the Work is covered contrary to the Architect's request or to requirements specifically expressed in the Contract Documents, it must, if requested in writing by the Architect, be uncovered for the Architect's examination and be replaced at the Contractor's expense without change in the Contract Time.

§ 12.1.2 If a portion of the Work has been covered that the Architect has not specifically requested to examine prior to its being covered, the Architect may request to see such Work and it shall be uncovered by the Contractor. If such Work is in accordance with the Contract Documents, the Contractor shall be entitled to an equitable adjustment to the Contract Sum and Contract Time as may be appropriate. If such Work is not in accordance with the Contract Documents, the costs of uncovering the Work, and the cost of correction, shall be at the Contractor's expense.

§ 12.2 Correction of Work

§ 12.2.1 Before Substantial Completion

The Contractor shall promptly correct Work rejected by the Architect or failing to conform to the requirements of the Contract Documents, discovered before Substantial Completion and whether or not fabricated, installed or completed. Costs of correcting such rejected Work, including additional testing and inspections, the cost of uncovering and replacement, and compensation for the Architect's services and expenses made necessary thereby, shall be at the Contractor's expense.

§ 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor and to make a claim for breach of warranty. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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§ 12.2.2 The one-year period for correction of Work shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual completion of that portion of the Work.

§ 12.2.3. The one-year period for correction of Work shall not be extended by corrective Work performed by the Contractor pursuant to this Section 12.2.

§ 12.2.3 The Contractor shall remove from the site portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the Contractor nor accepted by the Owner.

§ 12.2.4 The Contractor shall bear the cost of correcting destroyed or damaged construction of the Owner or Separate Contractors, whether completed or partially completed, caused by the Contractor's correction or removal of Work that is not in accordance with the requirements of the Contract Documents.

§ 12.2.5 Nothing contained in this Section 12.2 shall be construed to establish a period of limitation with respect to other obligations the Contractor has under the Contract Documents. Establishment of the one-year period for correction of Work as described in Section 12.2.2 relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.

§ 12.3 Acceptance of Nonconforming Work

If the Owner prefers to accept Work that is not in accordance with the requirements of the Contract Documents, the Owner may do so instead of requiring its removal and correction, in which case the Contract Sum will be reduced as appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 13 MISCELLANEOUS PROVISIONS

§ 13.1 Governing Law

The Contract shall be governed by the law of the place where the Project is located, excluding that jurisdiction's choice of law rules. If the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 15.4.

§ 13.2 Successors and Assigns

§ 13.2.1 The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Except as provided in Section 13.2.2, neither party to the Contract shall assign the Contract as a whole without written consent of the other. If either party attempts to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

§ 13.2.2 The Owner may, without consent of the Contractor, assign the Contract to a lender providing construction financing for the Project, if the lender assumes the Owner's rights and obligations under the Contract Documents. The Contractor shall execute all consents reasonably required to facilitate the assignment.

§ 13.3 Rights and Remedies

§ 13.3.1 Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

§ 13.3.2 No action or failure to act by the Owner, Architect, or Contractor shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed upon in writing.

§ 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and

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approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Architect timely notice of when and where tests and inspections are to be made so that the Architect may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense.

§ 13.4.4 Required certificates of testing, inspection, or approval shall, unless otherwise required by the Contract Documents, be secured by the Contractor and promptly delivered to the Architect.

§ 13.4.5 If the Architect is to observe tests, inspections, or approvals required by the Contract Documents, the Architect will do so promptly and, where practicable, at the normal place of testing.

§ 13.4.6 Tests or inspections conducted pursuant to the Contract Documents shall be made promptly to avoid unreasonable delay in the Work.

§ 13.5 Interest

Payments due and unpaid under the Contract Documents shall bear interest from the date payment is due at the rate the parties agree upon in writing or, in the absence thereof, at the legal rate prevailing from time to time at the place where the Project is located.

ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

§ 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 30 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires all Work to be stopped;
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the .3 reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made 6.Wi payment on a Certificate for Payment within the time stated in the Contract Documents; or
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The Owner has failed to furnish to the Contractor reasonable evidence as required by Section 2.2.

§ 14.1.2 The Contractor may terminate the Contract if, through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, repeated suspensions, delays, or interruptions of the entire Work by the Owner as described in Section 14.3, constitute in the aggregate more than 100 percent of the total number of days scheduled for completion, or 120 days in any 365-day period, whichever is less.

§ 14.1.3 If one of the reasons described in Section 14.1.1 or 14.1.2 exists, the Contractor may, upon seven days' notice to the Owner and Architect, terminate the Contract and recover from the Owner payment for Work executed, as well as reasonable overhead and profit on Work not executed, and costs incurred by reason of such termination.

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§ 14.1.4 If the Work is stopped for a period of 60 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, or their agents or employees or any other persons or entities performing portions of the Work because the Owner has repeatedly failed to fulfill the Owner's obligations under the Contract Documents with respect to matters important to the progress of the Work, the Contractor may, upon seven additional days' notice to the Owner and the Architect, terminate the Contract and recover from the Owner as provided in Section 14.1.3.

§ 14.2 Termination by the Owner for Cause

- § 14.2.1 The Owner may terminate the Contract if the Contractor
 - .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials;
 - fails to make payment to Subcontractors or suppliers in accordance with the respective agreements .2 between the Contractor and the Subcontractors or suppliers;
 - repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful .3
 - orders of a public authority; or
 - 4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, and upon certification by the Architect that sufficient cause exists to justify such action, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

- 1 Exclude the Contractor from the site and take possession of all materials, equipment, tools, and construction equipment and machinery thereon owned by the Contractor;
- .2 Accept assignment of subcontracts pursuant to Section 5.4; and
- .3 Finish the Work by whatever reasonable method the Owner may deem expedient. Upon written request of the Contractor, the Owner shall furnish to the Contractor a detailed accounting of the costs incurred by the Owner in finishing the Work.

§ 14.2.3 When the Owner terminates the Contract for one of the reasons stated in Section 14.2.1, the Contractor shall not be entitled to receive further payment until the Work is finished.

§ 14.2.4 If the unpaid balance of the Contract Sum exceeds costs of finishing the Work, including compensation for the Architect's services and expenses made necessary thereby, and other damages incurred by the Owner and not expressly waived, such excess shall be paid to the Contractor. If such costs and damages exceed the unpaid balance, the Contractor shall pay the difference to the Owner. The amount to be paid to the Contractor or Owner, as the case may be, shall be certified by the Initial Decision Maker, upon application, and this obligation for payment shall survive termination of the Contract.

§ 14.3 Suspension by the Owner for Convenience

§ 14.3.1 The Owner may, without cause, order the Contractor in writing to suspend, delay or interrupt the Work, in whole or in part for such period of time as the Owner may determine.

§ 14.3.2 The Contract Sum and Contract Time shall be adjusted for increases in the cost and time caused by suspension, delay, or interruption under Section 14.3.1. Adjustment of the Contract Sum shall include profit. No adjustment shall be made to the extent

- that performance is, was, or would have been, so suspended, delayed, or interrupted, by another cause <u>,1</u>
- for which the Contractor is responsible; or
- .2 that an equitable adjustment is made or denied under another provision of the Contract.

§ 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract for the Owner's convenience and without cause.

- § 14.4.2 Upon receipt of notice from the Owner of such termination for the Owner's convenience, the Contractor shall
 - .1 cease operations as directed by the Owner in the notice;
 - .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work; and
 - .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders.

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§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and the termination fee, if any, set forth in the Agreement.

ARTICLE 15 CLAIMS AND DISPUTES

§ 15.1 Claims

§ 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

§ 15.1.2 Time Limits on Claims

The Owner and Contractor shall commence all Claims and causes of action against the other and arising out of or related to the Contract, whether in contract, tort, breach of warranty or otherwise, in accordance with the requirements of the binding dispute resolution method selected in the Agreement and within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Contractor waive all Claims and causes of action not commenced in accordance with this Section 15.1.2.

§ 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Initial Decision Maker with a copy sent to the Architect, if the Architect is not serving as the Initial Decision Maker. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Initial Decision Maker is required.

§ 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Initial Decision Maker's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

§ 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

§ 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary.

§ 15.1.6.2 If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating that weather conditions were abnormal for the period of time, could not have been reasonably anticipated, and had an adverse effect on the scheduled construction.

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§ 15.1.7 Waiver of Claims for Consequential Damages

The Contractor and Owner waive Claims against each other for consequential damages arising out of or relating to this Contract. This mutual waiver includes

- damages incurred by the Owner for rental expenses, for losses of use, income, profit, financing, business and reputation, and for loss of management or employee productivity or of the services of such persons; and
- .2 damages incurred by the Contractor for principal office expenses including the compensation of personnel stationed there, for losses of financing, business and reputation, and for loss of profit, except anticipated profit arising directly from the Work.

This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination in accordance with Article 14. Nothing contained in this Section 15.1.7 shall be deemed to preclude assessment of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents.

§ 15.2 Initial Decision

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§ 15.2.1 Claims, excluding those where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2 or arising under Sections 10.3, 10.4, and 11.5, shall be referred to the Initial Decision Maker for initial decision. The Architect will serve as the Initial Decision Maker, unless otherwise indicated in the Agreement. Except for those Claims excluded by this Section 15.2.1, an initial decision shall be required as a condition precedent to mediation of any Claim. If an initial decision has not been rendered within 30 days after the Claim has been referred to the Initial Decision Maker, the party asserting the Claim may demand mediation and binding dispute resolution without a decision having been rendered. Unless the Initial Decision Maker and all affected parties agree, the Initial Decision Maker will not decide disputes between the Contractor and persons or entities other than the Owner.

§ 15.2.2 The Initial Decision Maker will review Claims and within ten days of the receipt of a Claim take one or more of the following actions: (1) request additional supporting data from the claimant or a response with supporting data from the other party, (2) reject the Claim in whole or in part, (3) approve the Claim, (4) suggest a compromise, or (5) advise the parties that the Initial Decision Maker is unable to resolve the Claim if the Initial Decision Maker lacks sufficient information to evaluate the merits of the Claim or if the Initial Decision Maker concludes that, in the Initial Decision Maker's sole discretion, it would be inappropriate for the Initial Decision Maker to resolve the Claim.

§ 15.2.3 In evaluating Claims, the Initial Decision Maker may, but shall not be obligated to, consult with or seek information from either party or from persons with special knowledge or expertise who may assist the Initial Decision Maker in rendering a decision. The Initial Decision Maker may request the Owner to authorize retention of such persons at the Owner's expense.

§ 15.2.4 If the Initial Decision Maker requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of the request, and shall either (1) provide a response on the requested supporting data, (2) advise the Initial Decision Maker when the response or supporting data will be furnished, or (3) advise the Initial Decision Maker that no supporting data will be furnished. Upon receipt of the response or supporting data, if any, the Initial Decision Maker will either reject or approve the Claim in whole or in part.

§ 15.2.5 The Initial Decision Maker will render an initial decision approving or rejecting the Claim, or indicating that the Initial Decision Maker is unable to resolve the Claim. This initial decision shall (1) be in writing; (2) state the reasons therefor; and (3) notify the parties and the Architect, if the Architect is not serving as the Initial Decision Maker, of any change in the Contract Sum or Contract Time or both. The initial decision shall be final and binding on the parties but subject to mediation and, if the parties fail to resolve their dispute through mediation, to binding dispute resolution.

§ 15.2.6 Either party may file for mediation of an initial decision at any time, subject to the terms of Section 15.2.6.1.

§ 15.2.6.1 Either party may, within 30 days from the date of receipt of an initial decision, demand in writing that the other party file for mediation. If such a demand is made and the party receiving the demand fails to file for mediation within 30 days after receipt thereof, then both parties waive their rights to mediate or pursue binding dispute resolution proceedings with respect to the initial decision.

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§. 15.2.7 In the event of a Claim against the Contractor, the Owner may, but is not obligated to, notify the surety, if any, of the nature and amount of the Claim. If the Claim relates to a possibility of a Contractor's default, the Owner may, but is not obligated to, notify the surety and request the surety's assistance in resolving the controversy.

§ 15.2.8 If a Claim relates to or is the subject of a mechanic's lien, the party asserting such Claim may proceed in accordance with applicable law to comply with the lien notice or filing deadlines.

§ 15.3 Mediation

§ 15.3.1 Claims, disputes, or other matters in controversy arising out of or related to the Contract, except those waived as provided for in Sections 9.10.4, 9.10.5, and 15.1.7, shall be subject to mediation as a condition precedent to binding dispute resolution.

§ 15.3.2 The parties shall endeavor to resolve their Claims by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of binding dispute resolution proceedings but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration is stayed pursuant to this Section 15.3.2, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 15.3.3 Either party may, within 30 days from the date that mediation has been concluded without resolution of the dispute or 60 days after mediation has been demanded without resolution of the dispute, demand in writing that the other party file for binding dispute resolution. If such a demand is made and the party receiving the demand fails to file for binding dispute resolution within 60 days after receipt thereof, then both parties waive their rights to binding dispute resolution proceedings with respect to the initial decision.

§ 15.3.4 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 15.4 Arbitration

§ 15.4.1 If the parties have selected arbitration as the method for binding dispute resolution in the Agreement, any Claim subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of the Agreement. The Arbitration shall be conducted in the place where the Project is located, unless another location is mutually agreed upon. A demand for arbitration shall be made in writing, delivered to the other party to the Contract, and filed with the person or entity administering the arbitration. The party filing a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded.

§ 15.4.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the Claim would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the Claim.

§ 15.4.2 The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 15.4.3 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Agreement, shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

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§ 15.4.4 Consolidation or Joinder

§ 15.4.4.1 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation, (2) the arbitrations to be consolidated substantially involve common questions of law or fact, and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 15.4.4.2 Subject to the rules of the American Arbitration Association or other applicable arbitration rules, either party may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 15.4.4.3 The Owner and Contractor grant to any person or entity made a party to an arbitration conducted under this Section 15.4, whether by joinder or consolidation, the same rights of joinder and consolidation as those of the Owner and Contractor under this Agreement.

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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 Contract or 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 **SOUTHERN UNIVERSITY AND A&M COLLEGE** – 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 $\frac{1}{2}$ 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 <u>not</u> 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 <u>each project</u>. ISO form CG 25 03 (current form approved for use in Louisiana), or equivalent, shall also be submitted. The **SOUTHERN UNIVERSITY AND A&M COLLEGE** project number, including part number, and project name shall be included on this endorsement.

COMBINED SINGLE LIMIT (CSL) PER OCCURRENCE

Type of <u>Construction</u>	Projects <u>up to \$1,000,000</u>	Projects over \$1,000,000 up to \$10,000,000	Projects over <u>\$10,000,000</u>
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	ie for the Project is \$	•

Each Occurrence

Minimum Limit	\$1,000,000**	\$2,000,000**	\$4,000,000**
Per Project Aggregate	2 times per	2 times per	2 times per
	occur limit**	occur limit**	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 33,000,000). 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 selfinsurance maintained by the Owner shall be excess and noncontributory 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 **SOUTHERN UNIVERSITY AND A&M COLLEGE** self-insurance or commercial property policy, 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 <u>each</u> 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:

SOUTHERN UNIVERSITY AND A&M COLLEGE

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 <u>OR</u> 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 **SOUTHERN UNIVERSITY AND A&M COLLEGE**, 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 **SOUTHERN UNIVERSITY AND A&M COLLEGE**, 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 agree to protect, defend, indemnify and hold the **SOUTHERN UNIVERSITY AND A&M COLLEGE**, its departments, agencies, agents and employees from the performance of this contract.

11.3.6 Indemnification/Hold Harmless Agreement

Contractor agrees to protect, defend, indemnify, save, and hold harmless, the **SOUTHERN UNIVERSITY AND A&M COLLEGE**, all 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 **SOUTHERN UNIVERSITY AND A&M COLLEGE**, all 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 **SOUTHERN UNIVERSITY AND A&M COLLEGE** 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	<u>11</u> days	July	<u>6</u> days
February	<u>10</u> days	August	<u>5</u> days
March	<u>8</u> days	September	<u>4</u> days
April	<u>7</u> days	October	<u>3</u> days
May	<u>5</u> days	November	<u>5</u> days
June	<u>6</u> days	December	<u>8</u> 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.

LOUISIANA UNIFORM PUBLIC WORK BID FORM

ГО:	Southern University and A&M College	BID FOR:	Southern University & A&M College
	Post Office Box 9534		Financial Unit Addition, Agriculture
	James J. Prestage Dr-J.S. Clark Adm. Bldg. Annex		9110 B.A. Little Drive (H Street)
	Baton Rouge, LA 70813		Baton Rouge, La, 70807

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: *DB Architecture of Acadiana, LLC*, 233 Doucet Rd, Ste A2, Lafayette, La, 70503 and dated 03/25/2024.

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)

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 (\$
LTERNATES: For any and all work required by the Bidding Documents for Alternates including any and all unit prices esignated as alternates in the unit price description.
Iternate No. 1 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:
DD – GENERATOR AND GENERATOR SWITCH Dollars (\$
ITERNATE NO. 2 (Owner to provide description of alternate and state whether add or deduct) IOF the lump sum OF:
Dollars (\$ NOT APPLICABLE) Iternate No. 3 (Owner to provide description of alternate and state whether add or deduct) for the lump sum of:
OT APPLICABLEDollars (\$NOT APPLICABLE)
AME OF BIDDER:
DDRESS OF BIDDER:
MAIL
HONE
OUISIANA CONTRACTOR'S LICENSE NUMBER:
RINT NAME OF AUTHORIZED SIGNATORY OF BIDDER:
ITLE OF AUTHORIZED SIGNATORY OF BIDDER:
IGNATURE OF AUTHORIZED SIGNATORY OF BIDDER:
ATE:

Completion Time: ______ consecutive calendar days, or within the time that may be extended as stipulated in the contract. Liquidated Damages: \$

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 <u>Unit Price Form</u> 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.

BID BOND FOR SOUTHERN UNIVERSITY AND A&M COLLEGE

KNOW ALL MEN BY THESE PRESENTS:

Date:

That	of	, as
Principal, and_		, as Surety, are held
and firmly bou	nd unto the SOUTHERN UNIVERSITY AND A&M COLLEG	GE (Obligee), in the full and
just sum of <u>five</u>	e (5%) percent of the total amount of this proposal, including all all	ternates, lawful money of
the United Stat	es, for payment of which sum, well and truly be made, we bind ou	rselves, our heirs, executors,
administrators,	successors and assigns, jointly and severally firmly by these prese	ents.

Surety represents that it is listed on the current U. S. Department of the Treasury Financial Management Service list of approved bonding companies as approved for an amount equal to or greater that the amount for which it obligates itself in this instrument or that it is a Louisiana domiciled insurance company with at least an A - rating in the latest printing of the A. M. Best's Key Rating Guide. If surety qualifies by virtue of its Best's listing, the Bond amount may not exceed ten percent of policyholders' surplus as shown in the latest A. M. Best's Key Rating Guide.

Surety further represents that it is licensed to do business in the State of Louisiana and that this Bond is signed by surety's agent or attorney-in-fact. This Bid Bond is accompanied by appropriate power of attorney.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas said Principal is herewith submitting its proposal to the Obligee on a Contract for:

NOW, THEREFORE, if the said Contract be awarded to the Principal and the Principal shall, within such time as may be specified, enter into the Contract in writing and give a good and sufficient bond to secure the performance of the terms and conditions of the Contract with surety acceptable to the Obligee, then this obligation shall be void; otherwise this obligation shall become due and payable.

PRINCIPAL (BIDDER)

SURETY

BY: AGENT OR ATTORNEY-IN-FACT(SEAL)

July 2021 (modified to suit SOUTHERN UNIVERSITY AND A&M COLLEGE)

FOR INFORMATION ONLY

This document will be prepared by Southern University and A&M College in the form appropriate for

the project.

STATE OF LOUISIANA PARISH OF <u>«**PARISH OF PROJECT»**</u>

CONTRACT BETWEEN OWNER AND CONTRACTOR AND PERFORMANCE AND PAYMENT BOND

This agreement entered into this ______ day of ______, 2024, by <u>«Contractor»</u> hereinafter called the "Contractor", whose business address is <u>«Contractor Address»</u>, <u>«Contractor City»</u>, <u>«Contractor State»</u> <u>«Contractor Zip»</u>, and the **Southern University and A&M College**, herein represented by the contracting officer executing this contract, hereinafter called the "Owner".

Witnesseth that the Contractor and the Owner, in consideration of premises and the mutual covenants; consideration and agreement herein contained, agree as follows:

Statement of Work: The contractor shall furnish all labor and materials and perform all of the work required to build, construct and complete in a thorough and workmanlike manner:

«Project_Reference_1»
«Project_Reference_2»
«Project_Reference_3»
«Project_City», Louisiana
Project No.: «ProjectNo»;
State ID No.: «StateID» Site Code: «SiteCode»

in strict accordance with Contract Documents prepared by:

«Designer» «Designer_Address» «Designer_City», «Designer_State» «Designer_Zip»

It is recognized by the parties herein that said Contract Documents including by way of example and not of limitation, the Drawings and Specifications dated <u>«Drawings and Specs Date»</u>, Addenda number(s) <u>«Addenda No»</u>, the Instruction to Bidders, Bid Form, General Conditions, Supplementary Conditions, any Addenda thereto, impose duties and obligations upon the parties herein, and said parties thereby agree that they shall be bound by said duties and obligations. For these purposes, all of the provisions contained in the aforementioned Construction Documents are incorporated herein by reference with the same force and effect as though said Construction Documents were herein set out in full.

<u>Time for Completion</u>: The work shall be commenced on a date to be specified in a written order of the Owner and shall be completed within <u>«Time_Completion_Days»</u> («Time_Completion_Days») consecutive calendar days from and after the said date.

<u>Liquidated Damages</u>: Contractor shall be assessed Liquidated Damages in the amount of <u>«Liquidated Damages Cost Per Day»</u> per day for each consecutive calendar day which work is not complete beginning with the first day beyond the completion time.

<u>Compensation to be paid to the Contractor</u>: The Owner will pay and the Contractor will accept in full consideration for the performance of the contract the sum of <u>«Contract Amount Words» and No/100 Dollars</u> (<u>«Contract Amount Numeral»</u>) which sum represents the <u>«Base_Bid_Only_or_Plus_Alternates»</u>

<u>Taxes</u>: Contractor hereby agrees that the responsibility for payment of taxes from the funds thus received under this Contract and/or legislative appropriation shall be contractor's obligation and identified under Federal tax identification number ______.

Performance and Payment Bond: To these presents personally came and intervened ______, herein acting for _____, a corporation organized and existing under the laws of the State of ______

______, and duly authorized to transact business in the State of Louisiana, as surety, who declared that having taken cognizance of this contract and of the Construction Documents mentioned herein, he hereby in his capacity as its Attorney in Fact obligates his said company, as Surety for the said Contractor, unto the said Owner, up to the sum of **«Contract Amount Words» and No/100 Dollars («Contract Amount Numeral»**). By issuance of this bond, the surety acknowledges they are in compliance with R.S. 38:2219.

The condition of this performance and payment bond shall be that should the Contractor herein not perform the contract in accordance with the terms and conditions hereof, or should said Contractor not fully indemnify and save harmless the Owner, from all cost and damages which he may suffer by said Contractor's non-performance or should said Contractor not pay all persons who have and fulfill obligations to perform labor and/or furnish materials in the prosecution of the work provided for herein, including by way of example workmen, laborers, mechanics, and furnishers of materials, machinery, equipment and fixtures, then said Surety agrees and is bound to so perform the contract and make said payment(s).

Provided, that any alterations which may be made in the terms of the contract or in the work to be done under it, or the giving by the Owner of any extensions of time for the performance of the contract, or any other forbearance on the part of either the Owner or the Contractor to the other shall not in any way release the Contractor or the Surety from their liability hereunder, notice to the Surety of any such alterations, extensions or other forbearance being hereby waived.

contract by the legislature. If the legislature fails to appropriate sufficient monies to provide for the continuation of the contract, or if such appropriation is reduced by the yeto of the Governor or by any means provided in the appropriations act

Contractor acknowledges and agrees to comply with the provisions of La. R.S. 38:2212.10 and federal law

It is hereby agreed that the Legislative Auditor of the State of Louisiana and/or the Office of the Governor, Division

The continuation of this contract is contingent upon the appropriation of funds to fulfill the requirements of the

pertaining to E-Verify in the performance of services under this Contract.

accounts of contractor which relate to this contract.

contract, or if such appropriation is reduced by the veto of the Governor or by any means provided in the appropriations act to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the contract, the contract shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.

of Administration, and/or Southern University and A&M College auditors shall have the option of auditing all

The contractor agrees to abide by the requirements of the following as applicable: Title VI of the Civil Rights Act of 1964 and Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972, Federal Executive Order 11246 as amended, the Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Discrimination Act of 1975, the Fair Housing Act of 1968 as amended, and contractor agrees to abide by the requirements of the Americans with Disabilities Act of 1990.

Contractor agrees not to discriminate in its employment practices, and will render services under this contract without regard to race, color, religion, sex, sexual orientation, national origin, veteran status, political affiliation, disability, or age in any matter relating to employment. Any act of discrimination committed by Contractor, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this contract.

In accordance with R.S. 39:1602.1, effective May 22, 2018, for any contract for \$100,000 or more and for any contractor with five or more employees, Contractor, or any Subcontractor, shall certify it is not engaging in a boycott of Israel, and 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 the contract.

Contractor has a continuing obligation to disclose any suspensions or debarment by any government entity, including but not limited to General Services Administration (GSA). Failure to disclosed may constitute grounds for suspension and/or termination of the Contract and debarment from future Contracts.

Contractor, and each tier of Subcontractors, shall certify that it is not on the List of Parties Excluded from Federal Procurement or Nonprocurement Programs promulgated in accordance with E.O.s 12549 and 12689, "Debarment and Suspension," as set forth at 24 CFR part 24.

In Witness whereof, the parties hereto on the day and year first above written have executed this agreement in <u>six</u> (6) counterparts, each of which shall, without proof or accountancy for the other counterparts, be deemed an original thereof.

THUS DONE AND SIGNED at Baton Rouge, Louisiana, on the day, month, and year first written above.

WITNESSES:

University Witness #1 Sign Here

University Witness #2 Sign Here

Contractor Witness #1 Sign Here

Contractor Witness #2 Sign Here

Surety Witness #1 Sign Here

Surety Witness #2 Sign Here

Southern University and A&M College

BY:

University Representative Name, University Representative Title

BY:

«CONTRACTOR»

SURETY:

BY:

ATTORNEY IN FACT

ADDRESS

TELEPHONE NUMBER

PROJECT NO.: «ProjectNo», «Part_No» «WBS»;			
«Supplement_Project_No», Part			
«Supplement_Part_No» («Supplement_WBS»)(Supplement)			
NAME: «Project_Reference_1»			
«Project_Reference_2»			
«Project_Reference_3»			
LOCATION: «Project_City»			

NON-COLLUSION AFFIDAVIT

PART I.

Section 2224 of Part II of Chapter 10 of Title 38 of the Louisiana Revised Statutes, as amended.

(1) That affiant employed no person, corporation, firm, association, or other organization, either directly or indirectly, to secure the public contract under which he received payment, other than persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project or in securing the public contract were in the regular course of their duties for affiant; and

(2) That no part of the Contract price received by affiant was paid or will be paid to any person, corporation, firm, association, or other organization for soliciting the Contract, other than the payment of their normal compensation to persons regularly employed by the affiant whose services in connection with the construction, alteration or demolition of the public building or project were in the regular course of their duties for affiant.

PART II.

Section 2190 of Part I of Chapter 10 of Title 38 of the Louisiana Revised Statutes, as amended.

That affiant, if an architect or engineer, or representative thereof, does not own a substantial financial interest, either directly or indirectly, in any corporation, firm, partnership, or other organization which supplies materials for the construction of a public work when the architect or engineer has performed architectural or engineering services, either directly or indirectly, in connection with the public work for which the materials are being supplied.

For the purposes of this Section, a "substantial financial interest" shall exclude any interest in stock being traded on the American Stock Exchange or the New York Stock Exchange.

That affiant, if subject to the provisions of this section, does hereby agree to be subject to the penalties involved for the violation of this section.

AFFIANT

SWORN TO AND SUBSCRIBED BEFORE ME THIS _____ DAY OF _____, 2024.

NOTARY

Name of Project

Project No.

STATE OF _____

PARISH OF _____

ATTESTATIONS AFFIDAVIT

Before me, the undersigned notary public, duly commissioned and qualified in and for the parish and state aforesaid, personally came and appeared Affiant, who after being duly sworn, attested as follows:

LA. R.S. 38:2227 PAST CRIMINAL CONVICTIONS OF BIDDERS

- A. No sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes:
 - (a) Public bribery (R.S. 14:118)(b) Corrupt influencing (R.S. 14:120)
- (c) Extortion (R.S. 14:66) (d) Money laundering (R.S. 14:230)
- B. Within the past five years from the project bid date, no sole proprietor or individual partner, incorporator, director, manager, officer, organizer, or member who has a minimum of a ten percent (10%) ownership in the bidding entity named below has been convicted of, or has entered a plea of guilty or nolo contendere to any of the following state crimes or equivalent federal crimes, during the solicitation or execution of a contract or bid awarded pursuant to the provisions of Chapter 10 of Title 38 of the Louisiana Revised Statutes:
 - (a) Theft (R.S. 14:67)
 - (b) Identity Theft (R.S. 14:67.16)
 - (c) Theft of a business record (R.S.14:67.20)
 - (d) False accounting (R.S. 14:70)
 - (e) Issuing worthless checks
 - (R.S. 14:71)

- (f) Bank fraud (R.S. 14:71.1)
- (g) Forgery (R.S. 14:72)
- (h) Contractors; misapplication of payments (R.S. 14:202)
- (i) Malfeasance in office (R.S. 14:134)

LA. R.S. 38:2212.10 Verification of Employees

- A. At the time of bidding, Appearer is registered and participates in a status verification system to verify that all new hires in the state of Louisiana are legal citizens of the United States or are legal aliens.
- B. If awarded the contract, Appearer shall continue, during the term of the contract, to utilize a status verification system to verify the legal status of all new employees in the state of Louisiana.
- C. If awarded the contract, Appearer shall require all subcontractors to submit to it a sworn affidavit verifying compliance with Paragraphs (A) and (B) of this Subsection.

Name of Project

Project No.

LA. R.S. 23:1726(B) Certification Regarding Unpaid Workers Compensation Insurance

- A. R.S. 23:1726 prohibits any entity against whom an assessment under Part X of Chapter 11 of Title 23 of the Louisiana Revised Statutes of 1950 (Alternative Collection Procedures & Assessments) is in effect, and whose right to appeal that assessment is exhausted, from submitting a bid or proposal for or obtaining any contract pursuant to Chapter 10 of Title 38 of the Louisiana Revised Statutes of 1950 and Chapters 16 and 17 of Title 39 of the Louisiana Revised Statutes of 1950.
- B. By signing this bid /proposal, Affiant certifies that no such assessment is in effect against the bidding / proposing entity.

NAME OF BIDDER

NAME OF AUTHORIZED SIGNATORY OF BIDDER

DATE

TITLE OF AUTHORIZED SIGNATORY OF BIDDER

SIGNATURE OF AUTHORIZED SIGNATORY OF BIDDER/AFFIANT

Sworn to and subscribed before me by Affiant on the _____ day of _____, 20____.

Notary Public

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)

DIVISION 01 – GENERAL REQUIREMENTS	Quantity	Cost
01 00 00 General Requirements 01 32 50 Record Drawings, Shop Drawings, Product Data, Samples and other submittals.		
DIVISION 02 – EXISTING CONDITIONS	IUIAL	
02 30 00 Subsurface Investigation 02 41 00 Demolition	TOTAL	
DIVISION 03 – CONCRETE		
03 01 00Maintenance of Concrete03 11 00Concrete Forming03 15 00Concrete Accessories03 20 00Concrete Reinforcing03 30 00Cast-in-place Concrete03 40 00Precast Concrete03 50 00Cast Decks & Underlayment	TOTAL	
DIVISION 04 – MASONRY		
 04 01 00 Maintenance of Masonry 04 05 13 Masonry Mortaring 04 05 19 Masonry Anchorage & Reinforcing 04 05 23 Masonry Accessories 04 20 00 Unit Masonry 	TOTAL	
DIVISION 05 – METALS		
05 05 23Metal Fastenings05 10 00Structural Metal Framing05 20 00Metal Joists05 30 00Metal Decking05 50 00Metal Fabrications05 58 00Formed Metal Fabrications	TOTAL	
DIVISION 06 – WOOD, PLASTICS, & COMPOSITES		
 06 05 23 Fastening and Adhesives 06 10 00 Rough Carpentry 06 13 00 Heavy Timber 06 17 00 Shop-fabricated Structural Wood 06 20 00 Finish Carpentry 		

	COMPOSITES (CONTINUES)		
06 /0 00	Architectural Woodwork		
06 60 00	Plastic Eabrications		
06 80 00	Composite Fabrications		
00 00 00	composite i abrications		
DIVISIO	N 07 – THERMAL AND MOISTURE	IOTAL	
DI V1510.	PROTECTION		
	inordenoit		
07 10 00	Dampproofing and Waterproofing		
07 18 00	Traffic Coatings		
07 19 00	Water Repellents		
07 21 00	Thermal Insulation		
07 24 00	Exterior Insulation & Finish Systems		
07 25 00	Weather Barriers		
07 31 00	Shingles and Shakes		
07 32 00	Roof Tiles		
07 40 00	Roofing and Siding Panels		
07 50 00	Membrane Roofing		
07 60 00	Flashing and Sheet Metal		
07 61 00	Sheet Metal Roofing		
07 70 00	Roof & Wall Specialties and Accessories		
07 80 00	Fire and Smoke Protection		
07 90 00	Joint Protection		
07 95 00	Expansion Control		
		TOTAL	
DIVISIO	N 08 – OPENINGS		
00.11.00			
08 11 00	Metal Doors and Frames		
08 14 00	Wood Doors		
08 15 00	Plastic Doors		
08 30 00	Specially Doors and Frames		
08 41 00	Entrances and Storeironts		
08 44 00	Metal Windows		
08 52 00	Wood Windows		
08 52 00	Wood Windows Diastia Windows		
08 56 00	Special Function Windows		
08 60 00	Poof Windows and Skylights		
08 70 00	Hardware		
08 80 00	Glazing		
08 90 00	Louvers and Vents		
00 90 00	Louvers and vents		
		IOTAL	
DIVISIO	N 09 – FINISHES	IOTAL	
DIVISIO	N 09 – FINISHES	IOIAL	
DIVISIO	N 09 – FINISHES Supports for Plaster and Gypsum Board	IOTAL	
DIVISIO 09 22 00 09 23 00	N 09 – FINISHES Supports for Plaster and Gypsum Board Gypsum Plastering		
DIVISIO 09 22 00 09 23 00 09 24 00	N 09 – FINISHES Supports for Plaster and Gypsum Board Gypsum Plastering Portland Cement Plastering		
DIVISIO 09 22 00 09 23 00 09 24 00 09 29 00	N 09 – FINISHES Supports for Plaster and Gypsum Board Gypsum Plastering Portland Cement Plastering Gypsum Board	IOTAL	
DIVISIO 09 22 00 09 23 00 09 24 00 09 29 00 09 30 00	N 09 – FINISHES Supports for Plaster and Gypsum Board Gypsum Plastering Portland Cement Plastering Gypsum Board Tiling		

DISISION 06 - WOOD, PLASTICS, &

DIVISION 09 - FINISHES (CONTINUED)

09 50 00	Acoustical Ceilings		
09 54 00	Specialty Ceilings		
	Quantity		
09 61 00	Flooring Treatment		
09 62 00	Specialty Flooring		
09 63 00	Masonry Flooring		
09 64 00	Wood Flooring		
00 65 00	Posiliant Electing		
09 05 00	Torrezzo Elooring		
09 00 00	Correcting		
	Carpening		
09 09 00	Access Flooring		
09 97 00	Wall Finishes		
09 91 00			
099700	Special Coatings		
DUUGIO		TOTAL	
DIVISIO	N 10 – SPECIALTIES		
10 11 00	Visual Display Surfaces		
10 14 00	Signage		
10 21 00	Compartments and Cubicles		
10 22 00	Partitions		
10 26 00	Wall and Door Protection		
10 28 00	Toilet, Bath, and Laundry Accessories		
10 44 00	Fire Protection Specialties		
10 51 00	Lockers		
10 56 00	Storage Assemblies		
10 82 00	Grilles and Screens	TOTAL	
DIVISIO	N 11 – EOUIPMENT		
11 15 00	Security Detention and Banking Equipment		
11 19 00	Detention Equipment		
11 23 00	Commercial Laundry and		
11 25 00	Dry Cleaning Equipment		
11 26 00	Unit Kitchons		
11 20 00	Dhotographic Processing Equipment		
11 27 00	Fiolographic Flocessing Equipment		
11 40 00	Librory Equipment		
11 51 00	Audio Visual Environment		
11 52 00	Audio-Visual Equipment		
11 53 00	Laboratory Equipment		
116100	Theater and Stage Equipment		
11 65 00	Athletic and Recreational Equipment		
11 70 00	Healthcare Equipment		
		TOTAL	
DIVISIO	N 12 – FURNISHINGS		
12 20 00	Window Treatments		
12 20 00 12 30 00	Window Treatments Casework		
12 20 00 12 30 00 12 40 00	Window Treatments Casework Furnishings and Accessories		
12 20 00 12 30 00 12 40 00 12 50 00	Window Treatments Casework Furnishings and Accessories Furniture		

DIVISION 13 - SPECIAL CONSTRUCTION

13 10 00	Special Facility Components		
13 34 00	Fabricated Engineered Structures		
13 49 00	Radiation Protection		
		TOTAL	
		TOTAL	
	N 14 CONVEVING FOLUDMENT		
DIVISIO			
14.00.00			
14 20 00	Elevators		
14 30 00	Escalators and Moving Walks		
14 40 00	Lifts		
14 80 00	Scaffolding		
		TOTAL	
DIVISIO	N 21 – FIRE SUPPRESSION		
21 10 00	Water-Based Fire-Suppression Systems		
	Pining		
21 20 00	Fire-Extinguishing Systems		
21 20 00	Fire Pumps		
21 30 00	The Tumps		
DIVICIO		TOTAL	
DIVISIO	N 22 – PLUMBING	IOIAL	
22.07.00			
22 07 00	Plumoing Insulation		
22 11 00	Facility Water Distribution		
22 13 00	Facility Sanitary Sewerage		
22 14 00	Facility Storm Drainage		
22 30 00	Plumbing Equipment		
22 40 00	Plumbing Fixtures		
	-	TOTAL	
DIVISIO	N 23 – HEATING. VENTILATING. & AIR-		
DIVISIO	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING		
DIVISIO	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING		
DIVISIO	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING		
DIVISIOI 23 05 93 23 07 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC		
23 05 93 23 07 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation		
23 05 93 23 07 00 23 09 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps		
23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution		
23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment		
DIVISION 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment		
23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 40 00 23 50 00 23 60 00 23 70 00	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 20 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO	N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems 		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Modium Voltage Electrical Distribution 		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution 		
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 20 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low Voltage Electrical Transmission 	 TOTAL	
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 20 00 26 27 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low-Voltage Distribution Equipment 	 TOTAL	
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 20 00 26 27 00 26 30 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low-Voltage Distribution Equipment Facility Electrical Power Generating 	 TOTAL	
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 20 00 26 27 00 26 30 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low-Voltage Distribution Equipment Facility Electrical Power Generating & Storage Equipment 	 TOTAL	
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 20 00 26 30 00 26 40 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low-Voltage Distribution Equipment Facility Electrical Power Generating & Storage Equipment Electrical and Cathodic Protection 	 TOTAL	
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 20 00 26 30 00 26 40 00 26 50 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low-Voltage Distribution Equipment Facility Electrical Power Generating & Storage Equipment Electrical and Cathodic Protection Lighting 	 TOTAL	
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 27 00 26 30 00 26 40 00 26 50 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low-Voltage Distribution Equipment Facility Electrical Power Generating & Storage Equipment Electrical and Cathodic Protection Lighting 	 TOTAL	
DIVISIO 23 05 93 23 07 00 23 09 00 23 13 00 23 20 00 23 30 00 23 40 00 23 50 00 23 60 00 23 70 00 DIVISIO 26 09 00 26 10 00 26 27 00 26 30 00 26 40 00 26 50 00	 N 23 – HEATING, VENTILATING, & AIR- CONDITIONING Testing, Adjusting, & Balancing for HVAC HVAC Insulation Instrumentation & Control for HVAC Facility Fuel-Storage Tanks HVAC Piping and Pumps HVAC Air Distribution HVAC Air Cleaning Devices Central Heating Equipment Central Cooling Equipment Central HVAC Equipment N 26 – ELECTRICAL Instrumentation & Control for Electrical Systems Medium-Voltage Electrical Distribution Low-Voltage Distribution Equipment Facility Electrical Power Generating & Storage Equipment Electrical and Cathodic Protection Lighting 	 TOTAL	

DIVIASION 27 – COMMUNICATIONS

27 10 00	Structured Cabling		
27 20 00	Data Communications		
27 30 00	Voice Communications		
27 40 00	Audio-Video Communications		
27 50 00	Distributed Communications &		
	Monitoring Systems		
		TOTAL	
DIVISIO	N 28 – ELECTRONIC SAFETY AND SECURITY		
28 10 00	Electronic Access Control &		
	Intrusion Detection		
28 20 00	Electronic Surveillance		
28 30 00	Electronic Detection and Alarm		
28 40 00	Electronic Monitoring and Control		
		TOTAL	
DIVISIO	N 31 – EARTHWORK		
21 10 00	Site Clearing		
31 20 00	Site Cleaning Farth Moving		
31 31 00	Soil Treatment		
31 32 00	Soil Stabilization		
31 40 00	Shoring and Underpinning		
31 50 00	Excavation Support and Protection		
31 60 00	Special Foundations and Load-		
01 00 00	Bearing Elements		
		TOTAL	
DIVISIO	N 32 – EXTERIOR IMPROVEMENTS		
32 10 00	Bases, Ballasts, and Paving		
32 30 00	Site Improvements		
32 90 00	Planting		
DIVISIO		IOTAL	
DIVISIO	10.55 - 0.11111ES		
33 10 00	Water Utilities		
33 30 00	Sanitary Sewerage Utilities		
33 40 00	Storm Drainage Utilities		
33 50 00	Fuel Distribution Utilities		
33 60 00	Hydronic & Steam Energy Utilities		
33 70 00	Electrical Utilities		
33 80 00	Communications Utilities		
		TOTAL	
DIVISIO	N 34 – TRANSPORTATION		
24.00.00	The second station		
34 00 00	Iransportation		
DIVISIO	N 35 – WATERWAY AND MARINE	IUIAL	
	CONSTRUCTIONS		
35 00 00	Waterway and Marine construction		
		TOTAL	

DIVISION 40-43 – PROCESS EQUIPMENT		
DIVISION 44 – POLLUTION CONTROL EQUIPMENT		
 44 40 00 Water Treatment Equipment 44 41 00 Packaged Water Treatment Plants 44 50 00 Solid Waste Control 		
DIVISION 45 – INDUSTRY SPECIFIC MANUFACTURING EQUIPMENT	TOTAL	
DIVISION 48 – ELECTRICAL POWER GENERATION		
48 10 00 Electrical Power Generation Equipment48 70 00 Electrical Power Generation Testing	TOTAL	

Southern University and A&M College **CHANGE ORDER**

PROJECT NAME:	CHANGE ORDER No.
PROJECT NUMBER:	CONTRACT DATE:
CONTRACTOR:	
	NOTICE TO PROCEED DATE:

You are directed to make the following change(s) in this contract. Attach SUMMARY, BREAKDOWN and/or UNIT PRICE BREAKDOWN forms as required and give a brief description of the change(s) below.

The Original Contract Sum	
Total Changes by Previous Change Order(s)	
Current Contract Sum	
Contract Sum will be (increased) (decreased) (unchanged) by this Change Order	
New Contract Sum	
The Original Contract Completion Date and Contract Time. Date:	DAYS
Total Time extended by Previous Change Order(s)	DAYS
Contract Time will be (increased) (decreased) (unchanged) by this Change Order	DAYS
New Contract Completion Date & Revised Contract Time Date:	DAYS
Added Building Area	(Sq. Ft.)

<u>NOTE</u>: No additional increase in time or money will be considered for a Change Order item after it has been executed.

RECOMMENDED Designer's Name:	ACCEPTED Contractor's Name:	APPROVED Project Manager:
Address:	Address:	Southern University and A&M College
Email Address:	Email Address:	
By:	By:	By:
Date:	Date:	Date:

Construction Contract Change	Order
SUMMARY	

Southern University and A&M College Project No.		Item No. RFI No. (or COR, C Date:	PR, etc.)	
Project Name:				
Contractor Name:				
Description of Work:				
General Contractor (See attached breakdown) Total General Contract Direct Direc	T Direct Costs - Breakdown No.		% (Max: 8%)	
Subcontractor Cost	Breakdowns	А	В	С
Sut	Breakdo ocontractor Name No	wn Total o. Direct Cost	OH&P (Max 8%) % % %	Total A+(A X B)
Subcontractor I	Direct Costs Total		% %	
(Sum column C)	Direct Costs + Subcontractor OH&	&Р		
General Contrac (Sum column A times	ctor OH&P on Subcontractor Dir General Contractor OH&P rate.)	ect Cost at	% (Max: 8%)	
Total Subcontractor (Subcontractor Direct Costs Change Order Subto (Sum of Total General Con	or Costs s + OH&P + General Contractor OH&P) tal tractor Costs and Total Subcontractor Costs)			
Performance an (Change Order Subtota	d Payment Bond at Il times Performance and Payment Bond rate)		%	
Amount will be (Sum of Change Order Sub	increased decreased total and Performance and Payment Bond)	unchanged by		
Days will be	increased decreased	unchanged by		

(Attach supporting data such as meteorological reports)

Construction Contract Change Order BREAKDOWN

Southern University and A&M College Project No. Project Name:	Breakdown No. Item No. RFI No. (or COR, CPR, etc.) Date:				
Contractor/Subcontractor Name:					
Direct Cost of Work :					
A. Labor Check here if explained on the Comment Sheet 1 2 3 4 5 6 7		Hourly W	Vage Rate	Hours	Total Cost
,	Add	Labor Burden	@	%	
		LABOR	TOTAL		
B. Material		Unit Price		Units	Total Cost
C. Equipment 1 2 3 4 5 6 7 (Copies of invoices may be required.)		Unit Rate	Unit	Units	Total Cost
		EQUIPM	IENT TO	TAL	

TOTAL DIRECT COST FOR THIS BREAKDOWN:

(Sum A, B & C) July 2021
Construction Contract Change Order
BREAKDOWN COMMENT SHEET

Southern University and A&M College Project No.	Breakdown No. Item No. RFI No. (or COR, CPR, etc.) Date:	
Project Name:		
Contractor/Subcontractor Name:		
A. Labor No. (From BREAKDOWN Sheet)		
B. Material		

Construction Contract Change Order UNIT PRICE BREAKDOWN

	Breakdown No.	
Southern University and A&M College	Item No.	
Project No.	RFI No. (or COR, CPR, etc.)	
	Date:	
Project Name:		

Contractor/Subcontractor Name:

Unit Price Tabulation

(Unit prices must be included in the bid or clearly defined in a standard, industry recognized pricing reference. The pricing reference shall be identified herein.)

Unit Price Description	Reference*	Unit Price	Units	Total
<u> </u>				
* Reference Legend:				

Unit Price Total: (Sum Total column) July 2021

CO-5 (Revised to suit Southern University and A&M College)

Southern University and A&M College Instructions for Change Order Back Up Forms

The General Conditions of the Contract for Construction, AIA Document A201, 2017 Edition, and the Supplementary Conditions provide for changes in the contract in the form of change orders. The costs of such changes must be carefully, clearly and accurately documented. Souhern University and A&M College has prepared a set of forms to be used to provide this documentation in a consistent format that is in accordance with the Contract Documents.

Change orders will typically contain one or more items of work. Each item of work will typically include work by the general contractor and/or one or more subcontractors. The documentation begins with a breakdown of the work of the contractor and each subcontractor. This is prepared using the form entitled "BREAKDOWN." One form for the General Contractor and one for each subcontractor. Each breakdown will be summarized on the form entitled "SUMMARY." Each item of work will, in turn, be summarized on the change order itself. This should be on the face of the change order.

The forms are available as a Microsoft Excel worksheet for ease of preparation, with formulas established for mark-ups and other basic mathematical operations.

These forms are to be used as provided. Any alteration to the forms may cause the change order to be rejected.

GENERAL: (Refer to Article 7 of the Supplementary and General Conditions)

Forms - There are five forms to be used for all Facility Planning and Control change orders: CHANGE ORDER form, SUMMARY, BREAKDOWN, BREAKDOWN COMMENT SHEET and UNIT PRICE BREAKDOWN. The CHANGE ORDER form is the highest level and is the official, signed document. A CHANGE ORDER form may include one or more items of work, each of which is backed up by a SUMMARY. Each SUMMARY will be backed up with one or more BREAKDOWNs. Any unusual rates, unit costs or quantities may be explained on the COMMENT SHEET. It's simple. The BREAKDOWN form must be used for the general contractor and any subcontractor, at any level, that is to get OH&P. Use as many as needed.

Unit Pricing - Labor, material and equipment breakdown is the standard method of pricing change orders for Facility Planning and Control. However, unit pricing may be considered in some circumstances if the unit prices are clearly established such as by unit prices that were included in the bid. These prices may also be derived from a construction industry standard reference such as R.S. Means. If unit prices were included in the bid they are acceptable for pricing change order work and, in fact, must be used for any work that is included in the change order for which they were established . The UNIT PRICE BREAKDOWN is provided for this purpose.

CHANGE ORDER:

Project identification information: Complete as required.

Description: This will include a list of each attached SUMMARY that makes up this change order and a brief statement of the work included in each.

New Contract Sum: Calculate the new contract amount using the original contract amount, previous change orders and the new change order. Select the appropriate word for increase, decrease or unchanged, and delete the terms that don't apply.

New Contract Completion Date and Revised Time: Calculate the new contract time using the original Contract Completion Date and Contract Time, previous changes in time and the change in time by this change order. Select the appropriate word for increase, decrease or unchanged and delete the terms that don't apply. Show days in the main column and the date in the blank indicated.

Added Building Area: Show any building area added by this change order. If none, enter "None."

RECOMMENDED: Show the Designer's name and address, sign on the line indicated as "By:" and date on the indicated line.

ACCEPTED: Show the Contractor's name and address, sign on the line indicated as "By:" and date on the indicated line.

APPROVED: For approval by Southern University and A&M College

SUMMARY: (Refer to Article 7 of the Supplementary and General Conditions)

Item No.: Show the Item number as it will appear on the CHANGE ORDER Form. Note: This may be one of several items included in one CHANGE ORDER form.

RFI No.: Show the number of the request for information. This may be known by another name such as COR (Change Order Request,) CPR (Change Proposal Request,) etc.

Project No., Date, Project Name. Complete as appropriate.

Contractor: Name of General Contractor.

Description of Work: Give a brief description of the work included in this Item.

General Contractor Direct Costs: Show the total General Contractor Cost from the BREAKDOWN and show the Breakdown No. in the space provided.

General Contractor Total Cost: Show the total General Contractor Cost plus the General Contractor's overhead and profit. The overhead and profit shall not exceed 8% of the Direct Cost.

Subcontractor Cost Breakdowns: List each subcontractor, Breakdown No. and Total Direct Cost (in column "A") from the attached BREAKDOWN sheets. Show the subcontractor's overhead and profit percentage in column "B" and show the calculated total of the direct cost plus the percentage of the direct cost in column "C." If the electronic version of the form is being used, column "C" will be automatically calculated. The overhead and profit shall not exceed 8% of the Total Direct Cost.

Subcontractor Direct Costs Total: Sum of column "A." This will be used to calculate the General Contractor's overhead and profit on the subcontractors' work. If the electronic version is being used, this will be an automatic calculation.

Subcontractor Direct Costs + Subcontractor OH&P: Sum of column "C." This represents the total amount that subcontractors will be paid. Automatic calculation.

General Contractor OH&P on Subcontractor Direct Cost at ____%. The contractors overhead and profit on the subcontractors' direct cost (without subcontractor OH&P.) Enter the percentage of the contractor's OH&P on the subcontractors' work (not to exceed 8%) and show the calculated total of the subcontractors' direct cost plus the percentage of the direct cost in the space. Automatic calculation.

Total Subcontractor Costs: Total of the last two spaces.

Change Order Subtotal: Total of change order except bond.

Performance and Payment Bond at ____%: Enter bond percentage (from amount provided by the contractor at the Pre-Construction Conference) and calculate the amount for the bond.

Amount will be (increased) (decreased) (unchanged) by: Add bond and calculate total change order amount. Indicate "increase," "decrease" or "unchanged", and <u>delete the terms that don't apply</u>.

Days will be (increased) (decreased) (unchanged) by: Show the number of days to be added or deleted from the contract, if any, due to changes in scope, adverse weather, unusual delays or other factors, **only** if it is proven the critical path is affected. Note that a change in scope does not necessarily indicate a change in time. Indicate "increased," "decreased" or "unchanged", and <u>delete the terms that don't apply</u>.

BREAKDOWN:

Item No. Show the Item number as it will appear on the CHANGE ORDER Form and the SUMMARY. Note: This may be one of several items included in one CHANGE ORDER form.

RFI No.: Show the number of the request for information. This may be known by another name such as COR (Change Order Request,) CPR (Change Proposal Request,) etc.

Project No., Date, Project Name. Complete as appropriate.

Contractor: Name of General Contractor or Subcontractor.

Direct Cost of Work:

Check here if explained on the Comment Sheet: If rates, unit costs or quantities may appear unreasonable compared to standard costs or quantities the reasons may be explained on the attached comment sheet and the box checked to indicate that there is an explanation.

A. Labor: Include the "wages paid" hourly direct labor and/or foreman necessary to perform the required change. "Wages paid" is the amount actually paid the employee, not the fully burdened charge rate used in the bid, etc. Supervisory personnel in district or home office shall not be included. Do not include the project superintendent, except as permitted by Section 7.2 of Supplementary Conditions. Supervisory personnel on the job-site, but with broad supervisory responsibility shall not be included as Direct Labor, except as permitted by Section 7.2 of Supplementary Conditions. Typically there will be only one superintendent on the job and his/her time shall not be included, except as permitted by Section 7.2 of Supplementary Conditions. List by job title each person employed on the work, his/her hourly rate, the number hours work and the extended Total Cost. Do not list crews unless the rates for them are readily available in standard cost estimating references such as R. S. Means. Add the labor burden that was provided at the Pre-Construction conference and in compliance with the Contract Documents, and total the amounts in LABOR TOTAL.

B. Material: Include the acquisition cost of all materials directly required to perform the required change. List each material used in the work, the price per unit, name of the unit, the number of units used and the extended Total Cost. Add the tax rate and tax and total the amounts in MATERIAL TOTAL.

C. Equipment: Include the rental cost of equipment items necessary to perform the change. For companyowned equipment items, include documentation of internal rental rates submitted at the pre-construction conference. Charges for small tools, and craft specific tools are not allowed. List each piece of equipment used in the work, the rate by units of time (hour, day, week, etc.,) number of units of time the piece was in service on the work and the extended total cost. Add the tax rate, calculate the tax and total the amounts in EQUIPMENT TOTAL.

TOTAL DIRECT COST FOR THIS BREAKDOWN: Total of A. Labor, B. Material and C. Equipment. This is the amount that will be carried forward to the SUMMARY Sheet. This amount does **NOT** include Overhead and Profit. This will be added on the SUMMARY Sheet.

COMMENTS SHEET:

The COMMENTS SHEET uses the same heading as the SUMMARY and BREAKDOWN.

The COMMENTS SHEET includes three sections, one each for A. Labor, B. Materials and C. Equipment. These correspond to the sections in the BREAKDOWN. Each comment should be entered in the section to which it corresponds on the BREAKDOWN and numbered to correspond to the appropriate line. Comments are to used only to explain unusual rates, costs or quantities.

UNIT PRICE BREAKDOWN:

The UNIT PRICE BREAKDOWN uses the same heading as the BREAKDOWN.

The UNIT PRICE BREAKDOWN is similar to the BREAKDOWN.

Unit Price Tabulation: Each unit price is listed along with its corresponding price and the number of units used in the work. The price and number of units are multiplied to provide the total cost of each unit price item. The pricing reference, such as the bid form for the project or a construction industry standard reference, must be cited for each unit price. This may be more fully described in "Reference Legend,"

Unit Price Total: Sum the unit prices to obtain the total cost for unit prices.



ROOFING GUARANTEE R-3 (Metal)

OWNER:	Southern University and A&M College	
	Purchasing Department	
	P.O. Box 9534 Boton Bouge Louisiane 70812	
	Baton Rouge, Louisiana, 70813	
Whereas		
Address		
Telephone (Email	
herein called t	he Contractor, has provided pre-formed, pre-fin	nished metal roofing, flashing, accessories and
miscellaneous	s items required for a complete roof system instant the PROIFCT .	tallation in accordance with the Contract
Documents to		
Name of Proje	ect:	
Droigot / Dort]	No	
rioject / rait i	NO	
Location/Add	ress:	
Nome and Tru	no of Duilding(s)	
Name and Ty	pe of Building(s):	
Type of Syste	m: (Standing Seam, SR, Flat Seam, etc.	
Total Roof Ar	rea:SF; Total Length of	of RidgeLF ;
Total Length	of Valley: LF: Total	Length of gutter/fascia trim:
_		
Date of Accep	otanceTwo year Guarante	ee Expiration

AND WHEREAS the Contractor has contracted to guarantee said work against water entry from faulty or defective materials and workmanship for the designated Guarantee period of TWO (2) YEARS from the date of the Final acceptance of the Project;

NOW THEREFORE the Contractor guarantees, subject to the terms and conditions herein set forth, that during the Guarantee Period the Contractor will at his own cost and expense, make or cause to be made with approved procedures and materials such repairs to or replacements of said work (including any wetted thermal insulation) resulting from water entry or faults or defects of said Work as are necessary to maintain said Work in watertight conditions and further, respond on or within TWO (2) working days upon written notification of leaks or defects by the Owner.

This Guarantee is made subject the following terms and conditions

July 2022

1. Specifically excluded from this guarantee are damages to the Work, other parts of the building(s) and building contents caused by: A) lighting; windstorm (including hurricanes and tornadoes), hailstorm, earthquake and other unusual phenomena of the elements; B) fire; and C) structural failures causing excessive roof deck, edges and related roof component movement. When the Work has been damaged by any of the

Roofing Guarantee R-3 (revised to suit Southern University and A&M College)

Page 1 of 2	
Proj No	

foregoing causes, the Guarantee will be suspended until such time as the damage has been repaired, and until the cost and expense thereof has been assigned or paid by the Owner or the responsible party. The guarantee shall be reinstated upon Final Acceptance of the damage repair Work by both the Owner & Contractor.

2. During the Guarantee Period, if the Owner allows alteration of the Work by anyone other than a Contractor approved in writing by the original Contractor and/or Roofing Material Supplier prior to the work being performed, including cutting, patching and maintenance in connection with penetrations, attachment of other work, and positioning of anything (i.e. signs) onto the roof, this Guarantee shall become null and void as of the date of said alterations. If the Owner engages the original Contractor for said alterations, the Guarantee shall be maintained in force unless the Contractor presents written notification to the Owner that the intended work will likely damage or cause deterioration of the base work, thereby justifying a termination of the original Guarantee.

3. The Owner shall promptly notify the Contractor in writing of observed, known or suspected leaks, defects, or condition deterioration and shall afford a reasonable opportunity for the Contractor to inspect the work and examine evidence of such leaks, defects or deterioration.

4. This Guarantee is recognized to be the only guarantee of the Contractor of said work, and shall not operate to restrict or cut-off the Owner from any other remedies and recourse lawfully available to him in case of roofing failure to any cause or degree. Specifically, this Guarantee shall not operate to relieve the Contractor of his responsibility for the performance of the original work.

IN WITNESS THEREOF, this instrument has been duly executed

this	_day of	, 20
Contractor's Sig	nature:	
Typed Name:		
Telephone ()	, Email
Witness:		Witness:
And if applicabl who acted as ag	e, is countersigned ent or represented	by the following Sub Contractor, Installer, or other party (as indicated) the Contractor during the performance of the work:
Countersignee N	Vame:	
Date:	(Type or Print) Signature:
Representing		Signature
Address:		
Telephone ()	, Email
Witness:		Witness:
July 2022	Roofing	Guarantee R-3 (revised to suit Southern University and A&M College) Page 2 of 2
		Proj No.

METAL ROOF SYSTEM 20 - YEAR WEATHERTIGHTNESS No Dollar Limit (NDL) WARRANTY Southern University and A&M College

TWENTY (20) YEAR WEATHERTIGHTNESS METAL ROOF SYSTEM - LIMITED WARRANTY

We, <u>Manufacturer</u> the manufacturer; warrants to the **Southern University and A&M College** herein referenced as "Owner" of the building described below that subject to the terms, conditions, limitations and warranty responsibility stated herein; <u>Manufacturer</u> warrants with no dollar limit (NDL) the undersigned Contractor workmanship and material defects, and will repair any leaks in the <u>Manufacturer</u> roofing system (Roofing System); and further, agrees to make provisions for satisfactorily drying all wetted thermal roof insulation caused by said leak(s), of the installed roof over the life of this TWENTY (20) YEAR WARRANTY commencing with the date of <u>Acceptance of the Project</u> (as defined in the Contract Documents).

Satisfactory repair of reported leaks shall not serve to extend the term of the original 20-Year Warranty period for either the repair or the entire Roof System, but rather serve to maintain the Roof System weathertightness condition for the entire term of the original warranty.

Neither <u>Manufacturer</u> nor undersigned Contractor makes any other warranty whatever, expressed or implied. All implied warranties of merchantability and all implied warranties of fitness for any particular purpose which exceed or differ from the warranties herein expressed are disclaimed by each and all of said parties and are hereby excluded from this 20-Year Weathertightness Limited Warranty.

In no event shall <u>Manufacturer</u> be held liable for any commercial loss, claims for labor or consequential damages of any other type not specifically referenced herein, whether owner's claim be based in contract, tort, or strict liability.

TERMS, CONDITIONS, LIMITATIONS

- 1. A "Leak" is defined as water entry into any location where water entry is not specifically planned for. This can include insulation, cornices, attic spaces and other portions of the building assembly. Water entry through fastener holes, all flashings including valley, hip, ridge, closure, rake, wall runner, eave, curb, pipe penetration and other penetration flashings, and the roof panels and seams (side and end) are to be considered "leaks" as pertains to this weathertightness warranty.
- 2. Owner shall provide <u>Manufacturer</u> with written notice within THIRTY (30) days of discovery of any leaks in the Roof System; after which date, the principal to this warranty shall be expected to respond to said leak report within a period of TEN (10) working days.
 - a) Failure to respond, shall enable the Owner to engage service of "others" to address the problem without jeopardizing Owner's protection under terms of the original warranty.
 - b) Further, by <u>Manufacturer's</u> failure to respond as specified, subjects manufacturer to liability for full reimburse to the Owner for all costs incurred to engage the services of "others" in order to protect the building from further damage by roof leak(s).
 - c) <u>Manufacturer</u> cannot be held responsible for lack of performance or liable under the terms of this warranty due to Owner's failure to report claims as specified.

METAL ROOF SYSTEM 20 - YEAR WEATHERTIGHTNESS

No Dollar Limit (NDL) WARRANTY

3. After a leak report is filed; <u>Manufacturer</u> shall determine whether the leak is caused by defects in manufactured material or in the workmanship and affect the Roof System repair in accordance with repair obligations herein. In the event a determination is made that neither defect in manufactured material or workmanship is at fault, the Owner shall be so advised in writing and permitted to exercise other remedies without jeopardy to provisions of the original warranty.

- 4. The <u>Manufacturer</u> shall not have any liability under the terms of this 20-Year Weathertightness Warranty for any NDL repair or replacement caused by one or more of the following:
 - a) Acts of Nature including but not limited to; lightning, hurricane, tornado, earthquake, hailstorm and falling trees or limbs.
 - b) Deterioration caused by marine (salt water) atmosphere or by regular spray of either salt or fresh water.
 - c) Corrosion caused by heavy fall out or exposure to corrosive chemicals, ash or fumes from chemical plants, foundries, plating works, kilns, fertilizing manufacture and paper manufacturing plants if either cause is located less than one-half mile radius distant from the building.
 - d) Deterioration caused by corrosive or condensates generated or released from within the building itself.
 - e) Damages caused by workers or work activity on the roof after issuance of the warranty.
 - f) Structural failures affecting (but not part of) the Roof System.
 - g) Unauthorized alterations or modifications of the Work by anyone other than a Contractor agreed to in writing by all parties to this warranty.
 - h) Failure of the Owner to exercise reasonable care and maintenance.
- 5. During the Term of this warranty; and within 72 hours of formal request, the Owner shall permit <u>Manufacturer</u>, or manufacturer's agent access to the roof during regular business hours.
- 6. Failure of either party to exercise or enforce specific terms, conditions or provisions shall not be construed to be a waiver of same.
- 7. The <u>Manufacturer</u> shall not be responsible for consequential damage or loss to the building, its contents, or other material as a provision of this warranty.
- 8. The <u>Manufacturer</u> shall not have any liability or responsibility at any time for, or as a consequence of any condensation or underside corrosion which is or was caused at anytime by any condensation resulting from either or both of the following:
 - a) Inadequate ventilation of the attic space between the roof panel and insulation, when insulation is installed on top of existing roof.
 - b) The use of inadequate vapor barrier where the insulation is installed immediately beneath roof panels.
- 9. The Nineteenth Judicial Court in and for the Parish of East Baton Rouge, State of Louisiana shall have sole jurisdiction in any action brought as a result of this warranty by any party hereto.
- 10. This Warranty instrument supersedes and is in lieu of any and all other expressed or implied warranties that are or may be in conflict with terms and conditions stated herein.
- 11. A fully executed original of this Warranty is required prior to recommendation of acceptance, and Acceptance of the project.

METAL ROOF SYSTEM 20 - YEAR WEATHERTIGHTNESS No Dollar Limit (NDL) WARRANTY

WARRANTY RESPONSIBILITY

FIRST (1st.) year through the TWENTIETH (20th) year from date of Acceptance of the project by Roof System Manufacturer whose legal entity is <u>Manufacturer</u>; except that the first recourse of the Owner for Warranty Benefits during Year 1 and Year 2 after date of <u>Project Acceptance</u> will be the Contractor per provisions of Roofing Guarantee R-3 (Metal).

EXCEPT AS EXPRESSLY PROVIDED HEREIN, <u>Manufacturer</u> MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND WITH RESPECT TO MATERIALS COVERED HEREBY, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, NOR DOES SELLER MAKE ANY WARRANTY OR ASSUME ANY OBLIGATION WITH RESPECT TO THE VALIDITY OF ANY PATENTS, DESIGNS, COPYRIGHTS OR TRADEMARKS WHICH MAY COVER SUCH GOODS EXCEPT; THAT THE OWNER SHALL HAVE THE RIGHT TO RELY ON SAME BY REPRESENTATION OF THE MANUFACTURER THAT BY OFFERING THE MATERIAL, ROOF SYSTEM AND MISCELLANEOUS ITEMS FOR THE PURPOSES OF THIS PROJECT THERE IS NO VIOLATION OF THE RIGHTS OF OTHER PARTIES WITH RESPECT TO PATENTS, DESIGNS, COPYRIGHTS OR TRADEMARKS, FURTHER; THE CONDITIONS OF LIABILITY, RIGHTS, OBLIGATIONS AND REMEDIES OF THE PARTIES RELATING TO CLAIMS ARISING FROM DEFECTIVE GOODS SHALL BE GOVERNED EXCLUSIVELY BY THE TERMS HEREOF: THIS WARRANTY MAY NOT BE CHANGED ORALLY.

IN CONSIDERATION FOR PAYMENT RECEIVED, THIS WARRANTY IS TENDERED FOR THE BENEFIT OF THE OWNER AND IS NOT TRANSFERABLE OR ASSIGNABLE WITHOUT THE WRITTEN CONSENT OF THE MANUFACTURER Manufacturer .

THIS WARRANTY REQUIRES THE ORIGINAL SIGNATURES OF AN OFFICER OF THE MANUFACTURER, AND THREE FULLY EXECUTED COPIES WILL BE PROVIDED TO THE OWNER AS A PREREQUISITE FOR PROJECT ACCEPTANCE. THE OWNER'S SIGNATURE SHALL NOT BE A REQUIREMENT FOR IMPLEMENTATION OF, OR CAUSE TO VALIDATE THE WARRANTY.

A SEPARATE AND INDEPENDENT WARRANTY SHALL BE ISSUED FOR EACH BUILDING OR INDEPENDENT ROOF SYSTEM IN THE CASE OF MULTIPLE BUILDINGS OR MIXED ROOFED PROJECTS.

Building/Project Description:		_	
Roof Type and Quantity:		_	
Location:		_	
Building I.D. (if known):			
Project Number			
Date of Project Acceptance and Commencen	nent of Warranty:	Ends:	
Manufacturer:			
Manufacturer			
S	Title		Date
	Page 3 of 4 (Revised to suit Sou	thern University a	nd A&M College)

PROJECT DATA / SIGNATORS

METAL ROOF SYSTEM 20 - YEAR WEATHERTIGHTNESS No Dollar Limit (NDL) WARRANTY

ADDITIONAL PARTIES FOR FILE AND RECORD

File Reference:		
Contractor or		
Rooting Contractor		
Address:		
S		
Title	Date	
	Date.	
File Reference #2:		
Contractor or		
Roofing Contractor		
Address:		
S		
Title	Data	
	Date	
Direct to:		
COLITIEDN LINIVEDSITV AN		

SOUTHERN UNIVERSITY AND A&M COLLEGE (Owner) Purchasing Department P.O. Box 9534 Baton Rouge, Louisiana, 70813

LABOR BURDEN-Etc.: <u>GC Company Name - date</u> <u>Also need for each subcontractor.</u>

Project Number	, Part _	(F.xxxxxxx)
Project Title/Name:		

FICA/Social Security = 6.20% MEDICARE = 1.45% FUTA = 0.6% SUTA = Forward a copy of letter from Louisiana Workforce Commission = _____% (Each year, the state unemployment office furnishes the rate specific to a company and communicated by way of a letter from the state's unemployment agency.) WORKER'S COMPENSATION INSURANCE = Forward copy of Insurers Extension of Information sheet = _____%

Only above is applicable to determine Labor Burden rate = _____%.

Bond Rate = Forward copy of letter from bond provider = _____%.

COMPANY **LABOR TYPE** AND **RATE** (Hourly):

COMPANY **EQUIPMENT**: (Also - must have minimum of **two quotes from local suppliers/renters of area of project**. Need **daily**, **weekly**, **monthly** rental rates.)

LIST OF **SUB-CONTRACTORS** and **MAJOR VENDORS**:

(1.c. Information listed in Paragraph 7.1 of the Supplementary Conditions-required submittal of Sub-Contractors and all trades per SC Article 7.1.4.3.)

DOCUMENT 003132 - GEOTECHNICAL DATA

PART 1 - GENERAL

1.1 GEOTECHNICAL DATA

- A. This Document, with its referenced attachments, is part of the Procurement and Contracting Requirements for the Project. They provide Owner's information for Bidders' convenience and are intended to supplement rather than serve in lieu of Bidders' own investigations. They are made available for Bidders' convenience and information. This Document and its attachments are not part of the Contract Documents.
- B. Because subsurface conditions indicated by the soil borings are a sampling in relation to the entire construction area, and for other reasons, Owner, Architect, Architect's consultants, and the firm reporting the subsurface conditions do not warranty the conditions below the depths of the borings or that the strata logged from the borings are necessarily typical of the entire site. Any party using the information described in the soil borings and geotechnical report accepts full responsibility for its use.
- C. A Geotechnical Investigation Report for Project, prepared by Louisiana Testing & Inspection, dated 02/28/2024, is available for viewing as appended to this Project Manual.
 - 1. The opinions expressed in this report are those of a geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by a geotechnical engineer. Owner is not responsible for interpretations or conclusions drawn from the data.
 - 2. Any party using information described in the geotechnical report will make additional test borings and conduct other exploratory operations that may be required to determine the character of subsurface materials that may be encountered.
- D. Related Requirements:
 - 1. Document 002113 "Instructions to Bidders" for the Bidder's responsibilities for examination of Project site and existing conditions.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF DOCUMENT 003132

GEOTECHNICAL DATA

GEOTECHNICAL INVESTIGATION

FOR

SOUTHERN UNIVERSITY FINANCIAL UNIT

9110 B.A. LITTLE DRIVE (H STREET) BATON ROUGE, LA

LTI Project No. 4505-BO

PREPARED FOR DB ARCHITECTURE OF ACADIANA, LLC LAFAYETTE, LA

February 28th, 2024

PREPARED BY:

LOUISIANA TESTING & INSPECTION LAFAYETTE, BATON ROUGE, HOUMA

> P.O. BOX 2934 LAFAYETTE, LOUISIANA 70502 EMAIL: LOUISIANATESTING@GMAIL.COM PHONE: 337-235-9411 FAX: 337-232-9362

Louisiana Testing & Inspection, Inc.

P. O. Box 2934 Lafayette, Louisiana 70502 Telephone 337-235-9411 Fax 337-232-9362 Email - Louisianatesting@gmail.com

February 28, 2024

DB Architecture of Acadiana, LLC 233 Doucet Road Lafayette, LA 70503

Attention: Mr. David Beverly E-mail: dbarchitectureofacadiana.com

Re:

Geotechnical Investigation Report Southern University Financial Unit 9110 B.A. Little Drive (H Street) Baton Rouge, LA *LTI File No. 4505-BO*

Dear David,

Please find attached our geotechnical investigation report that was completed for the referenced project. We appreciate the opportunity to serve your geotechnical needs. Please contact us should you have any questions.

MIMIN Sincerely, LOUISIANA TESTING AND QN. INC CHAD M. POCHE CHAD M. POCHE, P.E. License No. 27667 Copies Submitted: 2 (1 bound and and a submitted)

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APPENDIX - Boring Log

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Louisiana Testing & Inspection, Inc.

GEOTECHNICAL INVESTIGATION REPORT

SOUTHERN UNIVERSITY FINANCIAL UNIT 9110 B.A. LITTLE DRIVE (H STREET) BATON ROUGE, LA

LOUISIANA TESTING AND INSPECTION (LTI) FILE NO. 4505-BO

INTRODUCTION

This report contains the results of a geotechnical investigation made at the referenced site. Instructions to proceed with the investigation were received from DB Architecture of Acadiana, LLC (Client).

The study included the drilling of a soil test boring and the performance of soil mechanics laboratory tests to evaluate the soil's physical characteristics. Analyses were made and based on the field and laboratory test data to develop recommendations for the project.

The analyses and recommendations presented in this report are based on the provided project information and the results of the investigation. While it is not likely that conditions will differ significantly from those observed during the field investigation it is always possible that variations can occur away from the borehole location.

If it becomes apparent during construction that subsurface conditions differing significantly from those observed in our boring are being encountered, LTI should be notified at once. Also, should the nature of the project change or should any of the stated assumptions be inaccurate, the recommendations provided in this report should be re-evaluated.

This report has been prepared for the exclusive use of our Client. The recommendations provided in this report are site specific and are not intended for use at any other site or for any other project. This report provides recommendations for design and construction and should not be used as construction specifications.

SOIL BORING

One (1) undisturbed sample type soil boring was completed at a depth of 30 feet (B-1) below the existing ground surface in the general area of the proposed project on February 16, 2024. The borings were made using a trailer mounted drill rig and backfilled upon completion in accordance with appropriate State regulations. The approximate boring location at the site is shown on Figure 1.

Undisturbed sampling was performed continuously or on approximate 5-foot centers in all cohesive or semi-cohesive materials using a small diameter thin wall tube sampler. The samples were extruded in the field and representative portions of each sample were trimmed and placed in moisture proof containers. The samples were then properly labeled and secured for transport to the laboratory.

When cohesionless soils were encountered, disturbed samples were taken during the Standard Penetration Test. This test is performed by driving a two (2) inch O.D. split-spoon sampler one (1) foot, after first sending it six (6) inches, using blows of a 140-pound weight dropped thirty (30) inches. The results of this test give indications of insitu characteristics of the cohesionless soils. The values obtained from this test are shown in the boring log and are a measure of the blow counts for the final 12 inches of driving.

LABORATORY TESTING

Soil mechanics laboratory tests were performed on samples obtained from the boring. The testing consisted of natural moisture content, unit weight, Atterberg limits, and unconfined compression (strength testing). The results of the laboratory tests are shown on the soil boring log provided in the Appendix of this report.

SUBSOIL CONDITIONS

Subsoil Description

Reference to the boring log shows there is very stiff silty clay from the ground surface to the approximate 2-foot depth. Medium stiff silty clay follows to the approximate 16 foot depth. Very stiff clay is present below the approximate 16 foot depth to the boring's termination depth of 30 feet.

Groundwater

At the time of making the borings, no free water or groundwater was encountered. Groundwater can fluctuate with seasonal precipitation, drainage, and prolonged drought. If the depth to groundwater is important to construction, it should be measured at that time.

FURNISHED INFORMATION AND FOUNDATION RECOMMENDATIONS

Furnished information indicates a new building (Financial Unit) for Southern University will be constructed at 9110 B.A. Little Drive (H Street) in Baton Rouge, LA. No structural loading information was provided and we assume no more than 2 feet of fill will be placed on the site.

The near surface soils within the borings appear suitable with respect to supporting the structure on shallow footings provided some settlement can be tolerated. If the provided results for bearing or settlement are not tolerable, or as an alternative to shallow foundations, deep foundations should be used to support the structure. Analyses were made and based on the borings and laboratory test data to develop geotechnical related parameters for use in design of the structure's foundation.

If the new structure is structurally connected to an existing structure, the settlement estimates provided in this report should be considered as differential settlement between the new and existing structures.

For shallow foundations, precautions should be made to assure the footing excavations are well drained during construction and that good rigidity in the foundation is designed to minimize movements due to settlements. Care should be taken during and after construction to limit activities that could affect moisture within the soils below and around the foundations.

The near surface soils encountered in the borings were dry at the time of sampling but silty and appear to possess minimal swell potential. By precluding surface waters from saturating the soils, the resulting volumetric movements will be minimized. In this regard, good roof and surface drainage should be assured with positive collection and runoff cf these waters away from foundations. Structural analyses and the adequacy of foundation designs are outside our scope of work for the project.

SHALLOW FOUNDATIONS

Allowable Soil Bearing Capacities

We estimate an allowable soil bearing capacity of 1,500 lbs. per sq. ft. (psf) is available for design of continuous wall footings up to 3 ft. in width, and an allowable soil bearing capacity of 1,800 psf is available for square spread footings up to 6 ft. in width.

These allowable soil bearing capacities assume the footings are seated in firm soils at a minimum depth of 2 feet below the finished ground surface. Prior to construction, the foundation areas should be stripped of all vegetation, debris, soft or loose surface soils, deleterious materials, etc., and should be well drained.

Foundation excavations should be thoroughly inspected to assure that the footings are seated in firm and well-drained soil. The allowable soil bearing capacities contain a factor of safety of at least 3.0 against failure but do not preclude settlements, as will be discussed.

Estimated Settlement - Footings

Settlement of maximum 6 ft. wide square footings and 3 ft. wide continuous footings were analyzed. The results of our analyses are provided on the following table. Settlement will increase with the size of the spread footings and if larger footings are needed for support additional settlement analyses should be made.

NET APPLIED	ESTIMATED SETTLEMENT
BEARING PRESSURE (PSF)	(INCHES)
1,000	1/2 or less
1,400	½ to ¾
1,800	³ ⁄4 to 1

Estimated Settlement – Slab

Analyses were made to estimate long term consolidation settlement at the center of an approximate 50 ft. by 50 ft. slab. We estimate the center settlement of a slab to be ½ to 1 inch for a uniform loading of up to 150 psf. A vapor barrier should be used beneath the slab. In addition, the use of a thin sand or gravel layer beneath the slab should be considered.

The estimated settlement should occur over most of the loaded area while the edge settlements should be approximately one-half (1/2) of the center settlement and may only occur over a limited range near the perimeter. In view of the magnitude of the estimated settlements and to bridge any undetected soft or loose areas, good rigidity should be assured in the foundation to minimize the effects of differential settlements.

Adequate steel reinforcement should be designed and included within the foundation. If the estimated settlements for shallow footings or slabs are considered prohibitive, deep foundations should be used to support the structure.

Fill Materials

Any "soft" soils within excavations should be removed to a depth where stiffer soils are encountered or to a minimum depth of 2 feet. Excavated soils should be replaced with controlled-compacted structural fill. This fill should consist of clean, select fill material free from debris or organic matter and may be a sand soil (SM, SP, or SW) with less than 10% passing the U.S. No. 200 Sieve. Alternatively, a lean clay soil (CL) may be used. The clay fill should have a Liquid Limit of 40 or less and a maximum Plasticity Index (PI) of 20.

Fill Placement and Compaction

Fill may be placed in 10 to 12-inch loose lifts. Minimum compaction criteria of a dry density at least equal to 95% of its maximum, as determined by the Standard Proctor compaction test (ASTM D698A), should be used.

Inspection and Protection of the Bearing Surface

Inspection of the foundation excavations by a qualified geotechnical engineer or technician should be performed prior to concrete placement to ensure that the proper bearing surface is present. The soils that form the bearing stratum are clays which can undergo severe loss of strength when wetted.

CONSTRUCTION CONSIDERATIONS

Poor site conditions will develop unless good drainage is provided throughout the project duration. Proper site drainage should be maintained prior to, during, and after construction. Providing drainage during the construction process will facilitate construction by reducing the potential for compaction problems. Maintaining the drainage after construction will improve the life of the foundation by avoiding water softening of the foundation soils.

Prior to construction, the site should be stripped of all debris, vegetation, etc., and proof rolled with a heavy wheeled vehicle to detect any "soft" spots. Any soft spots should be undercut at least 2 feet and backfilled with structural fill. At the time of drilling, the site was grass covered. Therefore, 6 to 12 inches of stripping should be anticipated.

The methods, means, and sequence of construction are the responsibility of the contractor. Appropriate measures should be taken by the contractor to assure the integrity and performance of the foundations during and after construction.

CLOSING

LTI is available to answer any questions you may have concerning this report. Should additional analyses be required or requested, additional fees may be necessary.

We appreciate the opportunity to provide this report and look forward to working with you again in the future.

FIGURE

Louisiana Testing and Inspection, Inc.



LTI File 4505-BO

LOUISIANA TESTING & INSPECTION, INC. LAFAYETTE, LA

Southern University Financial Unit 9110 B.A Little Drive Baton Rouge, LA For DB Architecture of Acadiana, LLC Lafayette, LA

BORING PLAN

Figure No. 1

APPENDIX

BORING LOG

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Louisiana Testing and Inspection, Inc.

SOIL BORING LOG - DESCRIPTION OF TERMS AND SYMBOLS									
Depth (Feet)	s m Field Test P (PP or	Comp. Strength	Water Content	Dry Density	Atterber LL	rg Limits Pl		T Y P E	
_ 0 _	e SPT)	(tsf)	(%)	(pcf)	(%)	(%)		1995	Description of Stratum
	Core (Sh	elby Tube)							Field Test (PP or SPT): Pocket penetrometer (PP) results in tsf or standard penetration test (SPT) results Comp. Strength: Value based on peak strength in tsf determined by an unconfined compressive strength lest unless poled otherwise
	(7-6-9)	Standard P No. of blow increments or PSS = P	Penetration vs per last fo vushed Split	Test (SPT): bot of drivin Spoon	g (blows p	er six inch			Water Content (%): As determined in general accordance with ASTM D2216
	No Recov	very							Wet Density (PCF): As determined in general accordance with ASTM D2937
	Auger Sa	mple							Atterberg Limits (LL and PI): Atterberg limits as determined in general accordance with ASTM D4318. LL = Liquid Limit; PI = Plasticity Index (LL-PL)
									Description of Stratum: Classifications are based on visual observations and laboratory test results (where available) as well as judgment by a geotechnical engineer (where appropriate)
									Type: Misc. Fill - limestone, bricks, broken concrete, etc.
25									Type: USCS Classification - High plasticity clay (CH)
		_							Type: USCS Classification - Low plasticity clay (CL)
30 									Type: USCS Classification - Low or high plasticity sill (ML or MH)
35									Type: USCS Classification - Silty or clayey sand or gravel, well graded or poorly graded sand or gravel (SM, SC, SW, SP, GM, GC, GW, GP)
									Type: USCS Classification - Organic clay or silt, peat (OL, OH, PT)
Sample Core Stan No F	Sample Legend: Core (Shelby Tube) Standard Penetration Test (SPT) No Recovery								LOUISIANA TESTING AND INSPECTION, INC.
Auger Sample LAFAYETTE, LA									

BORING NO. B-1

LTI File No.: 4505-BO Date Start: 2/16/2024

Project: Southern University Financial Unit 9110 B.A. Little Drive (H Street)

Location: Baton Rouge, LA Client: DB Architecture of Acadiana, LLC Lafayette, LA Page: 1 of 1 Page: 1 of 1											
Depth (Feet)	a m (Fie P 1	eld Test) PP/ SPT	Comp. Strength /tsf)	Water Content	Dry Density (ncf)	LL (%)	PI	% Pass No. 200 Sieve	T Y P E	Coord: 30°31'44.76"N, 91° 11'27.31"W Description of Stratum	
- 0	2.2	25 (PP)	2.35	21.8	93	34	12			Very Stiff brown and gray SILTY CLAY (CL)	
	2.2	25 (PP)	0.60	22.0	88	27	10			Medium Stiff brown and gray SILTY CLAY (CL)	
- 5	2.2	25 (PP)	0.65	23.9	92						
	2.0	00 (PP)	1.02	24.8	92	32	12			Medium Stiff to Stiff tan and gray SILTY CLAY (CL)	
	3.2	25 (PP)	0.95	21.4	94	35	14				
- 10											
			0.00		07						
- 15	1.8	50 (PP)	0.82	26.0	87						
										Very Stiff tan and gray CLAY (CH)	
- 20 -	1.5	50 (PP)	2.57	22.8	99	54	29				
_ 20											
	10	10 (PP)	1 95	24.9	92	53	28				
- 25			1.00	24.0	52	00	20				
- 30	3.0	00 (PP)	2.32	27.8	94	62	33				
_ 30										Boring completed 30 feet below ground surface	
- 35											
_ 40											
Sample Legend: Comments/Notes: Core (Shelby Tube) - Borehole backfilled per LA DOTD & LA DEQ requirements										LOUISIANA TESTING AND	
Standard Penetration (SPT) upon completion No Recovery - Free Water = Not encountered INSPECTION, INC.											
Auger Sample LAFAYETTE, LA											

Louisiana Testing & Inspection, Inc.

Lafayette, Baton Rouge, Houma

P.O. Box 2934 Lafayette, LA 70502

E-Mail: LouisianaTesting@GMAIL.com

PN: 337.235.9411 FN: 337.232.9362

DOCUMENT 004393 - BID SUBMITTAL CHECKLIST

PART 1 - GENERAL

1.1 BID INFORMATION

- A. Project Name: Financial Unit Addition, Agriculture, Southern University.
- B. Bidder: _____
- C. Prime Contract, if applicable:

1.2 BIDDER'S CHECKLIST

- A. To assist the Bidder in properly completing all documentation required, the following checklist is provided for the Bidder's convenience. The Bidder is solely responsible for verifying compliance with bid submittal requirements.
- B. Attach this completed checklist to the Bid Form.
 - 1. Used the Bid Form PROVIDED BY OWNER, SAMPLE BID FORM provided in the Project Manual.

 - 3. Indicated on the Bid Form the Addenda received.
 - 4. Indicated on the Bid Form cost associated with listed Unit Prices.
 - 5. Indicated on the Bid Form cost associated with listed Alternates.

 - 7. Attached to the Bid Form Proposed Schedule of Values Form.
 - 8. Verified that the Bidder can provide executed Performance Bond and Labor and Material Bond as described in the Bidding Documents.
 - 9. Uverified that the Bidder can provide Certificates of Insurance in the amounts indicated in the Bidding Documents.

 - 11.
 Bid envelope for paper copy bids shows the Bidder's Contractor's License Number.
 - 12. \Box Bid envelope for paper copy bids shows name of Project being bid.
 - 13.
 □ Bid envelope for paper copy bids shows time and day of Bid Opening.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF DOCUMENT 004393

BID SUBMITTAL CHECKLIST

DOCUMENT 006000 - PROJECT FORMS

PART 1 - GENERAL

1.1 FORM OF AGREEMENT AND GENERAL CONDITIONS

- A. The following form of Owner/Contractor Agreement and form of the General Conditions to be used for Project:
 - 1. AIA Document A101-2017 "Standard Form of Agreement between Owner and Contractor Where the Basis of Payment is a Stipulated Sum." OR CONTRACT PROVIDED BY OWNER.
 - a. The General Conditions for Project are AIA Document A201-2017 "General Conditions of the Contract for Construction."
 - 2. The General Conditions are included in the Project Manual.
 - 3. The Supplementary Conditions for Project are separately prepared and included in the Project Manual.
 - 4. Owner's document(s) bound following this Document, MAY BE PROVIDED WITHIN PROJECT MANUAL OR SEPARATELY AFTER BID AWARD, AS OWNER DESIRES, IF ANY AT ALL.

1.2 ADMINISTRATIVE FORMS

- A. Administrative Forms: Additional administrative forms are specified in Division 01 General Requirements.
- B. Copies of AIA standard forms may be obtained from AIA Contract Documents: https://aiacontracts.com.
- C. Preconstruction Forms:
 - 1. Form of Performance Bond and Labor and Material Bond: IN PROJECT MANUAL
 - 2. Form of Certificate of Insurance: AIA Document G715-2017 "Supplemental Attachment for ACORD Certificate of Insurance 25."
- D. Information and Modification Forms:
 - Form for Requests for Information (RFIs): AIA Document G716-2004 "Request for Information (RFI)." OR IF IN PROJECT MANUAL, USE THE ONE IN THE MANUAL
 - 2. Change Order Form: AIA Document G701-2017 "Change Order." OR IF IN PROJECT MANUAL, USE THE ONE IN THE MANUAL

- E. Payment Forms:
 - 1. Schedule of Values Form: IN PROJECT MANUAL
 - 2. Payment Application, Lump Sum Project: AIA Document G702-1992 "Application and Certificate for Payment" and G703-1992 "Continuation Sheet."
 - 3. Form of Contractor's Sworn Statement: INCLUDED IN PROJECT MANUAL.
 - 4. Form of Contractor's Affidavit: .
 - 5. Form of Affidavit of Release of Liens on Progress Payments: AIA Document G902-2022 "Unconditional Waiver and Release on Progress Payment".
 - 6. Form of Affidavit of Release of Liens on Final Payments: AIA Document G904-2022 "Unconditional Waiver and Release on Final Payment".
 - 7. Form of Consent of Surety: AIA Document G707-1994 "Consent of Surety to Final Payment."

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF DOCUMENT 006000

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Work covered by Contract Documents.
 - 2. Contractor's use of site and premises.
 - 3. Coordination with occupants.
 - 4. Work restrictions.
 - 5. Specification and Drawing conventions.
 - 6. Miscellaneous provisions.
- B. Related Requirements:
 - 1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 - 1. REFER TO PROJECT SCOPE SUMMARY ON DRAWING SET COVER SHEET and other Work indicated in the Contract Documents.
- B. Type of Contract:
 - 1. Project will be constructed under a single prime contract ON A LUMP SUM BASIS.

1.3 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits on Use of Site: Confine construction operations to AREAS WITHIN FENCE BOUNDARY INDICATED ON SITE PLAN AND AREAS IMMEDIATELY

SUMMARY

ADJACENT TO UNDERGROUND INFRASTRUCTURE WORK REQUIRED BY CONSTRUCTION DOCUMENTS.

- 2. Driveways, Walkways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
 - b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
- C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
- D. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.4 COORDINATION WITH OCCUPANTS

- A. Full Owner Occupancy: Owner will occupy Project site and existing building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.
 - 1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without written permission from Owner and approval of authorities having jurisdiction.
 - 2. Notify Owner not less than 72 hours in advance of activities that will affect Owner's operations.

1.5 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 - 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 5 a.m. to 8 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction.
 - 1. Weekend Hours: 5am 8pm.
 - 2. Work in Existing Building: ONLY WHEN OWNER IS PRESENT AND ALLOWS WORK.

- 3. Hours for Utility Shutdowns: ADVANCED WRITTEN APPROVAL BY OWNER.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Obtain Owner's written permission before proceeding with utility interruptions.
- D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.
 - 1. Notify Architect not less than two days in advance of proposed disruptive operations.
 - 2. Obtain Owner's written permission before proceeding with disruptive operations.
- E. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances within the existing building is not permitted.

1.6 SPECIFICATION AND DRAWING CONVENTIONS

- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
 - 1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 - 2. Text Color: Text used in the Specifications, including units of measure, manufacturer and product names, and other text may appear in multiple colors or underlined as part of a hyperlink; no emphasis is implied by text with these characteristics.
 - 3. Hypertext: Text used in the Specifications may contain hyperlinks. Hyperlinks may allow for access to linked information that is not residing in the Specifications. Unless otherwise indicated, linked information is not part of the Contract Documents.
 - 4. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on
Drawings to identify materials and products:

- 1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
- 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings, and, published as part of the U.S. National CAD Standard.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

SECTION 012500 - SUBSTITUTION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for substitutions.
- B. Related Requirements:
 - 1. Document 002600 "Procurement Substitution Procedures" for requirements for substitution requests prior to award of Contract.
 - 2. Section 012300 "Alternates" for products selected under an alternate.
 - 3. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.2 DEFINITIONS

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

1.3 ACTION SUBMITTALS

- A. Substitution Requests: Submit documentation identifying product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Substitution Request Form: Use form provided in Project Manual.
 - 2. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.
 - c. Detailed comparison of significant qualities of proposed substitutions with

those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.

- d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
- e. Samples, where applicable or requested.
- f. Certificates and qualification data, where applicable or requested.
- g. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
- h. Cost information, including a proposal of change, if any, in the Contract Sum.
- i. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
- j. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
- 3. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 7 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.4 QUALITY ASSURANCE

- A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.
- 1.5 PROCEDURES
 - A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

1.6 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 7 days prior to time required for preparation and

review of related submittals.

- 1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:
 - a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
 - b. Requested substitution provides sustainable design characteristics that specified product provided for compliance with IgCC requirements.
 - c. Requested substitution provides sustainable design characteristics that specified product provided for compliance with ASHRAE 189.1 requirements.
 - d. Requested substitution provides sustainable design characteristics that specified product provided for compliance with Green Globes requirements.
 - e. Substitution request is fully documented and properly submitted.
 - f. Requested substitution will not adversely affect Contractor's construction schedule.
 - g. Requested substitution has received necessary approvals of authorities having jurisdiction.
 - h. Requested substitution is compatible with other portions of the Work.
 - i. Requested substitution has been coordinated with other portions of the Work.
 - j. Requested substitution provides specified warranty.
 - k. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.
- B. Substitutions for Convenience:
 - 1. Not allowed.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.
 - 2. Section 013100 "Project Management and Coordination" for requirements for forms for contract modifications provided as part of web-based Project management software.

1.2 MINOR CHANGES IN THE WORK

A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on form included in Project Manual.OR BY OTHER DOCUMENTATION OF CONVENIENCE

1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total

float before requesting an extension of the Contract Time.

- e. Quotation Form: Use forms acceptable to Architect.
- 1.4 ADMINISTRATIVE CHANGE ORDERS
 - A. Unit-Price Adjustment: See Section 012200 "Unit Prices" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect measured scope of unit-price work.
- 1.5 CHANGE ORDER PROCEDURES
 - A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on form included in Project Manual.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Section 012200 "Unit Prices" for administrative requirements governing the use of unit prices.
 - 2. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 3. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.2 DEFINITIONS

A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.3 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. 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 Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.
 - 1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Owner's name.

- c. Owner's Project number.
- d. Name of Architect.
- e. Architect's Project number.
- f. Contractor's name and address.
- g. Date of submittal.
- 2. Arrange schedule of values consistent with format of FORM INCLUDED IN PROJECT MANUAL.
- 3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
- 4. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
- 5. Overhead Costs, Proportional Distribution: Include total cost and proportionate share of general overhead and profit for each line item.
- 6. Temporary Facilities: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
- 7. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.
- B. Payment Application Times: The date for each progress payment is indicated in the Owner/Contractor Agreement. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: Submit Application for Payment to Architect by the last day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- D. Application for Payment Forms: Use PAY APP FORM SAMPLE INCLUDED IN PROJECT MANUAL OR AS SPECIFIED OTHERWISE BY ARCHITECT as form for Applications for Payment.
- E. Application Preparation: Complete every entry on form.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 for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
- 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- F. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.
- G. Transmittal: Submit signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
- H. 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. Copies of building permits.
 - 5. Certificates of insurance and insurance policies.
 - 6. Performance and payment bonds.
 - 7. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100

percent completion for portion of the Work claimed as substantially complete.

- 1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
 - a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 017700 "Closeout Procedures."
- 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
 - 1. Evidence of completion of Project closeout requirements.
 - 2. Certification of completion of final punch list items.
 - 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 - 4. Updated final statement, accounting for final changes to the Contract Sum.
 - 5. AIA Document G706.
 - 6. AIA Document G706A.
 - 7. AIA Document G707.
 - 8. Evidence that claims have been settled.
 - 9. Final liquidated damages settlement statement.
 - 10. Proof that taxes, fees, and similar obligations are paid.
 - 11. Waivers and releases.
- PART 2 PRODUCTS (Not Used)
- PART 3 EXECUTION (Not Used)

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative provisions for coordinating construction operations on Project, including, but not limited to, the following:
 - 1. General coordination procedures.
 - 2. Coordination drawings.
 - 3. RFIs.
 - 4. Digital project management procedures.
 - 5. Web-based Project management software package.
 - 6. Project meetings.
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility are assigned to a specific contractor.
- C. Related Requirements:
 - 1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
 - 2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
 - 3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.2 DEFINITIONS

- A. BIM: Building Information Modeling.
- B. RFI: Request for Information. Request from Owner, Architect, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

- A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
 - 1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
 - 2. Number and title of related Specification Section(s) covered by subcontract.
 - 3. Drawing number and detail references, as appropriate, covered by subcontract.

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

1.4 GENERAL COORDINATION PROCEDURES

- A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results, where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and scheduled activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of Contractor's construction schedule.
 - 2. Preparation of the schedule of values.
 - 3. Installation and removal of temporary facilities and controls.
 - 4. Delivery and processing of submittals.
 - 5. Progress meetings.
 - 6. Preinstallation conferences.
 - 7. Project closeout activities.
 - 8. Startup and adjustment of systems.

1.5 REQUEST FOR INFORMATION (RFI)

- A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.
 - 1. Architect will return without response those RFIs submitted to Architect by other entities controlled by Contractor.
 - 2. Coordinate and submit RFIs in a prompt manner to avoid delays in Contractor's work or work of subcontractors.
- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

- 1. Project name.
- 2. Owner name.
- 3. Owner's Project number.
- 4. Name of Architect.
- 5. Architect's Project number.
- 6. Date.
- 7. Name of Contractor.
- 8. RFI number, numbered sequentially.
- 9. RFI subject.
- 10. Specification Section number and title and related paragraphs, as appropriate.
- 11. Drawing number and detail references, as appropriate.
- 12. Field dimensions and conditions, as appropriate.
- 13. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
- 14. Contractor's signature.
- 15. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.
 - a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.
- C. RFI Forms: AIA Document G716, Form bound in Project Manual, Software-generated form with substantially the same content as indicated above, acceptable to Architect.
 - 1. Attachments shall be electronic files in PDF format.
- D. Architect's Action: Architect will review each RFI, determine action required, and respond. Allow seven days for Architect's response for each RFI. RFIs received by Architect after 1:00 p.m. will be considered as received the following working day.
 - 1. The following Contractor-generated RFIs will be returned without action:
 - a. Requests for approval of submittals.
 - b. Requests for approval of substitutions.
 - c. Requests for approval of Contractor's means and methods.
 - d. Requests for coordination information already indicated in the Contract Documents.
 - e. Requests for adjustments in the Contract Time or the Contract Sum.
 - f. Requests for interpretation of Architect's actions on submittals.
 - g. Incomplete RFIs or inaccurately prepared RFIs.
 - 2. Architect's action may include a request for additional information, in which case Architect's time for response will date from time of receipt by Architect of additional information.

1.6 DIGITAL PROJECT MANAGEMENT PROCEDURES

- A. Architect's Data Files Not Available: Architect will not provide Architect's CAD drawing digital data files for Contractor's use during construction.
- B. PDF Document Preparation: Where PDFs are required to be submitted to Architect, prepare as follows:
 - 1. Assemble complete submittal package into a single indexed file, incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
 - 2. Name file with submittal number or other unique identifier, including revision identifier.
 - 3. Certifications: Where digitally submitted certificates and certifications are required, provide a digital signature with digital certificate on where indicated.

1.7 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.
 - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Architect of scheduled meeting dates and times a minimum of seven days prior to meeting.
- B. Preconstruction Conference: Architect will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Architect, but no later than 15 days after execution of the Agreement.
 - 1. Attendees: Authorized representatives of Owner Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Responsibilities and personnel assignments.
 - b. Tentative construction schedule.
 - c. Phasing.
 - d. Critical work sequencing and long lead items.
 - e. Designation of key personnel and their duties.
 - f. Lines of communications.
 - g. Use of web-based Project software.
 - h. Procedures for processing field decisions and Change Orders.
 - i. Procedures for RFIs.
 - j. Procedures for testing and inspecting.

- k. Procedures for processing Applications for Payment.
- I. Distribution of the Contract Documents.
- m. Submittal procedures.
- n. Sustainable design requirements.
- o. Preparation of Record Documents.
- p. Use of the premises and existing building.
- q. Work restrictions.
- r. Working hours.
- s. Owner's occupancy requirements.
- t. Responsibility for temporary facilities and controls.
- u. Procedures for moisture and mold control.
- v. Procedures for disruptions and shutdowns.
- w. Construction waste management and recycling.
- x. Parking availability.
- y. Office, work, and storage areas.
- z. Equipment deliveries and priorities.
- aa. First aid.
- bb. Security.
- cc. Progress cleaning.
- 3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity when required by other Sections and when required for coordination with other construction.
 - 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.
 - 2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:
 - a. Contract Documents.
 - b. Options.
 - c. Related RFIs.
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Sustainable design requirements.
 - i. Review of mockups.
 - j. Possible conflicts.
 - k. Compatibility requirements.
 - I. Time schedules.
 - m. Weather limitations.
 - n. Manufacturer's written instructions.
 - o. Warranty requirements.

- p. Compatibility of materials.
- q. Acceptability of substrates.
- r. Temporary facilities and controls.
- s. Space and access limitations.
- t. Regulations of authorities having jurisdiction.
- u. Testing and inspecting requirements.
- v. Installation procedures.
- w. Coordination with other work.
- x. Required performance results.
- y. Protection of adjacent work.
- z. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
- 4. Reporting: Distribute minutes of the meeting to each party present and to other parties requiring information.
- 5. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Project Closeout Conference: [Schedule and conduct] [Construction Manager will schedule and conduct] a project closeout conference, at a time convenient to Owner and Architect, but no later than 45 days prior to the scheduled date of Substantial Completion.
 - 1. Conduct the conference to review requirements and responsibilities related to Project closeout.
 - 2. Attendees: Authorized representatives of Owner, Owner's Commissioning Authority, Architect, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the meeting. Participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 3. Agenda: Discuss items of significance that could affect or delay Project closeout, including the following:
 - a. Preparation of Record Documents.
 - b. Procedures required prior to inspection for Substantial Completion and for final inspection for acceptance.
 - c. Procedures for completing and archiving web-based Project software site data files.
 - d. Submittal of written warranties.
 - e. Requirements for completing sustainable design documentation.
 - f. Requirements for preparing operations and maintenance data.
 - g. Requirements for delivery of material samples, attic stock, and spare parts.
 - h. Requirements for demonstration and training.
 - i. Preparation of Contractor's punch list.
 - j. Procedures for processing Applications for Payment at Substantial Completion and for final payment.
 - k. Submittal procedures.

- I. Coordination of separate contracts.
- m. Owner's partial occupancy requirements.
- n. Installation of Owner's furniture, fixtures, and equipment.
- o. Responsibility for removing temporary facilities and controls.
- 4. Minutes: Entity conducting meeting will record and distribute meeting minutes.
- E. Progress Meetings: Conduct progress meetings at weekly intervals.
 - 1. Attendees: In addition to representatives of Owner and Architect, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the meeting shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's construction schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
 - 1) Review schedule for next period.
 - b. Review present and future needs of each entity present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site use.
 - 8) Temporary facilities and controls.
 - 9) Progress cleaning.
 - 10) Quality and work standards.
 - 11) Status of correction of deficient items.
 - 12) Field observations.
 - 13) Status of RFIs.
 - 14) Status of Proposal Requests.
 - 15) Pending changes.
 - 16) Status of Change Orders.
 - 17) Pending claims and disputes.
 - 18) Documentation of information for payment requests.

- 3. Minutes: Entity responsible for conducting the meeting will record and distribute the meeting minutes to each party present and to parties requiring information.
 - a. Schedule Updating: Revise Contractor's construction schedule after each progress meeting, where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with the report of each meeting.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
 - 1. Contractor's Construction Schedule.
- B. Related Requirements:
 - 1. Section 014000 "Quality Requirements" for schedule of tests and inspections.

1.2 DEFINITIONS

- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.
 - 1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
 - 2. Predecessor Activity: An activity that precedes another activity in the network.
 - 3. Successor Activity: An activity that follows another activity in the network.
- B. Cost Loading: The allocation of the schedule of values for completing an activity as scheduled. The sum of costs for all activities must equal the total Contract Sum.
- C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine the critical path of Project and when activities can be performed.
- D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.
- E. Event: The starting or ending point of an activity.
- F. Float: The measure of leeway in starting and completing an activity.
 - 1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.
 - 2. Free float is the amount of time an activity can be delayed without adversely

affecting the early start of the successor activity.

- 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned Project completion date.
- G. Resource Loading: The allocation of labor and equipment necessary for completing an activity as scheduled.

1.3 INFORMATIONAL SUBMITTALS

- A. Format for Submittals: Submit required submittals in the following format:
 - 1. PDF file.
- B. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.
- C. Construction Schedule Updating Reports: Submit with Applications for Payment.
- D. Site Condition Reports: Submit at time of discovery of differing conditions.
- E. Unusual Event Reports: Submit at time of unusual event.

1.4 COORDINATION

- A. Coordinate Contractor's Construction Schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.
 - 1. Secure time commitments for performing critical elements of the Work from entities involved.
 - 2. Coordinate each construction activity in the network with other activities, and schedule them in proper sequence.

1.5 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
 - 1. Contract completion date to not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- B. Activities: Treat each floor or separate area as a separate numbered activity for each main element of the Work. Comply with the following:
 - 1. Activity Duration: Define activities so no activity is longer than 20 days, unless specifically allowed by Architect.
 - 2. Temporary Facilities: Indicate start and completion dates for the following as

applicable:

- a. Securing of approvals and permits required for performance of the Work.
- b. Temporary facilities.
- c. Construction of mock-ups, prototypes and samples.
- d. Punch list.
- 3. Submittal Review Time: Include review and resubmittal times indicated in Section 013300 "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with submittal schedule.
- 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Architect's administrative procedures necessary for certification of Substantial Completion.
- 5. Punch List and Final Completion: Include not more than 30 days for completion of punch list items and Final Completion.
- C. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.
 - 1. Temporary enclosure and space conditioning.
- D. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
 - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
 - 2. As the Work progresses, indicate Final Completion percentage for each activity.

1.6 GANTT-CHART SCHEDULE REQUIREMENTS

- A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, horizontal, Ganttchart-type, Contractor's Construction Schedule within 15 days of date established for the Notice to Proceed.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Preconstruction photographs.
 - 2. Concealed Work photographs.
 - 3. Periodic construction photographs.
 - 4. Final Completion construction photographs.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
 - 2. Section 024119 "Selective Demolition" for photographic documentation before selective demolition operations commence.
 - 3. Section 311000 "Site Clearing" for photographic documentation before site clearing operations commence.

1.2 INFORMATIONAL SUBMITTALS

A. Digital Photographs: Submit image files within three days of taking photographs.

1.3 FORMATS AND MEDIA

- A. Digital Photographs: Provide color images in JPG format, produced by a digital camera with minimum sensor size of 12 megapixels, and at an image resolution of not less than 3200 by 2400 pixels. Use flash in low light levels or backlit conditions.
- B. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

1.4 CONSTRUCTION PHOTOGRAPHS

- A. General: Take photographs with maximum depth of field and in focus.
- B. Concealed Work Photographs: Before proceeding with installing work that will conceal other work, take photographs sufficient in number, with annotated descriptions, to record nature and location of concealed Work, including, but not limited to, the following:

- 1. Underground utilities.
- 2. Underslab services.
- 3. Piping.
- 4. Electrical conduit.
- 5. Waterproofing and weather-resistant barriers.
- C. Periodic Construction Photographs: Take 20 photographs monthly. Select vantage points to show status of construction and progress since last photographs were taken.
- D. Final Completion Construction Photographs: Take 20 photographs after date of Substantial Completion for submission as Project Record Documents. will inform photographer of desired vantage points.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Submittal schedule requirements.
 - 2. Administrative and procedural requirements for submittals.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
 - 2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
 - 3. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
 - 4. Section 013233 "Photographic Documentation" for submitting preconstruction photographs, periodic construction photographs, and Final Completion construction photographs.
 - 5. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
 - 6. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
 - 7. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

- 1. Project name.
- 2. Date.
- 3. Name of Architect.
- 4. Name of Contractor.
- 5. Name of firm or entity that prepared submittal.
- 6. Names of subcontractor, manufacturer, and supplier.
- 7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier and alphanumeric suffix for resubmittals.
- 8. Category and type of submittal.
- 9. Submittal purpose and description.
- 10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
- 11. Drawing number and detail references, as appropriate.
- 12. Indication of full or partial submittal.
- 13. Location(s) where product is to be installed, as appropriate.
- 14. Other necessary identification.
- 15. Remarks.
- 16. Signature of transmitter.
- B. Options: Identify options requiring selection by Architect.
- C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.
- D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.4 SUBMITTAL PROCEDURES

- A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.
 - 1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 - a. Architect will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

- 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
- 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
- 4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
 - 1. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 - 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 - 3. Resubmittal Review: Allow 7 days for review of each resubmittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
 - 1. Note date and content of previous submittal.
 - 2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
 - 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.5 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
 - 1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.

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- 2. Mark each copy of each submittal to show which products and options are applicable.
- 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
- 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
- 5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Architect's digital data drawing files is otherwise permitted.
 - 1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 - Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 30 by 42 inches.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
 - 1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.

- 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
- 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
- 4. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
- 5. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set(s) of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
- 6. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
 - a. Number of Samples: Submit One sets of Samples. Architect will retain One Sample sets; remainder will be returned.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least One sets of paired units that show approximate limits of variations.

1.6 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.
 - 1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.7 ARCHITECT'S AND CONSTRUCTION MANAGER'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return.
 - 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action.
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will discard submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes special procedures for alteration work.

1.2 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project. Including relocation of utility shed, removal and replacement of brick water table
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.
- K. Retain: To keep an element or detail secure and intact.
- L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.3 COORDINATION

A. Pedestrian and Vehicular Circulation: Coordinate alteration work with circulation patterns within Project building(s) and site. Some work is near circulation patterns and adjacent to restricted areas. Circulation patterns cannot be closed off entirely and in places can be only temporarily redirected around small areas of work. Access to restricted areas may not be obstructed. Plan and execute the Work accordingly.

1.4 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered or uncovered during the Work, regardless of whether they were previously documented, remain Owner's property.
 - 1. Carefully dismantle and salvage each item or object in a manner to prevent damage and protect it from damage, then promptly deliver it to Owner where directed at Project site.

1.5 QUALITY ASSURANCE

- A. Alteration Work Program: Prepare a written plan for alteration work for whole Project, including each phase or process and protection of surrounding materials during operations. Show compliance with indicated methods and procedures specified in this and other Sections. Coordinate this whole-Project alteration work program with specific requirements of programs required in other alteration work Sections.
 - 1. Dust and Noise Control: Include locations of proposed temporary dust- and noise-control partitions and means of egress from occupied areas coordinated with continuing on-site operations and other known work in progress.
 - 2. Debris Hauling: Include plans clearly marked to show debris hauling routes, turning radii, and locations and details of temporary protective barriers.
- B. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.
- C. Safety and Health Standard: Comply with ANSI/ASSP A10.6.

1.6 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Salvaged Materials:
 - 1. Clean loose dirt and debris from salvaged items unless more extensive cleaning is indicated.

- 2. Pack or crate items after cleaning; cushion against damage during handling. Label contents of containers.
- 3. Store items in a secure area until delivery to Owner.
- 4. Transport items to Owner's storage area on-site.
- 5. Protect items from damage during transport and storage.
- B. Salvaged Materials for Reinstallation:
 - 1. Repair and clean items for reuse as indicated.
 - 2. Pack or crate items after cleaning and repairing; cushion against damage during handling. Label contents of containers.
 - 3. Protect items from damage during transport and storage.
 - 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment unless otherwise indicated. Provide connections, supports, and miscellaneous materials to make items functional for use indicated.
- C. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.
- D. Storage Space:
 - 1. Owner will arrange for limited on-site location(s) for free storage of salvaged material. This storage space does not include security for stored material.

1.7 FIELD CONDITIONS

- A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of preconstruction photographs.
 - 1. Comply with requirements specified in Section 013233 "Photographic Documentation."
- B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.
- C. Owner's Removals: Before beginning alteration work, verify in correspondence with Owner that the following items have been removed:
 - 1. Items in storage shed shall be removed as needed to relocate shed and then replaced back into storage shed after relocation of shed. Owner may prefer to remove items, verify with Architect prior to relocation of shed.
- D. Size Limitations in Existing Spaces: Materials, products, and equipment used for performing the Work and for transporting debris, materials, and products shall be of sizes that clear surfaces within existing spaces, areas, rooms, and openings, including temporary protection, by 12 inches or more.

PART 2 - PRODUCTS - (Not Used) PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.
 - 1. Use only proven protection methods, appropriate to each area and surface being protected.
 - 2. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
 - 3. Erect temporary barriers to form and maintain fire-egress routes.
 - 4. Erect temporary protective covers over walkways and at points of pedestrian and vehicular entrance and exit that must remain in service during alteration work.
 - 5. Contain dust and debris generated by alteration work, and prevent it from reaching the public or adjacent surfaces.
 - 6. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
 - 7. Protect floors and other surfaces along hauling routes from damage, wear, and staining.
- B. Temporary Protection of Materials to Remain:
 - 1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
 - 2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.
- C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.
- D. Utility and Communications Services:
 - 1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
 - 2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
 - 3. Maintain existing services unless otherwise indicated; keep in service, and protect against damage during operations. Provide temporary services during interruptions to existing utilities.
- E. Existing Drains: Prior to the start of work in an area, test drainage system to ensure that it is functioning properly. Notify Architect immediately of inadequate drainage or blockage. Do not begin work in an area until the drainage system is functioning properly.

- 1. Prevent solids such as adhesive or mortar residue or other debris from entering the drainage system. Clean out drains and drain lines that become sluggish or blocked by sand or other materials resulting from alteration work.
- 2. Protect drains from pollutants. Block drains or filter out sediments, allowing only clean water to pass.
- F. Existing Roofing: Prior to the start of work in an area, install roofing protection.

3.2 PROTECTION FROM FIRE

- A. General: Follow fire-prevention plan and the following:
 - 1. Comply with NFPA 241 requirements unless otherwise indicated.
 - 2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.
 - a. If combustible material cannot be removed, provide fire blankets to cover such materials.
- B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:
 - 1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
 - 2. As far as practicable, restrict heat-generating equipment to shop areas or outside the building.
 - 3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 - 4. Use fireproof baffles to prevent flames, sparks, hot gases, or other hightemperature material from reaching surrounding combustible material.
 - 5. Prevent the spread of sparks and particles of hot metal through open windows, doors, holes, and cracks in floors, walls, ceilings, roofs, and other openings.
 - 6. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
 - a. Train each fire watch in the proper operation of fire-control equipment and alarms.
 - b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
 - c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.

- d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work in each area to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
- e. Maintain fire-watch personnel at each area of Project site until two hours after conclusion of daily work.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.

3.3 PROTECTION DURING APPLICATION OF CHEMICALS

- A. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
- B. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
- C. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
- D. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.
- E. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.4 GENERAL ALTERATION WORK

- A. Have specialty work performed only by qualified specialists.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Record existing work before each procedure (preconstruction), and record progress during the work. Use digital preconstruction documentation photographs. Comply with requirements in Section 013233 "Photographic Documentation."
- D. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.

- E. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
 - 1. Do not proceed with the work in question until directed by Architect.
SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-assurance and quality-control requirements for individual work results are specified in their respective Specification Sections. Requirements in individual Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.2 DEFINITIONS

- A. Experienced: When used with an entity or individual, "experienced," unless otherwise further described, means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, subcontractor, or sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.
 - 1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).
- D. Product Tests: Tests and inspections that are performed by a nationally recognized testing laboratory (NRTL) in accordance with 29 CFR 1910.7, by a testing agency accredited in accordance with NIST's National Voluntary Laboratory Accreditation Program (NVLAP), or by a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and

compliance with specified requirements.

- E. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source (e.g., plant, mill, factory, or shop).
- F. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."

1.3 DELEGATED DESIGN SERVICES

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
 - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

1.4 CONFLICTING REQUIREMENTS

- A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Architect regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Architect for clarification before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified is the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.5 QUALITY ASSURANCE

- A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.
- C. Fabricator Qualifications: A firm experienced in producing products similar to those

indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- E. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329, and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.
- F. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- G. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.6 QUALITY CONTROL

- A. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.
 - 1. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
 - 2. Engage a qualified testing agency to perform quality-control services.
 - 3. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
 - 4. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 5. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 6. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- B. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

- C. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.
- D. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
 - 4. Facilities for storage and field curing of test samples.
 - 5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 6. Security and protection for samples and for testing and inspection equipment at Project site.
- E. Coordination: Coordinate sequence of activities to accommodate required qualityassurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

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

1.2 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

- 1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.
- C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
 - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

- A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."
- B. Industry Organizations, List: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. [Abbreviations and acronyms not included in this list are to mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."]The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.
 - 1. AABC Associated Air Balance Council; www.aabc.com.
 - 2. AAMA American Architectural Manufacturers Association; (see FGIA).
 - 3. AAPFCO Association of American Plant Food Control Officials; www.aapfco.org.
 - 4. AASHTO American Association of State Highway and Transportation Officials; www.transportation.org.
 - 5. AATCC American Association of Textile Chemists and Colorists; www.aatcc.org.
 - 6. ABMA American Bearing Manufacturers Association; www.americanbearings.org.
 - 7. ABMA American Boiler Manufacturers Association; www.abma.com.
 - 8. ACI American Concrete Institute; www.concrete.org.
 - 9. ACP American Clean Power; (Formerly: American Wind Energy Association); www.cleanpower.org.
 - 10. ACPA American Concrete Pipe Association; www.concretepipe.org.
 - 11. AEIC Association of Edison Illuminating Companies, Inc. (The); www.aeic.org.
 - 12. AF&PA American Forest & Paper Association; www.afandpa.org.
 - 13. AGA American Gas Association; www.aga.org.
 - 14. AHAM Association of Home Appliance Manufacturers; www.aham.org.
 - 15. AHRI Air-Conditioning, Heating, and Refrigeration Institute (The); www.ahrinet.org.

- 16. AI Asphalt Institute; www.asphaltinstitute.org.
- 17. AIA American Institute of Architects (The); www.aia.org.
- 18. AISC American Institute of Steel Construction; www.aisc.org.
- 19. AISI American Iron and Steel Institute; www.steel.org.
- 20. AITC American Institute of Timber Construction; (see PLIB).
- 21. AMCA Air Movement and Control Association International, Inc.; www.amca.org.
- 22. AMPP Association for Materials Protection and Performance; www.ampp.org.
- 23. ANSI American National Standards Institute; www.ansi.org.
- 24. AOSA/SCST Association of Official Seed Analysts (The)/Society of Commercial Seed Technologists (The); www.analyzeseeds.com.
- 25. APA APA The Engineered Wood Association; www.apawood.org.
- 26. APA Architectural Precast Association; www.archprecast.org.
- 27. API American Petroleum Institute; www.api.org.
- 28. ARMA Asphalt Roofing Manufacturers Association; www.asphaltroofing.org.
- 29. ASA Acoustical Society of America; www.acousticalsociety.org.
- 30. ASCE American Society of Civil Engineers; www.asce.org.
- 31. ASCE/SEI American Society of Civil Engineers/Structural Engineering Institute; (see ASCE).
- 32. ASHRAE American Society of Heating, Refrigerating and Air-Conditioning Engineers; www.ashrae.org.
- 33. ASME ASME International; [American Society of Mechanical Engineers (The)]; www.asme.org.
- 34. ASSE ASSE International; (American Society of Sanitary Engineering); www.asse-plumbing.org.
- 35. ASSP American Society of Safety Professionals; www.assp.org.
- 36. ASTM ASTM International; www.astm.org.
- 37. ATIS Alliance for Telecommunications Industry Solutions; www.atis.org.
- 38. AVIXA Audiovisual and Integrated Experience Association; www.avixa.org.
- 39. AWI Architectural Woodwork Institute; www.awinet.org.
- 40. AWMAC Architectural Woodwork Manufacturers Association of Canada; www.awmac.com.
- 41. AWPA American Wood Protection Association; www.awpa.com.
- 42. AWS American Welding Society; www.aws.org.
- 43. AWWA American Water Works Association; www.awwa.org.
- 44. BHMA Builders Hardware Manufacturers Association; www.buildershardware.com.
- 45. BIA Brick Industry Association (The); www.gobrick.com.
- 46. BICSI BICSI, Inc.; www.bicsi.org.
- 47. BIFMA Business and Institutional Furniture Manufacturer's Association; www.bifma.org.
- 48. BISSC Baking Industry Sanitation Standards Committee; www.bissc.org.
- 49. BWF Badminton World Federation; www.bwfbadminton.com.
- 50. CARB California Air Resources Board; www.arb.ca.gov.
- 51. CDA Copper Development Association Inc.; www.copper.org.
- 52. CE Conformite Europeenne (European Commission); www.ec.europa.eu/growth/single-market/ce-marking.
- 53. CEA Canadian Electricity Association; www.electricity.ca.
- 54. CFFA Chemical Fabrics and Film Association, Inc.;

www.chemicalfabricsandfilm.com.

- 55. CFSEI Cold-Formed Steel Engineers Institute; www.cfsei.org.
- 56. CGA Compressed Gas Association; www.cganet.com.
- 57. CIMA Cellulose Insulation Manufacturers Association; www.cellulose.org.
- 58. CISCA Ceilings & Interior Systems Construction Association; www.cisca.org.
- 59. CISPI Cast Iron Soil Pipe Institute; www.cispi.org.
- 60. CLFMI Chain Link Fence Manufacturers Institute; www.chainlinkinfo.org.
- 61. CPA Composite Panel Association; www.compositepanel.org.
- 62. CRI Carpet and Rug Institute (The); www.carpet-rug.org.
- 63. CRRC Cool Roof Rating Council; www.coolroofs.org.
- 64. CRSI Concrete Reinforcing Steel Institute; www.crsi.org.
- 65. CSA CSA Group; www.csagroup.org.
- 66. CSI Cast Stone Institute; www.caststone.org.
- 67. CSI Construction Specifications Institute (The); www.csiresources.org.
- 68. CSSB Cedar Shake & Shingle Bureau; www.cedarbureau.org.
- 69. CTA Consumer Technology Association; www.cta.tech.
- 70. CTI Cooling Technology Institute; www.coolingtechnology.org.
- 71. DASMA Door and Access Systems Manufacturers Association; www.dasma.com.
- 72. DHA Decorative Hardwoods Association; www.decorativehardwoods.org.
- 73. DHI Door and Hardware Institute; www.dhi.org.
- 74. ECIA Electronic Components Industry Association; www.ecianow.org.
- 75. EIMA EIFS Industry Members Association; www.eima.com.
- 76. EJMA Expansion Joint Manufacturers Association, Inc.; www.ejma.org.
- 77. EOS/ESD EOS/ESD Association, Inc.; Electrostatic Discharge Association; www.esda.org.
- 78. ESTA Entertainment Services and Technology Association; www.esta.org.
- 79. EVO Efficiency Valuation Organization; www.evo-world.org.
- 80. FCI Fluid Controls Institute; www.fluidcontrolsinstitute.org.
- 81. FGIA Fenestration and Glazing Industry Alliance; https://fgiaonline.org.
- 82. FIBA Federation Internationale de Basketball; (The International Basketball Federation); www.fiba.com.
- 83. FIVB Federation Internationale de Volleyball; (The International Volleyball Federation); www.fivb.org.
- 84. FM Approvals FM Approvals LLC; www.fmapprovals.com.
- 85. FM Global FM Global; www.fmglobal.com.
- 86. FRSA Florida Roofing and Sheet Metal Contractors Association, Inc.; www.floridaroof.com.
- 87. FSA Fluid Sealing Association; www.fluidsealing.com.
- 88. FSC Forest Stewardship Council U.S.; www.fscus.org.
- 89. GA Gypsum Association; www.gypsum.org.
- 90. GS Green Seal; www.greenseal.org.
- 91. HI Hydraulic Institute; www.pumps.org.
- 92. HMMA Hollow Metal Manufacturers Association; (see NAAMM).
- 93. IAPSC International Association of Professional Security Consultants; www.iapsc.org.
- 94. IAS International Accreditation Service; www.iasonline.org.
- 95. ICC International Code Council; www.iccsafe.org.
- 96. ICEA Insulated Cable Engineers Association, Inc.; www.icea.net.

- 97. ICPA International Cast Polymer Association (The); www.theicpa.com.
- 98. ICRI International Concrete Repair Institute, Inc.; www.icri.org.
- 99. IEC International Electrotechnical Commission; www.iec.ch.
- 100. IEEE SA IEEE Standards Association; https://standards.ieee.org.
- 101. IES Illuminating Engineering Society; www.ies.org.
- 102. IEST Institute of Environmental Sciences and Technology; www.iest.org.
- 103. IGMA Insulating Glass Manufacturers Alliance; (see FGIA).
- 104. IGSHPA International Ground Source Heat Pump Association; www.igshpa.org.
- 105. ILI Indiana Limestone Institute of America, Inc.; www.iliai.com.
- 106. Intertek Intertek Group; www.intertek.com.
- 107. ISA International Society of Automation (The); www.isa.org.
- 108. ISFA International Surface Fabricators Association; www.isfanow.org.
- 109. ISO International Organization for Standardization; www.iso.org.
- 110. ITU International Telecommunication Union; www.itu.int.
- 111. KCMA Kitchen Cabinet Manufacturers Association; www.kcma.org.
- 112. LPI Lightning Protection Institute; www.lightning.org.
- 113. MBMA Metal Building Manufacturers Association; www.mbma.com.
- 114. MCA Metal Construction Association; www.metalconstruction.org.
- 115. MFMA Maple Flooring Manufacturers Association, Inc.; www.maplefloor.org.
- 116. MFMA Metal Framing Manufacturers Association, Inc.; www.metalframingmfg.org.
- 117. MHI Material Handling Industry; www.mhi.org.
- 118. MMPA Moulding & Millwork Producers Association; www.wmmpa.com.
- 119. MPI Master Painters Institute; www.paintinfo.com.
- 120. MSS Manufacturers Standardization Society of The Valve and Fittings Industry, Inc.; www.msshq.org.
- 121. NAAMM National Association of Architectural Metal Manufacturers; www.naamm.org.
- 122. NACE NACE International; (National Association of Corrosion Engineers International); (see AMPP).
- 123. NADCA National Air Duct Cleaners Association; www.nadca.com.
- 124. NAIMA North American Insulation Manufacturers Association; www.insulationinstitute.org.
- 125. NALP National Association of Landscape Professionals; www.landscapeprofessionals.org.
- 126. NBGQA National Building Granite Quarries Association, Inc.; www.nbgqa.com.
- 127. NBI New Buildings Institute; www.newbuildings.org.
- 128. NCAA National Collegiate Athletic Association (The); www.ncaa.org.
- 129. NCMA National Concrete Masonry Association; www.ncma.org.
- 130. NEBB National Environmental Balancing Bureau; www.nebb.org.
- 131. NECA National Electrical Contractors Association; www.necanet.org.
- 132. NeLMA Northeastern Lumber Manufacturers Association; www.nelma.org.
- 133. NEMA National Electrical Manufacturers Association; www.nema.org.
- 134. NETA InterNational Electrical Testing Association; www.netaworld.org.
- 135. NFHS National Federation of State High School Associations; www.nfhs.org.
- 136. NFPA National Fire Protection Association; www.nfpa.org.
- 137. NFPA NFPA International; (see NFPA).
- 138. NFRC National Fenestration Rating Council; www.nfrc.org.
- 139. NGA National Glass Association; www.glass.org.

- 140. NHLA National Hardwood Lumber Association; www.nhla.com.
- 141. NLGA National Lumber Grades Authority; www.nlga.org.
- 142. NOFMA National Oak Flooring Manufacturers Association; (see NWFA).
- 143. NOMMA National Ornamental & Miscellaneous Metals Association; www.nomma.org.
- 144. NRCA National Roofing Contractors Association; www.nrca.net.
- 145. NRMCA National Ready Mixed Concrete Association; www.nrmca.org.
- 146. NSF NSF International; www.nsf.org.
- 147. NSI Natural Stone Institute; www.naturalstoneinstitute.org.
- 148. NSPE National Society of Professional Engineers; www.nspe.org.
- 149. NSSGA National Stone, Sand & Gravel Association; www.nssga.org.
- 150. NTMA National Terrazzo & Mosaic Association, Inc. (The); www.ntma.com.
- 151. NWFA National Wood Flooring Association; www.nwfa.org.
- 152. NWRA National Waste & Recycling Association; www.wasterecycling.org.
- 153. PCI Precast/Prestressed Concrete Institute; www.pci.org.
- 154. PDI Plumbing & Drainage Institute; www.pdionline.org.
- 155. PLASA PLASA; www.plasa.org.
- 156. PLIB Pacific Lumber Inspection Bureau; www.plib.org.
- 157. PVCPA Uni-Bell PVC Pipe Association; www.uni-bell.org.
- 158. RCSC Research Council on Structural Connections; www.boltcouncil.org.
- 159. RFCI Resilient Floor Covering Institute; www.rfci.com.
- 160. RIS Redwood Inspection Service; (see WWPA).
- 161. SAE SAE International; www.sae.org.
- 162. SCTE Society of Cable Telecommunications Engineers; www.scte.org.
- 163. SDI Steel Deck Institute; www.sdi.org.
- 164. SDI Steel Door Institute; www.steeldoor.org.
- 165. SEFA Scientific Equipment and Furniture Association (The); www.sefalabs.com.
- 166. SEI/ASCE Structural Engineering Institute/American Society of Civil Engineers; (see ASCE).
- 167. SIA Security Industry Association; www.securityindustry.org.
- 168. SJI Steel Joist Institute; www.steeljoist.org.
- 169. SMA Screen Manufacturers Association; www.smainfo.org.
- 170. SMACNA Sheet Metal and Air Conditioning Contractors' National Association; www.smacna.org.
- 171. SMPTE Society of Motion Picture and Television Engineers; www.smpte.org.
- 172. SPFA Spray Polyurethane Foam Alliance; www.sprayfoam.org.
- 173. SPIB Southern Pine Inspection Bureau; www.spib.org.
- 174. SPRI Single Ply Roofing Industry; www.spri.org.
- 175. SRCC Solar Rating & Certification Corporation; www.solar-rating.org.
- 176. SSINA Specialty Steel Industry of North America; www.ssina.com.
- 177. SSPC SSPC: The Society for Protective Coatings; (see AMPP).
- 178. STI/SPFA Steel Tank Institute/Steel Plate Fabricators Association; www.steeltank.com.
- 179. SWI Steel Window Institute; www.steelwindows.com.
- 180. SWPA Submersible Wastewater Pump Association; www.swpa.org.
- 181. TCA Tilt-Up Concrete Association; www.tilt-up.org.
- 182. TCNA Tile Council of North America, Inc.; www.tcnatile.com.
- 183. TEMA Tubular Exchanger Manufacturers Association, Inc.;

www.kbcdco.tema.org.

- 184. TIA Telecommunications Industry Association (The); www.tiaonline.org.
- 185. TMS The Masonry Society; www.masonrysociety.org.
- 186. TPI Truss Plate Institute; www.tpinst.org.
- 187. TPI Turfgrass Producers International; www.turfgrasssod.org.
- 188. TRI Tile Roofing Industry Alliance; www.tileroofing.org.
- 189. ULSE UL Standards & Engagement Inc.; www.ulse.org.
- 190. UL UL Solutions Inc.; www.ul.com.
- 191. USAV USA Volleyball; www.usavolleyball.org.
- 192. USGBC U.S. Green Building Council; www.usgbc.org.
- 193. USITT United States Institute for Theatre Technology, Inc.; www.usitt.org.
- 194. WA Wallcoverings Association; www.wallcoverings.org.
- 195. WCLIB West Coast Lumber Inspection Bureau; (see PLIB).
- 196. WCMA Window Covering Manufacturers Association; www.wcmanet.org.
- 197. WDMA Window & Door Manufacturers Association; www.wdma.com.
- 198. WI Woodwork Institute; www.woodworkinstitute.com.
- 199. WSRCA Western States Roofing Contractors Association; www.wsrca.com.
- 200. WWPA Western Wood Products Association; www.wwpa.org.
- C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.
 - 1. DIN Deutsches Institut fur Normung e.V.; www.din.de.
 - 2. IAPMO International Association of Plumbing and Mechanical Officials; www.iapmo.org.
 - 3. ICC International Code Council; www.iccsafe.org.
 - 4. ICC-ES ICC Evaluation Service, LLC; www.icc-es.org.
- D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.
 - 1. CPSC U.S. Consumer Product Safety Commission; www.cpsc.gov.
 - 2. DOC U.S. Department of Commerce; www.commerce.gov.
 - 3. DOD U.S. Department of Defense; www.defense.gov.
 - 4. DOE U.S. Department of Energy; www.energy.gov.
 - 5. DOJ U.S. Department of Justice; www.ojp.usdoj.gov
 - 6. DOS U.S. Department of State; www.state.gov.
 - 7. EPA United States Environmental Protection Agency; www.epa.gov.
 - 8. FAA Federal Aviation Administration; www.faa.gov.
 - 9. GPO U.S. Government Publishing Office; www.gpo.gov.
 - 10. GSA U.S. General Services Administration; www.gsa.gov.
 - 11. HUD U.S. Department of Housing and Urban Development; www.hud.gov.
 - 12. LBNL Lawrence Berkeley National Laboratory; Energy Technologies Area; www.lbl.gov/.
 - 13. NIST National Institute of Standards and Technology; www.nist.gov.

- 14. OSHA Occupational Safety & Health Administration; www.osha.gov.
- 15. TRB Transportation Research Board; National Cooperative Highway Research Program; The National Academies; www.trb.org.
- 16. USACE U.S. Army Corps of Engineers; www.usace.army.mil.
- 17. USDA U.S. Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
- 18. USDA U.S. Department of Agriculture; Rural Utilities Service; www.usda.gov.
- 19. USP U.S. Pharmacopeial Convention; www.usp.org.
- 20. USPS United States Postal Service; www.usps.com.
- E. Standards and Regulations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the standards and regulations in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
 - 1. CFR Code of Federal Regulations; Available from U.S. Government Publishing Office; www.govinfo.gov.
 - 2. DOD U.S. Department of Defense; Military Specifications and Standards; Available from DLA Document Services; www.dsp.dla.mil/Specs-Standards/.
 - 3. DSCC Defense Supply Center Columbus; (see FS).
 - 4. FED-STD Federal Standard; (see FS).
 - 5. FS Federal Specification; Available from DLA Document Services; www.dsp.dla.mil/Specs-Standards/.
 - a. Available from Defense Standardization Program; www.dsp.dla.mil.
 - b. Available from U.S. General Services Administration; www.gsa.gov.
 - c. Available from National Institute of Building Sciences/Whole Building Design Guide; www.wbdg.org.
 - 6. MILSPEC Military Specifications and Standards; (see DOD).
 - 7. USAB United States Access Board; www.access-board.gov.
 - 8. USATBCB U.S. Architectural & Transportation Barriers Compliance Board; (see USAB).
- F. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.
 - 1. BEARHFTI; California Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation; (see BHGS).
 - 2. BHGS; State of California Bureau of Household Goods and Services; (Formerly: California Bureau of Electronic and Appliance Repair, Home Furnishings and Thermal Insulation); www.bhgs.dca.ca.gov.
 - 3. CCR; California Code of Regulations; Office of Administrative Law; California Title 24 Energy Code; www.oal.ca.gov/publications/ccr/.
 - 4. CDPH; California Department of Public Health; Indoor Air Quality Program; www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/Main-Page.aspx.

- 5. CPUC; California Public Utilities Commission; www.cpuc.ca.gov.
- 6. SCAQMD; South Coast Air Quality Management District; www.aqmd.gov.
- 7. TFS; Texas A&M Forest Service; Sustainable Forestry and Economic Development; https://tfsweb.tamu.edu/.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

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

1.2 USE CHARGES

A. Installation, removal, and use charges for temporary facilities to be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to, Architect, testing agencies, and authorities having jurisdiction.

1.3 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Accessible Temporary Egress: Comply with applicable provisions in ICC A117.1.

1.4 PROJECT CONDITIONS

A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch- thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch- OD line posts and 2-7/8-inch- OD corner and pull posts, with 1-

5/8-inch- OD top and bottom rails. Provide concrete, galvanized-steel bases for supporting posts.

2.2 TEMPORARY FACILITIES

2.3 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.
- C. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 - 1. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
 - 2. Perform daily construction cleanup and final cleanup using approved, HEPAfilter-equipped vacuum equipment.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

- B. Sewers and Drainage: Provide temporary utilities to remove effluent lawfully.
- C. Water Service:
 - 1. Install water service and distribution piping in sizes and pressures adequate for construction.
 - 2. Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- D. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
 - 1. Use of Permanent Toilets: Use of Owner's existing or new toilet facilities is not permitted.
- E. Electric Power Service:
 - 1. Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
 - 2. Provide electric power service and distribution system of sufficient size, capacity, and power characteristics required for construction operations.
 - a. Connect temporary service to Owner's existing power source, as directed by Owner.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
 - 1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
 - 1. Where access to adjacent properties is required in order to affect protection of existing facilities, obtain written permission from adjacent property owner to access property for that purpose.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

- 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control:
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Tree and Plant Protection:
 - 1. Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- F. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
 - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations, ANDAs indicated on Drawings.
 - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- G. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- H. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
- I. Temporary Egress: Provide temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction. Provide signage directing occupants to temporary egress.
- J. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
 - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

4. Provide temporary standpipes and hoses for fire protection. Hang hoses with a warning sign, stating that hoses are for fire-protection purposes only and are not to be removed. Match hose size with outlet size and equip with suitable nozzles.

3.5 MOISTURE AND MOLD CONTROL

- A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.
- B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 - 1. Protect porous materials from water damage.
 - 2. Protect stored and installed material from flowing or standing water.
 - 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 - 4. Remove standing water from decks.
 - 5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 - 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 - 2. Keep interior spaces reasonably clean and protected from water damage.
 - 3. Periodically collect and remove waste containing cellulose or other organic matter.
 - 4. Discard or replace water-damaged material.
 - 5. Do not install material that is wet.
 - 6. Discard and replace stored or installed material that begins to grow mold.
 - 7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.
- D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
 - 1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
 - 2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.

3.6 OPERATION, TERMINATION, AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal.

- 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- C. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 - 1. Materials and facilities that constitute temporary facilities are property of Contractor. Owner reserves right to take possession of Project identification signs.
 - 2. Remove temporary roads and paved areas not intended for or acceptable for integration into permanent construction. Where area is intended for landscape development, remove soil and aggregate fill that do not comply with requirements for fill or subsoil. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at temporary entrances, as required by authorities having jurisdiction.
 - 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. The Work of This Section Includes: Administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for Contractor requirements related to Ownerfurnished products.
 - 2. Section 012300 "Alternates" for products selected under an alternate.
 - 3. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 4. Section 014200 "References" for applicable industry standards for products specified.
 - 5. Section 017700 "Closeout Procedures" for submitting warranties.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products unless otherwise indicated.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.

- 1. Evaluating Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
 - 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 - 2. Data indicating compliance with the requirements specified in "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
- F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.

1.3 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 - 1. Resolution of Compatibility Disputes between Multiple Contractors:
 - a. Contractors are responsible for providing products and construction methods compatible with products and construction methods of other contractors.
 - b. If a dispute arises between the multiple contractors over concurrently selectable but incompatible products, Architect will determine which products will be used.
- B. Identification of Products: Except for required labels and operating data, do not attach

or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.

- 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is inconspicuous.
- 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
- 3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

1.4 COORDINATION

A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.5 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle products, using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.
- B. Delivery and Handling:
 - 1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
 - 2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
 - 3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
 - 4. Inspect products on delivery to determine compliance with the Contract Documents and that products are undamaged and properly protected.
- C. Storage:
 - 1. Provide a secure location and enclosure at Project site for storage of materials

and equipment.

- 2. Store products to allow for inspection and measurement of quantity or counting of units.
- 3. Store materials in a manner that will not endanger Project structure.
- 4. Store products that are subject to damage by the elements under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation and with adequate protection from wind.
- 5. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
- 6. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
- 7. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections are to be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of Owner or endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of Owner or endorsed by manufacturer to Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
 - 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

- 1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
- 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
- 4. Where products are accompanied by the term "as selected," Architect will make selection.
- 5. Descriptive, performance, and reference standard requirements in Specifications establish salient characteristics of products.
- 6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
 - a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by Architect, whose determination is final.
- B. Product Selection Procedures:
 - 1. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will be considered unless otherwise indicated.
 - a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
 - 2. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
 - 1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
 - 2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 - 3. Evidence that proposed product provides specified warranty.
 - 4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
 - 5. Samples, if requested.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for a comparable product. Architect will notify Contractor of approval or rejection of proposed comparable product within 7 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
 - 1. Architect's Approval of Submittal: Marked with approval notation from Architect's action stamp. See Section 013300 "Submittal Procedures."
 - 2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering.
 - 3. Installation.
 - 4. Cutting and patching.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
 - 8. Correction of the Work.
- B. Related Requirements:
 - 1. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.
 - 2. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

1.2 DEFINITIONS

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

1.3 QUALITY ASSURANCE

- A. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
 - 1. Structural Elements: When cutting and patching structural elements, or when encountering the need for cutting and patching of elements whose structural function is not known, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching. Do not cut and patch structural elements in a manner that could change their load-carrying capacity or increase deflection.

- 2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:
 - a. Primary operational systems and equipment.
 - b. Fire separation assemblies.
 - c. Air or smoke barriers.
 - d. Fire-suppression systems.
 - e. Plumbing piping systems.
 - f. Mechanical systems piping and ducts.
 - g. Control systems.
 - h. Communication systems.
 - i. Fire-detection and -alarm systems.
 - j. Electrical wiring systems.
 - k. Operating systems of special construction.
- 3. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:
 - a. Water, moisture, or vapor barriers.
 - b. Membranes and flashings.
 - c. Exterior curtain-wall construction.
 - d. Sprayed fire-resistive material.
 - e. Equipment supports.
 - f. Piping, ductwork, vessels, and equipment.
 - g. Noise- and vibration-control elements and systems.
- 4. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.
- B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Comply with requirements specified in other Sections.
- B. In-Place Materials: Use materials for patching identical to in-place materials. For

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exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

- 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- C. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to Owner that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities

having jurisdiction.

- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.
- B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish limits on use of Project site.
 - 3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 4. Inform installers of lines and levels to which they must comply.
 - 5. Check the location, level and plumb, of every major element as the Work progresses.
 - 6. Notify Architect when deviations from required lines and levels exceed allowable tolerances.
 - 7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.
- D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

3.4 FIELD ENGINEERING

- A. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- B. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb, and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and 90 inches in unoccupied spaces, unless otherwise indicated on Drawings.
- 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 satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.

- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.

3.6 CUTTING AND PATCHING

- 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 in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. 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.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."

- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
 - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum 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. Concrete, and, Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 - 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 - 5. Mechanical and Electrical Services: 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.
 - 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.
 - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 - 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing

the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.

- 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
- 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, in accordance with regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces in accordance with written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste

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materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls.", Section 017419 "Construction Waste Management and Disposal."

- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- C. Comply with manufacturer's written instructions for temperature and relative humidity.
- 3.10 CORRECTION OF THE WORK
 - A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore

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damaged substrates and finishes.

- 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Restore permanent facilities used during construction to their specified condition.
- D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.
- F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous [demolition] [and] [construction] waste.
- B. Related Requirements:
 - 1. Section 042000 "Unit Masonry" for disposal requirements for masonry waste.
 - 2. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.2 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items
of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

PART 2 - PRODUCTS PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 - 1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."
- B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - 1. Designate and label specific areas on Project site necessary for separating materials that are to be salvaged and recycled.
 - 2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 - 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.
- C. Burning: Do not burn waste materials.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final Completion procedures.
 - 3. List of incomplete items.
 - 4. Submittal of Project warranties.
 - 5. Final cleaning.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
 - 2. Section 013233 "Photographic Documentation" for submitting Final Completion construction photographic documentation.
 - 3. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 4. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.2 DEFINITIONS

A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

1.3 ACTION SUBMITTALS

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

1.4 MAINTENANCE MATERIAL SUBMITTALS

A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.5 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Advise Owner of pending insurance changeover requirements.
 - 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 - 3. Complete startup and testing of systems and equipment.
 - 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 - 5. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
 - 6. Complete final cleaning requirements.
 - 7. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.

- 1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
- 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.6 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
 - 1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
 - 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list will state that each item has been completed or otherwise resolved for acceptance.
 - 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

1.7 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building

cleaning and maintenance program. Comply with manufacturer's written instructions.

- 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:
 - a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
 - c. Rake grounds that are not planted, mulched, or paved to a smooth, eventextured surface.
 - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - e. Remove snow and ice to provide safe access to building.
 - f. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - g. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - h. Clean flooring, removing debris, dirt, and staining; clean in accordance with manufacturer's instructions.
 - i. Vacuum and mop concrete.
 - j. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean in accordance with manufacturer's instructions if visible soil or stains remain.
 - Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, visionobscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - I. Remove labels that are not permanent.
 - m. Wipe surfaces of mechanical and electrical equipment and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - n. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - o. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - p. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - 1) Clean HVAC system in compliance with NADCA ACR. Provide written report on completion of cleaning.
 - q. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.

- r. Clean strainers.
- s. Leave Project clean and ready for occupancy.
- C. Construction Waste Disposal: Comply with waste-disposal requirements in Section 017419 "Construction Waste Management and Disposal."

3.2 CORRECTION OF THE WORK

A. Complete repair and restoration operations required by "Correction of the Work" Article in Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for final property survey.
 - 2. Section 017700 "Closeout Procedures" for general closeout procedures.

1.2 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set(s) of marked-up record prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - Submit PDF electronic files of scanned record prints and one set(s) of file prints.
 - 3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit PDF electronic files of scanned Record Prints and three set(s) of file prints.
 - 2) Print each drawing, whether or not changes and additional information were recorded.

1.3 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation

varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
- b. Accurately record information in an acceptable drawing technique.
- c. Record data as soon as possible after obtaining it.
- d. Record and check the markup before enclosing concealed installations.
- e. Cross-reference record prints to corresponding photographic documentation.
- 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - I. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.
- 3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
- 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
- 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
- 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
 - 1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 - 2. Format: Annotated PDF electronic file.
 - 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name

each file with the sheet identification. Include identification in each digital data file.

- 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. The Work of this Section Includes:
 - 1. Demolition and removal of selected portions of exterior or interior of building or structure and site elements.
 - 2. Removal and salvage of existing items for delivery to Owner and removal of existing items for reinstallation.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for restrictions on use of the premises, Owneroccupancy requirements, and phasing requirements.
 - 2. Section 017300 "Execution" for cutting and patching procedures.
 - 3. Section 013516 "Alteration Project Procedures" for general protection and work procedures for alteration projects.
 - 4. Section 311000 "Site Clearing" for site clearing and removal of above- and below-grade improvements not part of selective demolition.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner as indicated.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage; prepare for reuse; and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be removed.

1.3 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.4 COORDINATION

A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

1.5 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at Project site.
 - 1. Inspect and discuss condition of construction to be selectively demolished.
 - 2. Review structural load limitations of existing structure.
 - 3. Review and finalize selective demolition schedule and verify availability of demolition personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
 - 5. Review areas where existing construction is to remain and requires protection.
 - 6. Review and finalize protection requirements.
 - 7. Review procedures for noise control, and, dust control.
 - 8. Review storage, protection, and accounting for items to be removed for salvage or reinstallation.

1.6 INFORMATIONAL SUBMITTALS

- A. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, , for dust control. Indicate proposed locations and construction of barriers.
- B. Schedule of Selective Demolition Activities: Indicate the following:
 - 1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's on-site operations are uninterrupted.
 - 2. Temporary interruption of utility services. Indicate how long utility services will be interrupted.
 - 3. Coordination for shutoff, capping, and continuation of utility services.
 - 4. Use of elevator and stairs.
 - 5. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.
- C. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials:
 - 1. It is not expected that hazardous materials will be encountered in the Work.
 - a. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. On-site sale of removed items or materials is not permitted.

1.8 WARRANTY

A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials and using approved contractors so as not to void existing warranties.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ANSI/ASSP A10.6 and NFPA 241.
- C. Sustainable Design Requirements for Building Reuse:
 - 1. Maintain the existing building structure, envelope, and interior nonstructural elements of an abandoned or blighted building. Do not demolish such existing construction beyond indicated limits.
 - 2. Maintain the existing building structural systems where indicated to remain. Do not demolish such existing construction beyond indicated limits.
 - 3. Maintain the existing interior ceilings, interior partitions, and/or demountable walls where indicated to remain. Do not demolish such existing construction beyond indicated limits.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video. Comply with Section 013233 "Photographic Documentation."
 - 1. Inventory and record the condition of items to be removed for salvage or reinstallation. Photograph or video conditions that might be misconstrued as damage caused by removal.
 - 2. Photograph or video existing conditions of adjoining construction including finish surfaces, that might be misconstrued as damage caused by selective demolition operations or removal of items for salvage or reinstallation.

3.2 PREPARATION

- A. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.
- B. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. 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.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."

3.3 UTILITY SERVICES AND BUILDING SYSTEMS

A. Existing Services/Systems to Remain: Maintain utilities and building systems and equipment to remain and protect against damage during selective demolition operations.

- 1. Maintain fire-protection facilities in service during selective demolition operations.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utilities and building systems serving areas to be selectively demolished.
 - 1. Arrange to shut off utilities with utility companies.
 - 2. If disconnection of utilities and building systems will affect adjacent occupied parts of the building, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to those parts of the building.
 - 3. Demolish and remove existing building systems, equipment, and components indicated on Drawings to be removed.
 - a. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
 - b. Ducts to Be Removed: Remove portion of ducts indicated to be removed and plug remaining ducts with same or compatible ductwork material.
 - c. Equipment to Be Removed: Disconnect and cap services and remove equipment and components.
 - 4. Abandon existing building systems, equipment, and components indicated on Drawings to be abandoned in place.
 - a. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material and leave in place.
 - b. Ducts to Be Abandoned in Place: Cap or plug ducts with same or compatible ductwork material and leave in place.
 - 5. Remove and reinstall/salvage existing building systems, equipment, and components indicated on drawings to be removed and reinstalled or removed and salvaged:
 - a. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment and components; when appropriate, reinstall, reconnect, and make equipment operational.
 - b. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and components and deliver to Owner.

3.4 SALVAGE/REINSTALL

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to 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. 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 portable fire-suppression devices during flame-cutting operations.
- 5. Maintain adequate ventilation when using cutting torches.
- 6. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
- 7. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
- 8. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
- 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.
 - 1. Do not close or obstruct streets, walks, walkways, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed trafficways if required by authorities having jurisdiction.
 - 2. Use water mist and other suitable methods to limit spread of dust and dirt. Comply with governing environmental-protection regulations. Do not use water when it may damage adjacent construction or create hazardous or objectionable conditions, such as ice, flooding, and pollution.
- C. Work in Historic Areas: Selective demolition may be performed only in areas of Project that are not designated as historic. In historic spaces, areas, and rooms, or on historic surfaces, the terms "demolish" or "remove" to mean historic "removal" or "dismantling" as specified in Section 024296 "Historic Removal and Dismantling."

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Concrete:
 - 1. Demolish in sections. Cut concrete full depth at junctures with construction to remain and at regular intervals using power-driven saw, and then remove concrete between saw cuts.
- B. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, and then remove masonry between saw cuts.
- C. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, and then break

up and remove.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and dispose of them in an EPAapproved construction and demolition waste landfill acceptable to authorities having jurisdiction.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."
- B. Burning: Do not burn demolished materials.

3.8 CLEANING

A. 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.

3.9 SELECTIVE DEMOLITION SCHEDULE

- A. Remove: Rear door and frameREMOVE AT A TIME WHICH LIMITS DUST, NOISE AND SECURITY ISSUES FOR ADJACENT OCCUPIED BUILDING, TIMING TO BE PREAPPROVED BY OWNER PRIOR TO WORK HAPPENING..
- B. Remove and Reinstall: Remove items from storage building as needed to relocate building and reinstall items into building after relocation.
- C. Existing to Remain: Flashing at brick water table, metal wall and roof panels with trim and flashings, flooring adjacent to rear door.

END OF SECTION 024119

SECTION 031000 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Form-facing material for cast-in-place concrete.
 - 2. Shoring, bracing, and anchoring.

1.2 DEFINITIONS

- A. Form-Facing Material: Temporary structure or mold for the support of concrete while the concrete is setting and gaining sufficient strength to be self-supporting.
- B. Formwork: The total system of support of freshly placed concrete, including the mold or sheathing that contacts the concrete, as well as supporting members, hardware, and necessary bracing.

1.3 ACTION SUBMITTALS

- A. Product Data: For each of the following:
 - 1. Exposed surface form-facing material.
 - 2. Concealed surface form-facing material.
 - 3. Waterstops.
- B. Samples:
 - 1. For waterstops.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Waterstops: Store waterstops under cover to protect from moisture, sunlight, dirt, oil, and other contaminants.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Concrete Formwork: Design, engineer, erect, shore, brace, and maintain formwork,

shores, and reshores in accordance with ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to the required shapes, lines, and dimensions.

- 1. Design wood panel forms in accordance with APA's "Concrete Forming Design/Construction Guide."
- 2. Design formwork to limit deflection of form-facing material to 1/240 of center-tocenter spacing of supports.
 - a. For architectural concrete specified in Section 033300 "Architectural Concrete," limit deflection of form-facing material, studs, and walers to 0.0025 times their respective clear spans (L/400).

2.2 FORM-FACING MATERIALS

- A. As-Cast Surface Form-Facing Material:
 - 1. Provide continuous, true, and smooth concrete surfaces.
 - 2. Furnish in largest practicable sizes to minimize number of joints.
 - 3. Acceptable Materials: As required to comply with Surface Finish designations specified in Section 033000 "Cast-In-Place Concrete, and as follows:
 - a. Plywood, metal, or other approved panel materials.
 - b. Exterior-grade plywood panels, suitable for concrete forms, complying with DOC PS 1, and as follows:
 - 1) APA HDO (high-density overlay).
 - 2) APA MDO (medium-density overlay); mill-release agent treated and edge sealed.
 - 3) APA Structural 1 Plyform, B-B or better; mill oiled and edge sealed.
 - 4) APA Plyform Class I, B-B or better; mill oiled and edge sealed.
- B. Concealed Surface Form-Facing Material: Lumber, plywood, metal, plastic, or another approved material.
 - 1. Provide lumber dressed on at least two edges and one side for tight fit.

2.3 WATERSTOPS

- A. Self-Expanding Butyl Strip Waterstops: Manufactured rectangular or trapezoidal strip, butyl rubber with sodium bentonite or other hydrophilic polymers, for adhesive bonding to concrete, 3/4 by 1 inch.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlisle Coatings & Waterproofing Inc

- b. CETCO is a subsidiary of Minerals Technologies Inc.
- c. Concrete Sealants Inc.
- d. Henry Company; a Carlisle company
- e. Insert Manufacturers Name
- f. J P Specialties, Inc.
- g. Sika Corporation
- h. z_ OR PRE-APPROVED EQUAL

2.4 RELATED MATERIALS

- A. Reglets: Fabricate reglets of not less than 0.022-inch- thick, galvanized-steel sheet. Temporarily fill or cover face opening of reglet to prevent intrusion of concrete or debris.
- B. Chamfer Strips: Wood, metal, PVC, or rubber strips, 3/4 by 3/4 inch, minimum.

PART 3 - EXECUTION

3.1 INSTALLATION OF FORMWORK

- A. Comply with ACI 301.
- B. Construct formwork, so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 and to comply with the Surface Finish designations specified in Section 033000 "Cast-In-Place Concrete" for as-cast finishes.
- C. Limit concrete surface irregularities as follows:
 - 1. Surface Finish-3.0: ACI 117 Class A, 1/8 inch.
- D. Construct forms tight enough to prevent loss of concrete mortar.
 - 1. Minimize joints.
 - 2. Exposed Concrete: Symmetrically align joints in forms.
- E. Construct removable forms for easy removal without hammering or prying against concrete surfaces.
 - 1. Provide crush or wrecking plates where stripping may damage cast-concrete surfaces.
 - 2. Provide top forms for inclined surfaces steeper than 1.5 horizontal to 1 vertical.
 - 3. Install keyways, reglets, recesses, and other accessories, for easy removal.
- F. Do not use rust-stained, steel, form-facing material.
- G. Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve

required elevations and slopes in finished concrete surfaces.

- 1. Provide and secure units to support screed strips
- 2. Use strike-off templates or compacting-type screeds.
- H. Provide temporary openings for cleanouts and inspection ports where interior area of formwork is inaccessible.
 - 1. Close openings with panels tightly fitted to forms and securely braced to prevent loss of concrete mortar.
 - 2. Locate temporary openings in forms at inconspicuous locations.
- I. Chamfer exterior corners and edges of permanently exposed concrete.
- J. At construction joints, overlap forms onto previously placed concrete not less than 12 inches.
- K. Form openings, chases, offsets, sinkages, keyways, reglets, blocking, screeds, and bulkheads required in the Work.
 - 1. Determine sizes and locations from trades providing such items.
 - 2. Obtain written approval of Architect prior to forming openings not indicated on Drawings.
- L. Construction and Movement Joints:
 - 1. Construct joints true to line with faces perpendicular to surface plane of concrete.
 - 2. Install so strength and appearance of concrete are not impaired, at locations indicated or as approved by Architect.
 - 3. Place joints perpendicular to main reinforcement.
 - 4. Locate joints for beams, slabs, joists, and girders in the middle third of spans.
 - a. Offset joints in girders a minimum distance of twice the beam width from a beam-girder intersection.
 - 5. Locate horizontal joints in walls and columns at underside of floors, slabs, beams, and girders and at the top of footings or floor slabs.
 - 6. Space vertical joints in walls as indicated on Drawings.
 - a. Locate joints beside piers integral with walls, near corners, and in concealed locations where possible.
- M. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.
- N. Retighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.
- O. Coat contact surfaces of forms with form-release agent, according to manufacturer's written instructions, before placing reinforcement.

3.2 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete.
 - 1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
 - 3. Install reglets to receive waterproofing and to receive through-wall flashings in outer face of concrete frame at exterior walls, where flashing is shown at lintels, shelf angles, and other conditions.
 - 4. Clean embedded items immediately prior to concrete placement.

3.3 INSTALLATION OF WATERSTOPS

- A. Flexible Waterstops: Install in construction joints and at other joints indicated to form a continuous diaphragm.
 - 1. Install in longest lengths practicable.
 - 2. Locate waterstops in center of joint unless otherwise indicated on Drawings.
 - Allow clearance between waterstop and reinforcing steel of not less than 2 times the largest concrete aggregate size specified in Section 033000 "Cast-In-Place Concrete."
 - 4. Secure waterstops in correct position at **12 inches** on center.
 - 5. Clean waterstops immediately prior to placement of concrete.
 - 6. Support and protect exposed waterstops during progress of the Work.
- B. Self-Expanding Strip Waterstops: Install in construction joints and at other locations indicated on Drawings, according to manufacturer's written instructions, by adhesive bonding, mechanically fastening, and firmly pressing into place.
 - 1. Install in longest lengths practicable.
 - 2. Locate waterstops in center of joint unless otherwise indicated on Drawings.
 - 3. Protect exposed waterstops during progress of the Work.

3.4 REMOVING AND REUSING FORMS

- A. Formwork for sides of beams, walls, columns, and similar parts of the Work that does not support weight of concrete may be removed after cumulatively curing at not less than 50 deg F for 24 hours after placing concrete. Concrete has to be hard enough to not be damaged by form-removal operations, and curing and protection operations need to be maintained.
 - 1. Leave formwork for beam soffits, joists, slabs, and other structural elements that support weight of concrete in place until concrete has achieved at least 70 percent of its 28-day design compressive strength.
 - 2. Remove forms only if shores have been arranged to permit removal of forms

without loosening or disturbing shores.

- B. Clean and repair surfaces of forms to be reused in the Work.
 - 1. Split, frayed, delaminated, or otherwise damaged form-facing material are unacceptable for exposed surfaces.
 - 2. Apply new form-release agent.
- C. When forms are reused, clean surfaces, remove fins and laitance, and tighten to close joints.
 - 1. Align and secure joints to avoid offsets.
 - 2. Do not use patched forms for exposed concrete surfaces unless approved by Architect.

3.5 SHORING AND RESHORING INSTALLATION

- A. Comply with ACI 318 and ACI 301 for design, installation, and removal of shoring and reshoring.
 - 1. Do not remove shoring or reshoring until measurement of slab tolerances is complete.
- B. Plan sequence of removal of shores and reshore to avoid damage to concrete. Locate and provide adequate reshoring to support construction without excessive stress or deflection.

3.6 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

END OF SECTION 031000

SECTION 042613 - MASONRY VENEER

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Brick.
 - 2. Ties and anchors.
 - 3. Embedded flashing.
 - 4. Accessories.
 - 5. Mortar mixes.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For the following:
 - 1. Masonry Units: Indicate sizes, profiles, coursing, and locations of special shapes.
 - 2. Fabricated Flashing: Detail corner units, end-dam units, and other special applications.
- C. Samples for Verification: For each type and color of the following:
 - 1. Clay face brick.
 - 2. Pigmented mortar. Make Samples using same sand and mortar ingredients to be used on Project.
 - 3. Weep/cavity vents.
 - 4. Cavity drainage material.
 - 5. Accessories embedded in masonry.

1.3 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For each type and size of the following:
 - 1. Masonry units.
 - a. For exposed brick, include test report for efflorescence in accordance with ASTM C67/C67M.
 - 2. Cementitious materials. Include name of manufacturer, brand name, and type.
 - 3. Mortar admixtures.
 - 4. Preblended, dry mortar mixes. Include description of type and proportions of

ingredients.

5. Anchors, ties, and metal accessories.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store masonry units on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied. If units become wet, do not install until they are dry.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Deliver preblended, dry mortar mix in moisture-resistant containers. Store preblended, dry mortar mix in delivery containers on elevated platforms in a dry location or in covered weatherproof dispensing silos.
- E. Store masonry accessories, including metal items, to prevent corrosion and accumulation of dirt and oil.

1.5 FIELD CONDITIONS

- A. Protection of Masonry: During construction, cover tops of veneer, projections, and sills with waterproof sheeting at end of each day's work. Cover partially completed masonry when construction is not in progress.
 - 1. Extend cover a minimum of **24 inches** down face of veneer, and hold cover securely in place.
- B. Stain Prevention: Prevent grout, mortar, and soil from staining the face of masonry. Immediately remove grout, mortar, and soil that come in contact with masonry.
 - 1. Protect base of walls from rain-splashed mud and from mortar splatter by spreading coverings on ground and over wall surface.
 - 2. Protect sills, ledges, and projections from mortar droppings.
 - 3. Protect surfaces of window and door frames, as well as similar products with painted and integral finishes, from mortar droppings.
 - 4. Turn scaffold boards near the wall on edge at the end of each day to prevent rain from splashing mortar and dirt onto completed masonry.
- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602.
 - 1. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature

is **40 deg F** and higher and will remain so until masonry has dried, but not less than seven days after completing cleaning.

D. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. For exposed masonry units, and, cementitious mortar components, obtain each color and grade from single source with resources to provide materials of consistent quality in appearance and physical properties.

2.2 UNIT MASONRY, GENERAL

- A. Masonry Standard: Comply with TMS 602, except as modified by requirements in the Contract Documents.
- B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects will be exposed in the completed Work and will be within 20 ft. vertically and horizontally of a walking surface.

2.3 BRICK

- A. Regional Materials: Brick shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
- B. General: Provide shapes indicated and as follows, with exposed surfaces matching finish and color of exposed faces of adjacent units.
 - 1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.
 - 2. Provide special shapes for applications requiring brick of size, form, color, and texture on exposed surfaces that cannot be produced by sawing.
- C. Clay Face Brick: hollow brick complying with ASTM C652, Class H40V (void areas between 25 and 40 percent of gross cross-sectional area), Grade SW, Type FBS, HBS.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide ACME BRICK, MODULAR, COLOR CEDAR VALLEY, BLEND 121, HERITAGE TEXTURE & ACME BRICK, MODULAR, SOUTHERN CLASSIC, VELOUR TEXTURE, 051, 106033 or comparable product by one of the following:

- a. ACME BRICK
- b. Acme Brick Company
- c. Belden Brick Company (The)
- d. Boral Bricks, Inc; Boral Limited
- e. Endicott Clay Products Co
- f. General Shale, Inc.
- g. Glen-Gery Corporation
- h. HENRY BRICK
- i. z_ OR PRE-APPROVED EQUAL
- 2. Initial Rate of Absorption: Less than 30 g/30 sq. in. per minute when tested in accordance with ASTM C67/C67M.
- 3. Efflorescence: Provide brick that has been tested in accordance with ASTM C67/C67M and is rated "not effloresced."
- 4. Surface Coating: Brick with colors or textures produced by application of coatings withstand 50 cycles of freezing and thawing in accordance with ASTM C67/C67M with no observable difference in the applied finish when viewed from 10 ft.
- 5. Size (Actual Dimensions): 3-5/8 inches wide by 2-1/4 inches high by 7-5/8 inches long.
- 6. Application: Use where brick is exposed unless otherwise indicated.
- 7. Color and Texture: As selected by Architect.

2.4 MORTAR MATERIALS

- A. Regional Materials: Aggregate for mortar and grout, cement, and lime shall be manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.
- B. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.
 - 1. Alkali content will not be more than 0.1 percent when tested in accordance with ASTM C114.
- C. Hydrated Lime: ASTM C207, Type S.
- D. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.
- E. Colored Cement Products: Packaged blend made from masonry cement, or, mortar cement and mortar pigments, all complying with specified requirements, and containing no other ingredients.
 - 1. Formulate blend as required to produce color indicated or, if not indicated, as selected from manufacturer's standard colors.
 - 2. Pigments do not exceed 10 percent of portland cement by weight.
 - 3. Pigments do not exceed 5 percent of masonry cement, or, mortar cement by

weight.

- F. Preblended Dry Mortar Mix: Packaged blend made from masonry cement, sand, mortar pigments,, water repellents, and admixtures and complying with ASTM C1714/C1714M.
 - 1. Preblended Dry Portland Cement Mortar Mix:
 - a. Basis-of-Design Product: Subject to compliance with requirements, provide HOLCIM, MORTAMIX, HOLCIM SANTA FE BROWN or comparable product by one of the following:
 - 1) Amerimix is a trademark of Bonsal American, an Oldcastle company
 - 2) HOLCIM (BASIS OF DESIGN)
 - 3) Quikrete; The QUIKRETE Companies, LLC
 - 4) Sakrete; CRH Americas, Oldcastle APG
 - 5) SPEC MIX, LLC
 - 6) z_ OR PRE-APPROVED EQUAL
- G. Aggregate for Mortar: ASTM C144.
 - 1. For mortar that is exposed to view, use washed aggregate consisting of natural sand or crushed stone.
 - 2. For joints less than 1/4 inch thick, use aggregate graded with 100 percent passing the No. 16 sieve.
 - 3. White-Mortar Aggregates: Natural white sand or crushed white stone.
 - 4. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.
- H. Water: Potable.

2.5 TIES AND ANCHORS

- A. General: Ties and anchors extend at least 1-1/2 inches into veneer but with at least a 5/8-inch cover on outside face.
- B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:
 - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A1064/A1064M, with ASTM A153/A153M, Class B-2 coating.
 - 2. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
- C. Corrugated-Metal Ties: Metal strips not less than 7/8 inch wide with corrugations having a wavelength of 0.3 to 0.5 inch and an amplitude of 0.06 to 0.10 inch made from 0.0635-inch- thick, steel sheet, galvanized after fabrication.
- D. Adjustable Masonry-Veneer Anchors:

- 1. General: Provide anchors that allow vertical adjustment but resist a **100 lbf** load in both tension and compression perpendicular to plane of wall without deforming or developing play in excess of **1/16 inch**.
- 2. Fabricate sheet metal anchor sections and other sheet metal parts from 0.1084inch- thick steel sheet, galvanized after fabrication.
- 3. Fabricate wire ties from 0.25-inch- diameter, hot-dip galvanized steel wire unless otherwise indicated.
- 4. Contractor's Option: Unless otherwise indicated, provide any of the adjustable masonry-veneer anchors specified.
- 5. Masonry-Veneer Anchors; Vertical Slotted L-Plate: Rib-stiffened, sheet metal anchor section with screw holes at top and bottom, projecting vertical leg with slotted hole for wire tie.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) FERO Corporation
 - 2) Hohmann & Barnard, Inc
 - 3) PROSOCO, Inc
 - 4) Wire-Bond
 - 5) z_OR PRE-APPROVED EQUAL

2.6 EMBEDDED FLASHING

- A. Metal Flashing:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Cheney Flashing Company
 - b. Hohmann & Barnard, Inc
 - c. Keystone Flashing Company, Inc
 - d. z_OR PRE-APPROVED EQUAL
 - 2. General: Provide metal flashing complying with SMACNA's "Architectural Sheet Metal Manual" and as follows:
 - a. Fabricate continuous flashings in sections 96 inches long minimum, but not exceeding 12 ft.. Provide splice plates at joints of formed, smooth metal flashing.
 - b. Fabricate through-wall flashing with snaplock receiver on exterior face where indicated to receive counterflashing.
 - Fabricate through-wall flashing with drip edge unless otherwise indicated.
 Fabricate by extending flashing 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
 - Fabricate metal drip edges for sawtooth metal flashing from plain metal flashing of same metal as sawtooth flashing and extending at least 3 inches into wall with hemmed inner edge to receive sawtooth flashing and

form a hooked seam. Form hem on upper surface of metal so that completed seam sheds water.

- e. Fabricate metal drip edges from stainless steel. Extend at least 3 inches into wall and 1/2 inch out from wall, with outer edge bent down 30 degrees and hemmed.
- f. Fabricate metal sealant stops from stainless steel. Extend at least 3 inches into wall and out to exterior face of wall. At exterior face of wall, bend metal back on itself for 3/4 inch and down into joint 1/4 inch to form a stop for retaining sealant backer rod.
- g. Fabricate metal expansion-joint strips from stainless steel to shapes indicated.
- h. Solder metal items at corners.
- B. Flexible Flashing: Use one of the following unless otherwise indicated:
 - 1. Butyl Rubber Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 35 mil.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) DuPont de Nemours, Inc.
 - 2) GCP Applied Technologies Inc.
 - 3) Protecto Wrap Company
 - 4) Viaflex
 - 5) Wire-Bond
 - 6) z_ OR PRE-APPROVED EQUAL
 - b. Accessories: Provide preformed corners, end dams, other special shapes, and seaming materials produced by flashing manufacturer.
- C. Drainage Plane Flashing: Fabricate from rubberized asphalt and drainage membrane to shapes indicated, including weep tabs, termination bar and drip edge. Provide flashing materials as follows:
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Mortar Net Solutions
 - b. STS Coatings, Inc.
 - c. York Manufacturing, Inc
 - d. z_ OR PRE-APPROVED EQUAL
 - 2. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.016 inch thick.
 - 3. Rubberized Asphalt: 40 mil (1.0 mm) thick.
 - 4. Fabricate continuous flashings in sections 60 inches long, minimum.
 - 5. Accessories: Provide preformed corners, end dams, other special shapes, and

seaming materials produced by flashing manufacturer.

- D. Solder and Sealants for Sheet Metal Flashings:
 - 1. Elastomeric Sealant: ASTM C920, chemically curing urethane sealant; of type, grade, class, and use classifications required to seal joints in sheet metal flashing and remain watertight.
- E. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.
- F. Termination Bars for Flexible Flashing: Aluminum steel bars 1/8 inch by 1 inch.

2.7 ACCESSORIES

- A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from urethane.
- B. Weep/Vent Products: Use one of the following unless otherwise indicated:
 - 1. Rectangular Plastic Weep/Vent Tubing: Clear butyrate, 3/8 by 1-1/2 by 3-1/2 inches long.
 - 2. Mesh Weep/Vent: Free-draining mesh; made from polyethylene strands, full height and width of head joint and depth 1/8 inch less than depth of outer wythe; in color selected from manufacturer's standard.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) CavClear; a division of Archovations, Inc.
 - 2) Hohmann & Barnard, Inc
 - 3) Keene Building Products
 - 4) Mortar Net Solutions
 - 5) z_ OR PRE-APPROVED EQUAL
- C. Cavity Drainage Material: C that will not degrade within the wall cavity.
 - 1. Mortar Deflector: Strips, full depth of cavity and 10 inches high, with dimpled surface that prevent clogging with mortar droppings.
 - a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1) Advanced Building Products Inc.
 - 2) Hohmann & Barnard, Inc
 - 3) Keene Building Products
 - 4) Mortar Net Solutions

- 5) Wire-Bond
- 6) York Manufacturing, Inc
- 7) z_ OR PRE-APPROVED EQUAL
- D. Proprietary Acidic Masonry Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Diedrich Technologies, Inc.; a Hohmann & Barnard company
 - b. EaCo Chem, Inc.
 - c. PROSOCO, Inc
 - d. z_OR PRE-APPROVED EQUAL

2.8 MORTAR MIXES

- A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.
 - 1. Do not use calcium chloride in mortar or grout.
 - 2. Use masonry cement, or, mortar cement mortar unless otherwise indicated.
 - 3. For exterior masonry, use masonry cement, or, mortar cement mortar.
 - 4. For reinforced masonry, use masonry cement, or, mortar cement mortar.
 - 5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.
- B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.
- C. Mortar for Unit Masonry: Comply with ASTM C270, Proportion Specification. Use Type N unless another type is indicated.
- D. Pigmented Mortar: Use colored cement product.
 - 1. Pigments do not exceed 10 percent of portland cement by weight.
 - 2. Pigments do not exceed 5 percent of masonry cement, or, mortar cement by weight.
 - 3. Application: Use pigmented mortar for exposed mortar joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION, GENERAL

- A. Leave openings for equipment to be installed before completing masonry. After installing equipment, complete masonry to match the construction immediately adjacent to opening.
- B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.
- C. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.
- D. Matching Existing Masonry: Match coursing, bonding, color, and texture of existing masonry.
- E. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. per minute when tested in accordance with ASTM C67/C67M. Allow units to absorb water so they are damp but not wet at time of laying.

3.3 TOLERANCES

- A. Dimensions and Locations of Elements:
 - 1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch or minus 1/4 inch.
 - 2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch.
 - 3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch in a story height or 1/2 inch total.
- B. Lines and Levels:

- 1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 ft., or 1/2-inch maximum.
- 2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 ft., 1/4 inch in 20 ft., or 1/2-inch maximum.
- 3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 ft., 3/8 inch in 20 ft., or 1/2-inch maximum.
- 4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 ft., 1/4 inch in 20 ft., or 1/2-inch maximum.
- 5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 ft., 3/8 inch in 20 ft., or 1/2-inch maximum.
- 6. For vertical alignment of exposed head joints, do not vary from plumb by more than 1/4 inch in 10 ft., or 1/2-inch maximum.
- 7. For faces of adjacent exposed masonry units, do not vary from flush alignment by more than 1/16 inch except due to warpage of masonry units within tolerances specified for warpage of units.
- C. Joints:
 - 1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch, with a maximum thickness limited to 1/2 inch.
 - 2. For exposed bed joints, do not vary from bed-joint thickness of adjacent courses by more than 1/8 inch.
 - 3. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch or minus 1/4 inch.
 - 4. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch. Do not vary from adjacent bed-joint and head-joint thicknesses by more than 1/8 inch.
 - 5. For exposed bed joints and head joints of stacked bond, do not vary from a straight line by more than 1/16 inch from one masonry unit to the next.

3.4 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond, bond pattern indicated on Drawings; do not use units with less-than-nominal **4-inch** horizontal face dimensions at corners or jambs.
- C. Stopping and Resuming Work: Stop work by stepping back units in each course from those in course below; do not tooth. When resuming work, clean masonry surfaces that are to receive mortar, remove loose masonry units and mortar, and wet brick if required before laying fresh masonry.

- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

3.5 MORTAR BEDDING AND JOINTING

- A. Lay masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- B. Lay hollow brick with face shells fully bedded in mortar and with head joints of depth equal to bed joints. At starting course, fully bed entire units, including area under cells.
 - 1. At anchors and ties, fully bed units and fill cells with mortar as needed to fully embed anchors and ties in mortar.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
 - 1. For glazed masonry units, use a nonmetallic jointer **3/4 inch** or more in width.

3.6 ANCHORED MASONRY VENEERS

- A. Anchor masonry veneers to wall framing with masonry-veneer anchors to comply with the following requirements:
 - 1. Fasten anchors through sheathing to wall framing with metal fasteners of type indicated. Use two fasteners unless anchor design only uses one fastener.
 - 2. Embed tie sections, connector sections and continuous wire in masonry joints.
 - 3. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
 - 4. Space anchors as indicated, but not more than **12 inches** o.c. vertically and **16** inches o.c. horizontally, with not less than one anchor for each **2 sq. ft.** of wall area. Install additional anchors within **12 inches** of openings and at intervals, not exceeding **8 inches**, around perimeter.
- B. Provide not less than 1.5" of airspace between back of masonry veneer and face of sheathing.
 - 1. Keep airspace clean of mortar droppings and other materials during construction. Bevel beds away from airspace, to minimize mortar protrusions into airspace. Do not attempt to trowel or remove mortar fins protruding into airspace.

3.7 EXPANSION JOINTS

- A. General: Install expansion-joint materials in unit masonry as masonry progresses. Do not allow materials to span expansion joints without provision to allow for in-plane wall or partition movement.
- B. Form expansion joints as follows:
 - 1. Build in compressible joint fillers where indicated.
 - Form open joint full depth of brick wythe and of width indicated, but not less than
 [3/8 inch] [1/2 inch] < Insert minimum width> for installation of sealant and backer
 rod specified in Section 079200 "Joint Sealants."
- C. Provide horizontal, pressure-relieving joints by either leaving an airspace or inserting a compressible filler of width required for installing sealant and backer rod specified in Section 079200 "Joint Sealants," but not less than 3/8 inch.
 - 1. Locate horizontal, pressure-relieving joints beneath shelf angles supporting masonry AND PER DRAWINGS.

3.8 LINTELS

- A. Install steel lintels where indicated.
- B. Provide offset angle supports where indicate and where openings of more than 12 inches for brick-size units and 24 inches for block-size units are indicated without structural steel or other supporting lintels.
- C. Provide minimum bearing of 8 inches at each jamb unless otherwise indicated.
- 3.9 FLASHING, WEEP HOLES, AND VENTS
 - A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.
 - B. Install flashing as follows unless otherwise indicated:
 - 1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape.
 - 2. Extend flashing through veneer, across airspace behind veneer, and up face of sheathing at least 8 inches; with upper edge tucked under water-resistive barrier, lapping at least 4 inches. Fasten upper edge of flexible flashing to sheathing through termination bar.
 - 3. At lintels and shelf angles, extend flashing 6 inches minimum at each end. At heads and sills, extend flashing 6 inches minimum and turn ends up not less than 2 inches to form end dams.

- 4. Interlock end joints of sawtooth sheet metal flashing by overlapping ribs not less than 1-1/2 inches or as recommended by flashing manufacturer, and seal lap with elastomeric sealant complying with requirements in Section 079200 "Joint Sealants" for application indicated.
- 5. Install metal drip edges with sawtooth sheet metal flashing by interlocking hemmed edges to form hooked seam. Seal seam with elastomeric sealant complying with requirements in Section 079200 "Joint Sealants" for application indicated.
- 6. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
- 7. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch back from outside face of wall, and adhere flexible flashing to top of metal flashing termination.
- 8. Cut flexible flashing off flush with face of wall after masonry wall construction is completed.
- C. Install reglets and nailers for flashing and other related construction where they are indicated to be built into masonry.
- D. Install weep holes in veneers in head joints of first course of masonry immediately above embedded flashing.
 - 1. Use specified weep/cavity vent products to form weep holes.
 - 2. Space weep holes **24 inches** o.c. unless otherwise indicated.
 - 3. Space weep holes formed from **16 inches** o.c.
 - 4. Cover cavity side of weep holes with plastic insect screening at cavities insulated with loose-fill insulation.
- E. Place cavity drainage material in airspace behind veneers to comply with configuration requirements for cavity drainage material in "Accessories" Article.
- F. Install vents in head joints in exterior wythes at spacing indicated. Use specified weep/cavity vent products to form vents.
 - 1. Close cavities off vertically and horizontally with blocking in manner indicated. Install through-wall flashing and weep holes above horizontal blocking.

3.10 REPAIRING, POINTING, AND CLEANING

- A. Remove and replace masonry units that are loose, chipped, broken, stained, or otherwise damaged or that do not match adjoining units. Install new units to match adjoining units; install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge voids and holes, except weep holes, and completely fill with mortar. Point up joints, including corners, openings, and adjacent construction, to provide a neat, uniform appearance. Prepare joints for sealant application, where indicated.
- C. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- D. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
 - 2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
 - 3. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
 - 4. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.
- 3.11 MASONRY WASTE DISPOSAL
 - A. Salvageable Materials: Unless otherwise indicated, excess masonry materials are Contractor's property. At completion of unit masonry work, remove from Project site.
 - B. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042613

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Wood products.
 - 2. Wood-preservative-treated lumber.
 - 3. Dimension lumber framing.
- B. Related Requirements:

1.2 DEFINITIONS

- A. Boards or Strips: Lumber of less than **2 inches nominal** size in least dimension.
- B. Dimension Lumber: Lumber of **2 inches nominal** size or greater but less than **5 inches nominal** size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.
- D. Lumber grading agencies, and abbreviations used to reference them, include the following:
 - 1. NeLMA: Northeastern Lumber Manufacturers' Association.
 - 2. NLGA: National Lumber Grades Authority.
 - 3. SPIB: The Southern Pine Inspection Bureau.
 - 4. WCLIB: West Coast Lumber Inspection Bureau.
 - 5. WWPA: Western Wood Products Association.

1.3 QUALITY ASSURANCE

1.4 DELIVERY, STORAGE, AND HANDLING

A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS

- A. Lumber: Comply with DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
- B. Maximum Moisture Content:
 - 1. Boards: 15 percent.
 - 2. Dimension Lumber: 15 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA U1, Use categories as follows:
 - 1. UC1: Interior construction not in contact with ground or subject to moisture. Include the following items:
 - a. Wood sills, sleepers, blocking, furring, ,stripping, and similar concealed members in contact with masonry or concrete.
 - b. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 - c. Wood floor plates that are installed over concrete slabs-on-grade.
 - 2. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
 - 3. After treatment, redry dimension lumber to 19 percent maximum moisture content.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, furring, stripping, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing and furring attached directly to the interior of below-grade exterior

ROUGH CARPENTRY

masonry or concrete walls.

- 4. Wood framing members that are less than **18 inches** above the ground in crawlspaces or unexcavated areas.
- 5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions by Grade: Construction or No. 2 grade.
 - 1. Application: All interior partitions.
 - 2. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine or mixed southern pine; SPIB.
 - c. Spruce-pine-fir; NLGA.
 - d. Hem-fir; WCLIB, or WWPA.
 - e. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
- B. Load-Bearing Partitions by Grade: No. 2 grade STRUCTURAL SPECIFICATIONS OVERRIDE ANY CONFLICTING ITEMS HERE.
 - 1. Application: Exterior walls, and, interior load-bearing partitions.
 - 2. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Southern pine or mixed southern pine; SPIB.
 - e. Spruce-pine-fir; NLGA.
 - f. Douglas fir-south; WWPA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-larch (north); NLGA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
- C. Ceiling Joists: Construction or No. 2 grade STRUCTURAL SPECIFICATIONS OVERRIDE ANY CONFLICTING ITEMS HERE - .
 - 1. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Douglas fir-larch (north); NLGA.
 - e. Southern pine or mixed southern pine; SPIB.
 - f. Spruce-pine-fir; NLGA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-south; WWPA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

- D. Joists, Rafters, and Other Framing by Grade: Construction or No. 2 grade -STRUCTURAL SPECIFICATIONS OVERRIDE ANY CONFLICTING ITEMS HERE - .
 - 1. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Southern pine or mixed southern pine; SPIB.
 - e. Spruce-pine-fir; NLGA.
 - f. Douglas fir-south; WWPA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-larch (north); NLGA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

2.4 FASTENERS

- A. General: Fasteners are to be of size and type indicated and comply with requirements specified in this article for material and manufacture. Provide nails or screws, in sufficient length, to penetrate not less than 1-1/2 inches into wood substrate.
 - 1. Where rough carpentry is exposed to weather, in ground contact, pressurepreservative treated, or in area of high relative humidity, provide fastenersof Type 304 stainless steel.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

2.5 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets:
 - 1. Closed-cell neoprene foam, 1/4 inch thick, selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber, or, rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.
- C. Adhesives for Gluing Furring and Sleepers to Concrete or Masonry: Formulation complying with ASTM D3498 that is approved for use indicated by adhesive manufacturer.
- D. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos

as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set work to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.
- D. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- E. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.
- F. Install sill sealer gasket/termite barrier in accordance with manufacturer's written instructions at the underside of wall bottom track or rim track and at the top of foundation wall or slab at stud or joist locations.
- G. Do not splice structural members between supports unless otherwise indicated.
- H. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than **16 inches** o.c.
- I. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 - 1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than 96 inches o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 - 2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than 96 inches o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and 2-inch nominal thickness.
 - 3. Fire block concealed spaces between floor sleepers with same material as

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sleepers to limit concealed spaces to not more than **100 sq. ft.** and to solidly fill space below partitions.

- 4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than 20 feet o.c.
- J. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- K. Comply with AWPA M4 for applying field treatment to cut surfaces of preservativetreated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- L. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- M. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.10.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 - Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.
- N. Securely attach roofing nailers to substrates by anchoring and fastening to withstand bending, shear, or other stresses imparted by Project wind loads and fastener-resistance loads as designed in accordance with ASCE/SEI 7.
- O. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 INSTALLATION OF WOOD BLOCKING AND NAILERS

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach wood blocking to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Attach wood roofing nailers securely to substrate to resist the designed outward and

upward wind loads indicated on Drawings and in accordance with ANSI/SPRI ED-1, Tables A6 and A7.

3.3 INSTALLATION OF WALL AND PARTITION FRAMING

- A. General: Provide single bottom plate and double top plates using members of **2-inch nominal** thickness whose widths equal that of studs, except single top plate may be used for non-load-bearing partitions. Fasten plates to supporting construction unless otherwise indicated.
 - 1. For exterior walls, provide 2-by-6-inch nominal- size wood studs spaced 16 inches o.c. unless otherwise indicated.
 - 2. For interior partitions and walls, provide 2-by-6-inch nominal- size wood studs spaced 16 inches o.c. unless otherwise indicated.
 - 3. Provide continuous horizontal blocking at midheight of partitions more than 96 inches high, using members of 2-inch nominal thickness and of same width as wall or partitions.
- B. Construct corners and intersections with three or more studs.
- C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
 - For non-load-bearing partitions, provide double-jamb studs and headers not less than 4-inch nominal depth for openings 48 inches and less in width, 6-inch nominal depth for openings 48 to 72 inches in width, 8-inch nominal depth for openings 72 to 120 inches in width, and not less than 10-inch nominal depth for openings 10 to 12 feet in width.
 - 2. For load-bearing walls, provide double-jamb studs for openings 60 inches and less in width, and triple-jamb studs for wider openings. Provide headers of depth indicated.

3.4 INSTALLATION OF CEILING JOIST AND RAFTER FRAMING

- A. Ceiling Joists: Install with crown edge up and complying with requirements specified above for floor joists. Face nail to ends of parallel rafters.
- B. Rafters: Notch to fit exterior wall plates and use metal framing anchors. Double rafters to form headers and trimmers at openings in roof framing, if any, and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.
 - 1. At valleys, provide double-valley rafters of size indicated or, if not indicated, of same thickness as regular rafters and **2 inches** deeper. Bevel ends of jack rafters for full bearing against valley rafters.
 - 2. At hips, provide hip rafter of size indicated or, if not indicated, of same thickness as regular rafters and 2 inches deeper. Bevel ends of jack rafters for full bearing against hip rafter.

3.5 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 071326 - SELF-ADHERING SHEET WATERPROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Modified bituminous sheet waterproofing.
- B. Related Requirements:
 - 1. Section 072100 "Thermal Insulation."

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, and tested physical and performance properties of waterproofing.
 - 2. Include manufacturer's written installation instructions for evaluating, preparing, and treating substrate.
- B. Shop Drawings: Show locations and extent of waterproofing and details of substrate joints and cracks, expansion joints, sheet flashings, penetrations, inside and outside corners, tie-ins with adjoining waterproofing, air barrier, and other termination conditions.
 - 1. Include setting drawings that indicate layout, sizes, sections, profiles, and joint details of pedestal-supported concrete pavers.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by waterproofing manufacturer.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Apply waterproofing within the range of ambient and substrate temperatures recommended in writing by waterproofing manufacturer. Do not apply waterproofing to frozen, damp, or wet substrates.
 - 1. Do not apply waterproofing when snow, rain, fog, or mist is present.

B. Maintain adequate ventilation during preparation and application of waterproofing materials.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Waterproofing System: Obtain waterproofing materials from single source from single manufacturer.

2.2 MODIFIED BITUMINOUS SHEET WATERPROOFING

- A. Modified Bituminous Sheet Waterproofing: Minimum 60-mil nominal thickness, selfadhering sheet consisting of 56 mils of rubberized asphalt laminated on one side to a 4-mil- thick, polyethylene-film reinforcement, and with release liner on adhesive side.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Carlisle Coatings & Waterproofing Inc
 - b. CETCO is a subsidiary of Minerals Technologies Inc.
 - c. Henry Company; a Carlisle company
 - d. MAPEI Corporation
 - e. Soprema, Inc.
 - f. Tamko Building Products LLC
 - g. Tremco Commercial Sealants and Waterproofing, part of Tremco CPG
 - h. z_ OR PRE-APPROVED EQUAL
 - 2. Physical Properties:
 - a. Tensile Strength, Membrane: **250** psi minimum; ASTM D412, Die C, modified.
 - b. Ultimate Elongation: 300 percent minimum; ASTM D412, Die C, modified.
 - c. Low-Temperature Flexibility: Pass at minus 20 deg F; ASTM D1970/D1970M.
 - d. Puncture Resistance: 40 lbf minimum; ASTM E154/E154M.
 - e. Water Absorption: 0.2 percent weight-gain maximum after 48-hour immersion at 70 deg F; ASTM D570.
 - f. Water Vapor Permeance: 0.05 perm maximum; ASTM E96/E96M, Water Method.
 - g. Hydrostatic-Head Resistance: 200 ft. minimum; ASTM D5385/D5385M.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of waterproofing.
 - 1. Verify that substrate is visibly dry and within the moisture limits recommended in writing by manufacturer. Test for capillary moisture by plastic sheet method in accordance with ASTM D4263.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean, prepare, and treat substrates in accordance with manufacturer's written installation instructions. Provide clean, dust-free, and dry substrates for waterproofing application.
- B. Remove fins, ridges, mortar, and other projections.
- C. Fill form tie holes, honeycomb, aggregate pockets, holes, and other voids.
- D. Corners: Prepare, prime, and treat inside and outside corners in accordance with manufacturer's written installation instructions.
 - 1. Install membrane strips centered over vertical inside corners. Install 3/4-inch fillets of liquid membrane on horizontal inside corners and as follows:
 - a. At footing-to-wall intersections, extend liquid membrane in each direction from corner or install membrane strip centered over corner.
 - b. At plaza-deck-to-wall intersections, extend liquid membrane or sheet strips onto deck waterproofing and to finished height of sheet flashing.
- E. Prepare, treat, and seal vertical and horizontal surfaces at terminations and penetrations through waterproofing and at drains and protrusions.

3.3 INSTALLATION OF MODIFIED BITUMINOUS SHEET WATERPROOFING

- A. Install modified bituminous sheets in accordance with waterproofing manufacturer's written installation instructions.
- B. Apply primer to substrates at required rate and allow it to dry. Limit priming to areas that will be covered by sheet waterproofing in same day. Reprime areas exposed for more than 24 hours.
- C. Apply and firmly adhere sheets over area to receive waterproofing. Accurately align

sheets and maintain uniform 2-1/2-inch- minimum lap widths and end laps. Overlap and seal seams, and stagger end laps to ensure watertight installation.

- D. Horizontal Application: Apply sheets from low to high points of decks to ensure that laps shed water.
- E. Apply continuous sheets over already-installed sheet strips, bridging substrate cracks, construction, and contraction joints.
- F. Roll waterproofing membrane to firmly adhere to substrate. Roll seams and terminations.
- G. Repair tears, voids, and lapped seams in waterproofing not complying with requirements. Slit and flatten fishmouths and blisters. Patch with sheet waterproofing extending 6 inches beyond repaired areas in all directions.

3.4 PROTECTION, REPAIR, AND CLEANING

- A. Do not permit foot or vehicular traffic on unprotected membrane.
- B. Protect waterproofing from damage and wear during remainder of construction period.
- C. Correct deficiencies in or remove waterproofing that does not comply with requirements; repair substrates, reapply waterproofing, and repair sheet flashings.
- D. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended in writing by manufacturer of affected construction.

END OF SECTION 071326

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Glass-fiber blanket insulation.
- 1.2 ACTION SUBMITTALS
 - A. Product Data: For each type of product.
- 1.3 DELIVERY, STORAGE, AND HANDLING
 - A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.
- PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Maximum flame-spread and smoke-developed indexes less than Class A, 25 and 450 when tested in accordance with ASTM E84.
- B. Thermal-Resistance Value (R-Value): R-value as indicated on Drawings in accordance with ASTM C518.

2.2 GLASS-FIBER BLANKET INSULATION

- A. Glass-Fiber Blanket Insulation, Kraft Faced: ASTM C665, Type II (nonreflective faced), Class C (faced surface not rated for flame propagation); Category 1 (membrane is a vapor barrier).
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CertainTeed; SAINT-GOBAIN
 - b. Johns Manville; a Berkshire Hathaway company

- c. Knauf Insulation
- d. Owens Corning
- e. z_OR PRE-APPROVED EQUAL

2.3 INSULATION FASTENERS

A. Insulation Fastener Accessories: Provide double-pointed weld pins, lagging pins, quilting pins, duct liner pins, insulation hangers, specialty washers, special caps, j-hooks, capacitor discharge annular weld pins, capacitor discharge acoustical lagging pins, and other accessory materials that are recommended in writing by insulation fastener manufacturer to produce complete insulation supports.

2.4 ACCESSORIES

- A. Insulation for Miscellaneous Voids:
 - 1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flamespread and smoke-developed indexes of 5, per ASTM E84.
 - 2. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.
- B. Miscellaneous Application Accessories:
 - 1. Crack Sealer: Closed-cell insulating foam in aerosol dispenser recommended in writing by insulation manufacturer for filling gaps in board insulation.
 - 2. Detailing Foam Insulation for Voids: Urethane foam complying with AAMA 812, low expansion pressure suitable for filling insulation gaps and voids adjacent to openings to protect against water, air, and sound intrusion.

PART 3 - EXECUTION

3.1 PREPARATION

A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or those that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products, applications and applicable codes.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

- C. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

- A. Blanket Insulation: Install in cavities formed by framing members in accordance with the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Where glass-fiber blankets are indicated for sound attenuation above ceilings, install unfaced blanket insulation over ceiling area in thickness indicated. Where partitions occur, extend insulation up either side of partition.
 - 4. For wood-framed construction, install blankets in accordance with ASTM C1320 and as follows:
 - a. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
- B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 - 1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft..
 - 2. Detailing Foam Insulation for Voids: Apply in accordance with manufacturer's written instructions.

3.4 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.
- B. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

SECTION 072500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Building wrap.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. For each type of product.
- B. Product Data Submittals: For building wrap, include data on air and water-vapor permeance based on testing in accordance with referenced standards.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.

1.4 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed in accordance with manufacturer's written installation instructions and warranty requirements.

PART 2 - PRODUCTS

2.1 WEATHER BARRIERS

- A. Building Wrap: Flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested in accordance with ASTM E84; UV stabilized; and acceptable to authorities having jurisdiction.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide TYVEC COMMERCIAL WRAP or comparable product by one of the following:

- a. DuPont de Nemours, Inc.
- b. Kingspan Insulation LLC
- c. z_OR PRE-APPROVED EQUAL
- 2. Building Wrap Type: Type I, ASTM E1677.
- 3. Water-Vapor Permeance: Minimum 28 PERMS in accordance with ASTM E96/E96M, Desiccant Method (Procedure A).
- 4. Air Permeance: Not more than 0.001 cfm/sq. ft. at 1.57 lbf/sq. ft. when tested in accordance with ASTM E2178.
- 5. Allowable UV Exposure Time: Not more than 270 days.

2.2 ACCESSORY MATERIALS

A. Requirement: Provide primers, fasteners, seam tapes, flashing, transition strips, termination strips, joint sealants, counterflashing strips, flashing sheets and metal termination bars, termination mastic, substrate patching materials, adhesives, tapes, foam sealants, lap sealants, and other accessory materials that are recommended in writing by weather barrier manufacturer to produce a complete weather barrier assembly and that are compatible with primary weather barrier material and adjacent construction to which they may seal.

PART 3 - EXECUTION

3.1 INSTALLATION OF WEATHER BARRIERS

- A. Weather Barriers:
 - 1. Building Wrap or Drainage Wrap: Comply with manufacturer's written instructions and warranty requirements.
- B. Install weather barrier accessories for a complete installation with weather barriers in accordance with manufacturers written instructions.

END OF SECTION 072500

SECTION 074113.16 - STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Vertical-rib, seamed-joint, standing-seam metal roof panels.
 - 2. Substrate board.
 - 3. Roof insulation.
 - 4. Underlayment.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. For standing-seam metal roof panels. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for each type of panel and accessory.
- B. Shop Drawings:
 - 1. Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.
 - 2. Accessories: Include details of the flashing, trim, and anchorage systems, at a scale of not less than 1-1/2 inches per 12 inches.
- C. Samples for Initial Selection: Manufacturer's standard color charts, showing full range of available colors for each type of exposed finish.
 - 1. Include similar Samples of trim and accessories involving color selection.
- D. Samples for Verification: Actual sample of finished products for each type of exposed finish for metal panels and metal panel accessories.
 - 1. Size: Manufacturers' standard size.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Deliver components, metal panels, and other manufactured items so as not to be damaged or deformed. Package metal panels for protection during transportation and handling.

- B. Unload, store, and erect metal panels in a manner to prevent bending, warping, twisting, and surface damage.
- C. Stack metal panels horizontally on platforms or pallets, covered with suitable weathertight and ventilated covering. Store metal panels to ensure dryness, with positive slope for drainage of water. Do not store metal panels in contact with other materials that might cause staining, denting, or other surface damage.
- D. Retain strippable protective covering on metal panels during installation.
- E. Copper Panels: Wear gloves when handling to prevent fingerprints and soiling of surface.

1.4 FIELD CONDITIONS

A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit assembly of metal panels to be performed in accordance with manufacturers' written installation instructions and warranty requirements.

1.5 COORDINATION

- A. Coordinate sizes and locations of roof curbs, equipment supports, and roof penetrations with actual equipment provided.
- B. Coordinate metal panel installation with rain drainage work, flashing, trim, construction of soffits, and other adjoining work to provide a leakproof, secure, and noncorrosive installation.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Structural failures including rupturing, cracking, or puncturing.
 - b. Deterioration of metal and other materials beyond normal weathering.
 - 2. Warranty Period: 20 YEARS years from date of Substantial Completion.
- B. REFER TO REQUIRED WARRANTY FORMS, IN THIS PROJECT MANUAL FOR ADDITIONAL WARRANTY INFORMATION.
- C. Special Warranty on Panel Finishes: Manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

- 1. Exposed Panel Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
- 2. Finish Warranty Period: 20 years from date of Substantial Completion.
- D. Special Weathertightness Warranty: Manufacturer agrees to repair or replace standingseam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.
 - 1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing in accordance with ASTM E1592:
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
 - 3. Deflection Limits: For wind loads, no greater than 1/240 of the span.
- B. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. when tested in accordance with ASTM E1680 or ASTM E283/E283M at the following test-pressure difference:
 - 1. Test-Pressure Difference: 6.24 lbf/sq. ft..
- C. Water Penetration under Static Pressure: No water penetration when tested in accordance with ASTM E1646 or ASTM E331 at the following test-pressure difference:
 - 1. Test-Pressure Difference: 6.24 lbf/sq. ft.12 LBF/SF.
- D. Watertightness: No water penetration when tested in accordance with ASTM E2140 for hydrostatic-head resistance.
- E. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
 - 1. Uplift Rating: UL 90.
- F. FM Approvals Listing: Provide metal roof panels and component materials that comply with requirements in FM Approvals 4471 as part of a panel roofing system and that are listed in FM's "Approval Guide" for Class 1 or noncombustible construction, as

applicable. Identify materials with FM Approvals markings.

- 1. Fire/Windstorm Classification: Class 1A-Refer to wind loads in drawings.
- 2. Hail Resistance: SH.
- G. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.
- H. Energy Performance:
 - 1. Provide roof panels in accordance with one of the following when tested in accordance with CRRC-1:
 - a. Three-year, aged Solar Reflectance Index (SRI) of not less than 64 when calculated in accordance with ASTM E1980.

2.2 STANDING-SEAM METAL ROOF PANELS, GENERAL

- A. Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed fasteners in side laps. Include all accessories required for weathertight installation.
 - 1. Steel Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E1514.
 - 2. Aluminum Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E1637.
- 2.3 VERTICAL-RIB, SEAMED-JOINT, STANDING-SEAM METAL ROOF PANELS
 - A. Basis-of-Design Product: Subject to compliance with requirements, provide MBCI SUPERLOK MECHANICALLY-SEAMED ROOF PANELS or comparable product by one of the following:
 - 1. Berridge Manufacturing Company
 - 2. MBCI; Cornerstone Building Brands
 - 3. z_ OR PRE-APPROVED EQUAL
 - B. Panels: Formed with vertical ribs at panel edges; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.
 - 1. Structural Support: Over solid deck.
 - 2. Material: Metallic-coated steel.
 - 3. Seam Type: Manufacturer's standard.

- 4. Panel Profile: Striated pan.
- 5. Panel Coverage: 16 inches.
- 6. Panel Height: 2.0 inches.
- 7. Clips: Two piece, floating, designed to accommodate thermal movement.
 - a. Steel Clips: 0.064-inch- nominal thickness, zinc-coated (galvanized) or aluminum-zinc alloy-coated steel sheet.
 - b. Clip Spacing: 24 inches.
- 8. PANEL COLOR: SELECTED BY ARCHITECT FROM MANUFACTURER'S STANDARD RANGE OF COLORS.
- 2.4 SUBSTRATE BOARD
 - A. DECKING: PLYWOOD ROOF DECKING WITH STEEL PLYWOOD CLIPS 5/8" THICK PLYWOOD
- 2.5 UNDERLAYMENT
 - A. SYNTHETIC UNDERLAYMENT: GRACE ULTRA IS BASIS OF DESIGN OR PRE-APPROVED EQUAL - REFER TO RELATED SPECIFICATION SECTION ON SELF ADHERING UNDERLAYMENT.

2.6 MISCELLANEOUS MATERIALS

- A. Miscellaneous Metal Subframing and Furring: ASTM C645; cold-formed, metalliccoated steel sheet, minimum ASTM A653/A653M, G90 hot-dip galvanized coating designation or ASTM A792/A792M, Class AZ50 coating designation. Provide manufacturer's standard sections as required for support and alignment of metal panel system.
- B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, fasteners, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.
 - 1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
 - 2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
 - 3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefinfoam or closed-cell laminated polyethylene; minimum **1-inch-** thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.
- C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance.

Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

- D. Gutters: Formed from same material as roof panels, complete with end pieces, outlet tubes, and other special pieces as required. Fabricate in minimum 96-inch- long sections, of size and metal thickness in accordance with manufacturer's recommendations. Furnish gutter supports spaced a maximum of 36 inches o.c., fabricated from same metal as gutters. Provide wire ball strainers of compatible metal at outlets. Finish gutters to match roof fascia and rake trim.
- E. Downspouts: Formed from same material as roof panels. Fabricate in 10 ft. long sections, complete with formed elbows and offsets, of size and metal thickness in accordance with manufacturer's recommendations. Finish downspouts to match gutters.
- F. Roof Curbs: Fabricated from same material as roof panels, 0.048-inch nominal thickness; with bottom of skirt profiled to match roof panel profiles and with welded top box and integral full-length cricket. Fabricate curb subframing of 0.060-inch- nominal thickness, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads of size and height indicated. Finish roof curbs to match metal roof panels.
 - 1. Insulate roof curb with **1-inch-** thick, rigid insulation.
- G. Panel Fasteners: Self-tapping screws designed to withstand design loads.
- H. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
 - 1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch wide and 1/8 inch thick.
 - 2. Joint Sealant: ASTM C920; elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to seal joints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
 - 3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.7 FABRICATION

- A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.
- B. On-site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-

formed panels. Fabricate in accordance with equipment manufacturer's written instructions and to comply with details shown.

- C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.
- D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.
- E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations that apply to design, dimensions, metal, and other characteristics of item indicated.
 - 1. Form exposed sheet metal accessories that are without excessive oil canning, buckling, and tool marks and that are true to line and levels indicated, with exposed edges folded back to form hems.
 - 2. Seams for Aluminum: Fabricate nonmoving seams with flat-lock seams. Form seams and seal with epoxy seam sealer. Rivet joints for additional strength.
 - 3. Seams for other than Aluminum: Fabricate nonmoving seams in accessories with flat-lock seams. Tin edges to be seamed, form seams, and solder.
 - 4. Sealed Joints: Form nonexpansion, but movable, joints in metal to accommodate sealant and to comply with manufacturer's recommendations.
 - 5. Conceal fasteners and expansion provisions where possible. Exposed fasteners are not permitted on faces of accessories exposed to view.
 - 6. Fabricate cleats and attachment devices from same material as accessory being anchored or from compatible, noncorrosive metal recommended in writing by metal panel manufacturer.
 - a. Size: As recommended by metal panel manufacturer for application, but not less than thickness of metal being secured.

2.8 FINISHES

- A. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in same piece are unacceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Steel Panels and Accessories:
 - 1. Two-Coat Fluoropolymer: Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

- 2. FINISH BASIS OF DESIGN: PVDF, HYLAR, KYNAR EQUIVALENT OR PRE-APPROVED EQUAL.
- 3. Concealed Finish: Apply pretreatment and manufacturer's standard white or lightcolored acrylic or polyester backer finish consisting of prime coat and wash coat with a minimum total dry film thickness of 0.5 mil.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, metal panel supports, and other conditions affecting performance of the Work.
 - 1. Examine primary and secondary roof framing to verify that rafters, purlins, angles, channels, and other structural panel support members and anchorages have been installed within alignment tolerances required by metal roof panel manufacturer.
 - 2. Examine solid roof sheathing to verify that sheathing joints are supported by framing or blocking and that installation is within flatness tolerances required by metal roof panel manufacturer.
 - a. Verify that air- or water-resistive barriers have been installed over sheathing or backing substrate to prevent air infiltration or water penetration.
- B. Examine roughing-in for components and systems penetrating metal panels to verify actual locations of penetrations relative to seam locations of metal panels before installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages in accordance with ASTM C754 and metal panel manufacturer's written installation instructions.

3.3 INSTALLATION OF ROOF INSULATION

- A. General: Install insulation concurrently with metal panel installation, in thickness indicated to cover entire surface, in accordance with manufacturer's written installation instructions.
 - 1. Set vapor-retarder-faced units with vapor retarder toward warm side of construction unless otherwise indicated. Do not obstruct ventilation spaces

except for firestopping.

2. Tape joints and ruptures in vapor retarder and seal each continuous area of insulation to the surrounding construction to ensure airtight installation.

3.4 INSTALLATION OF STANDING-SEAM METAL ROOF PANELS

- A. Install metal panels in accordance with manufacturer's written installation instructions and approved Shop Drawings in orientation, sizes, and locations indicated. Anchor metal panels and other components of the Work securely in place, with provisions for thermal and structural movement.
 - 1. Shim or otherwise plumb substrates receiving metal panels.
 - 2. Flash and seal metal panels at perimeter of all openings. Fasten with self-tapping screws. Do not begin installation until air- or water-resistive barriers and flashings that will be concealed by metal panels are installed.
 - 3. Install screw fasteners in predrilled holes.
 - 4. Locate and space fastenings in uniform vertical and horizontal alignment.
 - 5. Install flashing and trim as metal panel work proceeds.
 - 6. Locate panel splices over, but not attached to, structural supports. Stagger panel splices and end laps to avoid a four-panel lap splice condition.
 - 7. Align bottoms of metal panels and fasten with blind rivets, bolts, or self-tapping screws. Fasten flashings and trim around openings and similar elements with self-tapping screws.
 - 8. Provide weathertight escutcheons for pipe- and conduit-penetrating panels.
- B. Fasteners:
 - 1. Steel Panels: Use stainless steel fasteners for surfaces exposed to the exterior; use galvanized-steel fasteners for surfaces exposed to the interior.
- C. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.
- D. Concealed Clip, Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.
 - 1. Install clips to supports with self-tapping fasteners.
 - 2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
- E. Clipless, Standing-Seam Metal Roof Panel Installation: Fasten metal panels to supports with screw fasteners at each lapped joint at location and spacing recommended by manufacturer.
- F. Panel Joints: Fasten panel joints to substrate in accordance with manufacturer's instructions.

- 1. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
- 2. Watertight Installation:
 - a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommended in writing by manufacturer as needed to make panels watertight.
 - b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
 - c. At panel splices, nest panels with minimum 6-inch end lap, sealed with sealant and fastened together by interlocking clamping plates.
- G. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting and provide for thermal expansion. Coordinate installation with flashings and other components.
 - 1. Install components required for a complete metal panel system including trim, copings, corners, seam covers, flashings, sealants, gaskets, fillers, closure strips, and similar items. Provide types indicated by metal roof panel manufacturers; or, if not indicated, types recommended by metal roof panel manufacturer.
- H. Flashing and Trim: Comply with performance requirements and manufacturer's written installation instructions. Provide concealed 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 weather resistant.
 - 1. Install exposed flashing and trim that is without 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 achieve waterproof and weather-resistant performance.
 - Expansion Provisions: Provide for thermal expansion of exposed flashing and trim. Space movement joints at a maximum of 10 ft. with no joints allowed within 24 inches of corner or intersection. Where lapped expansion provisions cannot be used or would not be sufficiently weather resistant and waterproof, form expansion joints of intermeshing hooked flanges, not less than 1 inch deep, filled with mastic sealant (concealed within joints).
- I. Gutters: Join sections with riveted and soldered or lapped and sealed joints. Attach gutters to eave with gutter hangers spaced not more than **36 inches** o.c. using manufacturer's standard fasteners. Provide end closures and seal watertight with sealant. Provide for thermal expansion.
- J. Downspouts: Join sections with telescoping joints. Provide fasteners designed to hold downspouts securely **1 inch** away from walls; locate fasteners at top and bottom and at approximately **60 inches** o.c. in between.
 - 1. Provide elbows at base of downspouts to direct water away from building.
 - 2. Connect downspouts to underground drainage system indicated.

- K. Roof Curbs: Install flashing around bases where they meet metal roof panels.
- L. Pipe and Conduit Penetrations: Fasten and seal to metal roof panels as recommended by manufacturer.

3.5 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to test and inspect metal roof panel installation, including accessories. Report results in writing.
- B. Remove and replace applications of metal roof panels where tests and inspections indicate that they do not comply with specified requirements.
- C. Additional tests and inspections, at Contractor's expense, are performed to determine compliance of replaced or additional work with specified requirements.
- D. Prepare test and inspection reports.

3.6 CLEANING AND PROTECTION

- A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.
- B. Replace metal panels that have been damaged or have deteriorated beyond successful repair by finish touchup or similar minor repair procedures.

END OF SECTION 074113.16

SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Manufactured units for the following applications:
 - 1. Copings.
 - 2. Roof-edge specialties.
 - 3. Roof-edge drainage systems.
 - 4. Reglets and counterflashings.
 - 5. Underlayment.

1.2 ACTION SUBMITTALS

- A. Shop Drawings: For roof specialties.
 - 1. Plans, expansion-joint locations, keyed details, and attachments to other work. Distinguish between factory pre manufactured- and field-assembled installation.
 - 2. Details for expansion and contraction; locations of expansion joints, including direction of expansion and contraction.
 - 3. Indicate profile and pattern of seams and layout of fasteners, cleats, clips, and other attachments.
 - 4. Details of termination points and assemblies, including fixed points.
 - 5. Details of special conditions.
- B. Samples: For each type of roof specialty and for each color and texture specified.
- C. Samples for Initial Selection: For each type of roof specialty indicated with factoryapplied color finishes.
- D. Samples for Verification:
 - 1. Include Samples of each type of roof specialty to verify finish and color selection, in manufacturer's standard sizes.
 - 2. Include copings, roof-edge specialties, roof-edge drainage systems, reglets and counterflashings made from **12-inch** lengths of full-size components in specified material, and including fasteners, cover joints, accessories, and attachments.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Do not store roof specialties in contact with other materials that might cause staining, denting, or other surface damage. Store roof specialties away from uncured concrete and masonry.

B. Protect strippable protective covering on roof specialties from exposure to sunlight and high humidity, except to extent necessary for the period of roof-specialty installation.

1.4 FIELD CONDITIONS

A. Field Measurements: Verify profiles and tolerances of roof-specialty substrates by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.5 COORDINATION

- A. Coordinate roof specialties with roofing system, exterior wall system, air barrier, flashing, trim, and construction of parapets, roof deck, roof and wall panels, and other adjoining work to provide a leakproof, weathertight, secure, and noncorrosive installation.
 - 1. Performance Coordination: Coordinate with the Work of roofing and exterior wall Sections to ensure that roof specialties provided under the Work of this Section meet or exceed specified roofing and exterior wall design performance requirements.
- B. Confirm and coordinate compatibility of materials and comply with warranty requirements of roofing system manufacturer.
- C. Coordinate roof specialties layout and seams with sizes and locations of joints and seams in adjacent materials.

1.6 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer agrees to repair finishes or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.
 - 1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:
 - a. Color fading more than 5 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain roof specialties from single manufacturer providing roofing-system warranty specified in Section 074113.XX "STANDING SEAM METAL ROOF PANELS."

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Roof specialties to withstand exposure to weather and resist thermally induced movement without failure, rattling, leaking, or fastener disengagement due to defective manufacture, fabrication, installation, or other defects in construction.
- B. FM Approvals' Listing: Manufacture and install copings, roof-edge specialties that are listed in FM Approvals' "Approval Guide" and approved for windstorm classification, Class 1-90. Identify materials with FM Approvals' markings.
- C. SPRI Wind Design Standard: Manufacture and install copings, roof-edge specialties tested in accordance with ANSI/SPRI/FM 4435/ES-1 and capable of resisting the following design pressures:
 - 1. Design Pressure: As indicated on Drawings.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.3 ROOF-EDGE SPECIALTIES

- A. Roof-Edge Fascia: Manufactured, two-piece, roof-edge fascia consisting of snap-on metal fascia cover in section lengths not exceeding 12 ft. and a continuous metal receiver with integral drip-edge cleat to engage fascia cover. Provide matching corner units.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Berridge Manufacturing Company
 - b. Fabral; a brand of Flack Global Metals
 - c. OMG Roofing Products; a Division of OMG, Inc.
 - d. z_OR PRE-APPROVED EQUAL

- 2. Corners: Factory mitered and mechanically clinched and sealed watertight.
- 3. Splice Plates: Concealed, of same material, finish, and shape as fascia cover.
- 4. Receiver: Manufacturer's standard material and thickness.
- 5. Fascia Accessories: Downspout scuppers with integral conductor head and downspout adapters.

2.4 ROOF-EDGE DRAINAGE SYSTEMS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. Architectural Products Company
 - 2. ATAS International, Inc.
 - 3. Berger; division of OmniMax International, Inc.
 - 4. Castle Metal Products
 - 5. Cheney Flashing Company
 - 6. Drexel Metals Corp.
 - 7. OMG Roofing Products; a Division of OMG, Inc.
 - 8. z_ OR PRE-APPROVED EQUAL.
- B. Gutters: Manufactured in uniform section lengths not exceeding 12 ft., with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.
 - 1. Metallic-Coated Steel Sheet: Nominal 0.034-inch thickness.
 - 2. Gutter Profile: BASIS OF DESIGN: BOX GUTTER, MBCI, FL-307, OR PRE-APPROVED EQUAL in accordance with SMACNA's "Architectural Sheet Metal Manual."
 - 3. Gutter Supports: Manufacturer's standard supports as selected by Architect with finish matching the gutters.
- C. Downspouts: Plain rectangular complete with mitered elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.
 - 1. Metallic-Coated Steel Sheet: Nominal 0.034-inch thickness.
 - 2. Size: BASIS OF DESIGN: MBCI DOWNSPOUT, STRAIGHT, FL-31X, OR PRE-APPROVED EQUAL.
- D. Splash Pans: Fabricate from the following exposed metal:
 - 1. Size: As indicated on Drawings.
- E. Finishes:
 - 1. Metallic-Coated Steel: BASIS OF DESIGN: PVDF, KYNAR, HYLAR OR PRE-APPROVED EQUAL.

a. Color: As selected by Architect from manufacturer's full range, OR MEDIUM BR0NZE.

2.5 REGLETS AND COUNTERFLASHINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. ATAS International, Inc.
 - 2. Berridge Manufacturing Company
 - 3. Castle Metal Products
 - 4. Fry Reglet Corporation
 - 5. OMG Roofing Products; a Division of OMG, Inc.
 - 6. z_ OR PRE-APPROVED EQUAL.
- B. Reglets: Manufactured units formed to provide secure interlocking of separate reglet and counterflashing pieces, from the following exposed metal:
 - 1. Metallic-Coated Steel Sheet: Nominal 0.028-inch thickness.
 - 2. Surface-Mounted Type: Provide reglets with slotted holes for fastening to substrate, with neoprene or other suitable weatherproofing washers, and with channel for sealant at top edge.
 - 3. Masonry Type, Embedded: Provide reglets with offset top flange for embedment in masonry mortar joint.
 - 4. Multiuse Type, Embedded: For multiuse embedment in masonry mortar joints.
- C. Counterflashings: Manufactured units of heights to overlap top edges of base flashings by **4** inches and in lengths not exceeding **12** ft. designed to snap into reglets, or, through-wall-flashing receiver and compress against base flashings with joints lapped, from the following exposed metal:
 - 1. Metallic-Coated Steel Sheet: Nominal 0.028-inch thickness.
- D. Accessories:
 - 1. Flexible-Flashing Retainer: Provide resilient plastic or rubber accessory to secure flexible flashing in reglet where clearance does not permit use of standard metal counterflashing or where reglet is provided separate from metal counterflashing.
 - 2. Counterflashing Wind-Restraint Clips: Provide clips to be installed before counterflashing to prevent wind uplift of counterflashing lower edge.
- E. Finishes:
 - 1. Metallic-Coated Steel: MATCH ROOF FINISH AS SPECIFIED.
 - a. Color: As selected by Architect from manufacturer's full range, OR MEDIUM BRONZE.

2.6 UNDERLAYMENT

- A. Self-Adhering, High-Temperature Sheet Underlayment: Provide self-adhering, coldapplied, sheet underlayment, a minimum 30 mils thick, specifically designed to withstand high metal temperatures beneath metal roofing. Provide primer when recommended by underlayment manufacturer.
 - 1. Thermal Stability: Stable after testing at **300 deg F**; ASTM D1970/D1970M.
 - 2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F or lower; ASTM D1970/D1970M.
 - 3. Basis-of-Design Product: Subject to compliance with requirements, provide BASIS OF DESIGN: GRACE, GCP APPLIED TECH., ROOFING UNDERLAYMENT, ULTRA OR PRE-APPROVED EQUAL or comparable product by one of the following:
 - a. Carlisle WIP Products; a brand of Carlisle Construction Materials
 - b. GCP Applied Technologies Inc.
 - c. z_OR PRE-APPROVED EQUAL.
- B. Felt: ASTM D226/D226M, Type II (No. 30), asphalt-saturated organic felt, nonperforated.
- C. Slip Sheet: Rosin-sized building paper, 3-lb/100 sq. ft. minimum.

2.7 MISCELLANEOUS MATERIALS

- A. Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Fasteners: Roof specialty manufacturer's recommended fasteners, designed to meet performance requirements, suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners. Furnish the following unless otherwise indicated:
 - Fasteners for Metallic-Coated Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel in accordance with ASTM A153/A153M or ASTM F2329/F2329M.
 - 2. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
- C. Gaskets: Manufacturer's standard tubular or fingered design of neoprene, EPDM, PVC, or silicone or a flat design of foam rubber, sponge neoprene, or cork.
- D. Elastomeric Sealant: ASTM C920, elastomeric polyurethane polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.
- E. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant;

polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.

- F. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.
- G. Asphalt Roofing Cement: ASTM D4586, asbestos free, of consistency required for application.

2.8 GENERAL FINISH REQUIREMENTS

- A. Comply with NAAMM/NOMMA AMP 500, "Metal Finishes Manual for Architectural and Metal Products," for recommendations for applying and designating finishes.
- B. Protect mechanical and painted finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are unacceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, to verify actual locations, dimensions, and other conditions affecting performance of the Work.
- B. Examine walls, roof edges, and parapets for suitable conditions for roof specialties.
- C. Verify that substrate is sound, dry, smooth, clean, sloped for drainage where applicable, and securely anchored.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION OF UNDERLAYMENT

- A. Self-Adhering, High-Temperature Sheet Underlayment:
 - 1. Install self-adhering, high-temperature sheet underlayment; wrinkle free.
 - 2. Prime substrate if recommended by underlayment manufacturer.
 - 3. Comply with temperature restrictions of underlayment manufacturer for installation; use primer for installing underlayment at low temperatures.
 - 4. Apply in shingle fashion to shed water, with end laps of not less than 6 inches staggered 24 inches between courses.
 - 5. Overlap side edges not less than 3-1/2 inches. Roll laps and edges with roller.
- 6. Roll laps and edges with roller.
- 7. Cover underlayment within 14 days.
- B. Felt Underlayment: Install felt underlayment, wrinkle free, using adhesive to minimize use of mechanical fasteners under sheet metal flashing and trim.
 - 1. Install in shingle fashion to shed water.
 - 2. Lap joints not less than **2 inches**.
- C. Slip Sheet: Install slip sheet, wrinkle free, over underlayment before installing sheet metal flashing and trim.
 - 1. Install in shingle fashion to shed water.
 - 2. Lapp joints not less than **4 inches**.

3.3 INSTALLATION, GENERAL

- A. Install roof specialties in accordance with manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.
 - 1. Install roof specialties level, plumb, true to line and elevation; with limited oilcanning and without warping, jogs in alignment, buckling, or tool marks.
 - 2. Provide uniform, neat seams with minimum exposure of solder and sealant.
 - 3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
 - 4. Torch cutting of roof specialties is not permitted.
 - 5. Do not use graphite pencils to mark metal surfaces.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer's written installation instructions.
 - 1. Coat concealed side of roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
 - 2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.
- C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.
 - 1. Space movement joints at a maximum of 12 ft. with no joints within 18 inches of corners or intersections unless otherwise indicated on Drawings.
 - 2. When ambient temperature at time of installation is between 40 and 70 deg F, set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.
- D. Fastener Sizes: Use fasteners of sizes that penetrate substrate not less than

recommended in writing by fastener manufacturer to achieve maximum pull-out resistance.

- E. Seal concealed joints with butyl sealant as required by roof specialty manufacturer.
- F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F.

3.4 INSTALLATION OF COPINGS

- A. Install cleats, anchor plates, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor copings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.
 - 1. Interlock face and back leg drip edges of snap-on coping cap into cleated anchor plates anchored to substrate at manufacturer's required spacing that meets performance requirements.
 - 2. Interlock face-leg drip edge into continuous cleat anchored to substrate at manufacturer's required spacing that meets performance requirements. Anchor back leg of coping with screw fasteners and elastomeric washers at manufacturer's required spacing that meets performance requirements.

3.5 INSTALLATION OF ROOF-EDGE SPECIALTIES

- A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.
- B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.6 INSTALLATION OF ROOF-EDGE DRAINAGE SYSTEMS

A. Install components to produce a complete roof-edge drainage system in accordance with manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.

3.7 INSTALLATION OF REGLETS AND COUNTERFLASHINGS

- A. Coordinate installation of reglets and counterflashings with installation of base flashings.
- B. Embedded Reglets: See Section 042000 "Unit Masonry" for installation of reglets.
- C. Surface-Mounted Reglets: Install reglets to receive flashings where flashing without

embedded reglets is indicated on Drawings. Install at height so that inserted counterflashings overlap **4 inches** over top edge of base flashings.

D. Counterflashings: Insert counterflashings into reglets or other indicated receivers; ensure that counterflashings overlap 4 inches over top edge of base flashings. Lap counterflashing joints a minimum of 4 inches and bed with butyl sealant. Fit counterflashings tightly to base flashings.

3.8 CLEANING AND PROTECTION

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing in accordance with ASTM A780/A780M.
- B. Touch up factory-primed surfaces with compatible primer ready for field painting in accordance with Section 099113 "Exterior Painting."
- C. Clean and neutralize flux materials. Clean off excess solder and sealants.
- D. Remove temporary protective coverings and strippable films as roof specialties are installed. On completion of installation, clean finished surfaces, including removing unused fasteners, metal filings, pop rivet stems, and pieces of flashing. Maintain roof specialties in a clean condition during construction.
- E. Replace roof specialties that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures, as determined by Architect.

END OF SECTION 077100

SECTION 081416 - FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Solid-core five-ply flush wood veneer-faced doors and transom panels for transparent finish.
- B. Related Requirements:

1.2 ACTION SUBMITTALS

- A. Product Data Submittals: For each product, including the following:
 - 1. Door core materials and construction.
 - 2. Door edge construction
 - 3. Door face type and characteristics.
 - 4. Door trim for openings.
 - 5. Door frame construction.
 - 6. Factory-machining criteria.
 - 7. Factory-finishing specifications.
- B. Shop Drawings: Indicate location, size, and hand of each door; elevation of each type of door; construction details not covered in Product Data; and the following:
 - 1. Door schedule indicating door and frame location, type, size, fire protection rating, and swing.
 - 2. Door elevations, dimension and locations of hardware, lite and louver cutouts, and glazing thicknesses.
 - 3. Details of frame for each frame type, including dimensions and profile.
 - 4. Details of electrical raceway and preparation for electrified hardware, access control systems, and security systems.
 - 5. Dimensions and locations of blocking for hardware attachment.
 - 6. Dimensions and locations of mortises and holes for hardware.
 - 7. Clearances and undercuts.
 - 8. Requirements for veneer matching.
 - 9. Doors to be factory finished and application requirements.
- C. Samples for Initial Selection: For factory-finished doors.
- D. Samples for Verification:
 - 1. Factory finishes applied to actual door face materials, approximately 8 by 10

inches, for each material and finish.

2. Frames for light openings, **6 inches** long, for each material, type, and finish required.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Comply with requirements of referenced standard and manufacturer's written instructions.
- B. Package doors individually in plastic bags or cardboard cartons.
- C. Mark each door on top and bottom rail with opening number used on Shop Drawings.

1.4 FIELD CONDITIONS

- A. Environmental Limitations:
 - 1. Do not deliver or install doors until spaces are enclosed and weathertight, wetwork in spaces is complete and dry, and HVAC system is operating and maintaining temperature and relative humidity at levels designed for building occupants for the remainder of construction period.
 - Do not deliver or install doors until building is enclosed and weathertight, wet work is complete, and HVAC system is operating and maintaining temperature between 60 and 90 deg F and relative humidity between 43 and 70 percent during remainder of construction period.

1.5 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace doors and frames that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Delamination of veneer.
 - b. Warping (bow, cup, or twist) more than **1/4 inch** in a **42-by-84-inch** section.
 - Telegraphing of core construction in face veneers exceeding 0.01 inch in a 3-inch span.
 - 2. Warranty also includes installation and finishing that may be required due to repair or replacement of defective doors and frames.
 - 3. Warranty Period for Solid-Core Interior Doors: Life of installation.

PART 2 - PRODUCTS

- 2.1 SOURCE LIMITATIONS
 - A. Obtain flush wood doors from single manufacturer.
- 2.2 FLUSH WOOD DOORS AND FRAMES, GENERAL
 - A. Quality Standard: In addition to requirements specified, comply with AWI/AWMAC/WI's "Architectural Woodwork Standards."
- 2.3 SOLID-CORE FIVE-PLY FLUSH WOOD VENEER-FACED DOORS AND TRANSOM PANELS FOR TRANSPARENT FINISH
 - A. Interior Doors, Solid-Core Five-Ply Veneer-Faced:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide OSHKOSH, GAST40, 5 PLY OR PRE-APPROVED EQUAL or comparable product by one of the following:
 - a. Masonite Architectural
 - b. Oshkosh Door Company
 - c. z_ OR PRE-APPROVED EQUAL
 - 2. Performance Grade: ANSI/WDMA I.S. 1A Standard Duty.
 - 3. ANSI/WDMA I.S. 1A Quality Grade: Premium.
 - 4. Architectural Woodwork Standards Quality Grade: Premium.
 - 5. Faces: Single-ply wood veneer not less than 1/50 inch thick.
 - a. Species: MATCH EXISTING IN SPECIES AND FINISH.
 - b. Cut: MATCH EXISTING IN SPECIES AND FINISH.
 - 6. Core for Non-Fire-Rated Doors:
 - a. ANSI A208.1, Grade LD-1 particleboard.
 - 1) Blocking: Provide wood blocking in particleboard-core doors as needed to eliminate through-bolting hardware.
 - b. Glued wood stave.
 - c. WDMA I.S. 10 structural composite lumber.
 - 1) Screw Withdrawal, Door Face: 400 lbf.
 - 2) Screw Withdrawal, Vertical Door Edge: 400 lbf.
 - d. Either glued wood stave or WDMA I.S. 10 structural composite lumber.

7. Construction: Five plies, hot-pressed bonded (vertical and horizontal edging is bonded to core), with entire unit abrasive planed before veneering.

2.4 LIGHT FRAMES AND LOUVERS

- A. Wood Beads for Light Openings in Wood Doors: Provide manufacturer's standard wood beads unless otherwise indicated.
 - 1. Wood Species: MATCH EXISTING IN TYPE AND FINISH.
 - 2. Profile: <MATCH EXISTING IN TYPE AND FINISH

2.5 FABRICATION

- A. Factory fit doors to suit frame-opening sizes indicated.
 - 1. Comply with clearance requirements of referenced quality standard for fitting unless otherwise indicated.
 - 2. Comply with NFPA 80 requirements for fire-rated doors.
- B. Factory machine doors for hardware that is not surface applied.
 - 1. Locate hardware to comply with DHI-WDHS-3.
 - 2. Comply with final hardware schedules, door frame Shop Drawings, ANSI/BHMA-156.115-W, and hardware templates.
 - 3. Coordinate with hardware mortises in metal frames, to verify dimensions and alignment before factory machining.
 - 4. For doors scheduled to receive electrified locksets, provide factory-installed raceway and wiring to accommodate specified hardware.
- C. Openings: Factory cut and trim openings through doors.
 - 1. Light Openings: Trim openings with moldings of material and profile indicated.

2.6 FACTORY FINISHING

- A. Comply with referenced quality standard for factory finishing.
 - 1. Complete fabrication, including fitting doors for openings and machining for hardware that is not surface applied, before finishing.
 - 2. Finish faces, all four edges, edges of cutouts, and mortises.
 - 3. Stains and fillers may be omitted on bottom edges, edges of cutouts, and mortises.
- B. Factory finish doors.
- C. Transparent Finish:

- 1. Architectural Woodwork Standards Grade: Premium.
 - a. System-11, Polyurethane, Catalyzed.
- 2. ANSI/WDMA I.S. 1A Grade: Premium.
 - a. TR-6 Catalyzed Polyurethane.
- 3. Staining: As selected by Architect from manufacturer's full range.MATCH EXISTING IN TYPE AND FINISH
- 4. Sheen: Semigloss.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine doors and installed door frames, with Installer present, before hanging doors.
 - 1. Verify that installed frames comply with indicated requirements for type, size, location, and swing characteristics and have been installed with level heads and plumb jambs.
 - 2. Reject doors with defects.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Hardware: For installation, see AS INDICATED ON DRAWINGS
- B. Install doors and frames to comply with manufacturer's written instructions and referenced quality standard, and as indicated.
- C. Install frames level, plumb, true, and straight.
 - 1. Shim as required with concealed shims. Install level and plumb to a tolerance of 1/8 inch in 96 inches.
 - 2. Anchor frames to anchors or blocking built in or directly attached to substrates.
 - a. Secure with countersunk, concealed fasteners and blind nailing.
 - b. Use fine finishing nails or finishing screws for exposed fastening, countersunk and filled flush with woodwork.
 - 1) For factory-finished items, use filler matching finish of items being installed.
- D. Factory-Fitted Doors: Align in frames for uniform clearance at each edge.

- E. Factory-Finished Doors: Restore finish before installation if fitting or machining is required at Project site.
- 3.3 FIELD QUALITY CONTROL
 - A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.
 - B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 ADJUSTING

- A. Operation: Rehang or replace doors that do not swing or operate freely.
- B. Finished Doors: Replace doors that are damaged or that do not comply with requirements. Doors may be repaired or refinished if Work complies with requirements and shows no evidence of repair or refinishing.

END OF SECTION 081416

SECTION 084113 - ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

- 1.1 SUMMARY
 - A. Section Includes:
 - 1. Aluminum-framed entrance and storefront systems.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. Aluminum-framed entrance and storefront systems.
- B. Product Data Submittals: For each product.
 - 1. Construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Operating characteristics, electrical characteristics, and furnished accessories.
- C. Shop Drawings:
 - 1. Plans, elevations, sections, full-size details, and attachments to other work.
 - 2. Details of provisions for assembly expansion and contraction and for draining moisture occurring within the assembly to the exterior.
 - 3. Full-size isometric details of each type of vertical-to-horizontal intersection of aluminum-framed entrance and storefront systems, showing the following:
 - a. Joinery, including concealed welds.
 - b. Anchorage.
 - c. Expansion provisions.
 - d. Glazing.
 - e. Flashing and drainage.
 - 4. Connection to and continuity with adjacent thermal, weather, air, and vapor barriers.
 - 5. Point-to-point wiring diagrams showing the following:
 - a. Power requirements for each electrically operated door hardware.
 - b. Location and types of switches, signal device, conduit sizes, and number and size of wires.
- D. Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors for each type of exposed finish.

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- E. Samples for Verification: Actual sample of finished products for each type of exposed finish.
 - 1. Size: Manufacturers' standard size.
- F. Fabrication Sample: Of each vertical-to-horizontal intersection of assemblies, made from 12-inch lengths of full-size components and showing details of the following:
 - 1. Joinery, including concealed welds.
 - 2. Anchorage.
 - 3. Expansion provisions.
 - 4. Glazing.
 - 5. Flashing and drainage.
- 1.3 INFORMATIONAL SUBMITTALS
 - A. Energy Performance Certificates: For aluminum-framed entrance and storefront systems, accessories, and components, from manufacturer.
 - 1. Basis for Certification: NFRC-certified energy performance values for each aluminum-framed entrance and storefront system.
 - B. Product Test Reports: For aluminum-framed entrance and storefront systems, for tests performed by a qualified testing agency.
 - C. Qualification Statements:
 - 1. For Installer and laboratory mockup preconstruction testing agency.
 - D. Sample Warranties: For aluminum-framed entrance and storefront systems.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications:
 - 1. Fabricator of products.
- B. Product Options: Information on Drawings and in Specifications establishes requirements for aesthetic effects and performance characteristics of assemblies. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of components and assemblies as they relate to sightlines, to one another, and to adjoining construction.
 - 1. Do not change intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If changes are proposed, submit comprehensive explanatory data to Architect for review.

1.5 WARRANTY

- A. Special Warranty: Installer agrees to repair or replace components of aluminum-framed entrance and storefront systems that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.
- B. Special Finish Warranty, Factory-Applied Finishes: 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 Delta E units when tested in accordance with ASTM D2244.
 - b. Chalking in excess of a No. 8 rating when tested in accordance with ASTM D4214.
 - c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain all components of aluminum-framed entrance and storefront system, including framing spandrel panels and accessories, from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Comply with performance requirements specified, as determined by testing of aluminum-framed entrance and storefront systems representing those indicated for this Project without failure due to defective manufacture, fabrication, installation, or other defects in construction.
 - 1. Aluminum-framed entrance and storefront systems to withstand movements of supporting structure, including, but not limited to, twist, column shortening, long-term creep, and deflection from uniformly distributed and concentrated live loads.
 - 2. Failure also includes the following:
 - a. Thermal stresses transferring to building structure.
 - b. Glass breakage.
 - c. Noise or vibration created by wind and thermal and structural movements.
 - d. Loosening or weakening of fasteners, attachments, and other components.
 - e. Failure of operating units.

- B. Structural Loads:
 - 1. Wind Loads: As indicated on Drawings.
 - 2. Other Design Loads: As indicated on Drawings.
- C. Deflection of Framing Members Supporting Glass: At design wind load, as follows:
 - Deflection Normal to Wall Plane: Limited to 1/175 of clear span for spans of up to 13 feet 6 inches and to 1/240 of clear span plus 1/4 inch for spans greater than 13 feet 6 inches.
 - 2. Deflection Parallel to Glazing Plane: Limited to amount not exceeding that which reduces glazing bite to less than 75 percent of design dimension and that which reduces edge clearance between framing members and glazing or other fixed components to less than 1/8 inch.
 - a. Operable Units: Provide a minimum 1/16-inch clearance between framing members and operable units.
 - 3. Cantilever Deflection: Limited to 2L/175 at unsupported cantilevers.
- D. Structural: Test in accordance with ASTM E330/E330M as follows:
 - 1. When tested at positive and negative wind-load design pressures, storefront assemblies, including entrance doors, do not evidence deflection exceeding specified limits.
 - 2. When tested at 150 percent of positive and negative wind-load design pressures, storefront assemblies, including entrance doors and anchorage, do not evidence material failures, structural distress, or permanent deformation of main framing members exceeding 0.2 percent of span.
 - 3. Test Durations: As required by design wind velocity, but not less than 10 seconds.
- E. Water Penetration under Static Pressure: Test in accordance with ASTM E331 as follows:
 - 1. No evidence of water penetration through fixed glazing and framing areas, including entrance doors, when tested in accordance with a minimum static-air-pressure differential of 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft..
- F. Water Penetration under Dynamic Pressure: Test in accordance with AAMA 501.1 as follows:
 - 1. No evidence of water penetration through fixed glazing and framing areas when tested at dynamic pressure equal to 20 percent of positive wind-load design pressure, but not less than 6.24 lbf/sq. ft..
 - 2. Maximum Water Leakage: No uncontrolled water penetrating assemblies or water appearing on assemblies' normally exposed interior surfaces from sources other than condensation. Water leakage does not include water controlled by flashing and gutters, or water that is drained to exterior.

- G. Energy Performance: Certified and labeled by manufacturer for energy performance as follows:
 - 1. Thermal Transmittance (U-factor):
 - a. Fixed Glazing and Framing Areas: U-factor for the system of not more than 0.41 Btu/sq. ft. x h x deg F as determined in accordance with NFRC 100.
 - b. Entrance Doors: U-factor of not more than 0.68 Btu/sq. ft. x h x deg F as determined in accordance with NFRC 100.
 - 2. Solar Heat-Gain Coefficient (SHGC):
 - a. Fixed Glazing and Framing Areas: SHGC for the system of not more than 0.26 as determined in accordance with NFRC 200.
 - b. Entrance Doors: SHGC of not more than 0.22 as determined in accordance with NFRC 200.
 - 3. Air Leakage:
 - a. Fixed Glazing and Framing Areas: Air leakage for the system of not more than 0.06 cfm/sq. ft. at a static-air-pressure differential of 1.57 lbf/sq. ft. when tested in accordance with ASTM E283.
 - b. Entrance Doors: Air leakage of not more than 1.0 cfm/sq. ft. at a static-airpressure differential of 1.57 lbf/sq. ft..
 - 4. Condensation Resistance Factor (CRF):
 - a. Fixed Glazing and Framing Areas: CRF for the system of not less than 35 as determined in accordance with AAMA 1503.
 - b. Entrance Doors: CRF of not less than 57 as determined in accordance with AAMA 1503.
- H. Thermal Movements: Allow for thermal movements resulting from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.
 - 2. Thermal Cycling: No buckling; stress on glass; sealant failure; excess stress on framing, anchors, and fasteners; or reduction of performance when tested in accordance with AAMA 501.5.
 - a. High Exterior Ambient-Air Temperature: That which produces an exterior metal-surface temperature of 180 deg F.
 - b. Low Exterior Ambient-Air Temperature: 0 deg F.
 - c. Interior Ambient-Air Temperature: 75 deg F.

2.3 ALUMINUM-FRAMED ENTRANCE AND STOREFRONT SYSTEMS

A. Basis-of-Design Product: Subject to compliance with requirements, provide YKK AP, YES 45 FT or comparable product by one of the following:

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

- 1. Kawneer Company, Inc.; Arconic Corporation
- 2. OldCastle BuildingEnvelope (OBE)
- 3. YKK AP America Inc.
- 4. z_ OR PRE-APPROVED EQUAL
- B. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.
 - 1. Exterior Framing Construction: Thermally broken.
 - 2. Glazing System: Retained mechanically with gaskets on four sides.
 - 3. Glazing Plane: Front.
 - 4. Finish: Baked-enamel or powder-coat finish.
 - 5. Fabrication Method: Field-fabricated stick system.
 - 6. Aluminum: Alloy and temper recommended by manufacturer for type of use and finish indicated.
 - 7. Steel Reinforcement: As required by manufacturer.
- C. Backer Plates: Manufacturer's standard, continuous backer plates for framing members, if not integral, where framing abuts adjacent construction.
- D. Brackets and Reinforcements: Manufacturer's standard high-strength aluminum with nonstaining, nonferrous shims for aligning system components.
- E. Insulated Spandrel Panels:
 - 1. Comply with Section 074213.19 "Insulated Metal Wall Panels."
 - 2. Laminated, metal-faced flat panels with no deviations in plane exceeding 0.8 percent of panel dimension in width or length.
 - a. Overall Panel Thickness: 1 inch.
 - b. Exterior Skin: Aluminum.
 - 1) Thickness: Manufacturer's standard for finish and texture indicated.
 - 2) Finish: Match framing system.
 - 3) Texture: Smooth.
 - 4) Backing Sheet: 1/8-inch- thick tempered hardboard.
 - c. Interior Skin: Aluminum.
 - 1) Thickness: Manufacturer's standard for finish and texture indicated.
 - 2) Finish: Matching storefront framing.
 - 3) Texture: Smooth.
 - 4) Backing Sheet: 1/8-inch- thick tempered hardboard.
 - d. Thermal Insulation Core: Manufacturer's standard rigid, closed-cell, polyisocyanurate board.
 - e. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

- 1) Flame-Spread Index: 25 or less.
- 2) Smoke-Developed Index: 50 or less.
- F. Entrance Doors: Manufacturer's standard glazed entrance doors for manual-swing or automatic operation.
 - 1. Door Construction: 1-3/4-inch overall thickness, with minimum 0.125-inch- thick, extruded-aluminum tubular rail and stile members. Mechanically fasten corners with reinforcing brackets that are deeply penetrated and fillet welded or that incorporate concealed tie rods.
 - a. Thermal Construction: High-performance plastic connectors separate aluminum members exposed to the exterior from members exposed to the interior.
 - 2. Door Design: Medium stile; 3-1/2-inch nominal width.
 - 3. Glazing Stops and Gaskets: Beveled, snap-on, extruded-aluminum stops and preformed gaskets.
 - a. Provide nonremovable glazing stops on outside of door.
 - 4. Finish: Match adjacent storefront framing finish.

2.4 ENTRANCE DOOR HARDWARE

- A. General: Provide entrance door hardware and entrance door hardware sets indicated in door and frame schedule for each entrance door, to comply with requirements in this Section.
 - 1. Entrance Door Hardware Sets: Provide quantity, item, size, finish or color indicated, and products equivalent in function and comparable in quality to named products.
 - 2. Sequence of Operation: Provide electrified door hardware function, sequence of operation, and interface with other building control systems indicated.
 - 3. Opening-Force Requirements:
 - Egress Doors: Not more than 15 lbf to release the latch and not more than
 30 lbf to set the door in motion and not more than 15 lbf to open the door to its minimum required width.
 - b. Accessible Interior Doors: Not more than **5 lbf** to fully open door.
- B. Butt Hinges: BHMA A156.1, Grade 1, radius corner.
 - 1. Nonremovable Pins: Provide setscrew in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while entrance door is closed.
 - 2. Exterior Hinges: Stainless steel, with stainless steel pin.
 - 3. Quantities:
 - a. For doors up to 87 inches high, provide three hinges per leaf.

- C. Mortise Auxiliary Locks: BHMA A156.5, Grade 1.
- D. Manual Flush Bolts: BHMA A156.16, Grade 1.
- E. Automatic and Self-Latching Flush Bolts: BHMA A156.3, Grade 1.
- F. Panic Exit Devices: BHMA A156.3, Grade 1, listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing in accordance with UL 305.
- G. Cylinders:
 - 1. BHMA A156.5, Grade 1.
 - a. Keying: Master key system. Permanently inscribe each key with a visual key control number and include notation to be furnished by Owner.
- H. Strikes: Provide strike with black-plastic dust box for each latch or lock bolt; fabricated for aluminum framing.
- I. Operating Trim: BHMA A156.6.
- J. Removable Mullions: BHMA A156.3 extruded aluminum.
 - 1. When used with panic exit devices, provide removable mullions listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing in accordance with UL 305. Use only mullions that have been tested with exit devices to be used.
- K. Closers: BHMA A156.4, Grade 1, with accessories required for a complete installation, sized as required by door size, exposure to weather, and anticipated frequency of use; adjustable to comply with field conditions and requirements for opening force.
- L. Concealed Overhead Holders and Stops: BHMA A156.8, Grade 1.
- M. Door Stops: BHMA A156.16, Grade 1, floor or wall mounted, as appropriate for door location indicated, with integral rubber bumper.
- N. Weather Stripping: Manufacturer's standard replaceable components.
 - 1. Compression Type: Made of ASTM D2000 molded neoprene or ASTM D2287 molded PVC.
 - 2. Sliding Type: AAMA 701/702, made of wool, polypropylene, or nylon woven pile with nylon-fabric or aluminum-strip backing.
- O. Weather Sweeps: Manufacturer's standard exterior-door bottom sweep with concealed fasteners on mounting strip.
- P. Thresholds: BHMA A156.21 raised thresholds beveled with a slope of not more than 1:2, with maximum height of 1/2 inch.

Q. Finger Guards: Manufacturer's standard collapsible neoprene or PVC gasket anchored to frame hinge-jamb at center-pivoted doors.

2.5 GLAZING

- A. Glazing: Comply with Section 088000 "Glazing."
- B. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of black, resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
- C. Glazing Sealants: As recommended by manufacturer.
- D. Structural Glazing Sealants: ASTM C1184 chemically curing silicone formulation that is compatible with system components with which it comes in contact; specifically formulated and tested for use as structural sealant and approved by structural-sealant manufacturer for use in storefront system indicated.
 - 1. Color: Black.
- E. Weatherseal Sealants: ASTM C920 for Type S; Grade NS; Class 25; Uses NT, G, A, and O; chemically curing silicone formulation that is compatible with structural sealant and other system components with which it comes in contact; recommended by structural-sealant, weatherseal-sealant, and structural-sealant-glazed storefront manufacturers for this use.
 - 1. Color: Match structural sealant.

2.6 MATERIALS

- A. Sheet and Plate: **ASTM B209**.
- B. Extruded Bars, Rods, Profiles, and Tubes: **ASTM B221**.
- C. Structural Profiles: ASTM B308/B308M.
- D. Steel Reinforcement:
 - 1. Structural Shapes, Plates, and Bars: ASTM A36/A36M.
 - 2. Cold-Rolled Sheet and Strip: ASTM A1008/A1008M.
 - 3. Hot-Rolled Sheet and Strip: ASTM A1011/A1011M.
- E. Steel Reinforcement Primer: Manufacturer's standard zinc-rich, corrosion-resistant primer complying with SSPC-PS Guide No. 12.00; applied immediately after surface preparation and pretreatment. Select surface preparation methods in accordance with recommendations in SSPC-SP COM, and prepare surfaces in accordance with applicable SSPC standard.

2.7 ACCESSORIES

- A. Fasteners and Accessories: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding fasteners and accessories compatible with adjacent materials.
 - 1. Use self-locking devices where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration.
 - 2. Reinforce members as required to receive fastener threads.
 - 3. Use exposed fasteners with countersunk Phillips screw heads, finished to match framing system.
- B. Anchors: Three-way adjustable anchors with minimum adjustment of **1** inch that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.
 - 1. Concrete and Masonry Inserts: Hot-dip galvanized cast-iron, malleable-iron, or steel inserts complying with ASTM A123/A123M or ASTM A153/A153M requirements.
- C. Concealed Flashing: Manufacturer's standard corrosion-resistant, nonstaining, nonbleeding flashing compatible with adjacent materials.
- D. Bituminous Paint: Cold-applied asphalt-mastic paint containing no asbestos, formulated for **30-mil** thickness per coat.
- E. Rigid PVC filler.

2.8 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. Weld in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.
- C. Fabricate components that, when assembled, have the following characteristics:
 - 1. Profiles that are sharp, straight, and free of defects or deformations.
 - 2. Accurately fitted joints with ends coped or mitered.
 - 3. Physical and thermal isolation of glazing from framing members.
 - 4. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
 - 5. Provisions for field replacement of glazing from interior for vision glass and exterior for spandrel glazing or metal panels.
 - 6. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- D. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.

ALUMINUM-FRAMED ENTRANCES AND STOREFRONTS

- E. Structural-Sealant-Glazed Framing Members: Include accommodations for using temporary support device to retain glazing in place while structural sealant cures.
- F. Storefront Framing: Fabricate components for assembly using head-and-sill-receptor system with shear blocks at intermediate horizontal members.
- G. Entrance Door Frames: Reinforce as required to support loads imposed by door operation and for installing entrance door hardware.
 - 1. At interior and exterior doors, provide compression weather stripping at fixed stops.
- H. Entrance Doors: Reinforce doors as required for installing entrance door hardware.
 - 1. At pairs of exterior doors, provide sliding-type weather stripping retained in adjustable strip and mortised into door edge.
 - 2. At exterior doors, provide weather sweeps applied to door bottoms.
- I. Entrance Door Hardware Installation: Factory install entrance door hardware to the greatest extent possible. Cut, drill, and tap for factory-installed entrance door hardware before applying finishes.
- J. After fabrication, clearly mark components to identify their locations in Project in accordance with Shop Drawings.

2.9 ALUMINUM FINISHES

- A. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of **1.5 mils**. Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
 - 1. Color and Gloss: As selected by Architect from manufacturer's full rangeTO BE A MEDIUM BRONZE COLOR.

2.10 SOURCE QUALITY CONTROL

A. Structural Sealant: Perform quality-control procedures complying with ASTM C1401 recommendations, including, but not limited to, assembly material qualification procedures, sealant testing, and assembly fabrication reviews and checks.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- 3.2 INSTALLATION OF ALUMINUM-FRAMED ENTRANCE AND STOREFRONT SYSTEMS
 - A. Comply with manufacturer's written instructions.
 - B. Do not install damaged components.
 - C. Fit joints to produce hairline joints free of burrs and distortion.
 - D. Rigidly secure nonmovement joints.
 - E. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
 - F. Seal perimeter and other joints watertight unless otherwise indicated.
 - G. Metal Protection:
 - 1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
 - 2. Where aluminum is in contact with concrete or masonry, protect against corrosion by painting contact surfaces with bituminous paint.
 - H. Set continuous sill members and flashing in full sealant bed, as specified in Section 079200 "Joint Sealants," to produce weathertight installation.
 - I. Install joint filler behind sealant as recommended by sealant manufacturer.
 - J. Install components plumb and true in alignment with established lines and grades.
 - K. Install entrance doors to produce smooth operation and tight fit at contact points.
 - 1. Exterior Doors: Install to produce weathertight enclosure and tight fit at weather stripping.
 - 2. Field-Installed Entrance Door Hardware: Install surface-mounted entrance door hardware in accordance with entrance door hardware manufacturers' written instructions using concealed fasteners to greatest extent possible.

3.3 ERECTION TOLERANCES

- A. Install aluminum-framed entrance and storefront systems to comply with the following maximum tolerances:
 - 1. Plumb: 1/8 inch in 10 feet; 1/4 inch in 40 feet.
 - 2. Level: 1/8 inch in 20 feet; 1/4 inch in 40 feet.

- 3. Alignment:
 - a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch wide, limit offset from true alignment to 1/16 inch.
 - b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch wide, limit offset from true alignment to 1/8 inch.
 - c. Where surfaces are separated by reveal or protruding element of **1 inch** wide or more, limit offset from true alignment to **1/4 inch**.
- 4. Location: Limit variation from plane to **1/8 inch in 12 feet**; **1/2 inch** over total length.

3.4 FIELD QUALITY CONTROL

- A. Inspections:
 - Egress Door Inspections: Inspect each aluminum-framed entrance door equipped with panic hardware, located in an exit enclosure, electrically controlled, and equipped with special locking arrangements, in accordance with NFPA 101, Ch. 7 "Means of Egress," Section "Means of Egress Components," Article "Inspection of Door Openings."
- B. Aluminum-framed entrance and storefront systems will be considered defective if they do not pass tests and inspections.

END OF SECTION 084113

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.

1.2 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Gypsum board, Type X.

1.3 DELIVERY, STORAGE AND HANDLING

A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.4 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Obtain each type of gypsum panel and joint finishing material from single source with resources to provide products of consistent quality in appearance and physical properties.
- 2.2 GYPSUM BOARD, GENERAL
 - A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.3 INTERIOR GYPSUM BOARD

- A. Gypsum Board, Type X: ASTM C1396/C1396M.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. CertainTeed; SAINT-GOBAIN
 - b. Georgia-Pacific Gypsum LLC
 - c. USG Corporation
 - d. z_OR PRE-APPROVED EQUAL.
 - 2. Thickness: 5/8 inch.
 - 3. Long Edges: Tapered.

2.4 TRIM ACCESSORIES

- A. Interior Trim: ASTM C1047.
 - 1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized-steel sheet.
 - 2. Shapes:
 - a. Cornerbead.
 - b. Bullnose bead.
 - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
 - d. L-Bead: L-shaped; exposed long flange receives joint compound.
 - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
 - f. Expansion (control) joint.
 - g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.5 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475/C475M.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.
 - 3. Fill Coat: For second coat, use drying-type, all-purpose compound.
 - 4. Finish Coat: For third coat, use drying-type, all-purpose compound.
 - 5. Skim Coat: For final coat of Level 5 finish, use drying-type, all-purpose compound.

2.6 AUXILIARY MATERIALS

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
 - 1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
- C. Acoustical Sealant: As specified in Section 079219 "Acoustical Joint Sealants."
- D. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and

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mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

- A. Comply with ASTM C840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
 - Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than 8 sq. ft. in area.
 - 2. Fit gypsum panels around ducts, pipes, and conduits.
 - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.
- I. STC-Rated Assemblies: Seal construction at perimeters, behind control joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations.

Comply with ASTM C919 and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

- J. Install sound attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.
- 3.3 INSTALLATION OF INTERIOR GYPSUM BOARD
 - A. Install interior gypsum board in the following locations:
 - 1. Wallboard Type: Vertical surfaces unless otherwise indicated.
 - 2. Type X: Vertical surfaces unless otherwise indicated.
 - B. Single-Layer Application:
 - 1. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing) unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - 2. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLATION OF TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.
- B. Control Joints: Install control joints at locations indicated on Drawings.
- C. Interior Trim: Install in the following locations:
 - 1. Cornerbead: Use at outside corners unless otherwise indicated.
- D. Aluminum Trim: Install in locations indicated on Drawings.

3.5 FINISHING OF GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints and damaged surface areas.

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- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and in accordance with ASTM C840:
 - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
 - 2. Level 5: .
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.6 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 093013 - CERAMIC TILING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Porcelain tile.
 - 2. Crack isolation membranes.
 - 3. Setting material.
 - 4. Grout materials.

1.2 DEFINITIONS

- A. General: Definitions in ANSI A108 series of tile installation standards and in ANSI A137.1 apply to Work of this Section unless otherwise specified.
- B. Face Size: Actual tile size, excluding spacer lugs.
- C. Large Format Tile: Tile with at least one edge 15 inches or longer.
- D. Module Size: Actual tile size plus joint width indicated.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Initial Selection: For tile, grout, and accessories involving color selection or shade variation.
- C. Samples for Verification:
 - 1. Full-size units of each type and composition of tile and for each color and finish required.

1.4 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials, from the same production run, to Owner that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Tile and Trim Units: Furnish quantity of full-size units equal to 3 percent of amount installed for each type, composition, color, pattern, and size indicated.

2. Grout: Furnish quantity of grout equal to 3 percent of amount installed for each type, composition, and color indicated.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with seals unbroken and labels intact until time of use. Comply with requirements in ANSI A137.1 for labeling tile packages.
- B. Store tile and cementitious materials on elevated platforms, under cover, and in a dry location.
- C. Store aggregates where grading and other required characteristics can be maintained and contamination can be avoided.
- D. Store liquid materials in unopened containers and protected from freezing.

1.6 FIELD CONDITIONS

A. Environmental Limitations: Do not install tile until construction in spaces is complete and ambient temperature and humidity conditions are maintained at the levels indicated in referenced standards and manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

- A. Tile: Obtain tile of each type and color or finish from single source or producer.
 - 1. Obtain tile of each type and color or finish from same production run and of consistent quality in appearance and physical properties for each contiguous area.
- B. Tiling System: Obtain system products from single manufacturer and each aggregate from single source or producer.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ARDEX Americas
 - b. Laticrete International, Inc.
 - c. MAPEI Corporation
 - d. z_OR PRE-APPROVED EQUAL.
 - 2. Obtain setting and grouting materials, except for unmodified portland cement and aggregate, from single manufacturer.

- 3. Obtain underlayment from manufacturer of setting and grouting materials.
- 4. Obtain waterproof membrane, crack isolation, and other required membranes from manufacturer of setting and grouting materials.
- 5. Obtain joint sealants from manufacturer of setting and grouting materials.
- C. Accessory Products: Obtain each of the following products specified in this Section from a single manufacturer:
 - 1. Stone thresholds.
 - 2. Backer units.

2.2 PRODUCTS, GENERAL

- A. ANSI Ceramic Tile Standard: Provide tile that complies with ANSI A137.1 for types, compositions, and other characteristics indicated.
 - 1. Provide tile complying with Standard Grade requirements unless otherwise indicated.
- B. ANSI Standards for Tile Installation Materials: Provide materials complying with ANSI A108.02, ANSI standards referenced in other Part 2 articles, ANSI standards referenced by TCNA installation methods specified in tile installation schedules, and other requirements specified.
- C. Factory Blending: For tile exhibiting color variations within ranges, blend tile in factory and package so tile units taken from one package show same range in colors as those taken from other packages and match approved Samples.
- D. Mounting: For factory-mounted tile, provide back- or edge-mounted tile assemblies as standard with manufacturer unless otherwise indicated.
 - 1. Where tile is indicated for installation, do not use back- or edge-mounted tile assemblies unless tile manufacturer specifies in writing that this type of mounting is suitable for installation indicated and has a record of successful in-service performance.
- E. Factory-Applied Temporary Protective Coating: Where indicated under tile type, protect exposed surfaces of tile against adherence of mortar and grout by precoating with continuous film of petroleum paraffin wax, applied hot. Do not coat unexposed tile surfaces.

2.3 PORCELAIN TILE

- A. Porcelain Tile Type: Unglazed.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide DALTILE, AS SCHEDULED or comparable product by one of the following:

- a. American Olean; a brand of Dal-Tile Corporation
- b. z_OR PRE-APPROVED EQUAL.
- 2. Certification: Tile certified by the Porcelain Tile Certification Agency.
- 3. Face Size: AS SCHEDULED.
- 4. Face Size Variation: Rectified.
- 5. Thickness: 3/8 inch.
- 6. Product Use Classification: Interior, Dry (ID).
- 7. Tile Color, Glaze, and Pattern: AS SCHEDULED.
- 8. Grout Color: AS SCHEDULED.

2.4 THRESHOLDS

- A. General: Fabricate to sizes and profiles indicated or required to provide transition between adjacent floor finishes.
 - 1. Bevel edges at 1:2 slope, with lower edge of bevel aligned with or up to 1/16 inch above adjacent floor surface. Finish bevel to match top surface of threshold. Limit height of threshold to 1/2 inch or less above adjacent floor surface.

2.5 CRACK ISOLATION MEMBRANES

- A. General: Manufacturer's standard product, selected from the following, that complies with ANSI A118.12 for standard performance and is recommended by manufacturer for application indicated. Include reinforcement and accessories recommended by manufacturer.
- B. Crack Isolation Membrane, Polyethylene Sheet: Polyethylene faced on both sides with polyester fabric.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide SCHLUTER DITRA UNCOUPLING MEMBRANE, OR PRE-APPROVED EQUAL. or comparable product by one of the following:
 - a. Laticrete International, Inc.
 - b. Schluter Systems L.P.
 - c. z_ OR PRE-APPROVED EQUAL.

2.6 SETTING MATERIALS

- A. Portland Cement Mortar (Thickset) Installation Materials: ANSI A108.02.
 - 1. Cleavage Membrane: Installer's option of material that complies with ANSI A108.02, paragraph 3.8.
- B. Standard Dry-Set Mortar (Thinset): ANSI A118.1.

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- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. ARDEX Americas
 - b. Laticrete International, Inc.
 - c. MAPEI Corporation
 - d. z_ OR PRE-APPROVED EQUAL.

2.7 GROUT MATERIALS

- A. Sand-Portland Cement Grout: ANSI A108.10, consisting of white or gray cement and white or colored aggregate as required to produce color indicated.
- B. High-Performance Tile Grout: ANSI A118.7.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide LATICRETE AS SCHEDULED, OR PRE APPROVED EQUAL or comparable product by one of the following:
 - a. ARDEX Americas
 - b. Laticrete International, Inc.
 - c. z_ OR PRE-APPROVED EQUAL.
- C. Grout for Pregrouted Tile Sheets: Same product used in factory to pregrout tile sheets.

2.8 MISCELLANEOUS MATERIALS

- A. Trowelable Underlayments and Patching Compounds: Latex-modified, portland cement-based formulation provided or approved by manufacturer of tile-setting and adhesive materials for installations indicated.
- B. Vapor-Retarder Membrane: Polyethylene sheeting, ASTM D4397, 4.0 mils thick.
- C. Metal Edge Trim: Profile designed for wall terminations and edge protection.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide FRY REGLET, AS SCHEDULED or comparable product by one of the following:
 - a. Dural USA, Inc.
 - b. Schluter Systems L.P.
 - c. z_ OR PRE-APPROVED EQUAL.
 - 2. Description: L-shaped.
 - 3. Terminations: matching edge-protection profile.
 - 4. Material and Finish: Color-coated aluminum exposed-edge material.
- D. Temporary Protective Coating: Formulated to protect exposed surfaces of tile against adherence of mortar and grout; compatible with tile, mortar, and grout products and

easily removable after grouting is completed without damaging grout or tile.

- E. Tile Cleaner: A neutral cleaner capable of removing soil and residue without harming tile and grout surfaces, specifically approved for materials and installations indicated by tile and grout manufacturers.
- F. Grout Sealer: Grout manufacturer's standard product for sealing grout joints that does not change color or appearance of grout.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions where tile will be installed, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
 - 1. Verify that substrates for setting tile are firm; dry; clean; free of coatings that are incompatible with tile-setting materials, including curing compounds and other substances that contain soap, wax, oil, or silicone; and comply with flatness tolerances required by ANSI A108.01 for installations indicated.
 - 2. Verify that concrete substrates for tile floors installed with thinset mortar comply with surface finish requirements in ANSI A108.01 for installations indicated.
 - a. Verify that surfaces that received a steel trowel finish have been mechanically scarified.
 - b. Verify that protrusions, bumps, and ridges have been removed by sanding or grinding.
 - 3. Verify that installation of grounds, anchors, recessed frames, electrical and mechanical units of work, and similar items located in or behind tile has been completed.
 - 4. Verify that joints and cracks in tile substrates are coordinated with tile joint locations; if not coordinated, adjust joint locations in consultation with Architect.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove coatings, including curing compounds or other coatings, that are incompatible with tile-setting materials.
- B. Fill cracks, holes, and depressions in concrete substrates for tile floors installed with thinset mortar with trowelable leveling and patching compound specifically recommended by tile-setting material manufacturer.
- C. Where indicated, prepare substrates to receive waterproof membrane by applying a

reinforced mortar bed that complies with ANSI A108.1 and is sloped 1/4 inch per foot toward drains.

- D. Blending: For tile exhibiting color variations, verify that tile has been factory blended and packaged so tile units taken from one package show same range of colors as those taken from other packages and match approved Samples. If not factory blended, either return to manufacturer or blend tiles at Project site before installing.
- E. Substrate Flatness:
 - 1. For tile shorter than **15 inches**, confirm that structure or substrate is limited to variation of **1/4 inch in 10 ft.** from the required plane, and no more than **1/16 inch in 12 inches** when measured from tile surface high points.
 - 2. For large format tile, tile with at least one edge **15 inches** or longer, confirm that structure or substrate is limited to **1/8 inch in 10 ft**. from the required plane, and no more than **1/16 inch in 24 inches** when measured from tile surface high points.
- F. Field-Applied Temporary Protective Coating: If indicated under tile type or needed to prevent grout from staining or adhering to exposed tile surfaces, precoat them with continuous film of temporary protective coating, taking care not to coat unexposed tile surfaces.

3.3 INSTALLATION OF CERAMIC TILE SYSTEM

- A. Install crack isolation membrane to comply with ANSI A108.17 and manufacturer's written instructions to produce membrane of uniform thickness that is bonded securely to substrate.
 - 1. Allow crack isolation membrane to cure before installing tile or setting materials over it.
- B. Mix mortars and grouts to comply with referenced standards and mortar and grout manufacturers' written instructions.
 - 1. Add materials, water, and additives in accurate proportions.
 - 2. Obtain and use type of mixing equipment, mixer speeds, mixing containers, mixing time, and other procedures to produce mortars and grouts of uniform quality with optimum performance characteristics for installations indicated.
- C. Install tile in accordance with TCNA's "Handbook for Ceramic, Glass, and Stone Tile Installation" for TCNA installation methods specified in tile installation schedules. Comply with parts of ANSI A108 series that are referenced in TCNA installation methods and specified in tile installation schedules, and apply to types of setting and grouting materials used.
 - 1. For the following installations, follow procedures in ANSI A108 series of tile installation standards for providing 95 percent mortar coverage:

- a. Tile floors in wet areas.
- 2. Extend tile work into recesses and under or behind equipment and fixtures to form complete covering without interruptions unless otherwise indicated. Terminate work neatly at obstructions, edges, and corners without disrupting pattern or joint alignments.
- 3. Accurately form intersections and returns. Perform cutting and drilling of tile without marring visible surfaces. Carefully grind cut edges of tile abutting trim, finish, or built-in items for straight aligned joints. Fit tile closely to electrical outlets, piping, fixtures, and other penetrations so plates, collars, or covers overlap tile.
- 4. Provide manufacturer's standard trim shapes where necessary to eliminate exposed tile edges.
- 5. Where accent tile differs in thickness from field tile, vary setting-bed thickness so that tiles are flush.
- 6. Jointing Pattern: Lay tile in grid pattern unless otherwise indicated. Lay out tile work and center tile fields in both directions in each space or on each wall area. Lay out tile work to minimize use of pieces that are less than half of a tile. Provide uniform joint widths unless otherwise indicated.
 - a. For tile mounted in sheets, make joints between tile sheets same width as joints within tile sheets, so joints between sheets are not apparent in finished Work.
 - b. Where adjoining tiles on floor, base, walls, or trim are specified or indicated to be same size, align joints.
 - c. Where tiles are specified or indicated to be whole integer multiples of adjoining tiles on floor, base, walls, or trim, align joints unless otherwise indicated.
- 7. Lay out tile wainscots to dimensions indicated or to next full tile beyond dimensions indicated.
- D. Movement Joints: Provide movement joints and other sealant-filled joints, including control, contraction, and isolation joints, where indicated on Drawings. Form joints during installation of setting materials, mortar beds, and tile. Keep joints free of dirt, debris, and setting materials prior to filling with sealants. Do not saw-cut joints after installing tiles.
 - 1. Where joints occur in concrete substrates, locate joints in tile surfaces directly above them.
- E. Metal Flooring Transitions: Install at locations indicated, where exposed edge of tile flooring meets carpet, wood, or other flooring that finishes flush with or below top of tile and no threshold is indicated.
- F. Grout Sealer: Apply grout sealer to cementitious grout joints in tile floors in accordance with manufacturer's written instructions. As soon as sealer has penetrated grout joints, remove excess sealer and sealer from tile faces by wiping with soft cloth.
3.4 ADJUSTING AND CLEANING

- A. Remove and replace tile that is damaged or that does not match adjoining tile. Provide new matching units, installed as specified and in a manner to eliminate evidence of replacement.
- B. Cleaning: On completion of placement and grouting, clean all ceramic tile surfaces so they are free of foreign matter.
 - 1. Remove grout residue from tile as soon as possible.
 - 2. Clean grout smears and haze from tile in accordance with tile and grout manufacturer's written instructions. Use only cleaners recommended by tile and grout manufacturers and only after determining that cleaners are safe to use by testing on samples of tile and other surfaces to be cleaned. Protect metal surfaces and plumbing fixtures from effects of cleaning. Flush surfaces with clean water before and after cleaning.

3.5 PROTECTION

- A. Protect installed tile work with kraft paper or other heavy covering during construction period to prevent staining, damage, and wear. If recommended by tile manufacturer, apply coat of neutral protective cleaner to completed tile walls and floors.
- B. Prohibit foot and wheel traffic from tiled floors for at least seven days after grouting is completed.
- C. Before final inspection, remove protective coverings and rinse neutral protective cleaner from tile surfaces.

END OF SECTION 093013

SECTION 095123 - ACOUSTICAL TILE CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Acoustical tiles.
 - 2. Accessories.
- B. Related Requirements:
- C. Products furnished, but not installed under this Section, include anchors, clips, and other ceiling attachment devices to be cast in concrete.
- 1.2 ACTION SUBMITTALS
 - A. Product Data:
 - 1. Acoustical tiles.
 - 2. Metal suspension system.
 - 3. Accessories.
 - 4. Metal edge moldings and trim.
 - B. Samples: For each exposed product and for each color and texture specified, 6 inches in size.
 - C. Samples for Verification: For each component indicated and for each exposed finish required, prepared on Samples of sizes indicated below:
 - 1. Acoustical Tiles: Set of full-size Samples of each type, color, pattern, and texture.
 - 2. Exposed Moldings and Trim: Set of 6-inch- long Samples of each type and color.

1.3 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, 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 percent of quantity installed.

1.4 QUALITY ASSURANCE

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical tiles, suspension-system components, and accessories to Project site 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 tiles, permit them to reach room temperature and a stabilized moisture content.

1.6 FIELD CONDITIONS

- A. Environmental Limitations: Do not install acoustical tile ceilings until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, work above ceilings is complete, and ambient temperature and humidity conditions are maintained at the levels indicated for Project when occupied for its intended use.
 - 1. Pressurized Plenums: Operate ventilation system for not less than 48 hours before beginning acoustical tile ceiling installation.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Source Limitations for Suspended Acoustical Tile Ceiling System: Obtain each type of acoustical ceiling tile and its suspension system from single source from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Flame-Spread Index: Class A in accordance with ASTM E1264.
- B. Fire-Resistance Ratings: Comply with ASTM E119; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
 - 1. Indicate design designations from UL or from the listings of another qualified testing agency.

2.3 ACOUSTICAL TILES

A. Basis-of-Design Product: Subject to compliance with requirements, provide

ARMSTRONG, PUEBLO, AS SCHEDULED OR PREAPPROVED EQUAL, or comparable product by one of the following:

- 1. Armstrong World Industries, Inc
- 2. USG Corporation
- 3. z_ OR PRE APPROVED EQUAL
- B. Color: White.
- C. Ceiling Attenuation Class (CAC): Not less than 30.
- D. Noise Reduction Coefficient (NRC): Not less than 0.90.
- E. Edge/Joint Detail: AS INDICATED ON DRAWINGS.
- F. Thickness: As indicated on Drawings.

2.4 ACCESSORIES

- A. Attachment Devices: Size for five times the design load indicated in ASTM C635/C635M, Table 1, "Direct Hung," unless otherwise indicated. Comply with seismic design requirements.
- B. Wire Hangers, Braces, and Ties: Provide wires as follows:
 - 1. Zinc-Coated, Carbon-Steel Wire: ASTM A641/A641M, Class 1 zinc coating, soft temper.
 - 2. Stainless Steel Wire: ASTM A580/A580M, Type 304, nonmagnetic.
 - Size: Wire diameter sufficient for its stress at three times hanger design load (ASTM C635/C635M, Table 1, "Direct Hung") will be less than yield stress of wire, but not less than 0.135-inch- diameter wire.
- C. Flat Hangers: Mild steel, zinc coated or protected with rust-inhibitive paint.
- D. Angle Hangers: Angles with legs not less than 7/8 inch wide; formed with 0.04-inchthick, galvanized-steel sheet complying with ASTM A653/A653M, G90 coating designation; with bolted connections and 5/16-inch- diameter bolts.

2.5 MISCELLANEOUS MATERIALS

- A. Acoustical Tile Adhesive: Type recommended in writing by acoustical tile manufacturer, bearing UL label for Class 0-25 flame spread.
- B. Staples: 5/16-inch- long, divergent-point staples.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, including structural framing and substrates to which acoustical tile ceilings attach or abut, with Installer present, for compliance with requirements specified in this and other Sections that affect ceiling installation and anchorage and for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine acoustical tiles before installation. Reject acoustical tiles that are wet, moisture damaged, or mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Testing Substrates: Before adhesively bonding tiles to wet-placed substrates such as cast-in-place concrete or plaster, test and verify that moisture level is below tile manufacturer's recommended limits.
- B. Measure each ceiling area and establish layout of acoustical tiles to balance border widths at opposite edges of each ceiling. Avoid using less-than-half-width tiles at borders unless otherwise indicated, and comply with layout shown on reflected ceiling plans.
- C. Layout openings for penetrations centered on the penetrating items.

3.3 INSTALLATION OF SUSPENDED ACOUSTICAL TILE CEILINGS

- A. Install suspended acoustical tile ceilings in accordance with ASTM C636/C636M and manufacturer's written instructions.
 - 1. Fire-Rated Assembly: Install fire-rated ceiling systems in accordance with tested fire-rated design.
- B. Suspend ceiling hangers from building's structural members and as follows:
 - 1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structure or of ceiling suspension system.
 - 2. Splay hangers only where required and, if permitted with fire-resistance-rated ceilings, to miss obstructions; offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
 - 3. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with location of hangers at spacings required to support standard suspension-system members, install supplemental suspension

members and hangers in form of trapezes or equivalent devices.

- 4. Secure wire hangers to ceiling suspension members and to supports above with a minimum of three tight turns. Connect hangers directly to structure or to inserts, eye screws, or other devices that are secure and appropriate for substrate and that will not deteriorate or otherwise fail due to age, corrosion, or elevated temperatures.
- 5. Secure flat, angle, channel, and rod hangers to structure, including intermediate framing members, by attaching to inserts, eye screws, or other devices that are secure and appropriate for both the structure to which hangers are attached and the type of hanger involved. Install hangers in a manner that will not cause them to deteriorate or fail due to age, corrosion, or elevated temperatures.
- 6. Do not support ceilings directly from permanent metal forms or floor deck. Fasten hangers to cast-in-place hanger inserts, postinstalled mechanical or adhesive anchors, or power-actuated fasteners that extend through forms into concrete.
- 7. When steel framing does not permit installation of hanger wires at spacing required, install carrying channels or other supplemental support for attachment of hanger wires.
- 8. Do not attach hangers to steel deck tabs.
- 9. Do not attach hangers to steel roof deck. Attach hangers to structural members.
- Space hangers not more than 48 inches o.c. along each member supported directly from hangers unless otherwise indicated; provide hangers not more than 8 inches from ends of each member.
- 11. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
- C. Secure bracing wires to ceiling suspension members and to supports with a minimum of four tight turns. Suspend bracing from building's structural members as required for hangers without attaching to permanent metal forms, steel deck, or steel deck tabs. Fasten bracing wires into concrete with cast-in-place or postinstalled anchors.
- D. Install edge moldings and trim of type indicated at perimeter of acoustical ceiling area and where necessary to conceal edges of acoustical tiles.
 - 1. Apply acoustical sealant in a continuous ribbon concealed on back of vertical legs of moldings before they are installed.
 - 2. Screw attach moldings to substrate at intervals not more than **16 inches** o.c. and not more than **3 inches** from ends. Miter corners accurately and connect securely.
 - 3. Do not use exposed fasteners, including pop rivets, on moldings and trim.
- E. Install suspension-system runners so they are square and securely interlocked with one another. Remove and replace dented, bent, or kinked members.
- F. Install acoustical tiles in coordination with suspension system and exposed moldings and trim. Place splines or suspension-system flanges into kerfed edges of tiles so tileto-tile joints are interlocked.
 - 1. Fit adjoining tiles to form flush, tight joints. Scribe and cut tiles for accurate fit at borders and around penetrations through ceiling.

- 2. Hold tile field in compression by inserting leaf-type, spring-steel spacers between tiles and moldings, spaced **12 inches** o.c.
- 3. Protect lighting fixtures and air ducts in accordance with requirements indicated for fire-resistance-rated assembly.

3.4 ERECTION TOLERANCES

- A. Suspended Ceilings: Install main and cross runners level to a tolerance of 1/8 inch in 12 feet, non-cumulative.
- B. Moldings and Trim: Install moldings and trim to substrate and level with ceiling suspension system to a tolerance of 1/8 inch in 12 feet, non-cumulative.

3.5 ADJUSTING

- A. Clean exposed surfaces of acoustical tile ceilings, including trim and edge moldings. Comply with manufacturer's written instructions for cleaning and touchup of minor finish damage.
- B. Remove and replace tiles and other ceiling components that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 095123

SECTION 096513 - RESILIENT BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Vinyl base.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples for Verification: For each type of product indicated and for each color, texture, and pattern required in manufacturer's standard-size Samples, but not less than 12 inches long.
- C. Product Schedule: For resilient base and accessory products. Use same designations indicated on Drawings.

1.3 DELIVERY, STORAGE, AND HANDLING

A. Store resilient products and installation materials in dry spaces protected from the weather, with ambient temperatures maintained within range recommended by manufacturer, but not less than 50 deg F or more than 90 deg F.

1.4 FIELD CONDITIONS

- A. Maintain ambient temperatures within range recommended by manufacturer, but not less than 70 deg F or more than 95 deg F, in spaces to receive resilient products during the following periods:
 - 1. 48 hours before installation.
 - 2. During installation.
 - 3. 48 hours after installation.
- After installation and until Substantial Completion, maintain ambient temperatures within range recommended by manufacturer, but not less than 55 deg F or more than 95 deg F.
- C. Install resilient products after other finishing operations, including painting, have been completed.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- 2.2 VINYL BASE
 - A. Basis-of-Design Product: Subject to compliance with requirements, provide Johnsonite AS INDICATED ON DRAWINGS or comparable product by one of the following:
 - 1. Armstrong World Industries, Inc
 - 2. Flexco Corporation
 - 3. Johnsonite; a Tarkett company
 - 4. z_ OR PRE APPROVED EQUAL
 - B. Product Standard: ASTM F1861, Type TV (vinyl, thermoplastic).
 - 1. Group: I (solid, homogeneous).
 - 2. Style and Location:
 - a. Style A, Straight: Provide in areas with carpet.
 - b. Style B, Cove: PROVIDE IN AREAS OF PORCELAIN TILE.
 - C. Minimum Thickness: 0.125 inch.
 - D. Height: 4 inches.
 - E. Lengths: Coils in manufacturer's standard length.
 - F. Outside Corners: Preformed.
 - G. Inside Corners: Preformed.
 - H. Colors and Patterns: AS INDICATED ON DRAWINGS.

2.3 INSTALLATION MATERIALS

- A. Trowelable Leveling and Patching Compounds: Latex-modified, portland-cementbased or blended hydraulic-cement-based formulation provided or approved by resilient-product manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by resilient-product manufacturer for resilient products and substrate conditions indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
 - 1. Verify that finishes of substrates comply with tolerances and other requirements specified in other Sections and that substrates are free of cracks, ridges, depressions, scale, and foreign deposits that might interfere with adhesion of resilient products.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
 - 1. Installation of resilient products indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Prepare substrates according to manufacturer's written instructions to ensure adhesion of resilient products.
- B. Fill cracks, holes, and depressions in substrates with trowelable leveling and patching compound; remove bumps and ridges to produce a uniform and smooth substrate.
- C. Do not install resilient products until materials are the same temperature as space where they are to be installed.
 - 1. At least 48 hours in advance of installation, move resilient products and installation materials into spaces where they will be installed.
- D. Immediately before installation, sweep and vacuum clean substrates to be covered by resilient products.

3.3 RESILIENT BASE INSTALLATION

- A. Comply with manufacturer's written instructions for installing resilient base.
- B. Apply resilient base to walls, columns, pilasters, casework and cabinets in toe spaces, and other permanent fixtures in rooms and areas where base is required.
- C. Install resilient base in lengths as long as practical without gaps at seams and with tops of adjacent pieces aligned.
- D. Tightly adhere resilient base to substrate throughout length of each piece, with base in continuous contact with horizontal and vertical substrates.
- E. Do not stretch resilient base during installation.

- F. On masonry surfaces or other similar irregular substrates, fill voids along top edge of resilient base with manufacturer's recommended adhesive filler material.
- G. Preformed Corners: Install preformed corners before installing straight pieces.

3.4 CLEANING AND PROTECTION

- A. Comply with manufacturer's written instructions for cleaning and protecting resilient products.
- B. Perform the following operations immediately after completing resilient-product installation:
 - 1. Remove adhesive and other blemishes from surfaces.
 - 2. Sweep and vacuum horizontal surfaces thoroughly.
 - 3. Damp-mop horizontal surfaces to remove marks and soil.
- C. Protect resilient products from mars, marks, indentations, and other damage from construction operations and placement of equipment and fixtures during remainder of construction period.
- D. Cover resilient products subject to wear and foot traffic until Substantial Completion.

END OF SECTION 096513

SECTION 096813 - TILE CARPETING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Carpet tile.
- B. Related Requirements:
 - 1. Section 096513 "Resilient Base and Accessories" for resilient wall base and accessories installed with carpet tile.

1.2 ACTION SUBMITTALS

- A. Samples for Verification: Actual sample of finished products for each of the following products and for each color and texture required. Label each Sample with manufacturer's name, material description, color, pattern, and designation indicated on Drawings and in schedules.
 - 1. Carpet Tile: Full-size Sample.
 - 2. Exposed Edge, Transition, and Other Accessory Stripping: **12-inch-** long Samples.
- B. Product Schedule: For carpet tile. Use same designations indicated on Drawings.

1.3 MAINTENANCE MATERIAL SUBMITTALS

- A. Extra Stock Material: Furnish extra materials, from the same production run, to Owner that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Carpet Tile: Full-size units equal to 5 percent of amount installed for each type indicated, but no fewer than 10 full-size units.
- 1.4 DELIVERY, STORAGE, AND HANDLING
 - A. Comply with CRI 104.

1.5 FIELD CONDITIONS

- A. Comply with CRI 104 for temperature, humidity, and ventilation limitations.
- B. Environmental Limitations: Do not deliver or install carpet tiles until spaces are enclosed and weathertight, wet-work in spaces is complete and dry, and ambient temperature and humidity conditions are maintained at levels planned for building occupants during the remainder of the construction period.
- C. Do not install carpet tiles over concrete slabs until slabs have cured and are sufficiently dry to bond with adhesive and concrete slabs have pH range recommended in writing by carpet tile manufacturer.
- D. Where demountable partitions or other items are indicated for installation on top of carpet tiles, install carpet tiles before installing these items.

1.6 WARRANTY

- A. Special Warranty for Carpet Tiles: Manufacturer agrees to repair or replace components of carpet tile installation that fail in materials or workmanship within specified warranty period.
 - 1. Warranty does not include deterioration or failure of carpet tile due to unusual traffic, failure of substrate, vandalism, or abuse.
 - 2. Failures include, but are not limited to, the following:
 - a. More than 10 percent loss of face fiber, edge raveling, snags, and runs.
 - b. Loss of tuft-bind strength.
 - c. Excess static discharge.
 - d. Delamination.
 - e. Dimensional instability.
 - 3. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CARPET TILE

- A. Basis-of-Design Product: Subject to compliance with requirements, provide TARKETT, A0005 LOOP STITCH, 24X24 GLUE DOWN AS SCHEDULED, OR PRE-APPROVED EQUAL or comparable product by one of the following:
 - 1. Mohawk Carpet, LLC; The Mohawk Group
 - 2. Tarkett USA
 - 3. z_ OR PRE-APPROVED EQUAL
- B. Color: AS INDICATED ON DRAWINGS.

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- C. Pattern: AS INDICATED ON DRAWINGS.
- D. Size: 24 by 24 inches.
- E. Performance Characteristics:
 - 1. Texture Appearance Retention Rating (TARR): Moderate traffic, 2.5 minimum in accordance with ASTM D7330.
 - 2. Dry Breaking Strength: Not less than **100 lbf** in accordance with ASTM D2646.
 - 3. Dimensional Tolerance: Within 1/32 inch of specified size dimensions, as determined by physical measurement.
 - 4. Colorfastness to Crocking: Not less than 4, wet and dry, in accordance with AATCC 165.

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, hydraulic-cementbased formulation provided or recommended in writing by carpet tile manufacturer.
- B. Adhesives: Water-resistant, mildew-resistant, nonstaining, pressure-sensitive types to suit products and subfloor conditions indicated, that comply with flammability requirements for installed carpet tile, and that are recommended in writing by carpet tile manufacturer for releasable installation.
- C. Metal Edge/Transition Strips: Extruded aluminum with [mill] <Insert finish> finish of profile and width shown, of height required to protect exposed edge of carpet, and of maximum lengths to minimize running joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for maximum moisture content, alkalinity range, installation tolerances, and other conditions affecting carpet tile performance.
- B. Examine carpet tile for type, color, pattern, and potential defects.
- C. Concrete Slabs: Verify that finishes comply with requirements specified in Section 033000 "Cast-in-Place Concrete" and that surfaces are free of cracks, ridges, depressions, scale, and foreign deposits.
 - 1. Moisture Testing: Perform tests so that each test area does not exceed 1000 sq. ft., and perform no fewer than three tests in each installation area and with test areas evenly spaced in installation areas.
 - a. Anhydrous Calcium Chloride Test: ASTM F1869. Proceed with installation

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only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours.

- b. Relative Humidity Test: Using in situ probes, ASTM F2170. Proceed with installation only after substrates have a maximum 75 percent relative humidity level measurement.
- c. Perform additional moisture tests recommended in writing by adhesive and carpet tile manufacturers. Proceed with installation only after substrates pass testing.
- D. Wood Subfloors: Verify the following:
 - 1. Underlayment over subfloor complies with requirements specified in Section 061600 "Sheathing."
 - 2. Underlayment surface is free of irregularities and substances that may interfere with adhesive bond or show through surface.
- E. Metal Subfloors: Verify the following:
 - 1. Underlayment surface is free of irregularities and substances that may interfere with adhesive bond or show through surface.
- F. Painted Subfloors: Perform bond test recommended in writing by adhesive manufacturer. Verify the following:
 - 1. Underlayment surface is flat, smooth, evenly planed, tightly jointed, and free of irregularities, gaps greater than 1/8 inch, protrusions more than 1/32 inch, and substances that may interfere with adhesive bond or show through surface.
- G. Access Flooring Systems: Verify the following:
 - 1. Access floor substrate is compatible with carpet tile and adhesive if any.
- H. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Comply with CRI 104 and with carpet tile manufacturer's written installation instructions for preparing substrates.
- B. Use trowelable leveling and patching compounds, in accordance with manufacturer's written instructions, to fill cracks, holes, depressions, and protrusions in substrates. Fill or level cracks, holes and depressions 1/8 inch wide or wider, and protrusions more than 1/32 inch unless more stringent requirements are required by manufacturer's written instructions.
- C. Concrete Substrates: Remove coatings, including curing compounds, and other substances that are incompatible with adhesives and that contain soap, wax, oil, or silicone, without using solvents. Use mechanical methods recommended in writing by adhesive and carpet tile manufacturers.

- D. Metal Substrates: Clean grease, oil, soil and rust, and prime if recommended in writing by adhesive manufacturer. Rough sand painted metal surfaces and remove loose paint. Sand aluminum surfaces, to remove metal oxides, immediately before applying adhesive.
- E. Broom and vacuum clean substrates to be covered immediately before installing carpet tile.

3.3 INSTALLATION

- A. General: Comply with CRI 104, Section 10, "Carpet Tile," and with carpet tile manufacturer's written installation instructions.
- B. Installation Method: As recommended in writing by carpet tile manufacturer.
- C. Maintain dye-lot integrity. Do not mix dye lots in same area.
- D. Maintain pile-direction patterns indicated on Drawings.
- E. Cut and fit carpet tile to butt tightly to vertical surfaces, permanent fixtures, and built-in furniture including cabinets, pipes, outlets, edgings, thresholds, and nosings. Bind or seal cut edges as recommended in writing by carpet tile manufacturer.
- F. Extend carpet tile into toe spaces, door reveals, closets, open-bottomed obstructions, removable flanges, alcoves, and similar openings.
- G. Maintain reference markers, holes, and openings that are in place or marked for future cutting by repeating on carpet tile as marked on subfloor. Use nonpermanent, nonstaining marking device.
- H. Install pattern parallel to walls and borders.

3.4 CLEANING AND PROTECTION

- A. Perform the following operations immediately after installing carpet tile:
 - 1. Remove excess adhesive and other surface blemishes using cleaner recommended in writing by carpet tile manufacturer.
 - 2. Remove yarns that protrude from carpet tile surface.
 - 3. Vacuum carpet tile using commercial machine with face-beater element.
- B. Protect carpet tile against damage from construction operations and placement of equipment and fixtures during the remainder of construction period. Use protection methods indicated or recommended in writing by carpet tile manufacturer.

END OF SECTION 096813

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SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Water-based finish coatings.

1.2 ACTION SUBMITTALS

1.3 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Paint Products: 5 percent, but not less than 1 gal. of each material and color applied.

1.4 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 15 sq. ft..
 - b. Other Items: Architect will designate items or areas required.
 - 2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
 - 3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
 - 1. Maintain containers in clean condition, free of foreign materials and residue.
 - 2. Remove rags and waste from storage areas daily.

1.6 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures of less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 PAINT PRODUCTS

- A. Basis-of-Design Product: Subject to compliance with requirements, provide BENJAMIN MOORE, ULTRA SPEC SCUFF X, AS INDICATED ON DRAWINGS OR PRE-APPROVED EQUAL or comparable product by one of the following:
 - 1. Coronado Paint; Benjamin Moore & Co.
 - 2. PPG Paints; PPG Industries, Inc.
 - 3. Sherwin-Williams Company (The)
 - 4. z_ OR PRE-APPROVED EQUAL
- B. Source Limitations: Obtain each paint product from single source from single manufacturer.
- C. Material Compatibility:
 - 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 - 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- D. Colors: AS INDICATED ON DRAWINGS.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 - 1. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 - 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 - 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.

3.3 INSTALLATION

- A. Apply paints according to manufacturer's written instructions.
 - 1. Use applicators and techniques suited for paint and substrate indicated.

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- 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
- 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
- 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
- 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 FIELD QUALITY CONTROL

- A. Dry-Film Thickness Testing: Owner may engage the services of a qualified testing and inspecting agency to inspect and test paint for dry-film thickness.
 - 1. Contractor shall touch up and restore painted surfaces damaged by testing.
 - 2. If test results show that dry-film thickness of applied paint does not comply with paint manufacturer's written recommendations, Contractor shall pay for testing and apply additional coats as needed to provide dry-film thickness that complies with paint manufacturer's written recommendations.

3.5 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
 - 1. Do not clean equipment with free-draining water and prevent solvents, thinners, cleaners, and other contaminants from entering into waterways, sanitary and storm drain systems, and ground.
 - 2. Dispose of contaminants in accordance with requirements of authorities having jurisdiction.
 - 3. Allow empty paint cans to dry before disposal.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 099123

SECTION 101423 - PANEL SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Panel signs.

1.2 DEFINITIONS

- A. Accessible: In accordance with the accessibility standard.
- B. Illuminated: Illuminated by lighting source integrally constructed as part of the sign unit.

1.3 COORDINATION

- A. Furnish templates for placement of sign-anchorage devices embedded in permanent construction by other installers.
- B. Furnish templates for placement of electrical service embedded in permanent construction by other installers.

1.4 ACTION SUBMITTALS

- A. Product Data:
 - 1. Panel signs.
- B. Shop Drawings: For panel signs.
 - 1. Include fabrication and installation details and attachments to other work.
 - 2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
 - 3. Show message list, typestyles, graphic elements, and layout for each sign at least half size.
- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
 - 1. Include representative Samples of available typestyles and graphic symbols.
- D. Samples for Verification: For each type of sign assembly showing all components and

with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:

- 1. Panel Signs: Not less than 12 inches square, including corner.
- 2. Variable Component Materials: 8-inch Sample of each base material, character (letter, number, and graphic element) in each exposed color and finish not included in Samples above.

1.5 FIELD CONDITIONS

A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of finishes beyond normal weathering.
 - b. Deterioration of embedded graphic image.
 - c. Separation or delamination of sheet materials and components.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Signs and supporting elements are to withstand the effects of gravity and other loads within limits and under conditions indicated.
 - 1. Uniform Wind Load: As indicated on Drawings.
- B. Thermal Movements: For exterior signs, allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 PANEL-SIGN MATERIALS

A. HDU SIGN MATERIAL: UV AND WEATHER RESISTANT WITH PAINTED FINISH. 2" THICK, CNC CARVEABLE, DESIGN AS INDICATED ON DRAWINGS.

PANEL SIGNAGE

B. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.3 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following unless otherwise indicated:
 - 1. Use concealed fasteners and anchors unless indicated to be exposed.
 - 2. For exterior exposure, furnish stainless steel devices unless otherwise indicated.
 - 3. Exposed Metal-Fastener Components, General:
 - a. Fabricated from same basic metal and finish of fastened metal unless otherwise indicated.
 - 4. Sign Mounting Fasteners:
 - a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly unless otherwise indicated.
 - b. Projecting Studs: Threaded studs with sleeve spacer, welded or brazed to back of sign material or screwed into back of sign assembly, unless otherwise indicated.
 - 5. Inserts: Furnish inserts to be set by other installers into concrete or masonry work.
- B. Post-Installed Anchors: Fastener systems with bolts of same basic metal as fastened metal, if visible, unless otherwise indicated; with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction.
 - 1. Uses: Securing signs with imposed loads to structure.
 - 2. Type: Torque-controlled, expansion anchor.
 - 3. Material for Exterior or Interior Locations and Where Stainless Steel Is Indicated: Alloy stainless steel bolts, ASTM F593, and nuts, ASTM F594.
- C. Adhesive: As recommended by sign manufacturer.

2.4 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
 - 1. Preassemble signs in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly

mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.

- 2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
- 3. Comply with AWS for recommended practices in welding and brazing. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
- 4. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
- 5. Internally brace signs for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
- 6. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
- B. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.
 - 1. Stainless Steel Brackets: Factory finish brackets to match sign background finish unless otherwise indicated.

2.5 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.
- C. Directional Finishes: Run grain with long dimension of each piece and perpendicular to long dimension of finished trim or border surface unless otherwise indicated.
- D. Organic, Anodic, and Chemically Produced Finishes: Apply to formed metal after fabrication but before applying contrasting polished finishes on raised features unless otherwise indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

- B. Verify that sign-support surfaces are within tolerances to accommodate signs without gaps or irregularities between backs of signs and support surfaces unless otherwise indicated.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.
 - 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
 - 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
 - 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
 - 4. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.
- B. Mounting Methods:
 - 1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - a. Masonry Substrates: Fill holes with adhesive. Leave recess space in hole for displaced adhesive. Place sign in position and push until flush to surface, embedding studs in holes. Temporarily support sign in position until adhesive fully sets.
 - 2. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
 - 3. Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position so that signage is correctly located and aligned.
 - 4. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.
 - 5. Shim-Plate Mounting: Provide 1/8-inch- thick, concealed aluminum shim plates with predrilled and countersunk holes, at locations indicated, and where other direct mounting methods are impractical. Attach plate with fasteners and anchors suitable for secure attachment to substrate. Attach signs to plate using <Insert mounting method> method specified above.

3.3 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101423

SECTION 101423.16 - ROOM-IDENTIFICATION PANEL SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes room-identification signs that are directly attached to the building.

1.2 DEFINITIONS

A. Accessible: In accordance with the accessibility standard.

1.3 COORDINATION

A. Furnish templates for placement of sign-anchorage devices embedded in permanent construction by other installers.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: For room-identification signs.
 - 1. Include fabrication and installation details and attachments to other work.
 - 2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.
 - 3. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.
- C. Samples for Initial Selection: For each type of sign assembly, exposed component, and exposed finish.
 - 1. Include representative Samples of available typestyles and graphic symbols.
- D. Samples for Verification: For each type of sign assembly showing all components and with the required finish(es), in manufacturer's standard size unless otherwise indicated and as follows:
 - 1. Room-Identification Signs: Full-size Sample.
 - 2. Variable Component Materials: 8-inch Sample of each base material, character (letter, number, and graphic element) in each exposed color and finish not included in Samples above.
 - 3. Exposed Accessories: Full-size Sample of each accessory type.

E. Product Schedule: For room-identification signs. Use same designations indicated on Drawings or specified.

1.5 FIELD CONDITIONS

A. Field Measurements: Verify locations of anchorage devices embedded in permanent construction by other installers by field measurements before fabrication, and indicate measurements on Shop Drawings.

1.6 WARRANTY

- A. Special Warranty: Manufacturer agrees to repair or replace components of signs that fail in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Deterioration of finishes beyond normal weathering.
 - b. Deterioration of embedded graphic image.
 - c. Separation or delamination of sheet materials and components.
 - 2. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the ABA standards of the Federal agency having jurisdiction, and, ICC A117.1.

2.2 ROOM-IDENTIFICATION SIGNS

- A. Room-Identification Sign: Sign system with smooth, uniform surfaces; with message and characters having uniform faces, sharp corners, and precisely formed lines and profiles; and as follows:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide ASI, IN TOUCH III SERIES, UNFRAMED INTERIOR ROOM SIGNS OR PRE-APPROVED EQUAL or comparable product by one of the following:
 - a. ASI Sign Systems, Inc
 - b. Mohawk Sign Systems
 - c. z_OR PRE-APPROVED EQUAL
 - 2. Laminated-Sheet Sign: HIGH IMPACT CAST SIGN face sheet with raised graphics laminated to acrylic backing sheet to produce composite sheet.

- a. Composite-Sheet Thickness: 0.125 inch.
- b. Surface-Applied Graphics: Applied 3D PRINTED WITH INTEGRAL COLOR.
- c. Subsurface Graphics: Slide-in changeable insert, BACKGROUND COLOR IS SECOND PAINTED SURFACE.
- d. Color(s): AS INDICATED ON DRAWINGS.
- 3. Sign-Panel Perimeter: Finish edges smooth.
 - a. Edge Condition: As indicated on Drawings.
 - b. Corner Condition in Elevation: Square.
- 4. Mounting: Manufacturer's standard method for substrates indicated with countersunk flathead through fasteners, two-face tape.
- 5. Text and Typeface: Accessible raised characters and Braille, AND AS INDICATED ON DRAWINGS. Finish raised characters to contrast with background color, and finish Braille to match background color.

2.3 SIGN MATERIALS

- A. Acrylic Sheet: ASTM D4802, category as standard with manufacturer for each sign, Type UVF (UV filtering).
- B. Vinyl Film: UV-resistant vinyl film with pressure-sensitive, permanent adhesive; die cut to form characters or images as indicated on Drawings.
- C. Paints and Coatings for Sheet Materials: Inks, dyes, and paints that are recommended by manufacturer for optimum adherence to surface and are UV and water resistant for colors and exposure indicated.

2.4 ACCESSORIES

- A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:
 - 1. Use concealed fasteners and anchors unless indicated to be exposed.
 - 2. Sign Mounting Fasteners:
 - a. Concealed Studs: Concealed (blind), threaded studs welded or brazed to back of sign material or screwed into back of sign assembly unless otherwise indicated.
- B. Adhesive: As recommended by sign manufacturer.
- C. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch thick, with adhesive on both sides.

2.5 FABRICATION

- A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.
 - 1. Preassemble signs and assemblies in the shop to greatest extent possible. Disassemble signs and assemblies only as necessary for shipping and handling limitations. Clearly mark units for reassembly and installation; apply markings in locations concealed from view after final assembly.
 - 2. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
 - 3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
 - 4. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
- B. Subsurface-Applied Graphics: Apply graphics to back face of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.
- C. Subsurface-Etched Graphics: Reverse etch back face of clear face-sheet material. Fill resulting copy with manufacturer's standard enamel. Apply opaque manufacturer's standard background color coating over enamel-filled copy.
- D. Signs with Changeable Message Capability: Fabricate signs to allow insertion of changeable messages as follows:
 - 1. For slide-in changeable inserts, fabricate slot without burrs or constrictions that inhibit function. Furnish initial changeable insert. Subsequent changeable inserts are by Owner.
 - 2. For frame to hold changeable sign panel, fabricate frame without burrs or constrictions that inhibit function. Furnish initial sign panel.

2.6 GENERAL FINISH REQUIREMENTS

- A. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Install signs using mounting methods indicated and according to

manufacturer's written instructions.

- 1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
- 2. Install signs so they do not protrude or obstruct according to the accessibility standard.
- 3. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
- B. Accessibility: Install signs in locations on walls as indicated on Drawings, and, according to the accessibility standard.
- C. Mounting Methods:
 - 1. Concealed Studs: Using a template, drill holes in substrate aligning with studs on back of sign. Remove loose debris from hole and substrate surface.
 - 2. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
 - 3. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.
 - 4. Two-Face Tape: Clean bond-breaking materials from substrate surface and remove loose debris. Apply tape strips symmetrically to back of sign and of suitable quantity to support weight of sign without slippage. Keep strips away from edges to prevent visibility at sign edges. Place sign in position, and push to engage tape adhesive.

3.2 ADJUSTING AND CLEANING

- A. Remove and replace damaged or deformed signs and signs that do not comply with specified requirements. Replace signs with damaged or deteriorated finishes or components that cannot be successfully repaired by finish touchup or similar minor repair procedures.
- B. Remove temporary protective coverings and strippable films as signs are installed.
- C. On completion of installation, clean exposed surfaces of signs according to manufacturer's written instructions, and touch up minor nicks and abrasions in finish. Maintain signs in a clean condition during construction and protect from damage until acceptance by Owner.

END OF SECTION 101423.16

SECTION 102600 - WALL AND DOOR PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Corner guards.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, impact strength, dimensions of individual components and profiles, and finishes.
- B. Samples for Initial Selection: For each type of impact-resistant wall-protection unit indicated, in each color and texture specified.
 - 1. Include Samples of accent strips and accessories to verify color selection.
- C. Samples for Verification: For each type of exposed finish on the following products, prepared on Samples of size indicated below:
 - 1. Corner Guards: **12 inches** long. Include example top caps.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Store wall and door protection in original undamaged packages and containers inside well-ventilated area protected from weather, moisture, soiling, extreme temperatures, and humidity.
 - 1. Maintain room temperature within storage area at not less than 70 deg F during the period plastic materials are stored.
 - 2. Keep plastic materials out of direct sunlight.
 - 3. Store plastic wall- and door-protection components for a minimum of 72 hours, or until plastic material attains a minimum room temperature of 70 deg F.
 - a. Store corner-guard covers in a vertical position.

PART 2 - PRODUCTS

2.1 CORNER GUARDS

- A. Surface-Mounted, Plastic-Cover Corner Guards: Manufacturer's standard assembly consisting of snap-on, resilient plastic cover installed over retainer; including mounting hardware; fabricated with 90- or 135-degree turn to match wall condition.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Construction Specialties, Inc.
 - b. inpro Corporation
 - c. JL Industries; Activar Construction Products Group, Inc.
 - d. OR PRE-APPROVED EQUAL.
 - 2. Cover: Extruded rigid plastic, minimum 0.100-inch wall thickness; as follows:
 - a. Profile: Nominal 2-inch- long leg and 1/4-inch corner radius.
 - b. Height: 4 feet.
 - c. Color and Texture: As selected by Architect from manufacturer's full range.
 - 3. Continuous Retainer: Minimum 0.060-inch- thick, one-piece, extruded aluminum.
 - 4. Retainer Clips: Manufacturer's standard impact-absorbing clips.
 - 5. Top and Bottom Caps: Prefabricated, injection-molded plastic; color matching cover; field adjustable for close alignment with snap-on cover.

2.2 MATERIALS

- A. Plastic Materials: Chemical- and stain-resistant, high-impact-resistant plastic with integral color throughout; extruded and sheet material as required, thickness as indicated.
- B. Polycarbonate Plastic Sheet: ASTM D6098, S-PC01, Class 1 or Class 2, abrasion resistant; with a minimum impact-resistance rating of **15 ft.-lbf/in.** of notch when tested according to ASTM D256, Test Method A.
- C. Fasteners: Aluminum, nonmagnetic stainless-steel, or other noncorrosive metal screws, bolts, and other fasteners compatible with items being fastened. Use security-type fasteners where exposed to view.
- D. Adhesive: As recommended by protection product manufacturer.

2.3 FINISHES

A. Protect finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.

B. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and wall areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.
- B. Examine walls to which wall and door protection will be attached for blocking, grounds, and other solid backing that have been installed in the locations required for secure attachment of support fasteners.
 - 1. For wall and door protection attached with adhesive, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Complete finishing operations, including painting, before installing wall and door protection.
- B. Before installation, clean substrate to remove dust, debris, and loose particles.

3.3 INSTALLATION

- A. Installation Quality: Install wall and door protection according to manufacturer's written instructions, level, plumb, and true to line without distortions. Do not use materials with chips, cracks, voids, stains, or other defects that might be visible in the finished Work.
- B. Accessories: Provide splices, mounting hardware, anchors, trim, joint moldings, and other accessories required for a complete installation.
 - 1. Provide anchoring devices and suitable locations to withstand imposed loads.
 - 2. Where splices occur in horizontal runs of more than 20 feet, splice aluminum retainers and plastic covers at different locations along the run, but no closer than 12 inches apart.
 - 3. Adjust end, and, top caps as required to ensure tight seams.

3.4 CLEANING

- A. Immediately after completion of installation, clean plastic covers and accessories using a standard ammonia-based household cleaning agent.
- B. Remove excess adhesive using methods and materials recommended in writing by manufacturer.

END OF SECTION 102600
SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Public-use washroom accessories.

1.2 COORDINATION

- A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.
- B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.3 ACTION SUBMITTALS

- A. Product Data Submittals: For each product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
 - 2. Include anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance: Design accessories and fasteners to comply with the following requirements:
 - 1. Grab Bars: Installed units are able to resist 250 lbf concentrated load applied in any direction and at any point.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Source Limitations: Obtain each type of public-use washroom accessory from single source from single manufacturer.

DB ARCHITECTURE OF ACADIANA 20231010

- B. Toilet Tissue (Roll) Dispenser:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide AS INDICATED ON DRAWINGS or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc
 - c. z_OR PRE-APPROVED EQUAL.
 - 2. Mounting: Surface mounted.
 - 3. Material and Finish: AS INDICATED ON DRAWINGS.
- C. Combination Towel (Folded) Dispenser/Waste Receptacle:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide AS INDICATED ON DRAWINGS or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc
 - c. z_OR PRE-APPROVED EQUAL.
 - 2. Description: Combination unit for dispensing C-fold or multifold towels, with removable waste receptacle.
 - 3. Mounting: AS INDICATED ON DRAWINGS.
 - a. Designed for nominal 6-inch wall depth.
 - 4. Minimum Towel-Dispenser Capacity: 600 C-fold or 800 multifold paper towels.
 - 5. Minimum Waste-Receptacle Capacity: 12 gal.
 - 6. Material and Finish: As indicated on drawings.
 - 7. Liner: Reusable, vinyl waste-receptacle liner.
 - 8. Lockset: Tumbler type for towel-dispenser compartment.
- D. Automatic Soap Dispenser:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide AS INDICATED ON DRAWINGS or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Sloan Valve Company
 - c. z_ OR PRE-APPROVED EQUAL.
 - 2. Description: Automatic dispenser with infrared sensor to detect presence of hands; electrically operated, with adapter for 110 to 240 V ac power supply; designed for dispensing soap in lather form.
 - 3. Mounting: Surface mounted.
 - 4. Materials: AS INDICATED ON DRAWINGS.
 - 5. Refill Indicator: LED indicator.
- E. Grab Bar:

TOILET, BATH, AND LAUNDRY ACCESSORIES

- 1. Basis-of-Design Product: Subject to compliance with requirements, provide AS INDICATED ON DRAWINGS or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc
 - c. Oatey Co.
 - d. z_OR PRE-APPROVED EQUAL.
- 2. Mounting: Flanges with concealed fasteners.
- 3. Material: Stainless steel, 0.05 inch thick.
 - a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin) on ends and slipresistant texture in grip area.
- 4. OD: 1-1/2 inches.
- 5. Configuration and Length: As indicated on Drawings.
- F. Sanitary-Napkin Disposal Unit:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide AS INDICATED ON DRAWINGS or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc
 - c. z_OR PRE-APPROVED EQUAL.
 - 2. Mounting: Surface mounted.
 - 3. Door or Cover: Self-closing, disposal-opening cover.
 - 4. Receptacle: Removable.
 - 5. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
- G. Seat-Cover Dispenser:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide As indicated on drawings or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc
 - c. z_ OR PRE-APPROVED EQUAL.
 - 2. Mounting: Surface mounted.
 - 3. Minimum Capacity: 250 seat covers.
 - 4. Exposed Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).
 - 5. Lockset: Tumbler type.
- H. Mirror Unit:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide AS INDICATED ON DRAWINGS or comparable product by one of the following:

- a. ASI-American Specialties, Inc.
- b. Bobrick Washroom Equipment, Inc
- 2. Frame: Stainless steel channel.
 - a. Corners: Manufacturer's standard.
- 3. Size: As indicated on Drawings.
- 4. Hangers: Manufacturer's standard rigid, tamper and theft resistant.
- I. Hook:
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide AS INDICATED ON DRAWINGS or comparable product by one of the following:
 - a. ASI-American Specialties, Inc.
 - b. Bobrick Washroom Equipment, Inc
 - c. z_ OR PRE-APPROVED EQUAL.
 - 2. Description: Double-prong unit.
 - 3. Mounting: Concealed.
 - 4. Material and Finish: AS INDICATED ON DRAWINGS.

2.3 MATERIALS

- A. Stainless Steel: ASTM A240/A240M or ASTM A666, Type 304, 0.031-inch- minimum nominal thickness unless otherwise indicated.
- B. Fasteners: Screws, bolts, and other devices of same material as accessory unit, unless otherwise recommended by manufacturer or specified in this Section, and tamper and theft resistant where exposed, and of stainless or galvanized steel where concealed.
- C. Chrome Plating: ASTM B456, Service Condition Number SC 2 (moderate service).
- D. Mirrors: ASTM C1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

2.4 FABRICATION

- A. General: Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.
- B. Keys: Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories in accordance with manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.
 - 1. Remove temporary labels and protective coatings.
- B. Grab Bars: Install to comply with specified structural-performance requirements.

3.2 ADJUSTING AND CLEANING

- A. Adjust accessories for unencumbered, smooth operation. Replace damaged or defective items.
- B. Clean and polish exposed surfaces in accordance with manufacturer's written instructions.

END OF SECTION 102800

SECTION 104416 - FIRE EXTINGUISHERS

PART 1 - GENERAL

- 1.1 SUMMARY
 - A. Section includes portable, fire extinguishers and mounting brackets for fire extinguishers.
- 1.2 ACTION SUBMITTALS
 - A. Product Data: For each type of product. Include rating and classification, material descriptions, dimensions of individual components and profiles, and finishes for fire extinguisher and mounting brackets.

1.3 COORDINATION

A. Coordinate type and capacity of fire extinguishers with fire-protection cabinets to ensure fit and function.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. NFPA Compliance: Fabricate and label fire extinguishers to comply with NFPA 10, "Portable Fire Extinguishers."
- B. Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
 - 1. Provide fire extinguishers approved, listed, and labeled by FM Global.

2.2 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

- A. Fire Extinguishers: Type, size, and capacity for each fire-protection cabinet indicated.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Amerex Corporation
 - b. Ansul; brand of Johnson Controls International plc, Building Solutions North America

- c. Babcock-Davis
- d. Kidde; Carrier Global Corporation
- e. z_OR PRE-APPROVED EQUAL.
- 2. Source Limitations: Obtain fire extinguishers, fire-protection cabinets, and accessories, from single source from single manufacturer.
- 3. Valves: Manufacturer's standard.
- 4. Handles and Levers: Stainless steel.
- 5. Instruction Labels: Include pictorial marking system complying with NFPA 10, Appendix B.
- B. Multipurpose Dry-Chemical Type FE: UL-rated MATCH EXISTING ON SITE nominal capacity, with monoammonium phosphate-based dry chemical in manufacturer's standard enameled container.

2.3 MOUNTING BRACKETS

- A. Mounting Brackets: Manufacturer's standard steel, designed to secure fire extinguisher to wall or structure, of sizes required for types and capacities of fire extinguishers indicated, with plated or black baked-enamel finish.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Amerex Corporation
 - b. Ansul; brand of Johnson Controls International plc, Building Solutions North America
 - c. Babcock-Davis
 - d. JL Industries; Activar Construction Products Group, Inc.
 - e. Kidde; Carrier Global Corporation
 - f. Strike First Corporation of America
 - g. z_OR PRE-APPROVED EQUAL.
 - 2. Source Limitations: Obtain mounting brackets and fire extinguishers from single source from single manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine fire extinguishers for proper charging and tagging.
 - 1. Remove and replace damaged, defective, or undercharged fire extinguishers.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install fire extinguishers and mounting brackets in locations indicated and in compliance with requirements of authorities having jurisdiction.
- B. Mounting Brackets: Fasten mounting brackets to surfaces, square and plumb, at locations indicated.
 - 1. Mounting Height: Top of fire extinguisher to be at 42 inches above finished floor.

END OF SECTION 104416

SECTION 107313 - AWNINGS

- PART 1 GENERAL
- 1.1 SUMMARY
 - A. Section Includes:
 - 1. Fixed awnings.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include styles, material descriptions, construction details, fabrication details, dimensions of individual components and profiles, hardware, fittings, mounting accessories, features, and finishes for awnings.
 - 2. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories.
- B. Shop Drawings:
 - 1. Include plans, elevations, sections, mounting heights, and attachment details.
 - 2. Detail fabrication and assembly of awnings.
 - 3. Show locations for blocking, reinforcement, and supplementary structural support.
- C. Samples: For each exposed product and for each color and texture specified.
- D. Samples for Initial Selection: For each type of exposed finish.
 - 1. Include Samples of graphics and accessories involving color or finish selection.
- E. Samples for Verification: For the following:
 - 1. Frame Finish: Not less than **6-inch** lengths.

1.3 QUALITY ASSURANCE

A. Fabricator Qualifications: Shop that employs skilled workers who custom fabricate products similar to those required for this Project and whose products have a record of successful in-service performance.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
 - 1. Temperature Change: 120 deg F, ambient; 180 deg F, material surfaces.

2.2 AWNING FRAME AND ACCESSORY MATERIALS

- A. Aluminum: Alloy and temper recommended by awning manufacturer for type of use and finish indicated and with not less than the strength and durability properties of alloy and temper required by structural loads.
 - 1. Aluminum Plate and Sheet: ASTM B209.
 - 2. Aluminum Extrusions: **ASTM B221**.
 - 3. Extruded Structural Pipe and Round Tubing: ASTM B429/B429M, standard weight (Schedule 40).
- B. Anchors, Fasteners, Fittings, Hardware, and Installation Accessories: Complying with performance requirements indicated and suitable for exposure conditions, supporting structure, anchoring substrates, and installation methods indicated. Corrosion-resistant or noncorrodible units; weather-resistant, compatible, nonstaining materials. Provide as required for awning assembly, mounting, and secure attachment. Number as needed to comply with performance requirements and to maintain uniform appearance; evenly spaced. Where exposed to view, provide finish and color as selected by Architect from manufacturer's full range.
 - 1. Expansion Anchors: Anchor bolt and sleeve assembly with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry assemblies and equal to four times the load imposed when installed in concrete as determined by testing according to ASTM E488 conducted by a qualified independent testing and inspecting agency.
 - a. Material: Stainless steel with bolts and nuts complying with ASTM F593 and ASTM F594, Alloy Group 1 or 2.

2.3 FIXED AWNINGS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. LOCAL FABRICATOR / INSTALLER
 - 2. z_ OR PRE-APPROVED EQUAL.
- B. Aluminum Finish: Baked-enamel or powder-coat finish complying with finish

AWNINGS

manufacturer's written instructions for surface preparation including pretreatment, application, baking, and minimum dry film thickness.

1. Color: Match Architect's sample, As selected by Architect from manufacturer's full range, FINISH AND COLOR AS INDICATED ON DRAWINGS.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for supporting members, blocking, inserts, installation tolerances, operational clearances, accurate locations of connections to building electrical system, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General: Install awnings at locations and in position indicated, securely connected to supports, free of rack, and in proper relation to adjacent construction. Use mounting methods of types described and in compliance with Shop Drawings and fabricator's written instructions.
- B. Install awnings after other finishing operations, including joint sealing and painting, have been completed.
- C. Slip fit frame connections accurately together to form hairline joints, and tighten to secure.
- D. Weld frame connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations.
 - 1. Field Welding: Comply with the following requirements:
 - a. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - b. Obtain fusion without undercut or overlap.
 - c. Remove welding flux immediately.
 - d. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- E. Anchoring to In-Place Construction: Use anchors, fasteners, fittings, hardware, and installation accessories where necessary for securing awnings to structural support and for properly transferring load to in-place construction.

- F. Corrosion Protection: Coat concealed surfaces of aluminum that come in contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.
- G. Coordinate awning installation with flashing and joint-sealant installation so these materials are installed in sequence and in a manner that prevents exterior moisture from passing through completed exterior wall and roof assemblies.

3.3 ADJUSTING

- A. Adjust hardware and moving parts to function smoothly, and lubricate as recommended by retractable-awning manufacturer.
- 3.4 CLEANING AND PROTECTION
 - A. Touch up factory-applied finishes to restore damaged or soiled areas.

END OF SECTION 107313

SECTION 281000 - ACCESS CONTROL

PART 1 - GENERAL

- 1.1 SUMMARY
 - A. Section Includes:
 - 1. Access control system.

1.2 DEFINITIONS

- A. DGP: Data gathering panel.
- B. NFC: Near field communications.
- C. REX: Request-to-exit.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Coordination Meeting(s): For access control. Conduct meeting(s) at Project site before Ordering door assembly and all related items.
 - 1. Attendees: Installers, fabricators, representatives of manufacturers, and administrants for field tests and inspections. Notify Architect of scheduled meeting dates.

1.4 ACTION SUBMITTALS

- A. Shop Drawings:
 - 1. Project general notes.
 - 2. Head-end hardware, equipment, and device locations.
 - 3. Block diagram and cable/conduit routing illustrating end-to-end system wiring.
 - 4. End-to-end system communications details.
 - 5. Secondary power calculations
- B. Field quality-control reports.
- 1.5 INFORMATIONAL SUBMITTALS
 - A. Sample warranties.

ACCESS CONTROL

1.6 WARRANTY FOR ACCESS CONTROL SYSTEM

- A. Special Installer Extended Warranty: Installer warrants that fabricated and installed access control system performs in accordance with specified requirements and agrees to repair or replace components that fail to perform as specified within extended-warranty period.
 - 1. Extended-Warranty Period: Two years from date of Substantial Completion; full coverage for labor, materials, and equipment.

1.7 WARRANTY FOR BATTERIES

- A. Special Manufacturer Extended Warranty for Batteries: Manufacturer warrants that batteries perform in accordance with specified requirements and agrees to provide repair or replacement of batteries that fail to perform as specified within warranted cycle life.
 - 1. Initial Extended-Warranty Period for Li-ion Batteries: Three years from date of Substantial Completion; full coverage for materials only, free on board, freight prepaid.

PART 2 - PRODUCTS (Not Used) PART 3 - EXECUTION

3.1 INSTALLATION OF ACCESS CONTROL SYSTEM

- A. Description: Access control system provides a means of regulating or controlling physical entry into an area, or access to or use of a device by electrical, electronic, and/or mechanical means. Typical access control system includes a card reader at a controlled door, which reads a user credential and sends the collected data to a centrally located DGP over the cabling infrastructure. DGP may hold a user database onboard or may communicate with a user database over the network. If user is authorized for access at a controlled door, DGP signals the electronic lock at the door to unlock. If user credential is not authorized according to user database, the door remains locked and access is denied. In addition to card readers and electronic locks, access control systems may include various other connected devices programmed for a desired function.
- B. Performance Criteria:
 - 1. Regulatory Requirements:
 - a. Components listed and labeled in accordance with NFPA 70 and NFPA 72, by qualified electrical testing laboratory recognized by authorities having jurisdiction, and marked for intended location and application.
 - b. Comply with NFPA 1, NFPA 730, NFPA 731, and ICC IBC.
 - c. Certification: Provide certificate, authorized under UL Certification Service,

that access control system installation complies with installation requirements of UL CCN ALOV.

- 2. Listing Criteria: UL CCN ALOV and UL CCN ALVY; including UL 294.
- 3. Consult Architect for resolution of conflicting requirements.
- C. Selection of Access Control System Components:
 - 1. Source Limitations: Obtain components for access control system from sources approved by Installer warranting performance of entire system.
 - 2. Provide the following specified products with the access control system:
 - a. Access Control Software and Database Management:
 - 1) Access control system unit operating system software.
 - 2) Access control system unit antivirus and security protection software.
 - 3) Visitor management database software.
 - 4) Mobile credential validation database software.
 - 5) Access control system supplementary computer equipment operating system software.
 - 6) Access control system supplementary computer equipment antivirus and security protection software.
 - 7) Credential card personalization software.
 - 8) Credential card printer and encoder software.
 - b. Access Control System Hardware:
 - Quantity as indicated on Drawings of access control system server(s) COORDINATE, MATCH, AND TIE INTO EXISTING SYSTEM BY ADDING A NEW DEVICE COMPATIBLE WITH EXISTING.
 - c. Security Door Hardware:
 - electromagnetic lock(s) MATCH EXISTING SYSTEM IN FORM, FUNCTION, AND TYPE - GET APPROVAL FROM ARCHITECT PRIOR TO ORDERING. COORDINATE, MATCH, AND TIE INTO EXISTING SYSTEM BY ADDING A NEW DEVICE COMPATIBLE WITH EXISTING..
 - 2) panic exit device(s) with electric strike AT EXIT DOOR, MATCH EXISTING SYSTEM IN FORM, FUNCTION, AND TYPE - GET APPROVAL FROM ARCHITECT PRIOR TO ORDERING. COORDINATE, MATCH, AND TIE INTO EXISTING SYSTEM BY ADDING A NEW DEVICE COMPATIBLE WITH EXISTING.
 - d. Integrated Credential Readers and Entry Management:
 - 1) swipe AND CHIP card reader(s) MATCH EXISTING SYSTEM IN FORM, FUNCTION, AND TYPE - GET APPROVAL FROM ARCHITECT PRIOR TO ORDERING. COORDINATE, MATCH, AND TIE INTO EXISTING SYSTEM BY ADDING A NEW DEVICE

COMPATIBLE WITH EXISTING.

- 2) door lock keypad(s) MATCH EXISTING SYSTEM IN FORM, FUNCTION, AND TYPE - GET APPROVAL FROM ARCHITECT PRIOR TO ORDERING. COORDINATE, MATCH, AND TIE INTO EXISTING SYSTEM BY ADDING A NEW DEVICE COMPATIBLE WITH EXISTING.
- 3) combination card reader(s) and keypad(s) MATCH EXISTING SYSTEM IN FORM, FUNCTION, AND TYPE - GET APPROVAL FROM ARCHITECT PRIOR TO ORDERING. COORDINATE, MATCH, AND TIE INTO EXISTING SYSTEM BY ADDING A NEW DEVICE COMPATIBLE WITH EXISTING..
- e. Electrified Locking Devices and Accessories:
 - 1) electrically controlled two-point latch(es) MATCH EXISTING SYSTEM IN FORM, FUNCTION, AND TYPE - GET APPROVAL FROM ARCHITECT PRIOR TO ORDERING. COORDINATE, MATCH, AND TIE INTO EXISTING SYSTEM BY ADDING A NEW DEVICE COMPATIBLE WITH EXISTING.
- D. Special Techniques:
 - 1. Comply with manufacturer's published instructions.
 - 2. Mounting Heights: Mount field devices in accessible locations in accordance with United States Access Board ADA-ABA Accessibility Guidelines standards.
- E. Interfaces with Other Work:
 - 1. Coordinate installation of new access control system components with existing conditions.
- F. Systems Integration:
 - 1. Coordinate with EXISTING SYSTEMS for integrating access control system with intrusion detection system.
 - 2. Coordinate with EXISTING SYSTEMS VIDEO SURVEILLANCE for integrating access control system with video surveillance controls.

3.2 FIELD QUALITY CONTROL OF ACCESS CONTROL SYSTEM COMPONENTS

- A. Field tests and inspections must be witnessed by Architect, Tenant.
- B. Tests and Inspections:
 - 1. Perform manufacturer's recommended tests and inspections for access control system components.
 - 2. Perform industry standard tests and inspections for power supplies, batteries, and other standby power provisions.
 - 3. Engage factory-authorized service representative to test end-to-end system

connection and functionality.

- 4. Verify monitoring of access control system status and diagnostics information.
- C. Nonconforming Work:
 - 1. Access control equipment will be considered defective if it does not pass tests and inspections.
 - 2. Remove and replace defective units and retest.
- D. Collect, assemble, and submit test and inspection reports.

3.3 SYSTEM STARTUP

- A. Perform startup service.
 - 1. Complete installation and startup checks in accordance with manufacturer's published instructions.

3.4 ADJUSTING

- A. Control Sensor Adjustments: Adjust control devices to suit actual occupied conditions.
 - 1. For proximity motion sensors, verify operation at outer limits of detector range. Set time delay to suit Owner's operations.

3.5 PROTECTION

A. After installation, protect access control system components from construction activities. Remove and replace items that are contaminated, defaced, damaged, or otherwise caused to be unfit for use prior to acceptance by Owner.

3.6 MAINTENANCE

A. Control Sensor Readjustments: When requested within 12 months from date of Substantial Completion, provide on-site assistance in readjusting system to suit actual occupied conditions. Provide up to two visits to Project during other-than-normal occupancy hours for this purpose.

END OF SECTION 281000

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Protecting existing vegetation to remain.
 - 2. Removing existing vegetation.
 - 3. Clearing and grubbing.
 - 4. Stripping and stockpiling topsoil.
 - 5. Removing above- and below-grade site improvements.
 - 6. Disconnecting, capping or sealing, and abandoning site utilities in place.
 - 7. Temporary erosion and sedimentation control.
- B. Related Requirements:
 - 1. Section 015000 "Temporary Facilities and Controls" for temporary erosion- and sedimentation-control measures.

1.2 DEFINITIONS

- A. Subsoil: Soil beneath the level of subgrade; soil beneath the topsoil layers of a naturally occurring soil profile, typified by less than 1 percent organic matter and few soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile. In undisturbed areas, surface soil is typically called "topsoil," but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil; the zone where plant roots grow.
- D. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction and indicated on Drawings.
- E. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and indicated on Drawings.
- F. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.3 PREINSTALLATION MEETINGS

A. Preinstallation Conference: Conduct conference at Project site.

SITE CLEARING

1.4 MATERIAL OWNERSHIP

A. Except for materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
 - 1. Use sufficiently detailed photographs or video recordings.
 - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plant designated to remain.
- B. Topsoil stripping and stockpiling program.
- C. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.6 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed trafficways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion- and sedimentationcontrol and plant-protection measures are in place.
- E. Tree- and Plant-Protection Zones: Protect according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- F. Soil Stripping, Handling, and Stockpiling: Perform only when the soil is dry or slightly moist.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 312000 "Earth Moving."
 - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Verify that trees, shrubs, and other vegetation to remain or to be relocated have been flagged and that protection zones have been identified and enclosed according to requirements in Section 015639 "Temporary Tree and Plant Protection."
- C. Protect existing site improvements to remain from damage during construction.
 - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls, and restore and stabilize areas disturbed during removal.
- 3.3 TREE AND PLANT PROTECTION
 - A. Protect trees and plants remaining on-site according to requirements in Section

SITE CLEARING

015639 "Temporary Tree and Plant Protection."

B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.4 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
 - 1. Arrange with utility companies to shut off indicated utilities.
 - 2. Owner will arrange to shut off indicated utilities when requested by Contractor.
- B. Locate, identify, and disconnect utilities indicated to be abandoned in place.
- C. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others, unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.
- D. Excavate for and remove underground utilities indicated to be removed.

3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
 - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
 - 2. Grind down stumps and remove roots larger than 2 inches in diameter, obstructions, and debris to a depth of 18 inches below exposed subgrade.
 - 3. Use only hand methods or air spade for grubbing within protection zones.
 - 4. Chip removed tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
 - 1. Place fill material in horizontal layers not exceeding a loose depth of **8 inches**, and compact each layer to a density equal to adjacent original ground.

3.6 TOPSOIL STRIPPING

A. Remove sod and grass before stripping topsoil.

SITE CLEARING

- B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.
 - 1. Remove subsoil and nonsoil materials from topsoil, including clay lumps, gravel, and other objects larger than **2 inches** in diameter; trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil or other materials. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
 - 1. Limit height of topsoil stockpiles to 72 inches.
 - 2. Do not stockpile topsoil within protection zones.
 - 3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
 - 4. Stockpile surplus topsoil to allow for respreading deeper topsoil.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 - 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
 - 2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Excavating and filling for rough grading the Site.
 - 2. Preparing subgrades for slabs-on-grade, walks, pavements, turf and grasses.
 - 3. Excavating and backfilling for buildings and structures.
 - 4. Drainage course for concrete slabs-on-grade.
 - 5. Subbase course for concrete pavements.
- B. Related Requirements:
 - 1. Section 311000 "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
 - 2. Section 329200 "Turf and Grasses" for finish grading in turf and grass areas, including preparing and placing planting soil for turf areas.
 - 3. Section 329300 "Plants" for finish grading in planting areas and tree and shrub pit excavation and planting.

1.2 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
 - 1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
 - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

- 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- 2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
- 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, will be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other fabricated stationary features constructed above or below the ground surface.
- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- K. Utilities: On-site underground pipes, conduits, ducts, and cables as well as underground services within buildings.

1.3 FIELD CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth-moving operations.
 - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
 - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
 - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth-moving operations.
- D. Do not commence earth-moving operations until temporary site fencing and erosionand sedimentation-control measures specified in Section 015000 "Temporary Facilities and Controls", and, Section 311000 "Site Clearing" are in place.

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- E. Do not commence earth-moving operations until plant-protection measures specified in Section 015639 "Temporary Tree and Plant Protection" are in place.
- F. The following practices are prohibited within protection zones:
 - 1. Storage of construction materials, debris, or excavated material.
 - 2. Parking vehicles or equipment.
 - 3. Foot traffic.
 - 4. Erection of sheds or structures.
 - 5. Impoundment of water.
 - 6. Excavation or other digging unless otherwise indicated.
 - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- G. Do not direct vehicle or equipment exhaust towards protection zones.
- H. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.
 - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. GEOTECHNICAL REQUIREMENTS AND CIVIL SPECIFICATIONS ON DRAWINGS TAKE PRECEDENCE OVER INFORMATION INCLUDED THIS SECTION.
- E. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and zero to 5 percent passing a No. 8 sieve.
- F. Sand: ASTM C33/C33M; fine aggregate.

2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, **6** inches wide and **4** mils thick, continuously inscribed with a description of the utility; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
 - 1. Red: Electric.
 - 2. Yellow: Gas, oil, steam, and dangerous materials.
 - 3. Orange: Telephone and other communications.
 - 4. Blue: Water systems.
 - 5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth-moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth-moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

3.2 DEWATERING

- A. Provide dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.
- B. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.

- C. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
- D. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others.

3.3 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.
 - 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.
 - 2. Remove rock to lines and grades indicated to permit installation of permanent construction without exceeding the following dimensions:
 - a. 24 inches outside of concrete forms other than at footings.
 - b. 12 inches outside of concrete forms at footings.
 - c. 6 inches outside of minimum required dimensions of concrete cast against grade.
 - d. Outside dimensions of concrete walls indicated to be cast against rock without forms or exterior waterproofing treatments.
 - e. 6 inches beneath bottom of concrete slabs-on-grade.
 - f. 6 inches beneath pipe in trenches and the greater of 24 inches wider than pipe or 42 inches wide.

3.4 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
 - 1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
- B. Excavations at Edges of Tree- and Plant-Protection Zones:
 - 1. Excavate by hand or with an air spade to indicated lines, cross sections, elevations, and subgrades. If excavating by hand, use narrow-tine spading forks

to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

2. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.5 EXCAVATION FOR WALKS AND PAVEMENTS

A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.6 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
 - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe below frost line.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated.
 - 1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms:
 - 1. Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
 - a. For pipes and conduit less than 6 inches in nominal diameter, handexcavate trench bottoms and support pipe and conduit on an undisturbed subgrade.
 - b. For pipes and conduit **6 inches** or larger in nominal diameter, shape bottom of trench to support bottom 90 degrees of pipe or conduit circumference. Fill depressions with tamped sand backfill.
 - c. For flat-bottomed, multiple-duct conduit units, hand-excavate trench bottoms and support conduit on an undisturbed subgrade.
 - d. Excavate trenches **6** inches deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
 - 2. Excavate trenches **4** inches deeper than bottom of pipe and conduit elevations to allow for bedding course. Hand-excavate deeper for bells of pipe.
 - a. Excavate trenches **6 inches** deeper than elevation required in rock or other unyielding bearing material to allow for bedding course.
- D. Trenches in Tree- and Plant-Protection Zones:

- 1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
- 2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.
- 3. Cut and protect roots according to requirements in Section 015639 "Temporary Tree and Plant Protection."

3.7 SUBGRADE INSPECTION

- A. Notify Architect when excavations have reached required subgrade.
- B. If Architect determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
 - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to **3 mph**.
 - 2. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Architect, and replace with compacted backfill or fill as directed.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Architect, without additional compensation.

3.8 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
 - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Architect.

3.9 STORAGE OF SOIL MATERIALS

A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to

prevent windblown dust.

- 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.
- 3.10 BACKFILL
 - A. Place and compact backfill in excavations promptly, but not before completing the following:
 - 1. Surveying locations of underground utilities for Record Documents.
 - 2. Testing and inspecting underground utilities.
 - 3. Removing concrete formwork.
 - 4. Removing trash and debris.
 - 5. Removing temporary shoring, bracing, and sheeting.
 - 6. Installing permanent or temporary horizontal bracing on horizontally supported walls.
 - B. Place backfill on subgrades free of mud, frost, snow, or ice.

3.11 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with satisfactory soil; fill with concrete to elevation of bottom of footings. Concrete is specified in Section 033000 "Cast-in-Place Concrete."
- D. Trenches under Roadways: Provide 4-inch- thick, concrete-base slab support for piping or conduit less than 30 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in Section 033000 "Cast-in-Place Concrete."
- E. Backfill voids with satisfactory soil while removing shoring and bracing.
- F. Initial Backfill:
 - 1. Soil Backfill: Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
 - a. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid

damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.

- 2. Controlled Low-Strength Material: Place initial backfill of controlled low-strength material to a height of **12 inches** over the pipe or conduit. Coordinate backfilling with utilities testing.
- G. Final Backfill:
 - 1. Soil Backfill: Place and compact final backfill of satisfactory soil to final subgrade elevation.
 - 2. Controlled Low-Strength Material: Place final backfill of controlled low-strength material to final subgrade elevation.
- H. Warning Tape: Install warning tape directly above utilities, **12 inches** below finished grade, except **6 inches** below subgrade under pavements and slabs.
- 3.12 SOIL FILL
 - A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
 - B. Place and compact fill material in layers to required elevations as follows:
 - 1. Under grass and planted areas, use satisfactory soil material.
 - 2. Under walks and pavements, use satisfactory soil material.
 - 3. Under steps and ramps, use engineered fill.
 - 4. Under building slabs, use engineered fill.
 - 5. Under footings and foundations, use engineered fill.
 - C. Place soil fill on subgrades free of mud, frost, snow, or ice.

3.13 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
 - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
 - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

3.14 COMPACTION OF SOIL BACKFILLS AND FILLS

A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment and not more than 4 inches in

loose depth for material compacted by hand-operated tampers.

- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D698:
 - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top **12 inches** of existing subgrade and each layer of backfill or fill soil material at 95 percent.
 - 2. Under walkways, scarify and recompact top **6 inches** below subgrade and compact each layer of backfill or fill soil material at 92 percent.
 - 3. Under turf or unpaved areas, scarify and recompact top **6** inches below subgrade and compact each layer of backfill or fill soil material at 85 percent.
 - 4. For utility trenches, compact each layer of initial and final backfill soil material at 85 percent.

3.15 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 - 1. Provide a smooth transition between adjacent existing grades and new grades.
 - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to elevations required to achieve indicated finish elevations, within the following subgrade tolerances:
 - 1. Turf or Unpaved Areas: Plus or minus 1 inch.
 - 2. Walks: Plus or minus 1 inch.
 - 3. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

3.16 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.

- 1. Scarify or remove and replace soil material to depth as directed by Architect; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.17 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.
- B. Transport surplus satisfactory soil to designated storage areas on Owner's property. Stockpile or spread soil as directed by Architect.
 - 1. Remove waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000

SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Soil treatment.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components, and profiles for termite control products.
 - 2. Include the EPA-Registered Label for termiticide products.

1.3 INFORMATIONAL SUBMITTALS

- A. Soil Treatment Application Report: After application of termiticide is completed, submit report for Owner's records and include the following:
 - 1. Date and time of application.
 - 2. Moisture content of soil before application.
 - 3. Termiticide brand name and manufacturer.
 - 4. Quantity of undiluted termiticide used.
 - 5. Dilutions, methods, volumes used, and rates of application.
 - 6. Areas of application.
 - 7. Water source for application.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products.
- 1.5 FIELD CONDITIONS
 - A. Soil Treatment:
 - 1. Environmental Limitations: To ensure penetration, do not treat soil that is water

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saturated or frozen. Do not treat soil while precipitation is occurring. Comply with requirements of the EPA-Registered Label and requirements of authorities having jurisdiction.

2. Related Work: Coordinate soil treatment application with excavating, filling, grading, and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs before construction.

PART 2 - PRODUCTS

2.1 SOURCE LIMITATIONS

A. Obtain termite control products from single source from single manufacturer.

2.2 SOIL TREATMENT

- A. Termiticide: EPA-Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Bayer Environmental Science
 - b. Ensystex, Inc
 - c. Master Builders Solutions, brand of MBCC Group, a Sika company
 - d. OR PRE-APPROVED EQUAL
 - e. Syngenta Crop Protection, LLC
 - 2. Service Life of Treatment: Soil treatment termiticide that is effective for not less than five years against infestation of subterranean termites.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of soil per termiticide label, interfaces with earthwork, slab and foundation work, landscaping, utility installation, and other conditions affecting performance of termite control.
- B. Proceed with application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. General: Prepare work areas according to the requirements of authorities having

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jurisdiction and according to manufacturer's written instructions before beginning application and installation of termite control treatment(s). Remove extraneous sources of wood cellulose and other edible materials, such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil within and around foundations.

- B. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended in writing by termiticide manufacturer.
 - 1. Fit filling hose connected to water source at the site with a backflow preventer, according to requirements of authorities having jurisdiction.

3.3 APPLYING SOIL TREATMENT

- A. Application: Mix soil treatment termiticide solution to a uniform consistency. Distribute treatment uniformly. Apply treatment at the product's EPA-Registered Label volume and rate for maximum specified concentration of termiticide to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction.
 - 1. Slabs-on-Grade and Basement Slabs: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
 - 2. Foundations: Soil adjacent to and along the entire inside perimeter of foundation walls; along both sides of interior partition walls; around plumbing pipes and electric conduit penetrating the slab; around interior column footers, piers, and chimney bases; and along the entire outside perimeter, from grade to bottom of footing.
 - 3. Crawlspaces: Soil under and adjacent to foundations. Treat adjacent areas, including around entrance platform, porches, and equipment bases. Apply overall treatment only where attached concrete platform and porches are on fill or ground.
 - 4. Penetrations: At expansion joints, control joints, and areas where slabs and below-grade walls will be penetrated.
- B. Post warning signs in areas of application.
- C. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

3.4 PROTECTION

A. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.
B. Protect termiticide solution dispersed in treated soils and fills from being diluted by exposure to water spillage or weather until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.

SECTION 321373 - CONCRETE PAVING JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Cold-applied joint sealants.
 - 2. Joint-sealant backer materials.
 - 3. Primers.

1.2 ACTION SUBMITTALS

- A. Product Data:
 - 1. Concrete pavement joint sealants.
 - 2. Joint-sealant backer materials.
- B. Samples for Initial Selection: Manufacturer's standard color sheets, showing full range of available colors for each type of joint sealant.
- C. Samples for Verification: Actual sample of finished products for each kind and color of joint sealant required.
 - 1. Size: Joint sealants in 1/2-inch- wide joints formed between two 6-inch- long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- D. Paving-Joint-Sealant Schedule: Include the following information:
 - 1. Joint-sealant application, joint location, and designation.
 - 2. Joint-sealant manufacturer and product name.
 - 3. Joint-sealant formulation.
 - 4. Joint-sealant color.

1.3 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installers: Entity that employs installers and supervisors who are trained and approved by manufacturer.

1.4 PRECONSTRUCTION TESTING

A. Preconstruction Testing: Performed by a qualified testing agency.

1.5 FIELD CONDITIONS

- A. 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 or are below 40 deg F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

PART 2 - PRODUCTS

- 2.1 SOURCE LIMITATIONS
 - A. Obtain joint sealants from single manufacturer for each sealant type.
- 2.2 JOINT SEALANTS, GENERAL
 - A. Compatibility: Provide joint sealants, backer materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- 2.3 COLD-APPLIED JOINT SEALANTS
 - A. Single Component, Pourable, Urethane, Elastomeric Joint Sealant: ASTM C920, Type S, Grade P, Class 25, for Use T.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. W.R. Meadows, Inc; Pourthane SL.
 - b. z_OR PRE-APPROVED EQUAL.

2.4 JOINT-SEALANT BACKER MATERIALS

A. Joint-Sealant Backer Materials: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by joint-sealant

manufacturer, based on field experience and laboratory testing.

- B. Round Backer Rods for Cold- and Hot-Applied Joint Sealants: ASTM D5249, Type 1, of diameter and density required to control sealant depth and prevent bottom-side adhesion of sealant.
- C. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.
- D. Backer Strips for Cold- and Hot-Applied Joint Sealants: ASTM D5249; Type 2; of thickness and width required to control joint-sealant depth, prevent bottom-side adhesion of sealant, and fill remainder of joint opening under sealant.

2.5 PRIMERS

A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting joint-sealant performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Before installing joint sealants, clean out joints immediately to comply with joint-sealant manufacturer's written instructions.
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
- B. Joint Priming: Prime joint substrates where indicated or 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.

3.3 INSTALLATION OF JOINT SEALANTS

- A. Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions.
- C. Install joint-sealant backers to support joint 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 joint-sealant backer materials.
 - 2. Do not stretch, twist, puncture, or tear joint-sealant backer materials.
 - 3. Remove absorbent joint-sealant backer materials that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants immediately following backer material installation, using proven techniques that comply with the following:
 - 1. Place joint sealants so they fully contact joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants in accordance with the following requirements 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 joint sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

3.4 CLEANING AND PROTECTION

- A. Clean off excess joint sealant as the Work progresses, by methods and with cleaning materials approved in writing by joint-sealant manufacturers.
- B. 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 and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

DB ARCHITECTURE OF ACADIANA 20231010 Southern University Financial Unit Addition Baton Rouge, Louisiana

SECTION 321713 - PARKING BUMPERS

PART 1 - GENERAL

- 1.1 SUMMARY
 - A. Section Includes:
 - 1. Precast concrete wheel stops.
- 1.2 ACTION SUBMITTALS
 - A. Product Data:
 - 1. Precast concrete wheel stops.
 - B. Samples for Verification: For wheel stops, PRODUCT DATA, showing color and cross section; with mounting hardware.

PART 2 - PRODUCTS

2.1 PARKING BUMPERS

- A. Precast Concrete Wheel Stops: Precast, steel-reinforced, air-entrained concrete; 4000psi minimum compressive strength; manufacturer's standard height and width by 72 inches long. Provide chamfered corners, transverse drainage slots on underside, and a minimum of two factory-formed or -drilled vertical holes through wheel stop for anchoring to substrate.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. American Eagle Precast, LLC
 - b. American Precast Concrete Inc.
 - c. Bush Concrete Products, Inc.
 - d. Cast-Crete USA, Inc.
 - e. Dura-Crete, Inc.
 - f. Granite Precasting and Concrete, Inc.
 - g. Oldcastle Infrastructure Inc.; CRH Americas
 - h. Steps Plus, Inc.
 - i. z_ OR PRE-APPROVED EQUAL
 - 2. Source Limitations: Obtain wheel stops from single source from single manufacturer.

- 3. Surface Appearance: Smooth, free of pockets, sand streaks, honeycombs, and other obvious defects. Corners shall be uniform, straight, and sharp.
- 4. Mounting Hardware: Galvanized-steel spike or dowel, 1/2-inch diameter, 14-inch minimum length.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that pavement is in suitable condition to begin installation in accordance with manufacturer's written instructions.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Install wheel stops in accordance with manufacturer's written instructions unless otherwise indicated.
- B. Securely anchor wheel stops to substrate with hardware in each preformed vertical hole in wheel stop as recommended in writing by manufacturer. Recess head of hardware beneath top of wheel stop.

SECTION 321723 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Painted markings applied to concrete surfaces.

1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Review methods and procedures related to marking asphalt paving or concrete surfaces including, but not limited to, the following:
 - a. Asphalt-paving or concrete-surface aging period before application of pavement markings.
 - b. Review requirements for protecting pavement markings, including restriction of traffic during installation period.

1.3 ACTION SUBMITTALS

- A. Product Data: Include technical data and tested physical and performance properties.
 - 1. Pavement-marking paint, alkyd.
- B. Shop Drawings:
 - 1. Indicate pavement markings, colors, lane separations, defined parking spaces, and dimensions to adjacent work.
 - 2. Indicate, with international symbol of accessibility, spaces allocated for people with disabilities.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of the STATE of DOT for pavement-marking work.
 - 1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for alkyd materials, and not exceeding 95 deg F.
- PART 2 PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the ABA standards of the Federal agency having jurisdiction, and, ICC A117.1.

2.2 PAVEMENT-MARKING PAINT

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - 1. PPG Paints; PPG Industries, Inc.
 - 2. Rust-Oleum Corporation; a subsidiary of RPM International, Inc.
 - 3. Sherwin-Williams Company (The)
 - 4. z_ OR PRE-APPROVED EQUAL
- B. Source Limitations: Obtain pavement-marking paints from single source from single manufacturer.
- C. Pavement-Marking Paint, Alkyd: Alkyd-resin type, lead and chromate free, ready mixed, complying with AASHTO M 248, Type N; colors complying with FS TT-P-1952F.
 - 1. Color: TO BE PRE-APPROVED BY ARCHITECT AND COMPLIANT WITH ACCESSIBILITY STANDARDS.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that pavement-marking substrate is dry and in suitable condition to begin pavement marking in accordance with manufacturer's written instructions.
- B. Proceed with pavement marking only after unsatisfactory conditions have been corrected.

3.2 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow asphalt paving or concrete surfaces to age for a minimum of 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
 - 1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils, firmly secured to asphalt paving or concrete surface. Mask an extended area beyond edges of each stencil to prevent paint application beyond stencil. Apply paint so that it cannot run beneath stencil.
 - 2. Broadcast glass beads uniformly into wet markings at a rate of 6 lb/gal.

3.3 PROTECTING AND CLEANING

- A. Protect pavement markings from damage and wear during remainder of construction period.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

SECTION 329200 - TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Seeding.
 - 2. Erosion-control materials.

1.2 DEFINITIONS

- A. Finish Grade: Elevation of finished surface of planting soil.
- B. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. Pesticides include insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. They also include substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- C. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. Pests include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- D. Subgrade: The surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.

1.3 INFORMATIONAL SUBMITTALS

A. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture, stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of compliance with state and Federal laws, as applicable.
- B. Bulk Materials:
 - 1. Do not dump or store bulk materials near structures, utilities, walkways and

pavements, or on existing turf areas or plants.

- 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials; discharge of soil-bearing water runoff; and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
- 3. Accompany each delivery of bulk materials with appropriate certificates.

1.5 FIELD CONDITIONS

A. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit planting to be performed when beneficial and optimum results may be obtained. Apply products during favorable weather conditions according to manufacturer's written instructions.

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species:
 - 1. Quality, State Certified: State-certified seed of grass species as listed below for solar exposure.
 - 2. Full Sun, Warm-Season Grass: Bermudagrass (Cynodon dactylon).

2.2 EROSION-CONTROL MATERIALS

A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, **6 inches** long.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas to be planted for compliance with requirements and other conditions affecting installation and performance of the Work.
 - 1. Verify that no foreign or deleterious material or liquid such as paint, paint washout, concrete slurry, concrete layers or chunks, cement, plaster, oils, gasoline, diesel fuel, paint thinner, turpentine, tar, roofing compound, or acid has been deposited in soil within a planting area.
 - 2. Suspend planting operations during periods of excessive soil moisture until the

moisture content reaches acceptable levels to attain the required results.

- 3. Uniformly moisten excessively dry soil that is not workable or which is dusty.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Architect and replace with new planting soil.

3.2 PREPARATION

- A. Protect structures; utilities; sidewalks; pavements; and other facilities, trees, shrubs, and plantings from damage caused by planting operations.
 - 1. Protect adjacent and adjoining areas from hydroseeding and hydromulching overspray.
 - 2. Protect grade stakes set by others until directed to remove them.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

3.3 TURF AREA PREPARATION

- A. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- B. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.4 PREPARATION FOR EROSION-CONTROL MATERIALS

- A. Prepare area as specified in "Turf Area Preparation" Article.
- B. For erosion-control mats, install planting soil in two lifts, with second lift equal to thickness of erosion-control mats. Install erosion-control mat and fasten as recommended by material manufacturer.
- C. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

3.5 SEEDING

A. Sow seed with spreader or seeding machine. Do not broadcast or drop seed when wind velocity exceeds **5 mph**.

- 1. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other.
- 2. Do not use wet seed or seed that is moldy or otherwise damaged.
- 3. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.
- B. Sow seed at a total rate of 3 to 4 lb/1000 sq. ft..
- C. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.
- D. Protect seeded areas with slopes exceeding 1:4 with erosion-control blankets installed and stapled according to manufacturer's written instructions.
- E. Protect seeded areas with erosion-control mats where indicated on Drawings; install and anchor according to manufacturer's written instructions.
- F. Protect seeded areas with slopes not exceeding 1:6 by spreading straw mulch. Spread uniformly at a minimum rate of 2 tons/acre to form a continuous blanket 1-1/2 inches in loose thickness over seeded areas. Spread by hand, blower, or other suitable equipment.

3.6 CLEANUP AND PROTECTION

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.
- C. Remove nondegradable erosion-control measures after grass establishment period.