UNIVERSITY OF SOUTH CAROLINA SCHOOL OF MEDICINE DEAN'S OFFICE RENOVATION STATE PROJECT #H27-Z349

JANUARY 10, 2018

BID DOCUMENTS



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Project Number: H27-Z349

Project Name: University of South Carolina School of Medicine Dean's Office

Renovation

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SE-311 INVITATION FOR MINOR CONSTRUCTION QUOTES

PROJECT NAME: USC School of Medicine	Dean's Office Renovation	on		
PROJECT NUMBER: <u>H27-Z349</u>				
PROJECT LOCATION: 6311 Garner's Ferry	Road; Columbia, SC 29	9208		
	🗆 🗖			
•	Yes No No			
PERFORMANCE BOND REQUIRED? PAYMENT BOND REQUIRED?	Yes □ No ⊠ Yes □ No ⊠	CONSTRUCTION COST RANG	E. ¢ <20,000	
_	<u> </u>			
DESCRIPTION OF PROJECT: Provide an Small and Minority Business participation is en		m storefront. Site visit immediately	y following pre bid meeting.	
BIDDING DOCUMENTS/PLANS MAY BE	OBTAINED FROM:	purchasing.sc.edu "Facilities Constru	ction"	
PLAN DEPOSIT AMOUNT: \$_\$0.00	IS DE	POSIT REFUNDABLE Yes	s 🗌 No 🗌 N/A 🛚	
Bidders must obtain Bidding Documents/Plans from obtained from the above listed source(s) are official.				
IN ADDITION TO THE ABOVE OFFICIA	L SOURCE(S), BIDDI	NG DOCUMENTS/PLANS ARE A	ALSO AVAILABLE AT:	
N/A				
All questions & correspondence concerning this Invi	4 £	AL - A/E		
Alt questions & correspondence concerning this invi A/E NAME: GMK Associates, Inc.	iation snati be adaressea to	o the A/E.		
A/E CONTACT: Jerome K. Simons, AIA, I	EED AP			
· ·	Main Street, Suite 2100			
	Wall Street, State 2100	State: SC	ZIP : 29201-	
EMAIL: JSimons@gmka.com			<u>ZII . 2/201-</u>	
		FAX: 803.255.7243		
AGENCY: University of South Carolina				
AGENCY PROJECT COORDINATOR:	Aimee B. Rish			
ADDRESS: Street/PO Box: 1300 Picket	ns Street			
City: Columbia		State: SC	ZIP: 29208-	
EMAIL: arish@fmc.sc.edu				
TELEPHONE: 803.777.2261		FAX:		
PRE-QUOTE CONFERENCE: Yes 🖂	No 🗌	MANDATORY ATTENDANC	E: Yes \(\subseteq \text{No } \subseteq \)	
PRE-QUOTE DATE: <u>1/23/2018</u>	TIME: 10:00AM	PLACE: SOM VA Bldg 3-Studi	o 215; Cola SC 29208	
QUOTE CLOSING DATE: 1/30/2018 parking on the street; Entrance at rear of buildi		PLACE: 1300 Pickens St; Conf	Rm 100C; Cola SC; metered	
QUOTE DELIVERY ADDRESSES:				
HAND-DELIVERY:		MAIL SERVICE:		
Attn: Aimee Rish "Bid Enclosed H27-Z34	9"	Attn: Aimee Rish "Bid Enclose	ed H27-Z349"	
1300 Pickens Street		1300 Pickens Street Columbia, SC 29208		
Coumbia, SC 29208				
ADDDOVED DV.		n A Ten		
APPROVED BY:	Project Coordinator)	DAIE:		
(Mgene)	jeer 200. umum)			

SE-331 QUOTE FORM

Quotes shall be submitted only on SE-331.

_					
O	QUOTE SUBMITTED BY:				
		(Offeror's Name)			
Q	QUOTE SUBMITTED TO: University of South	h Carolina			
	-	(Owner's Name)			
F	FOR: PROJECT NAME: School of Medicin	ne Dean's Office Rei	novation		
	PROJECT NUMBER: H27-Z349				
<u>O</u>]	<u>OFFER</u>				
 2. 	Project, the undersigned OFFEROR proposes and agrees, if included in the Solicitation Documents, and to perform all W and within the time frames indicated in the Solicitation and in	this Quote is accepted, to a Vork as specified or indicate accordance with the other	enter into a Contract ted in the Solicitatio terms and condition	with the Owner in the form n Documents, for the prices is stated.	
	☐ Bid Bond with Power of Attorney	☐ Electronic Bid Bond		Cashier's Check	
	(Bidde)	r check one)			
3.	6. OFFEROR acknowledges the receipt of the following Adde Addenda into its Quote (Bidder, check only boxes that apply.)		cuments and has ince	orporated the effects of said	
	ADDENDA: #1 #2	2 🗆 #3	#4	☐ #5	
4.5.6.	and shall remain open for acceptance for a period of <u>60</u> OFFEROR may agree to in writing upon request of the Own OFFEROR agrees that from the compensation to be paid, the each calendar day the actual construction time required to a Time for Substantial Completion, as provided in the Contract	Days following the Quot ner. e Owner shall retain as Liq- achieve Substantial Complet t Documents. , materials, equipment, too	e Date, or for such uidated Damages the ction exceeds the sp ols of trades and lab	longer period of time that amount of \$_250.00 for ecified or adjusted Contract or, accessories, appliances,	
	6.1 BASE QUOTE \$	ACE OFFICE : C	1)		
		ASE QUOTE in figures on			
	6.1.1 ALTERNATE NO. 1 \$ <u>N/A</u>	to be ADDEI	O / DEDUCTED (circle one)	from BASE QUOTE.	
	6.1.2 ALTERNATE NO. 2 \$ <u>N/A</u>	to be ADDEI	O / DEDUCTED (circle one)	from BASE QUOTE.	
SC	SC Contractor's License Number:	_ This Quote is herek	oy submitted on be	half of the Offeror named	
Classification(s) & Limits:					
Address:		(Signati	BY:(Signature of Offeror's Representative)		
Te	Felephone:	(Print or T	Type Name of Offerd	or's Representative)	
	-mail:	_ _ TITLE:			

Instructions to Bidders

- 1. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements consist of the Advertisement or Invitation to Bid, Instructions to Bidders, Supplementary Instructions to Bidders, the bid form, and other sample bidding and contract forms. The Drawings, Specifications and all Addenda issued prior to execution of the Purchase Order.
- 2. Addenda are written or graphic instruments issued by the Architect prior to the execution of the Contract which modify or interpret the Bidding Documents by additions, deletions, clarifications or corrections
- 3. A Bid is a complete and properly executed proposal to do the Work for the sums stipulated therein, submitted in accordance with the Bidding Documents.
- 4. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or from which Work may be deleted for sums stated in Alternate Bids.
- 5. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.
- 6. A Bidder is a person or entity who submits a Bid and who meets the requirements set forth in the Bidding Documents.
- 7. The Bidder by making a Bid represents that the Bidder has read and understands the Bidding Documents, to the extent that such documentation relates to the Work for which the Bid is submitted, and for other portions of the Project, if any, being bid concurrently or presently under construction.
- 8. The Bid is made in compliance with the Bidding Documents.
- 9. The Bidder has visited the site, become familiar with local conditions under which the Work is to be performed and has correlated the Bidder's personal observations with the requirements of the proposed Contract Documents.
- 10. The Bid is based upon the materials, equipment and systems required by the Bidding Documents without exception.
- 11. Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor Architect assumes responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 12. Bidders and Sub-bidders requiring clarification or interpretation of the Bidding Documents shall make a written request which shall reach the Architect at least seven days prior to the date for receipt of Bids.
- 13. Interpretations, corrections and changes of the Bidding Documents will be made by Addendum. Interpretations, corrections and changes of the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely upon them.

- 14. The materials, products and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.
- 15. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten days prior to the date for receipt of Bids. Such requests shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the work of other contracts that incorporation of the proposed substitution would require, shall be included. The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.
- 16. If the Architect approves a proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.
- 17. No substitutions will be considered after the Contract award unless specifically provided for in the Contract Documents.
- 18. Addenda will be issued no later than five days prior to the date for receipt of Bids except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids.
- 19. Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, and the Bidder shall acknowledge their receipt in the Bid.
- 20. Bids shall be submitted on the forms included with the Bidding Documents.
- 21. All blanks on the bid form shall be legibly executed in a non-erasable medium.
- 22. Sums shall be expressed in both words and figures. In case of discrepancy, the amount written in words shall govern.
- 23. Interlineations, alterations and erasures must be initialed by the signer of the Bid.
- 24. All requested Alternates shall be bid. If no change in the Base Bid is required, enter "No Change."
- 25. All copies of the Bid, the bid security, if any, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids and shall be identified with the Project name, the Bidder's name and address and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.
- 26. Bids shall be deposited at the designated location prior to the time and date for receipt of Bids. Bids received after the time and date for receipt of Bids will be returned unopened.
- 27. The Bidder shall assume full responsibility for timely delivery at the location designated for receipt of Bids.

- 28. The Owner shall have the right to reject any or all Bids. A Bid not accompanied by a required bid security or by other data required by the Bidding Documents, or a Bid which is in any way incomplete or irregular is subject to rejection.
- 29. It is the intent of the Owner to award a Contract to the lowest qualified Bidder provided the Bid has been submitted in accordance with the requirements of the Bidding Documents and does not exceed the funds available. The Owner shall have the right to waive informalities and irregularities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's own best interests.
- 30. The Owner shall have the right to accept Alternates in any order or combination, unless otherwise specifically provided in the Bidding Documents, and to determine the low Bidder on the basis of the sum of the Base Bid and Alternates accepted.

USC SUPPLEMENTAL GENERAL CONDITIONS FOR CONSTRUCTION PROJECTS

WORK AREAS

- 1. The Contractor shall maintain the job site in a safe manner at all times. This includes (but is not limited to) the provision and/or maintenance of lighting, fencing, barricades around obstructions, and safety and directional signage.
- 2. Contractor's employees shall take all reasonable means not to interrupt the flow of student traffic in building corridors, lobbies, stairs and exterior walks. All necessary and reasonable safety precautions shall be taken to prevent injury to building occupants while transporting materials and equipment through the work area. Providing safe, accessible, plywood-shielded pedestrian ways around construction may be required if a suitable alternative route is not available.
- 3. At the beginning of the project, the USC Project Manager will establish the Contractor's lay-down area. This area will also be used for the Contractor's work vehicles. The lay-down area will be clearly identified to the contractor by the Project Manager, with a sketch or drawing provided to USC Parking Services. In turn, Parking Services will mark off this area with a sign containing the project name, Project Manager's name, Contractor name and contact number, and end date. Where this area is subject to foot traffic, protective barriers will be provided as specified by the Project Manager. The area will be maintained in a neat and orderly fashion.
- 4. Work vehicles parked in the lay down area (or designated parking areas) will be clearly marked and display a USC-furnished placard for identification. No personal vehicles will be allowed in this area, or in any areas surrounding the construction site. Personal vehicles must be parked in the perimeter parking lots or garages. Temporary parking permits can be obtained at the Contractor's expense at the USC Parking Office located in the Pendleton Street parking garage. Refer to the CAMPUS VEHICLE EXPECTATIONS (below) for additional information.
- 5. Contractor is responsible for removal of all debris from the site, and is required to provide the necessary dumpsters which will be emptied on a regular basis. Construction waste must not be placed in University dumpsters. The construction site must be thoroughly cleaned with all trash picked up and properly disposed of on a daily basis and the site must be left in a safe and sanitary condition each day. The University will inspect job sites regularly and will fine any contractor found to be in violation of this requirement an amount of up to \$1,000 per violation.
- 6. The Contractor shall be responsible for erosion and sediment control measures where ground disturbances are made.

PROJECT FENCING

- 7. All construction projects with exterior impacts shall have construction fencing at the perimeter. Fencing shall be 6' chain link with black or green privacy fabric (80-90% blockage). For fence panels with footed stands, sandbag weights shall be placed on the inside of the fence. Ripped sandbags shall be replaced immediately.
- 8. For projects with long fencing runs and/or high profile locations, decorative USC banners shall be used on top of privacy fabric; banners should be used at a ratio of one banner for every five fence panels. USC Project Manager will make arrangements for banner delivery for Contractor to hang.
- 9. The use of plastic safety fencing is discouraged and shall only be used on a temporary basis (less than four weeks) where absolutely necessary. Safety fencing shall be a neon yellow-green, high-

- visibility fencing equal to 'Kryptonight' by Tenax. Safety fencing shall be erected and maintained in a neat and orderly fashion throughout the project.
- 10. Vehicles and all other equipment shall be contained within a fenced area if they are on site for more than 3 consecutive calendar days.

BEHAVIOR

- 11. Fraternization between Contractor's employees and USC students, faculty or staff is strictly prohibited.
- 12. USC will not tolerate rude, abusive or degrading behavior on the job site. Heckling and cat-calling directed toward students, faculty or staff or any other person on USC property is strictly prohibited. Any contractor whose employees violate this requirement will be assessed a fine of up to \$500 per violation.
- 13. Contractor's employees must adhere to the University's policy of maintaining a drug-free and tobacco-free campus.

HAZARDOUS MATERIALS & SAFETY COMPLIANCE

- 14. A USC Permit to Work must be signed prior to any work being performed by the general contractor or sub-contractor(s).
- 15. The contractor will comply with all regulations set forth by OSHA and SCDHEC. Contractor must also adhere to USC's internal policies and procedures (available by request). Upon request, the contractor will submit all Safety Programs and Certificates of Insurance to the University for review.
- 16. Contractor must notify the University immediately upon the discovery of suspect material which may contain asbestos or other such hazardous materials. These materials must not be disturbed until approved by the USC Project Manager.
- 17. In the event of an OSHA inspection, the Contractor shall immediately call the Facilities Call Center, 803-777-4217, and report that an OSHA inspector is on site. An employee from USC's Safety Unit will arrive to assist in the inspection.

LANDSCAPE & TREE PROTECTION

- In conjunction with the construction documents, the USC Arborist shall direct methods to minimize damage to campus trees. Tree protection fencing is required to protect existing trees and other landscape features to be affected by a construction project. The location of this fence will be evaluated for each situation with the USC Arborist, Landscape Architect and Project Manager. Tree protection fencing may be required along access routes as well as within the project area itself. Fence locations may have to be reset throughout the course of the project.
- 19. The tree protection fence shall be 6' high chain link fence with 80-90% privacy screening unless otherwise approved by USC Arborist and/or Landscape Architect. If the tree protection fence is completely within a screened jobsite fence perimeter, privacy fabric is not required. In-ground fence posts are preferred in most situations for greater protection. If utility or pavement conflicts are present, fence panels in footed stands are acceptable. See attached detail for typical tree protection fencing.
- 20. No entry, vehicle parking, or materials storage will be allowed inside the tree protection zone. A 4"

layer of mulch shall be placed over the tree protection area to maintain moisture in the root zone.

- 21. Where it is necessary to cross walks, tree root zones (i.e., under canopy) or lawns the following protective measures shall be taken:
 - a. For single loads up to 9,000 lbs., a 3/4" minimum plywood base shall be placed over 4" of mulch.
 - b. For single loads over 9,000 lbs., two layers of 3/4" plywood shall be placed over 4" of mulch.
 - c. Plywood sheets shall be replaced as they deteriorate or delaminate with exposure.
 - d. For projects requiring heavier loads, a construction entry road consisting of 10' X 16' oak logging mats on 12" coarse, chipped, hardwood base. Mulch and logging mats shall be supplemented throughout the project to keep matting structurally functional.
- 22. Damage to any trees during construction shall be assessed by the USC Arborist, who will stipulate what action will be taken for remediation of damage. The cost of any and all remediation will be assumed by the contractor at no additional cost to the project. Compensation for damages may be assessed up to \$500 per caliper inch of tree (up to 8") and \$500 per inch of diameter at breast height (for trees over 8").
- 23. Damage to trunks and limbs, as well as disturbance of the root zone under the dripline of tree, including compaction of soil, cutting or filling, or storage of materials, shall qualify as damage and subject to remediation.
- 24. Any damage to existing pavements or landscaping (including lawn areas and irrigation) will be remediated before final payment is made.

TEMPORARY FACILITIES

- 25. Contractor will be responsible for providing its own temporary toilet facilities, unless prior arrangements are made with the USC Project Manager.
- 26. Use of USC communications facilities (telephones, computers, etc.) by the Contractor is prohibited, unless prior arrangements are made with the USC Project Manager.

CAMPUS KEYS

27. Contractor must sign a Contractor Key Receipt/Return form before any keys are issued. Keys must be returned immediately upon the completion of the work. The Contractor will bear the cost of any re-keying necessary due to the loss of or failure to return keys.

WELDING

28. A welding (hot work) permit must be issued by the University Fire Marshall before any welding can begin inside a building. The USC Project Manager will coordinate.

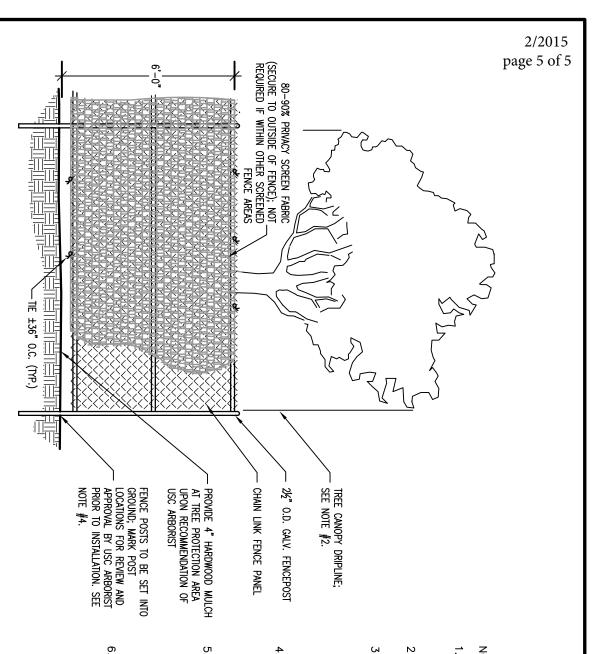
PROJECT EVALUATION & CLOSE-OUT

- 29. For all projects over \$100,000, including IDCs, a Contractor Performance Evaluation (SE 395) will be reviewed with the GC at the beginning of the project and a copy given to the GC. At the end of the project the form will be completed by the USC Project Manager and a Construction Performance rating will be established.
- 30. Contractor must provide all O&M manuals, as-built drawings, and training of USC personnel on new equipment, controls, etc. prior to Substantial Completion. Final payment will not be made until

this is completed.

CAMPUS VEHICLE EXPECTATIONS

- Personal vehicles must be parked in the perimeter parking lots or garages. Temporary parking permits can be obtained at the Contractor's expense at the USC Parking Office located in the Pendleton Street parking garage.
- 32. All motorized vehicle traffic on USC walkways and landscape areas must be approved by the USC Project Manager and Parking Division, have a USC parking placard, and be parked within the approved laydown area. Violators may be subject to ticketing, towing and fines.
- 33. All motorized vehicles that leak or drip liquids are prohibited from traveling or parking on walks or landscaped areas.
- 34. Drivers of equipment or motor vehicles that damage university hardscape or landscape will be held responsible for damages and restoration expense.
- 35. All vehicles parked on landscape, hardscape, or in the process of service delivery, must display adequate safety devices, i.e. flashing lights, cones, signage, etc.
- 36. All drivers of equipment and vehicles shall be respectful of University landscape, equipment, structures, fixtures and signage.
- 37. All incidents of property damage shall be reported to Parking Services or the Work Management Center.



NOTES:

- PROVIDE PROTECTION FENCING FOR ALL TREES WITHIN AREA OF DISTURBANCE AND CONSTRUCTION ACCESS.
- 2. PROTECTION FENCING SHALL BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION.
- 3. PROTECTION FENCING TO BE PLACED AT THE OUTSIDE OF THE CANOPY DRIPLINE, OR AT A DISTANCE OF ONE FOOT PER ONE INCH OF TREE DIAMETER, MEASURED AT BREAST HEIGHT, WHICHEVER IS LARGER, UNLESS OTHERWISE INDICATED ON LANDSCAPE PLAN OR APPROVED BY UNIVERSITY ARBORIST.
- 4. IN-GROUND POSTS ARE STANDARD. IF EXISTING ROOTS, UTILITIES OR PAVEMENT PRECLUDE USE OF IN-GROUND POSTS, FOOTED STANDS ARE ACCEPTABLE. SAND BAGS SHALL BE PLACED ON THE INSIDE OF FENCE.

 5. DAMAGE TO ANY TREES DURING CONSTRUCTION
- 5. DAMAGE TO ANY TREES DURING CONSTRUCTION SHALL BE ASSESSED BY UNIVERSITY ARBORIST AND THE UNIVERSITY ARBORIST SHALL STIPULATE WHAT ACTION WILL BE TAKEN FOR REMEDIATION OF DAMAGE. THE COST OF ANY AND ALL REMEDIATION WILL BE ASSUMED BY CONTRACTOR AT NO ADDITONAL COST TO THE PROJECT.
- 6. DISTURBANCE OF ROOT ZONE UNDER DRIPLINE OF TREE, INCLUDING COMPACTION OF SOIL, CUTTING OR FILLING OR STORAGE OF MATERIALS SHALL QUALIFY AS DAMAGE AND SUBJECT TO REMEDIATION.

TREE.

PROTECTION

FENCING

(IN-GROUND) WITH

SCREENING

Project Name: School of Medicine Dean's Office Renovation Project Number: H27-Z349

University of South Carolina

CONTRACTOR'S ONE YEAR GUARANTEE

STATE OF
COUNTY OF
WE_
as Contractor on the above-named project, do hereby guarantee that all work executed under the requirements of the Contract Documents shall be free from defects due to faulty materials and /or workmanship for a period of one (1) year from date of acceptance of the work by the Owner and/or Architect/Engineer; and hereby agree to remedy defects due to faulty materials and/or workmanship, and pay for any damage resulting wherefrom, at no cost to the Owner, provided; however, that the following are excluded from this guarantee;
Defects or failures resulting from abuse by Owner.
Damage caused by fire, tornado, hail, hurricane, acts of God, wars, riots, or civil commotion.
[Name of Contracting Firm]
*By
Title
*Must be executed by an office of the Contracting Firm.
SWORN TO before me this day of, 2 (seal)
State
My commission expires

SECTION 08 4113 – ALUMINUM FRAMED ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Storefront framing.
 - 2. Glazing

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Shop Drawings: For aluminum-framed entrances and storefronts. Include plans, elevations, sections, full-size details, and attachments to other work.
 - 1. Include full-size details of each type of vertical-to-horizontal intersection of aluminum-framed entrances and storefronts, showing the following:
 - a. Joinery.
 - b. Anchorage.
 - c. Glazing.
 - 2. Include 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.
- C. Samples for Initial Selection: For units with factory-applied color finishes.
- D. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.
- E. Delegated-Design Submittal: For aluminum-framed entrances and storefronts indicated to comply with performance requirements and design criteria.

1.3 INFORMATIONAL SUBMITTALS

A. Qualification Data: For Installer.

- B. Source quality-control reports.
- C. Sample Warranties: For warranties.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For aluminum-framed entrances and storefronts to include in maintenance manuals.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.
- B. Product Options: Information 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.

1.6 WARRANTY

- A. Warranty: Manufacturer agrees to repair or replace components of aluminum-framed entrances and storefronts that do not comply with requirements or that fail in materials or workmanship within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Source Limitations: Obtain all components of aluminum-framed entrance and storefront system, and accessories, from single manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Deflection of Framing Members:
 - 1. Deflection Normal to Wall Plane: Limited to edge of glass in a direction perpendicular to glass plane not exceeding 1/175 of the glass edge length for each individual glazing lite

- or an amount that restricts edge deflection of individual glazing lites to 3/4 inch (19.1 mm), whichever is less.
- 2. Deflection Parallel to Glazing Plane: Limited to 1/360 of clear span or 1/8 inch (3.2 mm), whichever is smaller.

2.3 STOREFRONT SYSTEMS

A. Manufacturers:

- 1. C.R. Laurence, Inc.
- 2. Kawneer, Inc.
- 3. Tubelite, Inc.
- B. Framing Members: Manufacturer's extruded- or formed-aluminum framing members of thickness required and reinforced as required to support imposed loads.
 - 1. Interior Vestibule Framing Construction: Nonthermal.
 - 2. Glazing System: Retained mechanically with gaskets on four sides.
 - 3. Glazing Plane: Center
 - 4. Finish: To be selected from manufacturer's full range of colors
 - 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.

2.4 GLAZING

- A. Privacy Glazing: UL-approved LCD switchable privacy glass.
 - 1. Fully Tempered (FT) Clear Glass: ASTM C 1048, Kind FT, Condition A (uncoated surfaces), Type I (transparent), Class 1 clear, Quality q3 (glazing select), tested for surface and edge compression per ASTM C 1048 and for impact strength per 16 CFR 1201 for Category II materials.
 - a. Thickness: 1/4 inch.
 - 2. Laminated Glass: ASTM C 1172; consisting of two layers of clear glass with a clear plastic interlayer.
 - a. Interlayer: Polyvinyl butyral (PVB) with a proven record of no tendency to bubble, discolor, or lose physical and mechanical properties after laminating glass lites and installation.

- b. For PVB interlayers, laminate lites in autoclave with heat plus pressure.
- c. Laminating Process: Fabricate laminated glass to produce glass free of foreign substances and air or glass pockets.
- d. Thickness: 9/16 inch.
- 3. Electrical Requirements:
 - a. Power: 110 V ac; 60 Hz.
 - b. Switches: Single.
 - 1) Switch On: 0.372 W per sq. ft. (4 W per sq. m) of glazing.
 - 2) Switch Off Privacy Mode: Zero W per sq. ft. (Zero W per sq. m) of glazing.
- B. Glazing Sealants: As recommended by manufacturer.
 - 1. Sealant shall have a VOC content of 250 g/L or less.

2.5 MATERIALS

- A. Sheet and Plate: ASTM B 209 (ASTM B 209M).
- B. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221 (ASTM B 221M).
- C. Extruded Structural Pipe and Tubes: ASTM B 429/B 429M.
- D. Structural Profiles: ASTM B 308/B 308M.

2.6 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 (25.4 mm) that accommodate fabrication and installation tolerances in material and finish compatible with adjoining materials and recommended by manufacturer.

2.7 FABRICATION

- A. Form or extrude aluminum shapes before finishing.
- B. 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. Fasteners, anchors, and connection devices that are concealed from view to greatest extent possible.
- C. Mechanically Glazed Framing Members: Fabricate for flush glazing without projecting stops.
- D. After fabrication, clearly mark components to identify their locations in Project according to Shop Drawings.

2.8 ALUMINUM FINISHES

A. Bronze Anodic Finish: AAMA 611, Class II.

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

A. General:

- 1. Comply with manufacturer's written instructions.
- 2. Do not install damaged components.
- 3. Fit joints to produce hairline joints free of burrs and distortion.
- 4. Rigidly secure nonmovement joints.
- 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
- 6. Seal perimeter and other joints watertight unless otherwise indicated.

B. Metal Protection:

- 1. Where aluminum is in contact with dissimilar metals, protect against galvanic action by painting contact surfaces with materials recommended by manufacturer for this purpose or by installing nonconductive spacers.
- C. Set continuous sill members and flashing in full sealant bed, as specified.
- D. Install components plumb and true in alignment with established lines and grades.
- E. Install glazing as specified.

3.3 ERECTION TOLERANCES

- A. Erection Tolerances: Install aluminum-framed entrances and storefronts to comply with the following maximum tolerances:
 - 1. Plumb: 1/8 inch in 10 feet (3.2 mm in 3 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
 - 2. Level: 1/8 inch in 20 feet (3.2 mm in 6 m); 1/4 inch in 40 feet (6.35 mm in 12.2 m).
 - 3. Alignment:
 - a. Where surfaces abut in line or are separated by reveal or protruding element up to 1/2 inch (12.7 mm) wide, limit offset from true alignment to 1/16 inch (1.6 mm).
 - b. Where surfaces are separated by reveal or protruding element from 1/2 to 1 inch (12.7 to 25.4 mm) wide, limit offset from true alignment to 1/8 inch (3.2 mm).
 - c. Where surfaces are separated by reveal or protruding element of 1 inch (25.4 mm) wide or more, limit offset from true alignment to 1/4 inch (6 mm).
 - 4. Location: Limit variation from plane to 1/8 inch in 12 feet (3.2 mm in 3.6 m); 1/2 inch (12.7 mm) over total length.

END OF SECTION 084113

