

Request for Proposal (RFP)

RFP Number	001505
Date Issued	April 29, 2020
Pre-bid Teleconference	There will be no additional pre-bid teleconference.
Closing Date	May 13, 2020; 2:00pm local time
Procurement Officer	Brad Stefanoni; 620.235.4169; bstefanoni@pittstate.edu
Item	Partial window replacement at J.H. Overman Student Center on the Pittsburg State University Campus.
Agency & Location	Pittsburg State University (PSU) in Pittsburg Kansas
Scope	The Project consists of partial window replacement at J.H. Overman Student Center on the Pittsburg State University Campus.
Period of Contract	One-time contract award
Bid Submittal	Submit bid by e-mail to bstefanoni@pittstate.edu

1. When communicating, always refer to the Request for Proposal number above.
2. In order to receive consideration for award, one copy of this “Request for Proposal,” a properly completed and signed, must be returned to Pittsburg State University no later than the specified closing time. The University is not responsible for late bids.
3. All prices, terms, and conditions must be shown. Additions or conditions not shown on this bid will not be allowed.
4. Prompt payment discounts will not be considered in determining the low bid.
5. Prices quoted shall be less Federal Excise and State Sales taxes.
6. The PSU Director of Purchasing reserves the right to accept or reject any part of this proposal.
7. Bid results will not be given to individuals over the phone. Written bid results may be obtained by written request from the procurement officer.
8. Contractual Provisions Attachment DA-146a applies to all bids.
9. It is hereby agreed that the bidder will, if required by law, comply with the Kansas Act Against Discrimination, K.S.A. 44-1030 et. Seq.
10. PSU reserves the right to award in the best interest of the university.

Vendor Name	
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“VIRTUAL” PROJECT SITE VISIT: There will be a “virtual site visit” of photos available for bidders to view the project site at <https://www.pittstate.edu/office/purchasing/virtual-tour-images-student-center.html>. Bidders are encouraged to refer to these photos in lieu of an on-site visit due to current conditions with COVID-19.

Scope of Work

Request for proposal to furnish all labor, equipment, material and proper disposal of materials removed for project as described herein and shown in attached documents to replace windows in the Overman Student Center building.

For technical questions if existing documentation is not sufficient please contact Lindell Haverstic at 620.235.4130 or 417.448.0065 or lhaverstic@pittstate.edu.

Refer to PSU Construction Standards for other requirements: <https://www.pittstate.edu/office/physical-plant/construction-standards.html>

PSU reserves the right to award in the best interest of the university.

General Provisions/Signature

Tax Clearance Certification: Bid submittals of \$25,000 or more shall include a copy of a Tax Clearance Certification. Tax Clearances may be obtained from the Kansas Dept. of Revenue (KDOR):

<http://www.ksrevenue.org/taxclearance.html>

W9 Form: Vendors who are new to PSU should submit a copy of their W-9 with bid response. The form can be downloaded at www.irs.gov/pub/irs-pdf/fw9.pdf

DA-146a Contractual Provisions: The bidder agrees to accept the provisions of form DA-146a, Contractual Provisions Attachment which is incorporated into all contracts with the State <http://www.da.ks.gov/purch/DA-146a.pdf>

NEW MATERIALS, SUPPLIES, OR EQUIPMENT: Unless otherwise specified, all materials, supplies or equipment offered by a vendor shall be new, and unused in any regard. All materials, supplies and equipment shall be first class in all respects. Seconds or flawed items will not be acceptable. All materials, supplies or equipment shall be suitable for their intended purpose and, unless otherwise specified, fully assembled and ready for use on delivery.

COMPARABLE PRODUCTS: Bids on comparable products are invited. Indicate appropriate items, brands, model numbers, and specifications. Minor deviations in size and operational characteristics from those set forth in the specification will be considered when such deviations do not alter nor deter Pittsburg State University from accomplishing its intended usage or function. **Each bidder must clearly indicate in writing where (if any) their product characteristics deviate from these specifications and explain how their product accomplishes the desired function even though product characteristics may be different.**

ACCEPTANCE OR REJECTION: PSU reserves the right to accept or reject any or all bids or part of a bid; to waive any informalities or technicalities; clarify any ambiguities in bids; and unless otherwise specified, to accept any item in the bid.

PAYMENT: Payment will be made upon receipt of shipment by PSU.

FREIGHT COST INFORMATION: FOB Destination, Freight Prepaid, and Allowed.

The undersigned certifies that he does not have any substantial conflict of interest sufficient to influence the bidding process on this bid. A conflict of substantial interest is one which a reasonable person would think would compromise the open competitive bid process.

- Legal Name of Person, Firm or Corporation:
- Payment Terms:
- Telephone Number:
- E-mail Address:
- **Signature:** _____
- **Date:** _____

OVERMAN WINDOW REPLACEMENT

PITTSBURG STATE UNIVERISTY PITTSBURG, KANSAS



alloy architecture.com
3500 N. ROCK RD. BLDG. 500
WICHITA, KS 67226
p: 316.634.1111
f: 316.634.1016

PROJECT NUMBER
19189

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Department of Administration
Office of Facilities & Property Management
700 Harrison, Suite 1200
Topeka, Kansas 66603
Phone 785-296-8899

PITTSBURG STATE UNIVERSITY
OVERMAN WINDOW REPLACEMENT
302 E. CLEVELAND, PITTSBURG, KS 66762
BUILDING NUMBER 38500-00030
DATE: 02.04.2020 DRAWN BY: Jeff Sherrard

COVER

A-0134003

A-0

100%
CONSTRUCTION
DOCUMENTS



PROJECT LOCATION



PROJECT LOCATION MAP

NOT TO SCALE

SYMBOL LEGEND

DRAWING TITLES: 1 TITLE SCALE

WALL AND DETAIL SECTIONS: 1 DETAIL #, A-8.1 SHEET #

ELEVATIONS: 3 ELEVATION #, A-5.1 SHEET #

DOOR TAG: D101 DOOR NUMBER

WINDOW TAG: W02

EQUIPMENT TAG: 001

KITCHEN EQUIPMENT TAG: 01

ELEVATION MARK: ELEV. 100'-0" FINISH FLOOR

ROOM NOTATION: CONFERENCE ROOM 125

CONSTRUCTION NOTE: 03

DEMOLITION NOTE: 1

REVISION NUMBER: 1

WALL TYPE SYMBOL: 1A PARTITION TYPE

MASONRY WALL: [Symbol]

STUD WALL: [Symbol]

EXISTING WALL TO BE REMAIN: [Symbol]

EXISTING WALL TO BE REMOVED: [Symbol]

NORTH ARROW: [Symbol]

ABBREVIATIONS

AB ANCHOR BOLT	EQ EQUAL	OA OVERALL
ABV ABOVE	EQUIP EQUIPMENT	OC ON CENTER(S)
A/C AIR CONDITIONING	EXIST EXISTING	OD OUTSIDE DIAMETER
ACM ASBESTOS CONTAINING MATERIAL	EXT EXTERIOR	OPNG OPENING
ADJ ADJUSTABLE/ADJACENT		OPP OPPOSITE
AFF ABOVE FINISH FLOOR	F FAHRENHEIT/FAHRENHEIT	PL PLATE/PROPERTY LINE
AHJ AUTHORITY HAVING JURISDICTION	FA FRESH AIR/FIRE ALARM	P LAM PLASTIC LAMINATE
ALUM ALUMINUM	FDN FOUNDATION	PLBG PLUMBING
ALT ALTERNATE	FIN FINISH	PLF POUNDS PER LINEAR FOOT
ANCH ANCHOR	FLR FLOOR	PWD PLYWOOD
APPROX APPROXIMATE	FT() FOOT	PNL PANEL(ING)
ARCH ARCHITECT(URAL)	FTG FOOTING	PNT PAINT(ED)
	FV FIELD VERIFY	PSF POUNDS PER SQUARE FOOT
BD BOARD	GA GAGE/GAUGE	PSI POUNDS PER SQUARE INCH
BLDG BUILDING	GC GENERAL CONTRACTOR	PVC POLYVINYL CHLORIDE
BLW BELOW	GYP GYPSUM	
BM BEAM/BENCH WORK		RA(G) RETURN AIR GRILLE
B.O. BY OWNER		RD ROOF DRAIN
BOTT BOTTOM	HDBD HARDBOARD	REG REGISTER
BUR BUILT-UP ROOFING	HDW HARDWARE	REQD REQUIRED
	HDWD HARDWOOD	REV REVISED/REVISION/REVERSE
CAB CABINET	HM HOLLOW METAL	RM ROOM
C/C CENTER TO CENTER	HORIZ HORIZONTAL	RO ROUGH OPENING
CF CUBIC FEET	H(T) HIGH (HEIGHT)	RS(C) ROUGH SAWN (CEDAR)
CJ CONSTRUCTION JOINT		
CLJ CONTROL JOINT	ID INSIDE DIAMETER	
CL CENTER LINE	IN () INCH	SEC SECTION
CLG CEILING	INSUL INSULATION	SF SQUARE FOOT
CLO CLOSET	INT INTERIOR	SHT SHEET
CLR CLEAR		SIM SIMILAR
CMU CONCRETE MASONRY UNIT	JNT JOINT	SPEC SPECIFICATION
CO CLEAN OUT/CLEAR OPENING	KIT KITCHEN	SO SQUARE
COL COLUMN		STD STANDARD
CONC CONCRETE	L LONG/LENGTH	STL STEEL
COND CONDITION/CONDENSER	LAV LAVATORY	STO STORAGE
CONT CONTINUOUS/CONTINUOUS	LB LBS	STR STRUCTURAL/STRUCTURE
CONTR CONTRACT(OR)	LF LINEAR FOOT	SY SQUARE YARD
CTR COUNTER/CENTER	LLH LONG LEG HORIZONTAL	SYM SYMMETRICAL
CU CUBIC	LLV LONG LEG VERTICAL	
		T&G TONGUE AND GROOVE
D DEEP/DEPTH	MAS MASONRY	THK THICK(NESS)
DF DRINKING FOUNTAIN	MATL MATERIAL	TYP TYPICAL
DIA DIAMETER	MAX MAXIMUM	
DIM DIMENSION	MC MECHANICAL CONTRACTOR	VERT VERTICAL
DN DOWN	MECH MECHANICAL	VEST VESTIBULE
DO DITTO	MFR MANUFACTURE(R)	VIF VERIFY IN FIELD
DR DOOR	MIN MINIMUM	
DS DOWNSPOUT	MISC MISCELLANEOUS	W WIDE/WIDTH
DTL DETAIL	MO MASONRY OPENING	W/ WITH
DWG DRAWING	MTD MOUNTED	WC WATER/CLOSET/WALL COVERING
	MTL METAL	WD WOOD
EB EXPANSION BOLT		WDW WINDOW
EC ELECTRICAL CONTRACTOR	NA NOT APPLICABLE	W/O WITHOUT
EJ EXPANSION JOINT	NIC NOT IN CONTRACT	WT WEIGHT
ELEC ELECTRICAL	NO NUMBER	WWF WELDED WIRE FABRIC
ELEV ELEVATION	NOM NOMINAL	
ENT ENTRANCE	NTS NOT TO SCALE	YD YARD

MATERIAL SYMBOLS

[Symbol]	ACOUSTICAL	[Symbol]	METAL
[Symbol]	BRICK	[Symbol]	TILE
[Symbol]	CONCRETE	[Symbol]	SAND
[Symbol]	CONCRETE MASONRY UNIT	[Symbol]	WOOD FINISH
[Symbol]	GRAVEL	[Symbol]	WOOD FRAMING (CONTINUOUS)
[Symbol]	EARTH	[Symbol]	WOOD FRAMING (INTERRUPTED)
[Symbol]	GYPSUM BOARD	[Symbol]	PLYWOOD
[Symbol]	BATT INSULATION	[Symbol]	RIGID INSULATION

PROJECT INFORMATION

PROJECT OWNER	Pittsburg State University 1701 South Broadway Pittsburg, Kansas 66762 P 620.235.4130 F 4007
PROJECT DESIGNER	Alloy Architecture 3500 N. Rock Road, Bldg 500 Wichita, Kansas 67226 P 316.634.1111
BUILDING INSPECTIONS	Office of Facilities & Procurement Mngt
RESPONDING FIRE DEPARTMENT	Pittsburg Fire Department
WATER SUPPLY	Crawford County Rural Water District
PROJECT NARRATIVE:	Window Replacement at JH Overman Student Center

APPLICABLE CODES

- A. International Building Code (IBC), 2018 Edition.
 - a. Chapter 11, Accessibility, is deleted. See Item N below.
 - b. Additionally, The Life Safety Code (NFPA 101)
- B. International Building Fire Code (IFC), 2018 Edition.
- C. International Residential Code (IRC), 2018 Edition.
- D. International Existing Building Code (IEBC), 2018 Edition
- E. International Mechanical Code (IMC), 2018 Edition.
- F. International Plumbing Code (IPC), 2018 Edition.
- G. International Fuel Gas Code (IFGC), 2018 Edition.
- H. International Energy Conservation Code (IECC), 2018 Edition or ASHRAE 90.1-2013.
- I. The codes and standards referenced in the Referenced Standards Chapters in the IBC, IFC, IRC, IMC, IPC, IFGC and IECC shall be applicable. Codes listed in Item J below shall be identified on the code footprint, if applicable to the project. The NFPA editions noted in Item K below shall be applicable for the occupancies listed and shall be identified on the code footprint if applicable to the project.
- J. National Fire Protection Association (NFPA), National Fire Codes and Standards for non-Healthcare occupancies described in Item K.
 - a. NFPA 10 – 2018 Edition – Portable Fire Extinguishers
 - b. NFPA 13, 13D and 13R – 2016 Edition – Installation of Sprinkler Systems
 - c. NFPA 14 – 2016 Edition – Installation of Standpipe and Hose Systems
 - d. NFPA 20 - 2016 Edition – Installation of Stationary Pumps for Fire Protection
 - e. NFPA 25 – 2017 Edition – Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems
 - f. NFPA 45 - 2015 Edition - Fire protection for Laboratories Using Chemicals
 - g. NFPA 70 – 2017 Edition – National Electric Code (NEC)
 - h. NFPA 72 – 2016 Edition – National Fire Alarm Code
 - i. NFPA 96 – 2017 Edition – Ventilation Control and Fire Protection for Commercial Cooking Operations
 - j. NFPA 101 – 2018 Edition – Life Safety Code – only applicable to adult & boarding care homes per OSFM K.A.R. – 22-11-8.
 - k. NFPA 110 – 2016 Edition – Emergency and Standby Power Systems
 - l. NFPA 241 – 2013 Edition – Safeguarding Construction, Alteration and Demolition Operations
- K. Healthcare (not applicable)
- L. ASME A17.1/CSA B44-2016 – Safety Code for Elevators and Escalators
- M. Kansas Fire Prevention Code (This code combines many different documents including Kansas Statutes Annotated (K.S.A.) and Kansas Administrative Regulations (K.A.R.)) A list of pertinent statutes and regulations can be found at the Office of the State Fire Marshal (OSFM) website at www.firemarshal.ks.gov.
- N. K.S.A. 58-1301 et seq – 2010 ADA Standards for Accessible Design (2010 ADA Standards).
- O. Kansas State Boiler Code

DRAWING INDEX

- A-0 COVER
- A-1 WINDOW SCHEDULE, DETAILS



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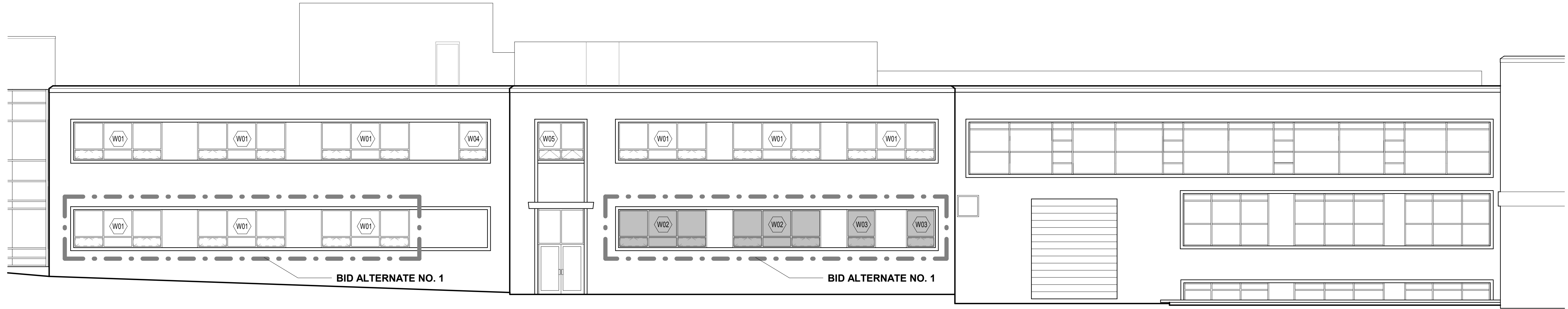
PROJECT NUMBER
 19189

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PITTSBURG STATE UNIVERSITY
OVERMAN WINDOW REPLACEMENT
 302 E. CLEVELAND, PITTSBURG, KS 66762
 BUILDING NUMBER 38500-00030
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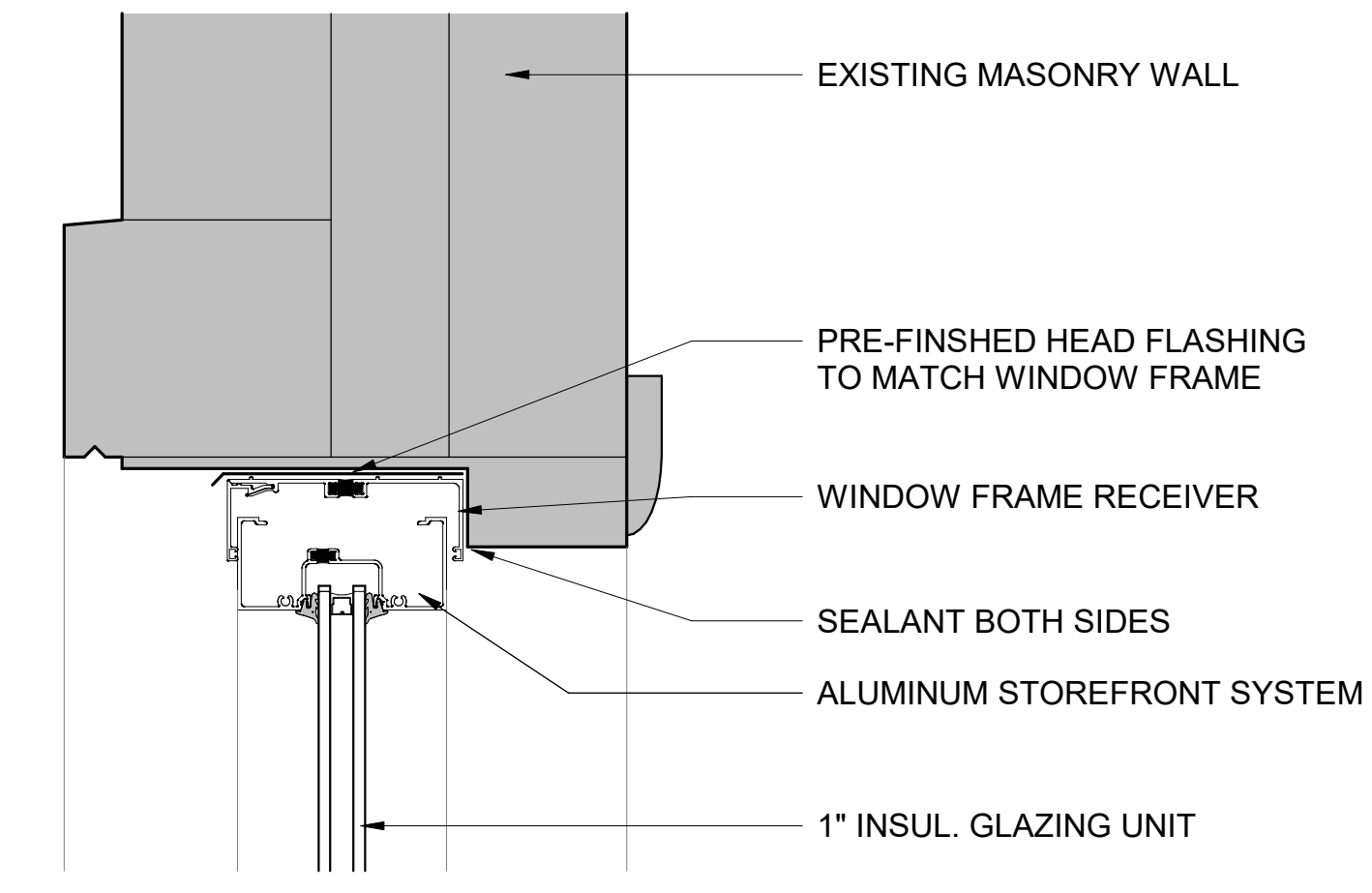
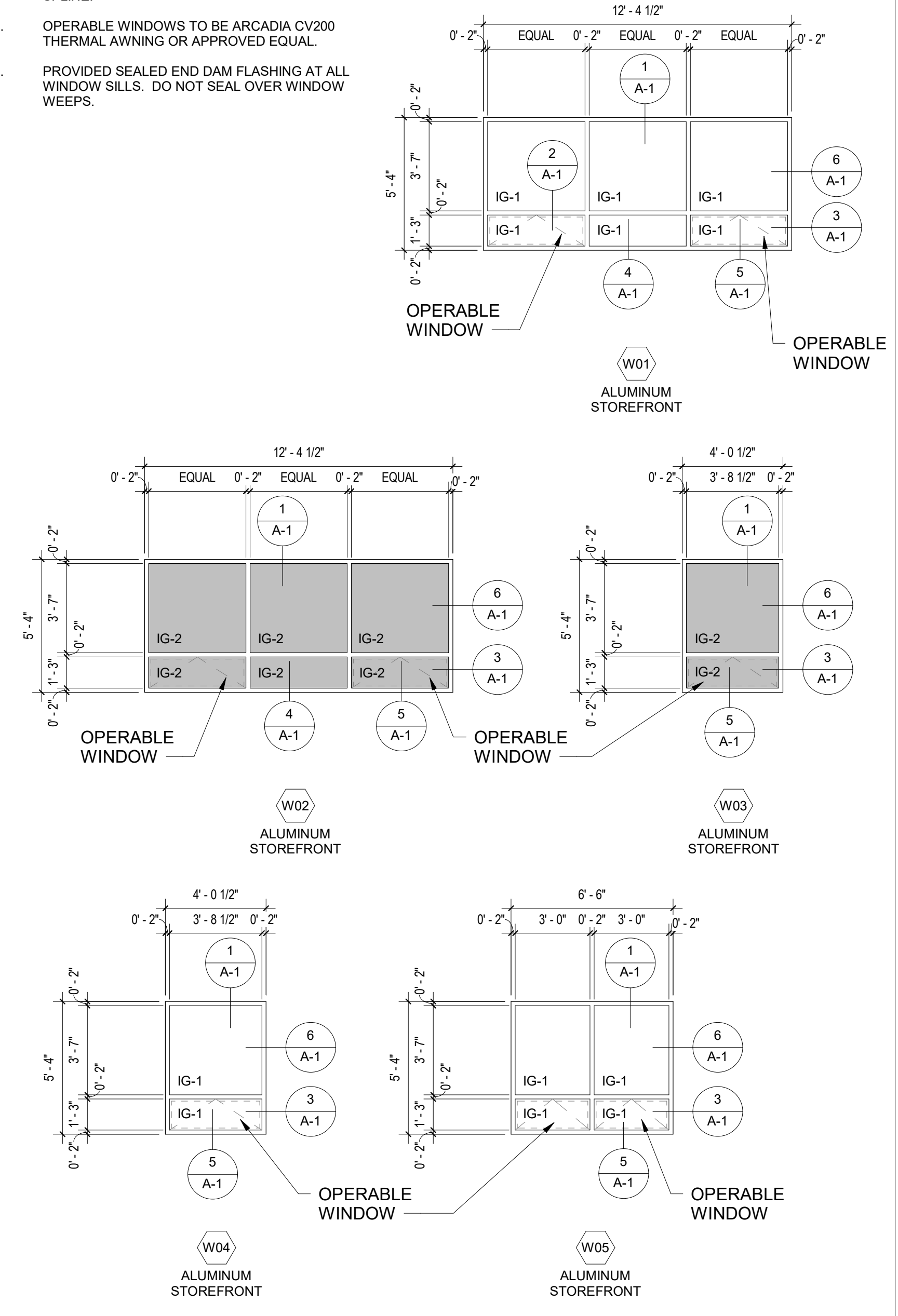


1 PARTIAL NORTH ELEVATION
 1/8" = 1'-0"

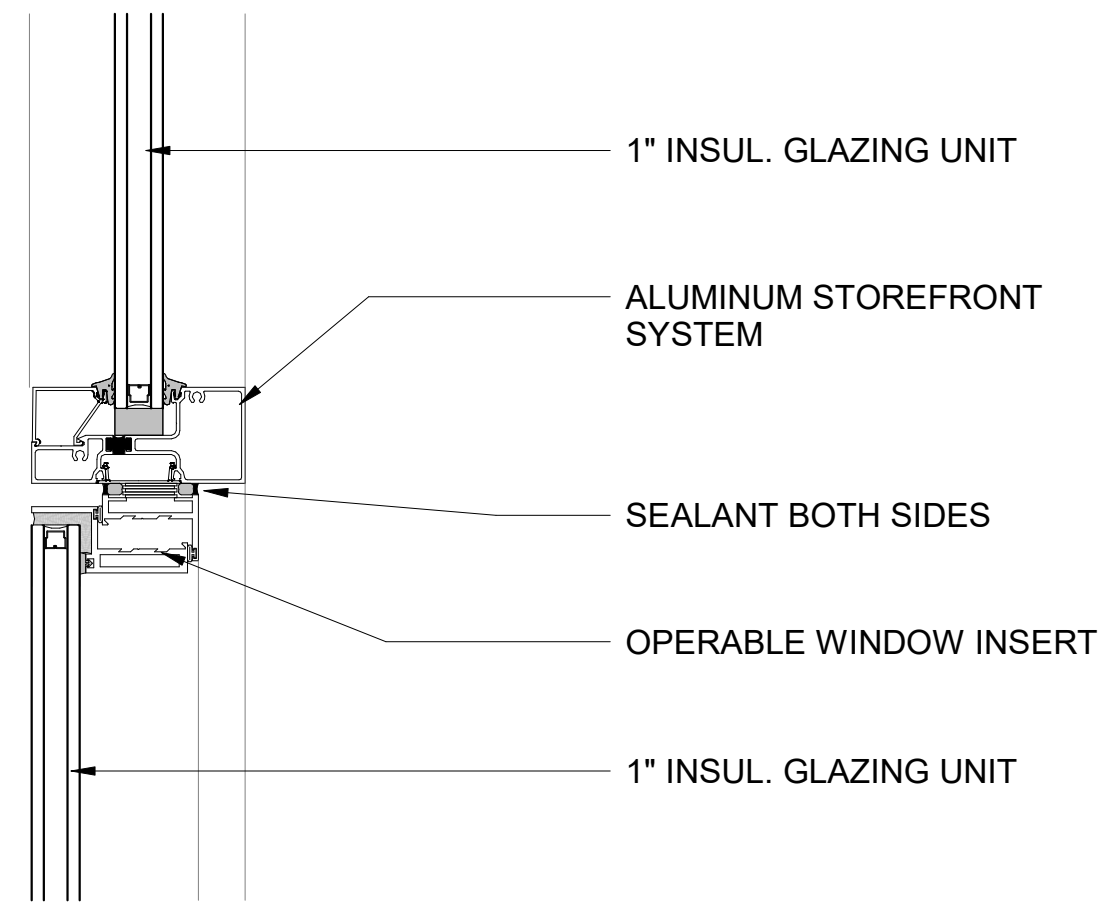
WINDOW SCHEDULE

- WINDOW NOTES**
- FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS.
 - REMOVE EXISTING WINDOWS, FLASHING AND SEALANTS. PROTECT EXISTING SILLS AND TRIM. REPAIR/REPLACE DAMAGED EXISTING TRIM, SILLS, OR MASONRY.
 - REMOVE EXISTING WINDOW BLINDS AND REINSTALL AFTER WINDOW INSTALLATION.
 - FRAMES TO BE ARCADIA AG451T THERMAL OR APPROVED EQUAL. OUTSIDE GLAZED, SCREW SPLINE.
 - OPERABLE WINDOWS TO BE ARCADIA CV200 THERMAL AWNING OR APPROVED EQUAL.
 - PROVIDED SEALED END DAM FLASHING AT ALL WINDOW SILLS. DO NOT SEAL OVER WINDOW WEEPS.

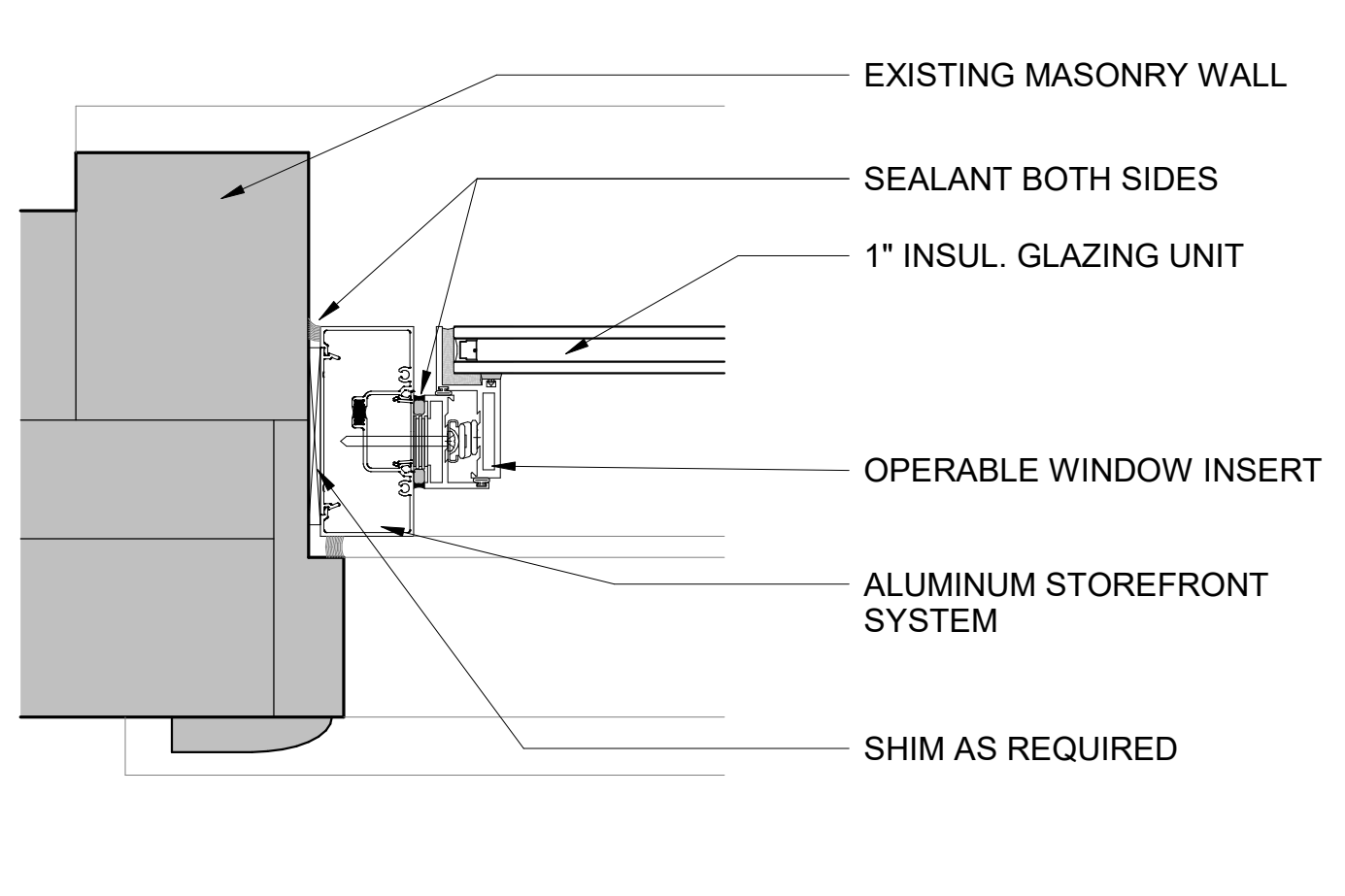
- GLAZING LEGEND**
- IG-1 = 1" INSULATED LOW-E GLAZING UNIT
 EXTERIOR LITE: 1/4" CLEAR ES-40 LOW-E (#2) TEMPERED
 AIR SPACE: 1/2" MILL FINISH SPACER/AIR FILLED
 INTERIOR LITE: 1/4" CLEAR TEMPERED
- IG-2 = 1" INSULATED SPANDREL GLAZING
 EXTERIOR LITE: 1/4" CLEAR ES-40 LOW-E (#2) TEMPERED
 AIR SPACE: 1/2" MILL FINISH SPACER/AIR FILLED
 INTERIOR LITE: 1/4" CLEAR FRIT (#4) TEMPERED



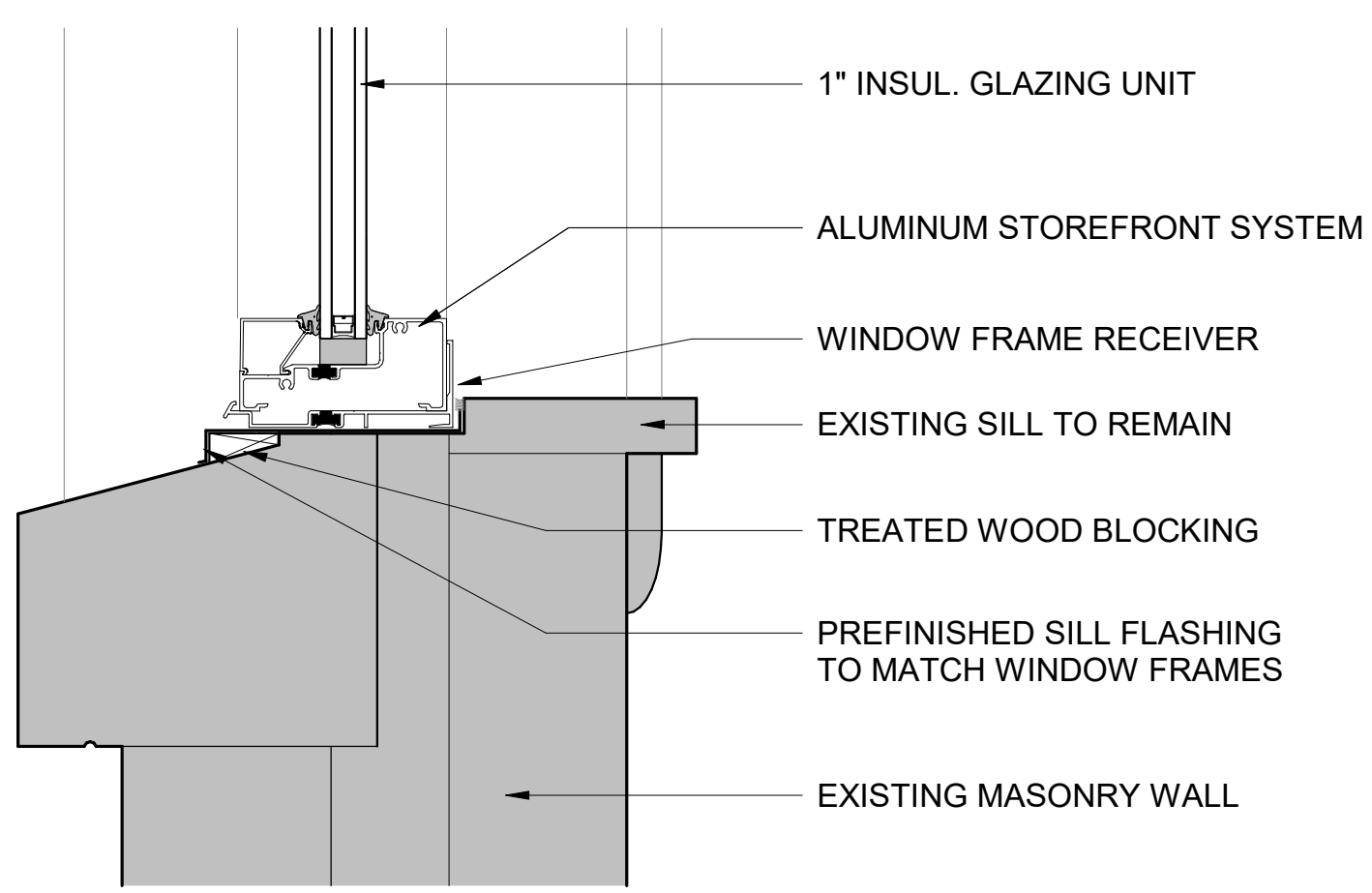
1 WINDOW HEAD DETAIL
 3" = 1'-0"



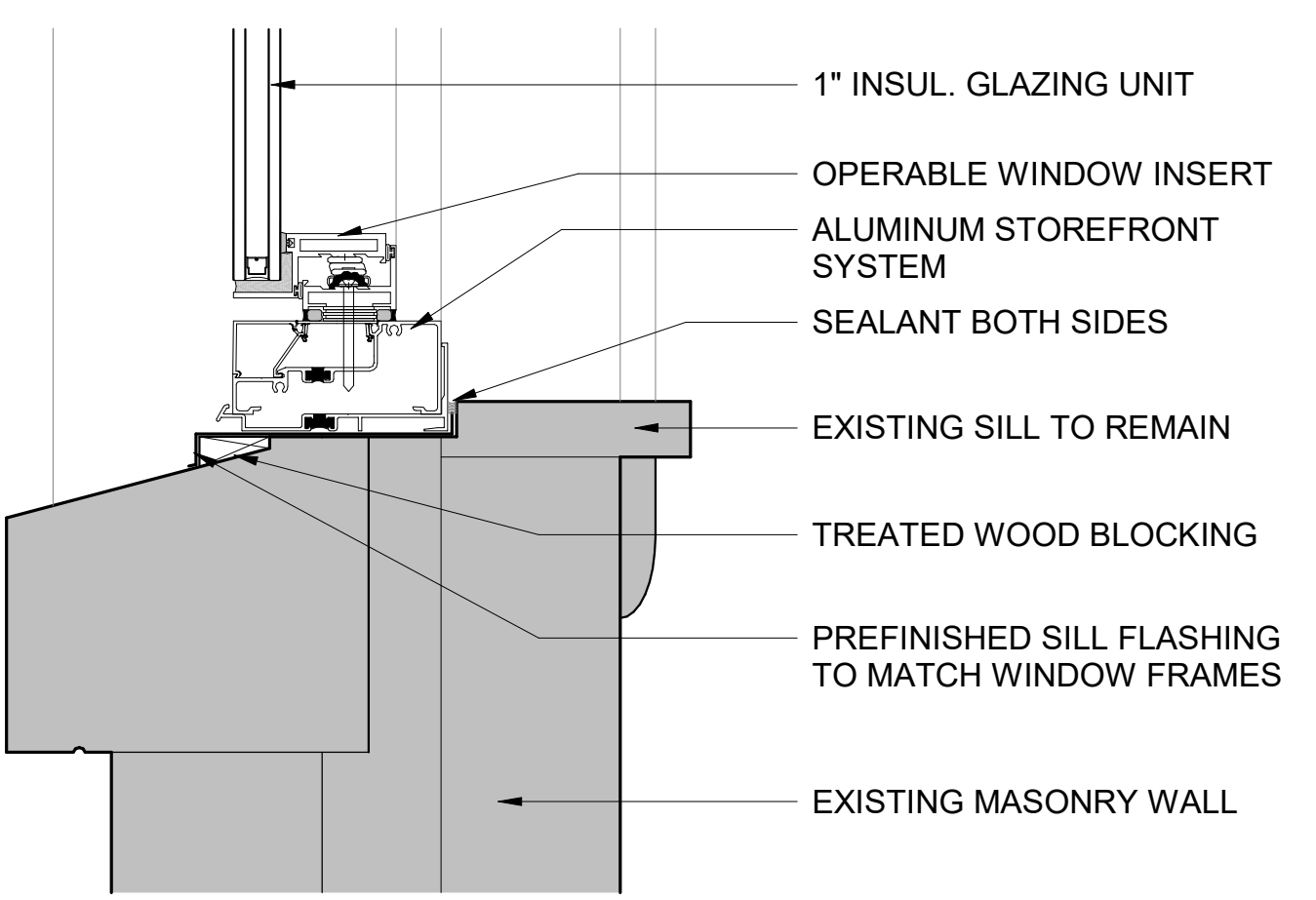
2 WINDOW MULLION DTL
 3" = 1'-0"



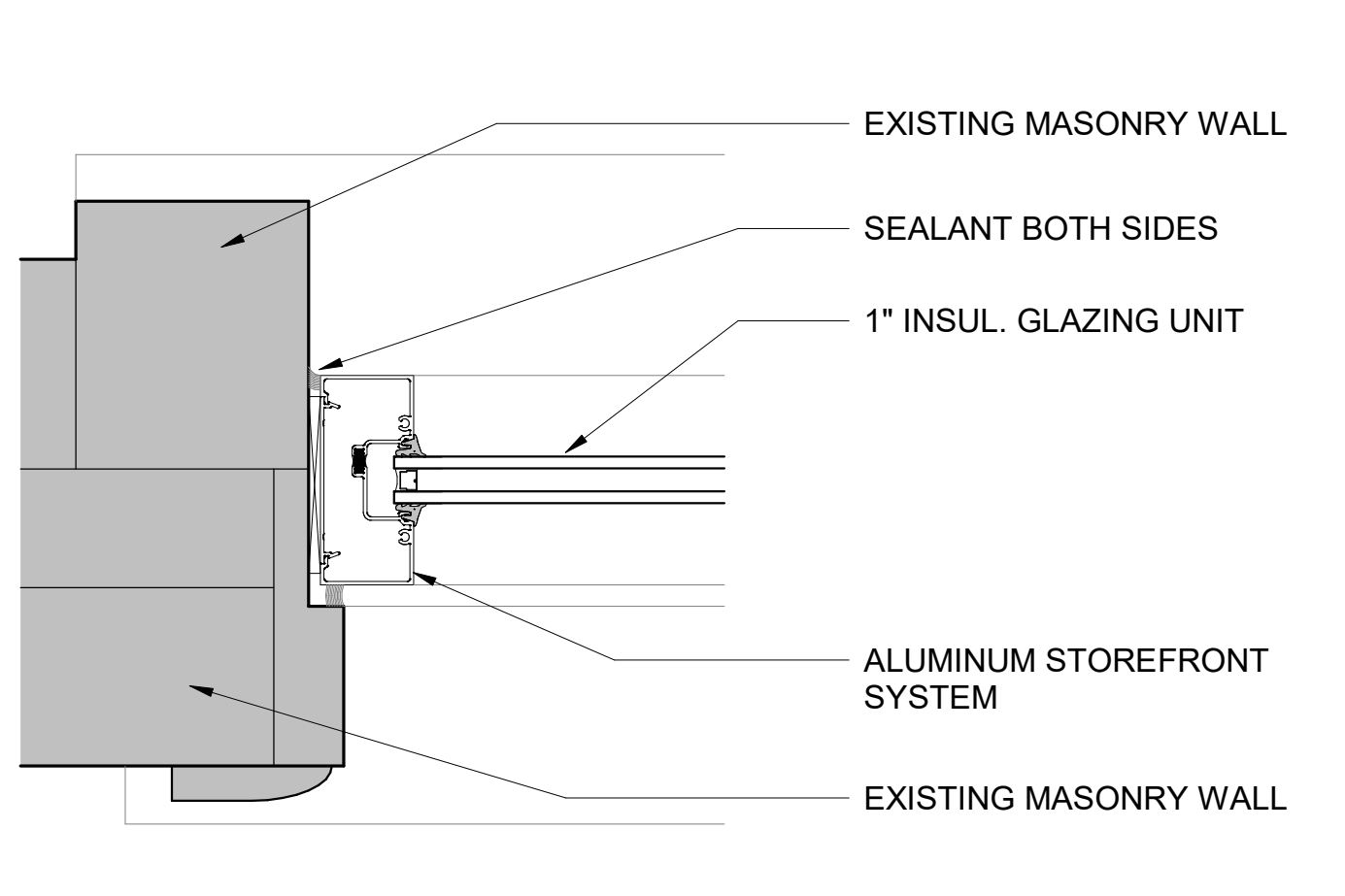
3 WINDOW JAMB DETAIL
 3" = 1'-0"



4 WINDOW SILL DETAIL
 3" = 1'-0"



5 WINDOW SILL DETAIL
 3" = 1'-0"



6 WINDOW JAMB DETAIL
 3" = 1'-0"

WINDOW SCHEDULE

A-0134003

A-1

100% CONSTRUCTION DOCUMENTS

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STATEMENT OF RESPONSIBILITY

Alloy Architecture, p.a.

We hereby certify that we have coordinated all plan and specification documents; however, the documents authenticated by our Seals are limited to the following:

SPECIFICATIONS:

Division 2 – 8 all Sections

DRAWINGS:

A-0 COVER
A-1 WINDOW SCHEDULE



Title: Architect of Record

Jeffery H. Sherrard, AIA
Alloy Architecture
3500 N. Rock Road Bldg., 500
Wichita, KS 67226

**SECTION 01.11.00
SUMMARY OF WORK**

PART 1 GENERAL

1.01 PROJECT DESCRIPTION

- A. The Project consists of partial window replacement at J.H. Overman Student Center on the Pittsburg State University Campus as shown on Contract Documents prepared by Alloy Architecture, p.a. dated February 4, 2020.

1.03 CONTRACTOR USE OF PREMISES

- A. General: Limit use of the premises to construction activities in areas indicated; allow for Owner occupancy and use by the public.
 - 1. Confine operations to areas within construction limits indicated. Portions of the site beyond areas in which construction operations are indicated are not to be disturbed.
 - 2. Keep driveways and entrances serving the premises clear and available to the Owner and Owner's employees at all times. Do not use these areas for parking or storage of materials and equipment on site. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.
 - 3. The Contractor shall be limited to the following access through the site to the construction area:
- B. Maintain the existing building in a weathertight condition throughout construction. Repair damage caused by construction operations. Take precautions necessary to protect the building and occupants during the construction period.

1.04 OWNER OCCUPANCY

- A. Full Owner Occupancy: The Owner will occupy the existing building during construction. Cooperate with the Owner to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with the Owner's operations.

1.05 OWNER EGRESS DURING CONSTRUCTION

- A. The Owner will occupy portions of the existing building during construction. The General Contractor is required to maintain approved exiting from the occupied areas of the building during construction as required by the Fire Marshal having jurisdiction. Exiting through construction areas, if approved by the Fire Marshall having jurisdiction, shall have sufficient emergency lighting, exit signs and clear unobstructed pathways to a "public way" beyond the limits of construction.

1.06 OWNER-FURNISHED ITEMS

- A. The Owner will provide some furniture and equipment for the project. The Work includes providing support systems to receive the Owner's equipment, and mechanical and electrical connections of Owner-furnished items.
 - 1. The Owner will arrange and pay for delivery in accordance with the Contractor's Construction Schedule, and inspect deliveries for damage.
 - 2. If Owner-furnished items are damaged, defective or missing, the Owner will arrange for replacement. The Owner will arrange for manufacturer's field services, and delivery of warranties and bonds to the Contractor.
 - 3. The Contractor is responsible for designating delivery dates in the Contractor's Construction Schedule and for receiving, unloading and handling Owner-furnished items at the site. The Contractor is responsible for protecting items from damage, including damage from exposure to the elements, and to repair or replace items damaged as a result of his operations.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

END OF SECTION 01.11.00

**SECTION 01.23.00
ALTERNATES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Administrative and procedural requirements for Alternates.
- B. Definition: An Alternate is an amount proposed by Bidders and stated on the Bid Form for certain items that may be added to or deducted from Base Bid amount if the Owner decides to accept a corresponding change in either the amount of construction to be completed, or in the products, materials, equipment, systems or installation methods described in Contract Documents.

1.02 COORDINATION AND NOTIFICATION

- A. The Contractor shall coordinate related Work and modify or adjust adjacent Work as necessary to ensure that Work affected by each accepted alternate is complete and fully integrated into the Project.
- B. Immediately following Contract award, Architect will notify each party involved, of the status of each Alternate.
- C. Alternates may be accepted, rejected or deferred for consideration at a later date.

1.03 WORK INCLUDED

- A. A "Schedule of Alternates" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials and methods necessary to achieve the Work described under each Alternate.
- B. Include as part of each Alternate, miscellaneous devices, accessory objects and similar items incidental to or required for a complete installation whether or not mentioned as part of the Alternate.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

1.01 SCHEDULE OF ALTERNATES

ALTERNATE NO. 1: FIRST FLOOR WINDOW REPLACEMENT

Remove and replace the first floor windows as indicated on the drawings. Base bid to be no first floor window replacement.

END OF SECTION 01.23.00

**SECTION 01.26.00
MODIFICATION PROCEDURES****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Administrative and procedural requirements for handling and processing Contract modifications.

1.02 RELATED SECTIONS

- A. Division 1 Section "Submittal Procedures" for requirements for the Contractor's Construction Schedule.
- B. Division 1 Section "Product Options" for administrative procedures for handling requests for substitutions made after award of the Contract.

1.03 MINOR CHANGES IN THE WORK

- A. Supplemental instructions authorizing minor changes in the Work, not involving an adjustment to the Contract Sum or Contract Time, will be issued by the Architect on AIA form G710, Architect's Supplemental Instructions.

1.04 OWNER-INITIATED PROPOSAL REQUESTS

- A. Proposed changes in the Work that will require adjustment to the Contract Sum or Contract Time will be issued by the Architect, with a detailed description of the proposed change and supplemental or revised Drawings and Specifications, if necessary.
- B. Proposal requests issued by the Architect are for information only. Do not consider them an instruction either to stop work in progress, or to execute the proposed change.
- C. Unless otherwise indicated in the proposal request, within 20 days of receipt of the proposal request, submit to the Architect for the Owner's review an estimate of cost necessary to execute the proposed change.
 - 1. Include a list of quantities of products to be purchased and unit costs, along with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - 2. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 3. Include a statement indicating the effect the proposed change in the Work will have on the Contract Time.

1.05 CONTRACTOR-INITIATED CHANGE ORDER PROPOSAL REQUESTS

- A. When latent or other unforeseen conditions require modifications to the Contract, the Contractor may propose changes by submitting a request for a change to the Architect.
 - 1. Include a statement outlining the reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and Contract Time.
 - 2. Include a list of quantities of products to be purchased and unit costs along with the total amount of purchases to be made. Where requested, furnish survey data to substantiate quantities.
 - 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - 4. Comply with requirements in Section "Product Substitutions" if the proposed change in the Work requires the substitution of one product or system for a product or system specified.
- B. Proposal Request Form: Use AIA Document G 709 for Change Order Proposal Requests.

1.06 CONSTRUCTION CHANGE DIRECTIVE

- A. When the Owner and Contractor are not in total agreement on the terms of a Change

MODIFICATION PROCEDURES

Order Proposal Request, the Architect may issue a Construction Change Directive on AIA Form G714, instructing the Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

- B. The Construction Change Directive will contain a complete description of the change in the Work and designate the method to be followed to determine change in the Contract Sum or Contract Time.
- C. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
 - 1. After completion of the change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

1.07 CHANGE ORDER PROCEDURES

- A. Upon the Owner's approval of a Change Order Proposal Request, the Architect will issue a Change Order for signatures of the Owner and Contractor on AIA Form G701, as provided in the Conditions of the Contract.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01.26.00

**SECTION 01.31.00
PROJECT MANAGEMENT AND COORDINATION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:
1. Coordination
 2. Administrative and supervisory personnel
 3. General installation provisions
 4. Cleaning and protection

1.02 RELATED REQUIREMENTS

- A. Field engineering is included in Section "Field Engineering".
- B. Progress meetings, coordination meetings and pre-installation conferences are included in Section "Project Meetings".
- C. Requirements for the Contractor's Construction Schedule are included in Section "Submittal Procedures".

1.03 COORDINATION

- A. Coordinate construction activities included in various Sections of these Specifications to assure efficient and orderly installation of each part of the Work.
- B. Coordinate operations included under different Sections that are dependent on each other for proper installation and operation.
1. Where installation of one part of the Work depends on installation of other components either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 2. Where space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
 3. Make adequate provisions to accommodate items scheduled for later installation.
- C. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required coordination procedures. Include such items as required notices, reports, and attendance at meetings.
- D. Prepare similar memoranda for the Owner and separate Contractors where coordination of their Work is required.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.01 GENERAL INSTALLATION PROVISIONS

- A. Require the Installer of each component to inspect both the substrate and conditions under which Work is performed. Do not proceed until unsatisfactory conditions have been corrected.
- B. Comply with manufacturer's installation instructions and recommendations, to the extent that they are more stringent than requirements in Contract Documents.
- C. Inspect material immediately upon delivery and again prior to installation. Reject damaged and defective items.
- D. Provide attachment and connection devices and methods necessary for securing each construction element. Secure each construction element true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints to obtain the best effect. Refer questionable choices to the Architect for decision.
- F. Recheck measurements and dimensions, before starting installation or fabrication.
- G. Install each component during weather conditions and project status that will ensure the best results. Isolate each part from incompatible material as necessary to prevent

PROJECT MANAGEMENT AND COORDINATION

- deterioration.
- H. Coordinate temporary enclosures with inspections and tests, to minimize uncovering completed construction for that purpose.
 - I. Where mounting heights are not indicated, install components at standard heights for the application indicated. Refer questionable decisions to the Architect.
 - J. Adjust and service all equipment for proper operation.
 - K. Seal all exterior joints to provide waterproof enclosure.
 - L. Completed work shall illustrate first-class workmanship.

3.02 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place.
- B. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- C. Clean and maintain completed construction as often as necessary through the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- D. Clean all materials in a manner not to damage finish.
- E. Supervise operations to ensure that no part of construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure. Such exposures include, but are not limited to the following:
 - 1. Excessive static or dynamic loading.
 - 2. Excessive internal or external pressures.
 - 3. Excessive weathering.
 - 4. Excessively high or low temperatures or humidity.
 - 5. Air contamination or pollution.
 - 6. Water or ice.
 - 7. Chemicals or solvents.
 - 8. Heavy traffic, soiling, staining and corrosion.
 - 9. Rodent and insect infestation.
 - 10. Unusual wear or other misuse.
 - 11. Contact between incompatible materials.
 - 12. Theft or vandalism.

END OF SECTION 01.31.00

**SECTION 01.31.19
PROJECT MEETINGS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Administrative and procedural requirements for project meetings including but not limited to:
 - 1. Pre-Construction Conference.
 - 2. Progress Meetings.
- B. Construction schedules are specified in another Division-1 Section.

1.02 PRE-CONSTRUCTION CONFERENCE

- A. Schedule a pre-construction conference and organizational meeting at the Project site or other convenient location no later than 30 days after execution of the Agreement and prior to commencement of construction activities. Conduct the meeting to review responsibilities and personnel assignments.
- B. Attendees: The Owner, Architect and their consultants, the Contractor and its superintendent, major subcontractors, manufacturers, suppliers and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters relating to the Work.
- C. Agenda: Discuss items of significance that could affect progress including such topics as:
 - 1. Tentative construction schedule.
 - 2. Critical Work sequencing.
 - 3. Designation of responsible personnel.
 - 4. Procedures for processing field decisions and Change Orders.
 - 5. Procedures for processing Applications for Payment.
 - 6. Distribution of Contract Documents.
 - 7. Submittal of Shop Drawings, Product Data and Samples.
 - 8. Preparation of record documents.
 - 9. Use of the premises.
 - 10. Office, Work and storage areas.
 - 11. Equipment deliveries and priorities.
 - 12. First aid.
 - 13. Security.
 - 14. Housekeeping.
 - 15. Working hours.

1.03 PROGRESS MEETINGS

- A. Conduct progress meetings at the Project site at regularly scheduled intervals. Notify the Owner and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
- B. Attendees: In addition to representatives of the Owner and Architect, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at these meetings by persons familiar with the Project and authorized to conclude matters relating to progress.
- C. Agenda: Review and correct or approve minutes of the previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to the current status of the Project.
 - 1. Contractor's Construction Schedule: Review progress since the last meeting. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind 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.
 - 2. Review the present and future needs of each entity present, including such items as:

- a. Interface requirements.
 - b. Time.
 - c. Sequences.
 - d. Deliveries.
 - e. Off-site fabrication problems.
 - f. Access.
 - g. Site utilization.
 - h. Temporary facilities and services.
 - i. Hours of Work.
 - j. Housekeeping.
 - k. Quality and Work standards.
 - l. Change Orders.
 - m. Documentation of information for payment requests.
- D. Reporting: No later than 3 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
- E. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01.31.19

**SECTION 01.33.00
SUBMITTAL PROCEDURES****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Administrative and procedural requirements for submittals required for performance of the Work, including;
 - 1. Contractor's construction schedule.
 - 2. Shop Drawings.
 - 3. Product Data.
 - 4. Samples.
 - 5. Color Selections.
- B. Administrative Submittals: Refer to other Division-1 Sections and other Contract Documents for requirements for administrative submittals. Such submittals include, but are not limited to:
 - 1. Permits.
 - 2. Applications for payment.
 - 3. Performance and payment bonds.
 - 4. Insurance certificates.
 - 5. List of Subcontractors.
- C. The Schedule of Values submittal is included in Section "Payment Procedures."
- D. Inspection and test reports are included in Section "Quality Requirements".

1.02 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.
 - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
 - 2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.
 - 3. The Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- B. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.
 - 1. Allow three weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. The Architect will promptly advise the Contractor when a submittal being processed must be delayed for coordination.
 - 2. If an intermediate submittal is necessary, process the same as the initial submittal.
 - 3. Allow two weeks for reprocessing each submittal.
 - 4. No extension of Contract Time will be authorized because of failure to transmit submittals to the Architect sufficiently in advance of the Work to permit processing.
- C. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.
 - 1. All product data and shop drawing submittals shall bear the Contractor's stamp stating that the Contractor has reviewed and approved the submittal and that they conform to the Contract Documents, with signature of Contractor's authorized representative.
 - 2. Submittals not bearing the Contractor's review stamp will be returned without action.
- D. Submittal Transmittal: Transmit each submittal from Contractor to Architect using a

SUBMITTAL PROCEDURES

transmittal form.

1. Submittals received from sources other than the Contractor will be returned without action.
2. On the transmittal Record relevant information and requests for data.
3. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations.

1.03 **CONTRACTOR'S CONSTRUCTION SCHEDULE**

- A. Bar-Chart Schedule: Prepare a fully developed, horizontal bar-chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the Work".
1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the "Schedule of Values".
 2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
 3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
 4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved in the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
 5. Coordinate the Contractor's construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
 6. Indicate completion in advance of the date established for Substantial Completion. Indicate Substantial Completion on the schedule to allow time for the Architect's procedures necessary for certification of Substantial Completion.
- B. Cost Correlation: At the head of the schedule, provide a two item cost correlation line, indicating "precalculated" and "actual" costs. On the line show dollar-volume of Work performed as of the dates used for preparation of payment requests. Refer to Section "Payment Procedures" for cost reporting and payment procedures.
- C. Distribution: Following response to the initial submittal, print and distribute copies to the Architect, Owner, subcontractors, and other parties required to comply with scheduled dates. Post copies in the Project meeting room and temporary field office.
1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.
- D. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.04 **SHOP DRAWINGS**

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the Contract Documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings.
- C. Submittal: Submit 1 reproducible and a minimum of 3 blue- or black-line prints; submit 5 prints where required for maintenance manuals. 2 prints will be retained; the remainder will be returned.
- D. Do not use Shop Drawings without the Architect's final review stamp indicating action

SUBMITTAL PROCEDURES

taken in connection with construction. No shop drawings, except those bearing the Architect's review stamp, shall be permitted at the job site.

1.05 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system.
- B. Product Data includes printed information such as manufacturer's installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as "Shop Drawings."
- C. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information:
 - 1. Manufacturer's printed recommendations.
 - 2. Compliance with recognized trade association standards.
 - 3. Compliance with recognized testing agency standards.
 - 4. Application of testing agency labels and seals.
 - 5. Notation of dimensions verified by field measurement.
 - 6. Notation of coordination requirements.
- D. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
- E. Submittals: Submit a minimum of 3 copies of each required submittal. The Architect will retain a maximum of two, and will return the other marked with action taken and corrections or modifications required. Submit additional copies as required for Contractor's use.
- F. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - 1. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.
 - 2. Do not permit use of unmarked copies of Product Data in connection with construction.

1.06 SAMPLES

- A. Submit full-size, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
- B. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered and installed.
 - 1. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits of the variations.
 - 2. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
 - 3. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
- C. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit one set; unless otherwise requested by Architect.
- D. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
- E. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance

of the Work. Show distribution on transmittal forms.

- F. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.
1. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.07 COLOR SELECTIONS

- A. Colors of products shall be as selected by the Architect.
- B. Unless otherwise stated, colors may be selected from any color listed by the manufacturer in his product literature.
- C. The Contractor shall submit samples for color selection for all products to the Architect at the same time.
- D. Contractor shall allow 30 days after submitting all samples for Architect's selection.

1.08 ARCHITECT'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the Architect will review each submittal, mark to indicate action taken, and return promptly.
- B. Compliance with specified characteristics is the Contractor's responsibility. Architect's review shall be for general conformance to design appearance only and shall not be construed to relieve the Contractor of any requirement set forth in Contract Documents.
- C. Action Stamp: The Architect will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to indicate the action taken:
 1. Final Unrestricted Release: Where submittals are marked "No Exceptions Taken", that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
 2. Final-But-Restricted Release: When submittals are marked "Exceptions Taken", that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
 3. Returned for Resubmittal: When submittal is marked "Revise and Resubmit", do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark. Do not permit submittals marked "Not Approved, Revise and Resubmit" to be used at the Project site, or elsewhere where Work is in progress.
 4. Returned: When a submittal is marked "Rejected", do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Submittal does not comply with requirements of the Contract Documents and shall not be resubmitted.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01.33.00

SECTION 01.40.00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Administrative and procedural requirements for quality control services.
- B. Quality control services include inspections and tests and related actions including reports, performed by independent agencies, governing authorities, and the Contractor. They do not include Contract enforcement activities performed by the Architect.
- C. Inspection and testing services are required to verify compliance with requirements specified or indicated. These services do not relieve the Contractor of responsibility for compliance with Contract Document requirements.
- D. Requirements of this Section relate to customized fabrication and installation procedures, not production of standard products.
 - 1. Specific quality control requirements for individual construction activities are specified in the Sections that specify those activities. Those requirements, including inspections and tests, cover production of standard products as well as customized fabrication and installation procedures.
 - 2. Inspections, test and related actions specified are not intended to limit the Contractor's quality control procedures that facilitate compliance with Contract Document requirements.
 - 3. Requirements for the Contractor to provide quality control services required by the Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.02 RESPONSIBILITIES

- A. Contractor Responsibilities: The Contractor shall provide inspections, tests and similar quality control services, specified in individual Specification Sections and required by governing authorities, except where they are specifically indicated to be the Owner's responsibility, or are provided by another identified entity; these services include those specified to be performed by an independent agency and not by the Contractor. Costs for these services shall be included in the Contract Sum.
 - 1. The Contractor shall employ and pay an independent agency, to perform specified quality control services.
 - 2. Where the Owner has engaged a testing agency or other entity for testing and inspection of a part of the Work, and the Contractor is also required to engage an entity for the same or related element, the Contractor shall not employ the entity engaged by the Owner, unless otherwise agreed in writing with the Owner.
- B. Retesting: The Contractor is responsible for retesting where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance with Contract Document requirements, regardless of whether the original test was the Contractor's responsibility.
 - 1. Cost of retesting construction revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original construction.
- C. Associated Services: The Contractor shall cooperate with agencies performing required inspections, tests and similar services and provide reasonable auxiliary services as requested. Notify the agency sufficiently in advance of operations to permit assignment of personnel. Auxiliary services required include but are not limited to:
 - 1. Providing access to the Work and furnishing incidental labor and facilities necessary to facilitate inspections and tests.
 - 2. Taking adequate quantities of representative samples of materials that require testing or assisting the agency in taking samples.
 - 3. Providing facilities for storage and curing of test samples, and delivery of samples to testing laboratories.
 - 4. Providing the agency with a preliminary design mix proposed for use for materials

- mixes that require control by the testing agency.
5. Security and protection of samples and test equipment at the Project site.
- D. Duties of the Testing Agency: The independent testing agency engaged to perform inspections, sampling and testing of materials and construction specified in individual Specification Sections shall cooperate with the Architect and Contractor in performance of its duties, and shall provide qualified personnel to perform required inspections and tests.
1. The agency shall notify the Architect and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 2. The agency is not authorized to release, revoke, alter or enlarge requirements of the Contract Documents, or approve or accept any portion of the Work.
 3. The agency shall not perform any duties of the Contractor.
- E. Coordination: The Contractor and each agency engaged to perform inspections, tests and similar services shall coordinate the sequence of activities to accommodate required services with a minimum of delay. In addition the Contractor and each agency shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate inspections and tests.
1. The Contractor is responsible for scheduling times for inspections, tests, taking samples and similar activities.

1.03**SUBMITTALS**

- A. The independent testing agency shall submit a certified written report of each inspection, test or similar service, to the Architect, in duplicate, unless the Contractor is responsible for the service. If the Contractor is responsible for the service, submit a certified written report of each inspection, test or similar service through the Contractor, in duplicate.
- B. Submit additional copies of each written report directly to the governing authority, when the authority so directs.
- C. Report Data: Written reports of each inspection, test or similar service shall include, but not be limited to:
1. Date of issue.
 2. Project title and number.
 3. Name, address and telephone number of testing agency.
 4. Dates and locations of samples and tests or inspections.
 5. Names of individuals making the inspection or test.
 6. Designation of the Work and test method.
 7. Identification of product and Specification Section.
 8. Complete inspection or test data.
 9. Test results and an interpretations of test results.
 10. Ambient conditions at the time of sample-taking and testing.
 11. Comments or professional opinion as to whether inspected or tested Work complies with Contract Document requirements.
 12. Name and signature of laboratory inspector.
 13. Recommendations on retesting.

1.04**QUALITY ASSURANCE**

- A. Qualification for Service Agencies: Engage inspection and testing service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.
- B. Each independent inspection and testing agency engaged on the Project shall be authorized by authorities having jurisdiction to operate in the State in which the Project is located.

PART 2 PRODUCTS (Not Applicable)**PART 3 EXECUTION****QUALITY REQUIREMENTS**

3.01 REPAIR AND PROTECTION

- A. General: Upon completion of inspection, testing, sample-taking and similar services, repair damaged construction and restore substrates and finishes to eliminate deficiencies, including deficiencies in visual qualities of exposed finishes. Comply with Contract Document requirements for "Cutting and Patching."
- B. Protect construction exposed by or for quality control service activities, and protect repaired construction.
- C. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION 01.40.00

SECTION 01.42.16
DEFINITIONS AND STANDARDS

PART 1 GENERAL

1.01 DEFINITIONS

- A. General: Basic Contract definitions are included in the General Conditions.
- B. Indicated refers to graphic representations, notes or schedules on Drawings, or Paragraphs or Schedules in Specifications, and similar requirements in Contract Documents. Where terms such as "shown," "noted," "scheduled," and "specified" are used, it is to help locate the reference.
- C. Directed: Terms such as "directed", "requested", "authorized", "selected", "approved", "required", and "permitted" mean "directed by the Architect", "requested by the Architect", and similar phrases. No implied meaning shall be interpreted to extend the Architect's responsibility into the Contractor's supervision of construction.
- D. Approve, used in conjunction with action on submittals, applications, and requests, is limited to the Architect's duties and responsibilities stated in General and Supplementary Conditions. Approval shall not release the Contractor from responsibility to fulfill Contract requirements.
- E. Regulation includes 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, whether lawfully imposed by authorities having jurisdiction or not.
- F. Furnish means "supply and deliver, ready for unloading, unpacking, assembly, installation, and similar operations."
- G. Install describes operations at the site including "unloading, unpacking, assembly, erection, anchoring, applying, working to dimension, protecting, cleaning and similar operations."
- H. Provide means "furnish and install, complete and ready for use."
- I. "Installer" is the Contractor or an entity engaged by the Contractor, as an employee, subcontractor or sub-subcontractor for performance of a particular construction activity, including installation, erection, application and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- J. The term "experienced," when used with "Installer" means having a minimum of 5 previous Projects similar in size to this Project, and familiar with the precautions required, and with requirements of the authority having jurisdiction.
- K. Project Site is the space available for construction activities, either exclusively or with others performing other construction on the Project. The extent of the Project Site is shown on the Drawings, and may or may not be identical with the description of the land upon which the Project is to be built.
- L. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, at the Project Site or elsewhere, and to report on, and, if required, to interpret, results of those inspections or tests.

1.02 SPECIFICATION FORMAT AND CONTENT EXPLANATION

- A. Specification Format: These Specifications are organized into Divisions and Sections based on the Construction Specifications Institute's 48-Division format and MASTERFORMAT numbering system.
- B. Specification Content: This Specification uses certain conventions in the use of language and the intended meaning of certain terms, words, and phrases when used in particular situations or circumstances. These conventions are explained as follows:
 - 1. Language used in the Specifications and other Contract Documents is the abbreviated type. Implied words and meanings will be appropriately interpreted. Singular words will be interpreted as plural and plural words interpreted as singular where applicable and where the context of the Contract Documents so indicates.
 - 2. Imperative language is used generally in the Specifications. Requirements

expressed in the imperative mode are to be performed by the Contractor. At certain locations in the text subjective language is used to describe responsibilities which must be fulfilled indirectly by the Contractor, or by others when so noted.

- C. The words "shall be" shall be included by inference wherever a colon (:) is used within a sentence or phrase.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01.42.16

**SECTION 01.50.00
TEMPORARY FACILITIES AND CONTROLS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.

1.02 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations of authorities having jurisdiction, including but not limited to:
1. Building Code requirements.
 2. Health and safety regulations.
 3. Utility company regulations.
 4. Police, Fire Department and Rescue Squad rules.
 5. Environmental protection regulations.
- B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities."
1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services", prepared jointly by AGC and ASC, for industry recommendations.
 2. Electrical Service: Comply with NEMA, NECA and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

1.03 PROJECT CONDITIONS

- A. Keep temporary services and facilities clean and neat in appearance.
- B. Operate in a safe and efficient manner.
- C. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress.
- D. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

PART 2 PRODUCTS

2.01 MATERIALS

- A. General: Provide new materials; if acceptable to the Architect, undamaged previously used materials in serviceable condition may be used. Provide materials suitable for the use intended.
- B. Lumber and Plywood: Comply with requirements in Division-6 Section "Rough Carpentry."
1. For job-built temporary offices, shops and sheds within the construction area, provide UL labeled, fire treated lumber and plywood for framing, sheathing and siding.
 2. For signs and directory boards, provide exterior type, Grade B-B High Density Concrete Form Overlay Plywood conforming to PS-1, of sizes and thickness indicated.
 3. For fences and vision barriers, provide exterior type, minimum 3/8" thick plywood.
 4. For safety barriers, sidewalk bridges and similar uses, provide minimum 5/8" thick exterior plywood.
- C. Paint: Comply with requirements of Division-9 Section "Painting."
1. For sign panels and applying graphics, provide exterior grade alkyd gloss enamel over exterior primer.

TEMPORARY FACILITIES AND CONTROLS

- D. Tarpaulins: Provide waterproof, fire-resistant, UL labeled tarpaulins with flame-spread rating of 15 or less. For temporary enclosures provide translucent nylon reinforced laminated polyethylene or polyvinyl chloride fire retardant tarpaulins.
- E. Water: Provide potable water approved by local health authorities.

2.02 EQUIPMENT

- A. General: Provide new equipment; if acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Water Hoses: Provide 3/4" heavy-duty, abrasion-resistant, flexible rubber hoses 100 ft. long, with pressure rating greater than the maximum pressure of the water distribution system; provide adjustable shut-off nozzles at hose discharge.
- C. Electrical Outlets: Provide properly configured NEMA polarized outlets to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- D. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide waterproof connectors to connect separate lengths of electric cords, if single lengths will not reach areas where construction activities are in progress.
- E. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- F. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM or another recognized trade association related to the type of fuel being consumed.
- G. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for normal loading.
- H. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated recirculation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.
- I. First Aid Supplies: Comply with governing regulations.
- J. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination of extinguishers of NFPA recommended classes for the exposures. Comply with NFPA 10 and 241 for classification, extinguishing agent and size required by location and class of fire exposure.

PART 3 EXECUTION

3.01 INSTALLATION

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

- A. General: Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.
 1. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.
 2. Provide adequate capacity at each stage of construction. Prior to temporary utility

TEMPORARY FACILITIES AND CONTROLS

- availability, provide trucked-in services.
3. Obtain easements to bring temporary utilities to the site, where the Owner's easements cannot be used for that purpose.
 4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner unless specifically noted, and will not be accepted as a basis of claims for a Change Order.
- B. Water Service: Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
1. Sterilization: Sterilize temporary water piping prior to use.
 2. Owner shall pay for water usage charges.
- C. Temporary Electric Power Service: Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.
1. Except where overhead service must be used, install electric power service underground.
 2. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
 3. Owner shall pay for electric usage.
- D. Temporary Lighting: Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.
- E. Temporary Telephones: Provide temporary telephone service for all personnel engaged in construction activities, throughout the construction period. Install telephone on a separate line for each temporary office and first aid station. Where an office has more than two occupants, install a telephone for each additional occupant or pair of occupants.
1. At each telephone, post a list of important telephone numbers.
 2. Long distance calls shall be paid for by party making call.
- F. Sewers and Drainage: If sewers are available, provide temporary connections to remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.
1. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
 2. Connect temporary sewers to the municipal system as directed by the sewer department officials.
 3. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.
 4. Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of storm water from heavy rains.

3.03 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access.
1. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Provide incombustible construction for offices, shops and sheds located within the

- construction area, or within 30 feet of building lines. Comply with requirements of NFPA 241.
- C. Temporary Heat: Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient condition required and minimize consumption of energy.
 - D. Heating Facilities: Except where use of the permanent system is authorized, provide vented self-contained LP gas or fuel oil heaters with individual space thermostatic control. Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited.
 - 1. Mechanical and Electrical Contractors shall make permanent heating system available as soon as possible.
 - 2. Mechanical Contractor shall operate, maintain and be responsible for permanent system.
 - 3. Owner shall pay for fuel costs for permanent heating system used during construction.
 - E. Field Offices: Provide insulated, weathertight temporary offices of sufficient size to accommodate required office personnel at the Project site. Keep the office clean and orderly for use for small progress meetings. Furnish and equip offices as follows:
 - 1. Furnish with a desk and chairs, a 4-drawer file cabinet, plan table and plan rack and a 6-shelf bookcase.
 - 2. Equip with a water cooler and private toilet complete with water closet, lavatory and mirror-medicine cabinet unit.
 - F. Storage and Fabrication Sheds: Install storage and fabrication sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the site.
 - G. Temporary Paving: Construct and maintain temporary roads and paving to adequately support the indicated loading and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas and parking where the same permanent facilities will be located. Review proposed modifications to permanent paving with the Architect.
 - H. Paving: Comply with Division-32 Section "Asphalt Paving" for construction and maintenance of temporary paving.
 - 1. Coordinate temporary paving development with subgrade grading, compaction, installation and stabilization of subbase, and installation of base and finish courses of permanent paving.
 - 2. Install temporary paving to minimize the need to rework the installations and to result in permanent roads and paved areas that are without damage or deterioration when occupied by the Owner.
 - 3. Delay installation of the final course of permanent asphalt concrete paving until immediately before Substantial Completion. Coordinate with weather conditions to avoid unsatisfactory results.
 - 4. Extend temporary paving in and around the construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration and supervision.
 - I. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
 - 1. Provide toilet tissue, paper towels, paper cups and similar disposable materials for each facility. Provide covered waste containers for used material.
 - J. Toilets: Use of the Owner's existing toilet facilities will be permitted, so long as facilities are cleaned and maintained in a condition acceptable to the Owner. At Substantial

- Completion, restore these facilities to the condition prevalent at the time of initial use.
- K. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy. Use of pit-type privies will not be permitted.
 - L. Drinking Water Fixtures: Provide drinking water fountains where indicated, including paper supply.
 - M. Dewatering Facilities and Drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division-31 Sections. Where feasible, utilize the same facilities. Maintain the site, excavations and construction free of water.
 - N. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
 - 1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.
 - 2. Install tarpaulins securely, with incombustible wood framing and other materials. Close openings of 25 square feet or less with plywood or similar materials.
 - 3. Close openings through floor or roof decks and horizontal surfaces with load-bearing wood-framed construction.
 - 4. Where temporary wood or plywood enclosure exceeds 100 square feet in area, use UL-labeled fire-retardant treated material for framing and main sheathing.
 - O. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.
 - P. Temporary Elevator Use: Refer to Division-14 "Elevator" Sections.
 - Q. Signage:
 - 1. Project Identification Signs: The General Contractor may at his option, furnish and erect one project identification sign as approved by the Architect. Engage an experienced sign painter to apply graphics. Support on posts or framing of preservative treated wood or steel. Do not permit installation of additional, unauthorized signs.
 - 1. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.
 - R. Temporary Exterior Lighting: Install exterior yard and sign lights so that signs are visible when Work is being performed.
 - S. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner.
 - T. Rodent and Pest Control: Before deep foundation Work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be relatively free of pests and their residues at Substantial Completion. Perform control operations in a lawful manner using environmentally safe materials.
 - U. Stairs: Until permanent stairs are available, provide temporary stairs where ladders are not adequate. Cover finished permanent stairs with a protective covering of plywood or similar material so finishes will be undamaged at the time of acceptance.

3.04**SECURITY AND PROTECTION FACILITIES INSTALLATION**

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial

- Completion, or longer as requested by the Architect.
- B. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 "Standard for Portable Fire Extinguishers," and NFPA 241 "Standard for Safeguarding Construction, Alterations and Demolition Operations."
1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.
 2. Store combustible materials in containers in fire-safe locations.
 3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access routes for fighting fires. Prohibit smoking in hazardous fire exposure areas.
 4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
- C. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- D. Barricades, Warning Signs and Lights: Comply with standards and code requirements for erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- E. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft and similar violations of security.
1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- F. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways and by methods that comply with environmental regulations, and minimize the possibility that air, waterways and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

3.05 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential and intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve indicated results and to avoid possibility of damage.
 2. Protection: Prevent water filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, or when 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 the 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 the Contractor. The Owner reserves the right to take possession of Project identification signs.
 2. Remove temporary paving that is not intended for or acceptable for integration

into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances which might impair growth of plant materials or lawns. Repair or replace street paving, curbs and sidewalks at the temporary entrances, as required by the governing authority.

3. At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:
 - a. Replace air filters and clean inside of ductwork and housings.
 - b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
 - c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

END OF SECTION 01.50.00

**SECTION 01.60.00
PRODUCT REQUIREMENTS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. This Section specifies administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
- B. Requirements and administrative procedures for handling requests for substitutions made prior to the bidding and after award of the Contract are included under Section "Product Options."

1.02 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms such are self-explanatory and have well recognized meanings in the construction industry.
- B. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. "Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
- C. "Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
- D. "Equipment" is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

1.03 SUBMITTALS

- A. Product List Schedule: Prepare a schedule showing products specified in a tabular form acceptable to the Architect. Include generic names of products required. Include the manufacturer's name and proprietary product names for each item listed.
 - 1. Coordinate the product list schedule with the Contractor's Construction Schedule and the Schedule of Submittals.
 - 2. Form: Prepare the product listing schedule with information on each item tabulated under the following column headings:
 - a. Related Specification Section number.
 - b. Generic name used in Contract Documents.
 - c. Proprietary name, model number and similar designations.
 - d. Manufacturer's name and address.
- B. Product List Submittal: Within 60 days after date of commencement of the Work, submit 3 copies of product list schedule. Provide a written explanation for omissions of data, and for known variations from Contract requirements.
 - 1. At the Contractor's option, the initial submittal may be limited to product selections and designations that must be established early in the Contract period.
- C. Architect's Action: The Architect will respond in writing to the Contractor within 2 weeks of receipt of the completed product list schedule. No response within this time period constitutes no objection to listed manufacturers or products, but does not constitute a waiver of the requirement that products comply with Contract Documents. The Architect's response will include the following:
 - 1. A list of unacceptable product selections, containing a brief explanation of reasons for this action.

1.04 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind, from

a single source.

- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.

1.05 PRODUCT DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.
- B. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- C. 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.
- D. Deliver products to the site in the manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
- E. Inspect products upon delivery to ensure compliance with the Contract Documents, and to ensure that products are undamaged and properly protected.
- F. Store products at the site in a manner that will facilitate inspection and measurement of quantity or counting of units.
- G. Store heavy materials away from the Project structure in a manner that will not endanger the supporting construction.
- H. Store products subject to damage by the elements above ground, under cover in a weathertight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.

PART 2 PRODUCTS

2.01 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.
1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:
1. Proprietary Specification Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.
 2. Semi-proprietary Specification Requirements: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.
 - a. Where products or manufacturers are specified by name, accompanied by the term "or equal," or "or approved equal" comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 3. Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 4. Descriptive Specification Requirements: Where Specifications describe a product

- or assembly, listing exact characteristics required, with or without use of a brand or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.
5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.
 - a. Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.
 6. Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.
 7. Visual Matching: Where Specifications require matching an established Sample, the Architect's decision will be final on whether a proposed product matches satisfactorily.
 - a. Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.
 8. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Architect will select the color, pattern and texture from the product line selected.

PART 3 EXECUTION

3.01 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated.
- B. Anchor each product securely in place, accurately located and aligned with other Work.
- C. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01.60.00

**SECTION 01.62.00
PRODUCT OPTIONS****PART 1 GENERAL****1.01 SUMMARY**

- A. This Section specifies administrative and procedural requirements for handling requests for substitutions made prior to bidding and after award of the Contract.
1. Where the phrase "**or equal**" appears, Product Data shall be submitted for Architect's approval and comply with the requirements for substitutions.
 2. Where the phrase "**or approved equal**" appears, Product Data shall be submitted for the Architect's approval prior to bidding, and comply with the requirements for pre-bid substitutions. Substitutions after the bid opening will not be considered by the Architect.
- B. Procedural requirements governing the Contractor's selection of products and product options are included under Division 1 Section "Product Requirements."

1.02 DEFINITIONS

- A. Definitions used in this Article are not intended to change or modify the meaning of other terms used in the Contract Documents.
- B. Substitutions: Requests for changes in products, materials, equipment, and methods of construction required by Contract Documents proposed by the Contractor after award of the Contract are considered requests for "substitutions." The following are not considered substitutions:
1. Revisions to Contract Documents requested by the Owner or Architect.
 2. Specified options of products and construction methods included in Contract Documents.
 3. The Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.
- C. Pre-bid Substitutions: Requests by Bidders during the bidding period, and accepted prior to award of Contract, are considered as included in the Contract Documents and are subject to requirements.

1.03 SUBMITTALS

- A. Substitutions: Requests for substitution will be considered if received within 30 days after commencement of the Work. Requests received more than 30 days after commencement of the Work may be considered or rejected at the discretion of the Architect.
1. Submit 3 copies of each request for substitution for consideration. Submit requests in the form and in accordance with procedures required for Change Order proposals.
 2. Identify the product, or the fabrication or installation method to be replaced in each request. Provide complete documentation showing compliance with the requirements for substitutions, and the following information, as appropriate:
 - a. Product Data, including Drawings and descriptions of products, fabrication and installation procedures. Provide samples, where applicable or requested.
 - b. A detailed comparison of significant qualities of the proposed substitution with those of the Work specified. Significant qualities may include elements such as size, weight, durability, performance and visual effect.
 - c. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by the Owner and separate Contractors that will become necessary to accommodate the proposed substitution.
 - d. A statement indicating the substitution's effect on the Contractor's Construction Schedule and proposed substitution on overall Contract Time.
 - e. Cost information, including a proposal of the net change, if any in the

- Contract Sum.
- f. Certification by the Contractor that the substitution proposed is equal-to or better in every significant respect to that required by the Contract Documents, and that it will perform adequately in the application indicated. Include the Contractor's waiver of rights to additional payment or time, that may subsequently become necessary because of the failure of the substitution to perform adequately.
3. Architect's Action: Within one week of receipt of the request for substitution, the Architect will request additional information or documentation necessary for evaluation of the request. Within 2 weeks of receipt of the request, or one week of receipt of the additional information or documentation, whichever is later, the Architect will notify the Contractor of acceptance or rejection of the proposed Substitution. If a decision on use of a proposed substitute cannot be made or obtained within the time allocated, use the product specified by name. Acceptance will be in the form of a Change Order.
- B. Pre-bid Substitutions: When pre-bid approval is required by the specifications, the Bidders, Sub-bidders, and Suppliers shall submit materials, equipment and systems they propose as being equal for consideration of the Architect.
1. Submittals for Pre-bid Substitutions shall be submitted to architect not less than seven (7) days prior to the opening of the Bids. Submittals shall be complete with all supporting data needed for examination. Incomplete submittals will not be considered.
 2. The Contractor shall submit only those products that in his opinion are equal to those specified. The Architect will consider design appearance as well as technical properties in determining whether or not a product will be approved.
 3. The Architect's opinion will be final.

PART 2 PRODUCTS

2.01 SUBSTITUTIONS

- A. Conditions: The Contractor's substitution request will be received and considered by the Architect when the following conditions are satisfied, as determined by the Architect; otherwise requests will be returned without action except to record noncompliance with these requirements.
1. Extensive revisions to Contract Documents are not required.
 2. Proposed changes are in keeping with the general intent of Contract Documents.
 3. The request is timely, fully documented and properly submitted.
 4. The request is directly related to an "or equal" clause or similar language in the Contract Documents.
- B. In addition to the conditions noted above, the Contractor's Substitution request will be received and considered by the Architect when one or more conditions are satisfied, as determined by the Architect.
1. The specified product or method of construction cannot be provided within the Contract Time. The request will not be considered if the product or method cannot be provided as a result of failure to pursue the Work promptly or coordinate activities properly.
 2. The specified product or method of construction cannot receive necessary approval by a governing authority, and the requested substitution can be approved.
 3. A substantial advantage is offered the Owner, in terms of cost, time, energy conservation or other considerations of merit, after deducting offsetting responsibilities the Owner may be required to bear. Additional responsibilities for the Owner may include additional compensation to the Architect for redesign and evaluation services, increased cost of other construction by the Owner or separate Contractors, and similar considerations.
 4. The specified product or method of construction cannot be provided in a manner that is compatible or cannot be coordinated with other materials, and where the

Contractor certifies that the substitution will overcome the incompatibility and/or be coordinated.

5. The specified product or method of construction cannot provide a warranty required by the Contract Documents and where the Contractor certifies that the proposed substitution provide the required warranty.
- C. The Contractor's submittal and Architect's acceptance of Shop Drawings, Product Data or Samples that relate to construction activities not complying with the Contract Documents does not constitute an acceptable or valid request for substitution, nor does it constitute approval.

PART 3 EXECUTION (Not Applicable)

END OF SECTION 01.62.00

**SECTION 01.70.00
EXECUTION AND CLOSEOUT REQUIREMENTS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Administrative and procedural requirements for project closeout, including but not limited to:
1. Inspection procedures.
 2. Project record document submittal.
 3. Operating and maintenance manual submittal.
 4. Submittal of warranties.
 5. Final cleaning.
- B. Closeout requirements for specific construction activities are included in the appropriate Sections in Divisions 2 through 41.

1.02 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially complete. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the Work is not complete.
 2. Advise Owner of pending insurance change-over requirements.
 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
 4. Obtain and submit releases enabling the Owner unrestricted use of the Work and access to services and utilities; include occupancy permits, operating certificates and similar releases.
 5. Submit record drawings, maintenance manuals, project photographs, damage or settlement survey, property survey, and similar final record information.
 6. Deliver tools, spare parts, extra stock, and similar items.
 7. Make final change-over of permanent locks and transmit keys to the Owner. Advise the Owner's personnel of change-over in security provisions.
 8. Complete start-up testing of systems, and instruction of the Owner's operating and maintenance personnel. Discontinue or change over and remove temporary facilities from the site, along with construction tools, mock-ups, and similar elements.
 9. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.
- B. Inspection Procedures: On receipt of a request for inspection, the Architect will either proceed with inspection or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advise the Contractor of construction that must be completed or corrected before the certificate will be issued.
1. The Architect will repeat inspection when requested and assured that the Work has been substantially completed.
 2. Results of the completed inspection will form the basis of requirements for final acceptance.

1.03 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not

EXECUTION AND CLOSEOUT REQUIREMENTS

- previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
2. Submit an updated final statement, accounting for final additional changes to the Contract Sum.
 3. Submit a certified copy of the Architect's final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
 4. Submit final meter readings for utilities, a measured record of stored fuel, and similar data as of the date of Substantial Completion, or when the Owner took possession of and responsibility for corresponding elements of the Work.
 5. Submit consent of surety to final payment.
 6. Submit a final liquidated damages settlement statement.
 7. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice that the Work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.
1. Upon completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 2. If necessary, reinspection will be repeated, but not more than once without the Contractor reimbursing Architect for expenses as outlined in Supplementary General Conditions.
- C. Post Final Inspection Services: When required due to Contractor's non-performance; Contractor shall pay for Architectural services required to close out the project after issuance of the final Certificate of Payment to the Owner, or in the absence of a final Certificate of Payment, more than 60 days after the date of Substantial Completion of the Work.

1.04 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the Architect's reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark whichever drawing is most capable of showing conditions fully and accurately; where Shop Drawings are used, record a cross-reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.
1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
 3. Note related Change Order numbers where applicable.
 4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and

Product Data.

1. Upon completion of the Work, submit record Specifications to the Architect for the Owner's records.
- D. Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instructions and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications.
1. Upon completion of mark-up, submit complete set of record Product Data to the Architect for the Owner's records.
- E. Record Sample Submitted: Immediately prior to the date or dates of Substantial Completion, the Contractor will meet at the site with the Architect and the Owner's personnel to determine which of the submitted Samples that have been maintained during progress of the Work are to be transmitted to the Owner for record purposes. Comply with delivery to the Owner's Sample storage area.
- F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to the Architect for the Owner's records.
- G. Maintenance Manuals: Organize operating and maintenance data into suitable sets of manageable size. Bind properly indexed data in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark appropriate identification on front and spine of each binder. Include the following types of information:
1. Emergency instructions.
 2. Spare parts list.
 3. Copies of warranties.
 4. Wiring diagrams.
 5. Recommended "turn around" cycles.
 6. Inspection procedures.
 7. Shop Drawings and Product Data.
 8. Fixture lamping schedule.

PART 2 PRODUCTS (Not Applicable)**PART 3 EXECUTION****3.01 CLOSEOUT PROCEDURES**

- A. Operating and Maintenance Instructions: Arrange for each installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:
1. Maintenance manuals.
 2. Record documents.
 3. Spare parts and materials.
 4. Tools.
 5. Lubricants.
 6. Fuels.
 7. Identification systems.
 8. Control sequences.
 9. Hazards.
 10. Cleaning.
 11. Warranties and bonds.
 12. Maintenance agreements and similar continuing commitments.

EXECUTION AND CLOSEOUT REQUIREMENTS

- B. As part of instruction for operating equipment, demonstrate the following procedures:
 - 1. Start-up.
 - 2. Shutdown.
 - 3. Emergency operations.
 - 4. Noise and vibration adjustments.
 - 5. Safety procedures.
 - 6. Economy and efficiency adjustments.
 - 7. Effective energy utilization.

3.02**FINAL CLEANING**

- A. General: General cleaning during construction is required by the General Conditions and included in Section "Temporary Facilities and Controls".
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to the condition expected in a normal, commercial building cleaning and maintenance program. Comply with manufacturer's instructions.
- C. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
 - 1. Remove labels that are not permanent labels.
 - 2. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compound and other substances that are noticeable vision-obscuring materials. Replace chipped or broken glass and other damaged transparent materials.
 - 3. Clean exposed exterior and interior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.
 - 4. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and other substances. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps.
 - 5. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Sweep paved areas broom clean; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.
- D. Pest Control: Engage an experienced exterminator to make a final inspection, and rid the Project of rodents, insects and other pests.
- E. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.
- F. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.
- G. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION 01.70.00

**SECTION 01.73.29
CUTTING AND PATCHING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Administrative and procedural requirements for cutting and patching.

1.02 RELATED REQUIREMENTS

- A. Refer to other Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.
- B. Demolition of selected portions of the building for alterations is included in Section-2 "Selective Structure Demolition."

1.03 QUALITY ASSURANCE

- A. Requirements for Structural Work: Do not cut and patch structural elements in a manner that would reduce the load-carrying capacity or load deflection ratio.
- B. Operational and Safety Limitations: Do not cut and patch operating elements or safety related components in a manner that would result in reducing their capacity to perform as intended, or result in increased maintenance or decreased operational life or safety.
- C. Visual Requirements: Do not cut and patch construction exposed on the exterior or in occupied spaces, in a manner that would, in the Architect's opinion, reduce the building's aesthetic qualities, or result in visual evidence of cutting and patching. Remove and replace Work cut and patched in a visually unsatisfactory manner.
 - 1. If possible retain the original installer or fabricator to cut and patch exposed Work.

PART 2 PRODUCTS**2.01 MATERIALS**

- A. Use materials that are identical to existing materials.
- B. If identical materials are not available or cannot be used where exposed surfaces are involved, use materials that match existing adjacent surfaces to the fullest extent possible with regard to visual effect.
- C. Use materials whose performance will equal or surpass that of existing materials.

PART 3 EXECUTION**3.01 INSPECTION**

- A. Before cutting existing surfaces, examine surfaces to be cut and patched and conditions under which cutting and patching is to be performed.
- B. Take corrective action before proceeding, if unsafe or unsatisfactory conditions are encountered.

3.02 PREPARATION

- A. Temporary Support: Provide temporary support of Work to be cut.
- B. Protection: Protect existing construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions that might be exposed during cutting and patching operations.
 - 1. Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
 - 2. Take all precautions to avoid cutting existing pipe, conduit or ductwork serving the building, but scheduled to be removed or relocated until provisions have been made to bypass them.

3.03 PERFORMANCE

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.

3.04 CUTTING

- A. General: Employ skilled workmen to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time and complete without delay.
 - 1. Cut existing construction to provide for installation of other components or performance of other construction activities and the subsequent fitting and patching required to restore surfaces to their original condition.
- B. Cut existing construction using methods least likely to damage elements to be retained or adjoining construction. Where possible review procedures with the original installer; comply with the original installer's recommendations.
 - 1. In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut holes and slots to size required with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 - 2. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces.
 - 3. Cut through concrete and masonry using a cutting machine such as a carborundum saw or diamond core drill.
 - 4. Comply with requirements of applicable sections of Division-2 where cutting and patching requires excavating and backfilling.

3.05 PATCHING

- A. Patch with durable seams that are as invisible as possible. Comply with specified tolerances.
- B. Where feasible, inspect and test patched areas to demonstrate integrity of the installation.
- C. 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.
- D. Where the removal of walls or partitions extends from one finished area into another, patch and repair floor and wall surfaces in the new space to provide an even surface of uniform color and appearance. Remove existing floor and wall coverings and replace with new materials, if necessary to achieve uniform color and appearance.
 - 1. Where patching occurs in a smooth painted surface, extend final paint coat over entire unbroken surface containing the patch, after the patched area has received primer and second coat.
- E. Patch, repair or rehang existing ceilings as necessary to provide an even plane surface of uniform appearance.

3.06 CLEANING

- A. Thoroughly clean areas and spaces where cutting and patching is performed or used as access.
- B. Remove paint, mortar, oils, putty and similar items.
- C. Thoroughly clean piping, conduit and similar features before painting or finishing is applied.
- D. Restore damaged pipe covering to its original condition.

END OF SECTION 01.73.29

Pittsburg State University

Work Instruction: Welding, Cutting, and Brazing	PSU-0003	Rev. No. 01
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Welding, Cutting, and Brazing

I. PURPOSE: To establish safe working practices during welding, cutting, and brazing operations.

II. SCOPE: Affects all University employees and outside contractors who perform welding, cutting, and/or brazing operations.

III. DEFINITIONS:

Designated Area: An area where welding, cutting, and or brazing is authorized.

Hot Work Permit: A special permit issued by the Campus Environmental Officer which authorizes specific welding, cutting, and/or brazing activities at a specific location and time. (See Appendix A).

Welder/Welder Operator: Any operator of electric or gas welding and cutting equipment.

Fire Watch: Trained personnel who are in attendance during the entire cutting and welding operation and are immediately available to extinguish a fire or take other effective action if necessary.

IV. RESPONSIBILITIES:

Departments: To ensure that the provisions of this policy are understood and practiced by their employees. Specifically, the department shall:

1. Determine if the work will be done in an area which contains or has the potential to contain combustibles or other hazardous materials.
2. Protect the combustibles in the area of operation using one of the following measures:
 - a. moving the work area to an area free of combustibles
 - b. moving or shielding the combustibles
 - c. scheduling the work during a time when the combustibles are not likely to be in the area.
3. Obtain a Hot Work Permit from the Campus Environmental Officer for any work that is to be performed outside of a designated area.

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4. Ensure that workers are provided with and using proper safety equipment, including personal protective equipment and fire extinguishing equipment.
5. Designate a fire watch when required.
6. Ensure that the work area is given a final inspection one-half hour after job completion to locate and extinguish possible hot spots or fires.

Campus Environmental Officer

1. Review and approve, in coordination with a departmental representative, locations approved for welding and cutting activities (designated areas).
2. Maintain a list of designated areas.
3. Inspect designated areas to be sure that conditions have not become unsafe for welding and/or cutting.
4. Issue “Hot Work Permits” for work being done outside of the designated areas, after the area has been inspected and approved by the Campus Environmental Officer.
5. Provide training for fire watches, and ensure that the proper firefighting equipment is in working condition, and is available to standby personnel.
6. Suspend welding and cutting work if conditions become unsafe for the work being performed.

Fire Watch

1. Be qualified and trained in the use of appropriate firefighting equipment and how to notify appropriate personnel in the event of a fire.
2. Immediately correct or stop any conditions which may lead to a fire and report conditions to their Supervisor and Campus Environmental Officer.
3. Monitor the welding and cutting work on both sides of the wall or floor and be on the alert for signs of a fire.
4. Attempt to extinguish fires appropriate to the available equipment and level of training.

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5. Remain at the work site to monitor for smoldering fires while work is in progress and for at least thirty (30) minutes following job completion. If the fire watch must leave the work site, all cutting and welding must stop.

Welders

1. Read and understand this work instruction.
2. Check their equipment to ensure that it is in good working order.
3. Use appropriate safety equipment, including eye and face protection, hand protection, body protection, head protection, hearing protection and respiratory protection, as needed.
4. Obtain a “Hot Work Permit” for any non-designated areas.
5. Avoid welding or cutting operations where conditions **ARE NOT SAFE**.
6. Immediately report unsafe conditions to your Departmental Supervisor.
7. Stop work when conditions change from those set when work was approved. If fire watch must leave work site, operations must cease and the welder must remain at work site for thirty (30) minutes following job completion to monitor for fires.

V. PROCEDURES

Work Areas

1. **Designated Areas:** Cutting and welding are permitted at any time in designated areas if conditions are appropriate and proper safety precautions are taken. These areas will be inspected, approved, and recorded by Campus Environmental Officer.
2. **Permit Required Areas:** When welding or cutting work is to be done outside of a designated area, it is necessary to obtain a Hot Work Permit from the Campus Environmental Officer (or designee) before work can be started. Notification of job intent should be at least forty-eight (48) hours in advance. (Emergency’s posing a risk to life safety and/or properties which require immediate “Hot Work” activities may be authorized by the “Director of Building Trades and Landscape Maintenance” should the Campus Environmental Officer not be available).

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Special Procedures for Permit Required Areas:

- a. Hot Work Permit: Area must be reviewed and inspected by the Campus Environmental Officer and precautions on permit must be complied with.
- b. Combustible materials: Combustible materials within thirty-five (35) feet of the work must be removed from the area or shielded with a fire resistant material. Edges of cover must be tight to floor and overlaps properly secured.
- c. Floors: Combustible materials on the floor (paper, wood shavings, etc.) must be swept clean for a radius of thirty-five (35) feet. Combustible floors may be kept wet or protected with fire resistant shields. Operators of electric arc welding equipment must be protected from the possibility of shock due to wet floors.
- d. Ducts: Ducts or systems that might carry sparks to distant combustibles shall be suitably protected or shut down.
- e. Combustible Walls: If walls, partitions, ceiling or roof are comprised of combustible material, fire-resistant shields shall be used.
- f. Noncombustible Walls: If cutting or welding is done on a metal wall, partition, ceiling or roof, precautions shall be taken to prevent ignition of nearby combustibles. Where combustibles cannot be relocated, a fire watch shall be positioned.
- g. Ventilation: Temporary local exhaust ventilation or other arrangements may be necessary to minimize or eliminate airborne contaminants.

Special Conditions:

1. **Work Stoppage**
When work is stopped for an extended period of time, such as lunch breaks or overnight, the equipment must be shut down and secured to prevent accidental sparking.
2. **Welding or Cutting Containers**
No cutting, welding, or other hot work is to be performed on used drums, barrels, tanks, or other containers that may have contained flammable materials, greases, tars, acids, or other materials which may produce flammable or toxic vapors when heated. Any pipe lines or connections to the vessel must be disconnected or blanked.

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3. **Venting and Purging**
All hollow spaces, cavities, or containers are to be vented to permit the escape of air or gases before preheating, cutting, or welding. Purging with inert gas is recommended.

4. **Out-side Contractors**
Contractors shall perform all cutting and welding procedures in accordance with the policies and procedures set forth in the University’s Welding, Brazing, and Cutting Policy. Copy will be on file within the department of Facilities Planning.

Personal Protective Equipment:

Personal protective equipment for eyes, face, head, and extremities; protective clothing; respiratory devices, and protective shields and barriers, shall be used and maintained in a sanitary and reliable condition. Selection of appropriate devices should be made in conjunction with the Campus Environmental Officer.

1. **Eye and Face Protection**
Safety glasses or goggles and face shields shall be worn by welders. Spectacles without side shields, with suitable filter lenses are permitted for use during gas welding operations on light work, for torch brazing or for inspection. Helpers and fire watch personnel shall wear eye and face protection as appropriate.

2. **Head Protection**
Helmets which protect the face, neck, and ears from direct radiant energy shall be worn during all welding and cutting operations.

3. **Protective Clothing**
The size, nature, and location of the welding or cutting operation will determine the extent of the leather protective clothing required. Except when engaged in light work, flame-proof gauntlet gloves shall be worn.

4. **Other**
Hearing/respiratory protection may be required when performing overhead work or in confined spaces.

5. **Protective Barrier**
In production work, a sheet metal screen should be provided in front of the welder’s legs to provide protection against sparks and molten metal.

Where work permits, the welder should be enclosed in an individual booth painted with a low reflectivity finish or enclosed with noncombustible screens.

Pittsburg State University

Work Instruction: Welding, Cutting, and Brazing	PSU-0003	Rev. No. 01
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INQUIRES/REQUEST: Campus Environmental Officer
PSU Physical Plant
300 E. Lindburg Ave.
Pittsburg, KS 66762
Phone: (620) 235-4774
Fax: (620) 235-4227

RELATED FORMS: “Hot Work Permit” (See Appendix A.)

RELATED DOCUMENTS: 29 CFR 1910.252 “Welding, Cutting, and Brazing”

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**Appendix A
HOT WORK PERMIT**

Department _____ Location _____

Date of Inspection _____

Work area must be inspected by the Campus Environmental Officer before issuance of Hot Work Permit.

Describe source of ignition (e.g., acetylene torch, soldering, electric arc, etc.):

GENERAL SAFETY

Yes	No	N/A	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welder, Fire Watch, and Supervisor familiar with Welding and Cutting Policy.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Welding and cutting equipment in good condition.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Workers fitted with appropriate safety equipment.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire Watch properly trained; knows location of appropriate firefighting equipment.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire Watch knows how to sound fire alarm.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fire detection and/or sprinkler system in service.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Area within 35 feet of work properly swept.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Combustibles and flammables within 35 feet of work removed or
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Combustibles and flammables protected with appropriate shields.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floor and wall openings covered.
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Pipe lines or connections disconnected or blanked

WORK ON WALLS/CEILINGS

Areas adjacent to walls\ceilings shall be inspected for combustibles, and Identified combustibles removed or protected appropriately.

FIRE ALARM SYSTEM IMPAIRMENT

Are there fire alarm devices in area that could be impacted from welding fumes or smoke? If yes, Campus Environmental Officer must be notified of any fire alarm impairments.

APPROVALS AND AUTHORIZATION

This permit is valid only so long as work conditions existing at the time of issuance continue. It expires on any change in condition that adversely affects safety in work areas.

Issue Date/Time _____ Expiration Date/Time _____

Special Conditions _____

Signature of Campus Environmental Officer

Signature of Area/Job Supervisor

Signature of Welder(s)

Signature of Fire Watch

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**SECTION 02.41.19
SELECTIVE STRUCTURE DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition work.

1.02 RELATED REQUIREMENTS

- A. Removal Work: :
1. Cutting non-structural concrete floors and masonry walls for underground piping and ducts, and for above grade piping, ducts, and conduit is included with the work of the following respective Divisions:
 - a. Division 22 – Plumbing.
 - b. Division 23 – Heating, Ventilation, and Air Conditioning.
 - c. Division 26 – Electrical.
 2. Cutting holes in roof deck and complete installation of new rooftop equipment is specified in Division 23 – Heating, Ventilation, and Air Conditioning.
- B. Remodeling Construction Work and Patching: Work is included within the respective sections of specifications, including removal of materials for re-use and incorporated into remodeling or new construction.
- C. Relocation: Relocation of pipes, conduits, ducts, and other mechanical and electrical work are specified by respective trades.

1.03 SUBMITTALS

- A. Schedule: Submit schedule indicating proposed methods and sequence of operations for selective demolition work to Owner's Representative for review prior to commencement of work. Include coordination for shut-off, capping, and continuation of utility services as required, together with details for dust and noise control protection.
- B. Provide detailed sequence of demolition and removal work to ensure uninterrupted progress of Owner's on-site operations.
- C. Coordinate with Owner's continuing occupation of portions of existing building, with Owner's partial occupancy of completed new addition, and with Owner's reduced usage during summer months.

1.04 JOB CONDITIONS

- A. Occupancy: Owner will be continuously occupying areas of the building immediately adjacent to areas of selective demolition. Conduct selective demolition work in manner that will minimize need for disruption of Owner's normal operations. Provide minimum of 72 hours advance notice to Owner of demolition activities that will severely impact Owner's normal operations.
- B. Condition of Structures: Owner assumes no responsibility for actual condition of items or structures to be demolished.
 1. Conditions existing at time of commencement of contract will be maintained by Owner insofar as practicable. However, variations within structure may occur by Owner's removal and salvage operations prior to start of selective demolition work.
- C. Hazardous Materials: The Owner, due to ownership of the existing buildings, holds legal title to hazardous materials if included therein. It is the Owner's responsibility to determine whether hazardous materials exist, and to legally dispose of such materials if they are discovered.
 1. By language of the "Standard Form of Agreement Between Owner and Contractor," AIA-A101 and the "General Conditions of the Contract for Construction, AIA Document A201-2007, the Owner agrees to indemnify and hold harmless the Architect and Contractor against hazardous material claims. If the Contractor encounters hazardous materials which have not been rendered harmless, the Contractor shall immediately stop work in the area affected and report the condition to the Owner and Architect in writing. Work in the affected area shall not be resumed

- except by written agreement of the Owner and Contractor as outlined in A201.
2. It is recommended that if hazardous materials are encountered, or if they are believed to exist, the Owner should seek the services of a qualified and competent hazardous waste consultant.
 3. Hazardous materials are defined to include but not be limited to:
 - a. Harmful dust.
 - b. Flammable or explosive materials.
 - c. Corrosive substances.
 - d. Radioactive materials.
 - e. Asbestos-containing materials.
- D. Partial Demolition and Removal: Items indicated to be removed but of salvable value to Contractor may be removed from structure as work progresses. Transport salvaged items from site as they are removed.
1. Storage or sale of removed items on site will not be permitted.
- E. Protections: Provide temporary barricades and other forms of protection as required to protect Owner's personnel and general public from injury due to selective demolition work.
1. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to and from occupied portions of building.
 2. Erect temporary rated walls as required by authorities having jurisdiction.
 3. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
 4. Protect from damage existing finish work that is to remain in place and becomes exposed during demolition operations.
 5. Protect floors with suitable coverings when necessary.
 6. Construct temporary insulated solid dustproof partitions where required to separate areas where noisy or extensive dirt or dust operations are performed. Equip partitions with dustproof doors and security locks if required.
 7. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces, and installation of new construction to insure that no water leakage or damage occurs to structure or interior areas of existing building.
 8. Remove protections at completion of work.
- F. Damages: Promptly repair damages caused to adjacent facilities by demolition work at no cost to Owner.
- G. Traffic: Conduct selective demolition operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
1. Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
- H. Explosives: Use of explosives will not be permitted.
- I. Utility Services: Maintain existing utilities indicated to remain, keep in service, and protect against damage during demolition operations.
1. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.
- J. Environmental Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

PART 2 PRODUCTS (Not Applicable)**PART 3 EXECUTION****SELECTIVE STRUCTURE DEMOLITION**

3.01 INSPECTION

- A. Prior to commencement of selective demolition work, inspect areas in which work will be performed. Photograph existing conditions to structure surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from selective demolition work; file with Owner's Representative prior to starting work.

3.02 PREPARATION

- A. Provide interior and exterior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.
 - 1. Cease operations and notify the Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.
- B. Cover and protect furniture, equipment and fixtures to remain from soiling or damage when demolition work is performed in rooms or areas from which such items have not been removed.
- C. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes to occupied portions of the building.
 - 1. Where selective demolition occurs immediately adjacent to occupied portions of the building, construct dust-proof partitions of minimum 4" studs, 5/8" Type X gypsum board (joints taped) on both sides (1-hour rated).
 - 2. Provide weatherproof closures for exterior openings resulting from demolition work.
- D. Locate, identify, stub off and disconnect utility services that are not indicated to remain.
- E. Provide by-pass connections as necessary to maintain continuity of service to occupied areas of building. Provide minimum of 72 hours advance notice to Owner if shut-down of service is necessary during change-over.

3.03 DEMOLITION

- A. Perform selective demolition work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with demolition schedule and governing regulations.
 - 1. Demolish concrete and masonry in small sections. Cut concrete and masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
 - 2. Locate demolition equipment throughout structure and promptly remove debris to avoid imposing excessive loads on supporting walls, floors or framing.
 - 3. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
 - 4. Demolish foundation walls to a depth of not less than 12" below existing ground surface. Demolish and remove below-grade wood or metal construction. Break up below-grade concrete slabs.
 - 5. For interior slabs on grade, use removal methods that will not crack or structurally disturb adjacent slabs or partitions. Use power saw where possible.
 - 6. Completely fill below-grade areas and voids resulting from demolition work. Provide fill consisting of approved earth, gravel or sand, free of trash and debris, stones over 6" diameter, roots or other organic matter.
- B. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Owner's Representative in written, accurate detail. Pending receipt of directive from Owner's Representative rearrange selective demolition schedule as necessary to continue overall job progress without delay.

3.04 REMOVAL AND DISPOSAL OF HAZARDOUS MATERIALS

- A. The Owner is solely responsible for the removal of hazardous materials including the implementation of any special procedures required by local health authorities having jurisdiction. All applicable requirements of EPA or any other governing body having jurisdiction must be followed.

- B. Owner shall assume the responsibility for the safe and proper removal of all hazardous materials and the disposal of such materials off the site in a legal hazardous materials disposal are. All fees, transportation cost and special precautions shall be the responsibility of the Owner who shall bear full responsibility for any fines or assessments levied against the project due to improper handling of hazardous materials.

3.05 SALVAGE MATERIALS

- A. Salvage Items: All items to be demolished shall become property of the Contractor except where indicated on Drawings as "Salvage-Deliver to Owner". Carefully remove indicated items, clean, store and turn over to Owner and obtain receipt. All items to be demolished shall become the property of the Contractor.

3.06 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from demolition operations from building site. Transport and legally dispose of materials off site.
- B. If hazardous materials are encountered during demolition operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- C. Burning of removed materials is not permitted on project site.

3.07 CLEAN-UP AND REPAIR

- A. Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Promptly repair demolition performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of selective demolition work. Repair adjacent construction or surfaces soiled or damaged by selective demolition work.

END OF SECTION 02.41.19

**SECTION 06.10.00
ROUGH CARPENTRY****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Non-structural dimension lumber framing.
- B. Preservative treated wood materials.
- C. Fire retardant treated wood materials.
- D. Miscellaneous framing and sheathing.
- E. Concealed wood blocking, nailers, and supports.
- F. Miscellaneous wood nailers, furring, and grounds.

1.02 RELATED REQUIREMENTS

- A. Section 05.12.00 - Structural Steel Framing: Prefabricated beams and columns for support of wood framing.
- B. Section 05.50.00 - Metal Fabrications: Miscellaneous steel connectors and support angles for wood framing.
- C. Section 07.25.00 – Weather Barriers:
- D. Section 09.21.16 - Gypsum Board Assemblies: Gypsum-based sheathing.

1.03 REFERENCE STANDARDS

- A. American National Standard Institute: ANSI A208.1 - American National Standard for Particleboard; 2009.
- B. American Forest and Paper Association: AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; 2001.
- C. American International:
 - 1. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2009.
 - 2. ASTM A 653/A 653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2009a
 - 3. ASTM C 208 - Standard Specification for Cellulosic Fiber Insulating Board; 2008a.
 - 4. ASTM C 578 - Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation; 2009.
 - 5. ASTM C 1177/C 1177M - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2008.
 - 6. ASTM C 1396/C 1396M - Standard Specification for Gypsum Board; 2009a.
 - 7. ASTM D 2898 - Standard Test Methods for Accelerated Weathering of Fire-Retardant-Treated Wood for Fire Testing; 2009.
 - 8. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2010.
 - 9. ASTM E 96/E 96M - Standard Test Methods for Water Vapor Transmission of Materials; 2005.
- D. American Wood Protection Association: AWPA U1 - Use Category System: User Specification for Treated Wood; 2010.
- E. National Institute of Standards and Technology, U.S. Department of Commerce:
 - 1. PS 1 - Structural Plywood; 2007.
 - 2. PS 2 - Performance Standard for Wood-Based Structural-Use Panels; 2004.
 - 3. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.
- F. Southern Pine Inspection Bureau, Inc.: SPIB (GR) - Grading Rules; 2002.
- G. West Coast Lumber Inspection Bureau: WCLIB (GR) - Standard Grading Rules for West

- Coast Lumber No. 17; 2004, and supplements.
- H. Western Wood Products Association: WWPA G-5 - Western Lumber Grading Rules; 2011.

1.04 DELIVERY, STORAGE AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked product to prevent deformation and to allow air circulation.
- B. Fire Retardant Treated Wood: Prevent exposure to precipitation during shipping, storage, or installation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
1. Species: Douglas Fir-Larch, unless otherwise indicated.
 - a. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
 - a. For exposed lumber, apply grade stamps to ends or back of each piece or omit grade stamps entirely and issue certificate of grade compliance, if allowed by authorities.
 3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.

2.02 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

- A. Sizes: Nominal sizes as indicated on drawings, S4S.
- B. Moisture Content: S-dry or MC19.
- C. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
1. Species: Douglas Fir-Larch or Pine.
 2. Lumber: S4S, No. 2 or Standard Grade.
 3. Boards: Standard or No. 3.

2.03 CONSTRUCTION PANELS

- A. Communications and Electrical Room Mounting Boards: PS 1 A-D plywood; 3/4 inch thick; flame spread index of 25 or less, smoke developed index of 450 or less, when tested in accordance with ASTM E 84.

2.08 FASTENERS AND ANCHORAGES

- A. General: Provide products of size, material, finish and type recommended for intended use by manufacturer.
- B. Fasteners and Anchors:
1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for exposed to weather, in ground contact and high humidity and preservative-treated wood locations, unfinished steel elsewhere.
 2. Drywall Screws: Bugle head, hardened steel, power driven type, length three times thickness of sheathing.
 3. Anchors: Toggle bolt type for anchorage to hollow masonry.
- C. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions.
1. For contact with preservative treated wood in exposed locations, provide minimum G185 galvanizing per ASTM A 653/A 653M.

2.10 FACTORY WOOD TREATMENT

- A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.
1. Fire-Retardant Treated Wood: Mark each piece of wood with producer's stamp indicating compliance with specified requirements.
 2. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.
- B. Fire Retardant Treatment:
1. Manufacturers:
 - a. Arch Wood Protection, Inc.
 - b. Hoover Treated Wood Products, Inc.
 - c. Osmose, Inc.
 2. Exterior Type: AWPA U1, Category UCFB, Commodity Specification H, chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E 84, with no evidence of significant combustion when test is extended for an additional 20 minutes both before and after accelerated weathering test performed in accordance with ASTM D 2898.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat all exterior rough carpentry items.
 - c. Treat exposed exterior rough carpentry items, including stairways, balconies, and covered walkways
 - d. Do not use treated wood in direct contact with the ground.
 3. Interior Type A: AWPA U1, Use Category UCFA, Commodity Specification H, low temperature (low hygroscopic) type, chemically treated and pressure impregnated; capable of providing a maximum flame spread rating of 25 when tested in accordance with ASTM E 84, with no evidence of significant combustion when test is extended for an additional 20 minutes.
 - a. Kiln dry wood after treatment to a maximum moisture content of 19 percent for lumber and 15 percent for plywood.
 - b. Treat rough carpentry items as indicated.
 - c. Do not use treated wood in applications exposed to weather or where the wood may become wet.
- C. Preservative Treatment:
1. Manufacturers:
 - a. Arch Wood Protection, Inc.
 - b. Chemical Specialties, Inc.
 - c. Osmose, Inc.
 2. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber exposed to weather.
 - c. Treat lumber in contact with roofing, flashing, or waterproofing.
 - d. Treat lumber in contact with masonry or concrete.
 - e. Treat lumber less than 18 inches above grade.
 - f. Treat lumber in other locations as indicated.
 3. Preservative Pressure Treatment of Plywood Above Grade: AWPA U1, Use Category UC2 and UC3B, Commodity Specification F using waterborne

preservative to 0.25 lb/cu ft retention.

- a. Kiln dry plywood after treatment to maximum moisture content of 19 percent.
 - b. Treat plywood in contact with roofing, flashing, or waterproofing.
 - c. Treat plywood in contact with masonry or concrete.
 - d. Treat plywood less than 18 inches above grade.
 - e. Treat plywood in other locations as indicated.
4. Preservative Pressure Treatment of Lumber in Contact with Soil: AWWA U1, Use Category UC4A, Commodity Specification A using waterborne preservative to 0.4 lb/cu ft retention.
- a. Preservative for Field Application to Cut Surfaces: As recommended by manufacturer of factory treatment chemicals for brush-application in the field.
 - b. Restrictions: Do not use lumber or plywood treated with chromated copper arsenate (CCA) in exposed exterior applications subject to leaching.

PART 3 EXECUTION

3.01 PREPARATION

- A. Where wood framing bears on cementitious foundations, install full width sill flashing continuous over top of foundation, lap ends of flashing minimum of 4 inches and seal.
- B. Install sill gasket under sill plate of framed walls bearing on foundations; puncture gasket cleanly to fit tightly around protruding anchor bolts.
- C. Coordinate installation of rough carpentry members specified in other sections.

3.02 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- D. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.
- C. Perform all cutting necessary for other trades.

3.03 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- C. In metal stud walls, provide continuous blocking around door and window openings for anchorage of frames, securely attached to stud framing.
- D. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- E. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- F. Specifically, provide the following non-structural framing and blocking:
 1. Cabinets and shelf supports.
 2. Wall brackets.
 3. Handrails.
 4. Grab bars.
 5. Towel and bath accessories.

6. Wall-mounted door stops.
7. Chalkboards and marker boards.
8. Wall paneling and trim.
9. Joints of rigid wall coverings that occur between studs.

3.04 ATTACHMENTS

- A. Securely attach carpentry work to substrates and supporting members using fasteners of size that will not penetrate members where opposite side will be exposed to view or receive finish materials.
- B. Install fasteners without splitting wood; fasten panel products to allow for expansion at joints unless otherwise indicated.
- C. Bolt Attachment:
 1. Drill bolt holes 1/16" larger than bolt diameter.
 2. Countersink bolts where required.
 3. Bolt heads and nuts shall have washers where in contact with wood.

3.05 INSTALLATION OF CONSTRUCTION PANELS

- A. Comply with recommendations of American Plywood Association (APA), unless otherwise indicated.

3.06 SITE APPLIED WOOD TREATMENT

- A. Apply preservative treatment compatible with factory applied treatment at site-sawn cuts, complying with manufacturer's instructions.
- B. Allow preservative to dry prior to erecting members.

3.07 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.08 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01.74.19.
 1. Comply with applicable regulations.
 2. Do not burn scrap on project site.
 3. Do not burn scraps that have been pressure treated.
 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or "waste-to-energy" facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION 06.10.00

**SECTION 07.92.00
JOINT SEALANTS****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Sealants and joint backing.
- B. Preformed compressible foam sealers.
- C. Provide for the following locations:
 - 1. Miscellaneous concrete construction joints.
 - 2. Floor (interior) joints.
 - 3. Partition, ceiling, and door frame joints.
 - 4. Concrete construction joints.
 - 5. Compression seals (interior and exterior).

1.02 RELATED REQUIREMENTS

- A. Section 08.80.00 – Glazing: Sealants for glazing.
- B. Section 09.29.00 - Gypsum Board: Sealing concealed perimeter joints of gypsum drywall partitions to reduce sound transmission characteristics.
- C. Section 09.31.00 – Thin Set Tiling: Sealing tile joints.
- D. Divisions 23 and 26: Joint sealers in mechanical and electrical work, not work of this Section.

1.03 REFERENCE STANDARDS

- A. ASTM C 834 – Standard Specification for Latex Sealants; 2005.
- B. ASTM C 920 – Standard Specification for Elastomeric Joint Sealants; 2009.
- C. ASTM C 1193 – Standard Guide for Use of Joint Sealants; 2009.
- D. ASTM D 1056 – Standard Specification for Flexible Cellular Materials – Sponge or Expanded Rubber; 2007.
- E. ASTM D 1667 – Standard Specification for Flexible Cellular Materials – Poly (Vinyl Chloride) Foam (Closed-Cell); 2005.

1.04 SYSTEM PERFORMANCES

- A. Provide joint sealers that have been produced and installed to establish and maintain watertight and airtight continuous seals.
- B. Failure of installed sealers to comply with this requirement will be recognized as failures of materials and workmanship.

1.05 SUBMITTALS

- A. Product data from manufacturers for each joint sealer product required, including instructions for joint preparation and joint sealer application.
- B. Samples for Selection Purposes: Manufacturer's standard bead samples consisting of strips of actual products showing full range of colors available, for each product exposed to view.

1.06 QUALITY ASSURANCE

- A. Single Source Responsibility for Joint Sealer Materials: Obtain joint sealer materials from a single manufacturer for each different product required.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to Project site in original unopened containers or bundles with labels informing about manufacturer, product name and designation, color, expiration period of use, pot life, curing time, and mixing instructions for multi-component materials.
- B. Store and handle materials in compliance with manufacturers' recommendations to prevent their deterioration or damage due to moisture, high or low temperatures, contaminants, or other causes.

1.08 PROJECT CONDITIONS

- A. Environmental Conditions: Do not proceed with installation of joint sealers under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside the limits permitted by joint sealer manufacturers.
 - 2. When joint substrates are wet due to rain, frost, condensation, or other causes.
- A. Joint Width Conditions: Do not proceed with installation of joint sealers where widths are less than allowed by joint sealer manufacturer for application indicated.
- B. Joint Substrate Conditions: Do not proceed with installation of joint sealers until contaminants capable of interfering with their adhesion are removed from joint substrates.

PART 2 PRODUCTS

2.01 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealers, joint fillers and other related materials that are compatible with one another and with joint substrates under service and application conditions, as demonstrated by testing and field experience.
- B. Colors: Provide color of exposed joint sealers as selected by Architect from manufacturer's standard colors. In general, color shall match or be slightly darker than the adjacent material(s).
- C. Suitability for Contact with Food: Where sealants are indicated for joints that will come in repeated contact with food, provide products that comply with 21 CFR 177.2600.

2.02 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealant of base polymer indicated which complies with ASTM C 920 requirements, including those referenced for Type, Grade, Class, and Uses.
- B. 3Foot Traffic Joints (Interior and exterior): Manufacturer's standard one-component non sag urethane sealant; Type S, Grade NS. Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
 - 1. Bostik Inc.; Chem-Calk 900.
 - 2. Products Research & Chemical Corp.; Permapol RC-1.
 - 3. Sika Corp.; Sikaflex-1A.
- C. Joints in High Humidity and Wet Areas: Manufacturer's standard one-component sealant; Type S; Grade NS; Class 25; acid-type for non-porous joint surfaces, and non-acid type where one or both joint surfaces are porous.
 - 1. Acid Curing:
 - a. BASF Construction Chemicals-Building Systems; OmniPlus.
 - b. Bostik Inc.; Chem-Calk 1200.
 - c. Pecora Corp.; 863.
 - 2. Non-acid Curing:
 - a. Bostik Construction Products Division; Chem-Calk N-Cure 2000.
 - b. Dow Corning; 790.
 - c. Momentive Performance Materials, Inc.; SCS2902 Ultraproof II.
 - d. Pecora Corp.; 864NST
 - e. Tremco Global Sealants; Spectrem 3.

2.03 NON-ELASTOMERIC SEALANTS

- A. Interior, Non-moving and Non-watertight Joints: Provide manufacturer's standard, one-part, non-sag, mildew-resistant, acrylic-emulsion sealant complying with ASTM C 834, formulated to be paintable and recommended for exposed applications on interior and on protected exterior locations involving joint movement of not more than plus or minus 5 percent and watertightness is not necessary.
 - 1. Pecora Corp.; AC-20.
 - 2. BASF Construction Chemicals-Building Systems; Sanolac.
 - 3. Tremco Global Sealants; Tremflex 834.

2.04 PREFORMED COMPRESSIBLE FOAM SEALERS

- A. Manufacturer's standard preformed, precompressed, open-cell foam sealant manufactured from urethane foam and impregnated with a nondrying, water-repellant agent. Factory produced in precompressed sizes in roll or stick form to fit joint widths indicated; coated on one side with a pressure-sensitive adhesive and covered with protective wrapping. Size and depth as recommended by manufacturer.
1. Balco Inc.; BCSW Series.
 2. Dayton Superior Corporation; Product Polytite B.
 3. EMSEAL Joint Systems, Ltd.; Colorseal.
 4. In Pro Corporations; 1200 Series.
 5. Sandell Manufacturing Company Inc.; Polyseal Type C.
 6. Watson Bowman Acme; Wabo WeatherSeal II.

2.05 COMPRESSION SEALS

- A. Interior and exterior joints as a closer material where detailed between structural columns, walls and adjacent surfaces and floors: Manufacturer's standard preformed polychloroprene elastomeric joint seal of the open-cell compression type complying with ASTM D 2628 and with requirements indicated for size, profile and cross-sectional design. Subject to compliance with requirements, manufacturers offering compression seals which may be incorporated into the Work include, but are not limited to, the following:
1. The D.S. Brown Co.
 2. Watson-Bowman & Acme Corp.

2.06 SEALANT BACKINGS, GENERAL

- A. Provide sealant backings of material and type which are nonstaining; compatible with joint substrates, sealants, primers and other joint fillers; approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Plastic Foam Joint-Fillers: Preformed, compressible, resilient, nonwaxing, nonextruding strips of plastic foam of either flexible, open-cell polyurethane foam or nongassing, closed-cell polyethylene foam, unless otherwise indicated, subject to approval of sealant manufacturer. Size, shape and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape as recommended by sealant manufacturer for preventing bond between sealant and joint filler or other materials at back of joint.

2.07 ACCESSORIES

- A. Primer: As recommended by joint sealer manufacturer where required for adhesion of sealant to joint substrates indicated.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer, compatible with joint forming materials.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine joints indicated to receive joint sealers, with Installer present, for compliance with requirements for joint configuration, installation tolerances and other conditions affecting joint sealer performance. Do not proceed with installation of joint sealers until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealers to comply with recommendations of joint sealer manufacturers, ASTM C 1193 and the following requirements:
1. Remove all foreign material from joint substrates which could interfere with adhesion of joint sealer, including dust; paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer; old joint sealer; oil; grease; waterproofing; water repellents; water;

- surface dirt; and frost.
2. Clean concrete, masonry, unglazed surfaces of ceramic tile and similar porous joint substrate surfaces, by brushing, grinding, blast cleaning, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealers. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air.
 3. Clean metal, glass, porcelain enamel, glazed surfaces of ceramic tile; and other nonporous surfaces by chemical cleaners or other means which are not harmful to substrates or leave residues capable of interfering with adhesion of joint sealers.
- B. Joint Priming: Prime joint substrates where indicated or where recommended by joint sealer manufacturer based on preconstruction joint sealer-substrate test or prior experience. Apply primer to comply with joint sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces which otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.03 **INSTALLATION OF JOINT SEALERS**

- A. General: Comply with ASTM C 1193 and with joint sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Installation of Sealant Backing: Install joint fillers of type indicated to provide support of sealants during application and at position required to produce the cross-sectional shapes and depths of installed sealants relative to joint widths which allow optimum sealant movement capability. Joints greater than 3/4" deep, and where suitable back stop has not been provided, shall be packed with back-up material, or filler material where appropriate, to within 1/2" of finished surface.
1. Do not leave gaps between ends of joint fillers.
 2. Do not stretch, twist, puncture or tear joint fillers.
 3. Remove absorbent joint fillers which have become wet prior to sealant application and replace with dry material.
- C. Installation of Sealants: Install sealants by proven techniques that result in sealants directly contacting and fully wetting joint substrates, completely filling recesses provided for each joint configuration, and providing uniform, cross-sectional shapes and depths relative to joint widths which allow optimum sealant movement capability.
- D. Tooling of Nonsag Sealants: Immediately after sealant application and prior to time skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated, to eliminate air pockets, and to ensure contact and adhesion of sealant with sides of joint. Remove excess sealants from surfaces adjacent to joint. Do not use tooling agents which discolor sealants or adjacent surfaces or are not approved by sealant manufacturer.
1. Provide concave joint configuration.
- E. Installation of Preformed Hollow Neoprene Gaskets: Install gaskets, with minimum number of end joints, in joint recesses with edges free of spalls and sides straight and parallel, both within tolerances specified by gasket manufacturer. Apply manufacturer's recommended adhesive to joint substrates immediately prior to installing gaskets. For straight sections provide gaskets in continuous lengths; where changes in direction occur, adhesively splice gasket together to provide watertight joint. Recess gasket below adjoining joint surfaces by 1/8 inch to 1/4 inch.
- F. Installation of Preformed Compressible Foam Sealers: Do not stretch; avoid joints except at corners, ends, and intersections; install with face 1/8 to 1/4 inch below adjoining surface.

3.04 **CLEANING**

- A. Clean off excess sealants or sealant smears adjacent to joints as work progresses by methods and with cleaning materials approved by manufacturers of joint sealers and of products in which joints occur.

3.05

PROTECTION

- A. Protect joint sealers during and after curing period from contact with contaminating substances or from damage resulting from construction operations or other causes so that they 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 sealers immediately and installations with repaired area indistinguishable from original work.

END OF SECTION 07.92.00

SECTION 08.41.13
ALUMINUM-FRAMED STOREFRONTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Aluminum-framed storefront, with vision glass.
- B. Infill panels of metal and glass.
- C. Aluminum doors and frames.
- D. Operable window units.
- E. Perimeter Sealant.

1.02 RELATED REQUIREMENTS

- A. Section 07.90.00 – Joint Protection: Sealants.
- B. Section 08.80.00 – Glazing: Glass and glazing accessories.
- C.

1.03 REFERENCE STANDARDS

- A. AAMA CW-10 – Care and Handling of Architectural Aluminum from Shop to Site; American Architectural Manufacturers Association; 2015.
- B. AAMA 611 – Voluntary Specification for Anodized Architectural Aluminum; American Aluminum Manufacturers Association; 2014.
- C. ANIS/BHMA A156.4 – Door Controls–Closers; Builders Hardware Manufacturers Association; 2013.
- D. ASTM A36/A36M – Standard Specification for Carbon Structural Steel; 2014.
- E. ASTM B209/B209M – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.
- F. ASTM B221 – Standard Specifications for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes; 2014.
- G. ASTM E330/E330M – Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference; 2014.
- H. ASTM B456 - Standard Specification for Electrodeposited Coatings of Copper Plus Nickel Plus Chromium and Nickel Plus Chromium; 2017.
- I. ASTM B633 - Standard Specification for Electrodeposited Coatings of Zinc on Iron and Steel; 2015.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate with installation of other components that comprise the exterior enclosure.

1.05 SUBMITTALS

- A. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, internal drainage details.
- B. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related work, expansion and contraction joint location and details, and field welding required. Include design engineer's stamp or seal on shop drawings for attachments and anchors. Include the following:
 - 1. Plans.
 - 2. Elevations.
 - 3. Detail sections of typical composite members.
 - 4. Details
 - 5. Hardware, mounting heights.
 - 6. Anchorage between members and adjacent building elements and reinforcements.
 - 7. Expansion provisions.
 - 8. Glazing details.
- C. Samples: Submit pairs of samples on aluminum sheets or extrusion of each type and

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- color of aluminum finish.
- D. Design Data: Provide framing member structural and physical characteristics, dimensional limitations.
 - E. Hardware Schedule: Complete itemization of each item of hardware to be provided for each door, cross-referenced to door identification number in Contract Documents.
 - 1. Coordinate final entrance door hardware schedule with doors. Frames, and related work to ensure proper size, thickness, hand, function, and finish of entrance door hardware.
 - F. Design Calculations: Submit wind load calculation for members of system prepared and sealed by a Structural Engineer licensed in the State of Kansas.
 - G. Warranty: Submit manufacturer's warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

1.06 **QUALITY ASSURANCE**

- A. Designer Qualifications: Design structural support framing components under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed in Kansas.
- B. Manufacturers Qualifications: Company specializing in manufacturing aluminum glazing systems with minimum three years of documented experience.
- C. Installer's Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this project.
- D. Design Criteria: Drawings are based on one manufacturer's entrance and storefront system. Another manufacturer's system of a similar and equivalent nature will be acceptable when, in the Architect's sole judgement, differences do not materially detract from the design concept or intended performance. Profile of sections shall match those indicated on Drawings.
- E. To the greatest extent possible, provide products from one manufacturer.

1.07 **DELIVERY, STORAGE AND HANDLING**

- A. Handle products of this section in accordance with AAMA CW-10.
- B. Protect finished aluminum surfaces with wrapping. Do not use adhesive papers or sprayed coatings that bond to aluminum when exposed to sunlight or weather.

1.08 **FIELD CONDITIONS**

- A. Field Measurements: Check openings by field measurement before fabrication to ensure proper fitting of work; show measurements on final shop drawings.
- B. Coordinate fabrication schedule with construction progress to avoid delay in the work. Where necessary, proceed with fabrication without field measurements, and coordinate fabrication tolerances to ensure proper fit.

1.09 **WARRANTY**

- A. Correct defective Work within a two year period after Date of Substantial Completion.
- B. Provide five year manufacturer warranty against excessive degradation of exterior finish. Include provisions for replacement of units with excessive fading, chalking, or flaking.

PART 2 PRODUCTS

2.01 **FRAMING FOR INSULATING AND MONOLITHIC GLAZING**

- A. Center-Set Style, Thermally Broken.
 - 1. Manufacturers:
 - a. Arcadia Inc., AG451T Series (basis of design).
 - b. Kawneer North America; Trifab VersaGlaze VG 451T.
 - c. Manko Window Systems Inc.; 2450.
 - 2. Mullion Dimensions: 2 inches wide by 4-1/2 inches deep, height as indicated on the Drawings.

2.02 **OPPERABLE WINDOWS**

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- A. Fixed Projecting, Zero Sightline.
 - 1. Manufacturers:
 - a. Arcadia Inc., CV200 Series (basis of design).
 - b. Kawneer North America;
 - c. Manko Window Systems Inc.;
 - 2. Frame Dimensions: 2-1/4 inches deep, with zero sightline on exterior.

2.03 STOREFRONT

- A. Aluminum-Framed Storefront: Factory fabricated, factory finished aluminum framing members with infill, and related flashing, anchorage and attachment devices.
 - 1. Glazing Rabbet:
 - a. For 1 inch insulating glazing, for exterior glazing and where indicated.
 - b. Glazing Rabbet: For ½ inch monolithic glazing, for interior glazing and where indicated.
- B. Fabrication: Joints and corners flush, hairline, and weatherproof, accurately fitted and secured; prepared to receive anchors and hardware; fasteners and attachments concealed from view; reinforced as required for imposed loads.
- C. Construction: Eliminate noises caused by wind and thermal movement, prevent vibration harmonics, and prevent "stack effect" in internal spaces.
- D. System Internal Drainage: Drain to the exterior by means of a weep drainage network any water entering joints, condensation occurring in glazing channel, and migrating moisture occurring within system.
- E. Expansion/Contraction: Provide for expansion and contraction within system components caused by cycling temperature range of 170 degrees F over a 12 hour period without causing detrimental effect to system components, anchorages, and other building elements.
- F. Movement: Allow for movement between storefront and adjacent construction, without damage to components or deterioration of seals.
- G. Perimeter Clearance: Minimize space between framing members and adjacent construction while allowing expected movement.
- H. Air and Vapor Seal: Maintain continuous air barrier and vapor retarder throughout assembly, primarily in line with inside of glass and inner sheet of infill panel and heel bead of glazing compound.
- I. Performance Requirements:
 - 1. Wind Loads: Design and size components to withstand the specified load requirements without damage or permanent set, when tested in accordance with ASTM E 330, using loads 1.5 times the design wind loads and 10 second duration of maximum load.
 - a. Design Wind Loads: Comply with requirements of applicable code.
 - b. Member Deflection: Limit member deflection to 1/175 in any direction, with full recovery of glazing materials.
 - 2. Water Penetration Resistance on Manufactured Assembly: No uncontrolled water on interior face, when tested in accordance with ASTM E331 at pressure differential of 8 psf.
 - 3. Air Leakage Laboratory Test: Maximum of 0.06 cu ft/min sq ft of wall area, when tested in accordance with ASTM E283 at 6.27 psf pressure differential across assembly.
 - 4. Condensation Resistance Factor of Framing: 50, minimum, measured in accordance with AAMA 1503.

2.04 COMPONENTS

- A. Aluminum Framing Members: Tubular aluminum sections, drainage holes and internal weep drainage system.
 - 1. Framing members for interior application need not be thermally broken.
 - 2. Glazing Stops: Flush.
- B. Structural Reinforcement: Where required, provide with internal reinforcement of aluminum member with structural steel framing member to provide sufficient strength to

ALUMINUM-FRAMED STOREFRONTS

- withstand design pressure indicated.
- C. Glazing: As specified in Section 08.80.00.
- D. Operable Sash: Aluminum project-out awning, thermally broken.
 1. Manufacturer: Same as storefront manufacturer.
 2. Hardware: Turn handle latch (provide 2 for windows greater than 42-inches wide); 4 bar hinges with adjustable friction shoe.
 3. Finish: Same as storefront.

2.05 MATERIALS

- A. Extruded Aluminum: ASTM B221; 6063-T6 alloy and temper, not less than 0.07 inch wall thickness.
- B. Sheet Aluminum: ASTM B209/B209M).
- C. Structural Steel Sections - Exterior and Miscellaneous Locations: ASTM A36/A36M; shop primed.
- D. Fasteners: Provide fasteners of aluminum, nonmagnetic stainless steel, or other materials warranted by the manufacturer to be noncorrosive and compatible with aluminum components, hardware, anchors and other components.
 1. Except where unavoidable for application of hardware, do not use exposed fasteners.
- E. Exposed Flashings: Aluminum sheet, 20 gage, 0.032 inch thick minimum thickness; finish to match framing members.
- F. Concealed Flashings: Stainless steel, 26 gage, 0.0187 inch minimum thickness or sheet aluminum, 26 gage, 0.017 inch minimum thickness.
- G. Aluminum Closures: Provide miscellaneous closure pieces as indicated on Drawings and as required for framing system. Break to required profile at shop. Closure pieces shall be aluminum with finish to match storefront frames.
- H. Sill Flashing Sealant: Elastomeric, silicone or polyurethane, compatible with flashing material.
- I. Sealant for Setting Thresholds: Non-curing butyl type.
- J. Perimeter Sealant:
 1. Exterior Locations: Silicone sealant as specified in Section 07.92.00.
 2. Interior Locations: Silicone or acrylic latex as specified in Section 07.92.00.
 3. Color: To be selected from manufacturer's standard colors.
- K. Glazing Gaskets: Type to suit application to achieve weather, moisture, and air infiltration requirements.
- L. Glazing Accessories: As specified in Section 08.80.00.

2.06 FINISHES

- A. Class I Natural Anodized Finish: AAMA 611 AA-M12C22A41 Clear anodic coating not less than 0.7 mils thick.
- B. Touch-Up Materials: As recommended by coating manufacturer for field application.

2.07 FABRICATION

- A. Framing Members, General: Fabricate components for assembly using manufacturer's standard installation instructions that, when assembled have the following characteristics:
 1. Profiles that are sharp, straight and free of defects or deformations.
 2. Accurately fit joints; make joints flush, hairline and weatherproof.
 3. Means to drain water passing joints, condensation within framing members, and moisture migrating within the system to exterior.
 4. Physical and thermal isolation of glazing from framing members.
 5. Accommodations for thermal and mechanical movements of glazing and framing to maintain required glazing edge clearances.
 6. Make provisions for field replacement of glazing.
 7. Fasteners, anchors, and connection devices shall be concealed from view to greatest extent possible.
 8. Minimum clearances and shim spacing around perimeter of assembly, yet enabling installation with dynamic movement of perimeter seal.

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9. Concealed metal surfaces coated with bituminous paint that will be in contact with cementitious materials or dissimilar metals.
 10. Components internally reinforced for door hardware.
 11. Framing members reinforced for imposed loads.
 12. Factory finish applied to all surfaces that will be exposed in completed assemblies.
- B. Aluminum Closures: Provide closure pieces as indicated on Drawings and as required for framing system. Break to required profile at shop. Closure pieces shall be aluminum with finish to match storefront frames.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
- B. Verify rough opening dimensions, tolerances, levelness of sill plate, operational clearances and methods of attachment with other work.
- C. Examine wall flashings, vapor retarders, water and weather barriers, and other built-in components to ensure a coordinated, weather tight framed aluminum storefront system installation.
- D. Masonry Surfaces: Visibly dry and free of excess mortar, sand, and other construction debris.
- E. Wood Frame Walls: Dry, clean, sound, well nailed, free of voids, and without offsets at joints. Ensure that nail heads are driven flush with surfaces in opening and within 3 inches (76 mm) of opening.
- F. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
- G. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install wall system in accordance with manufacturer's instructions.
- B. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- C. Provide alignment attachments and shims to permanently fasten system to building structure.
- D. Align assembly plumb and level, free of warp or twist. Maintain assembly dimensional tolerances, aligning with adjacent work.
- E. All joints to be hair-line fit. Apply clear sealant on face of each joint and smooth flush with frame face.
- F. Install aluminum framed storefront system and components to drain condensation, water penetrating joints, and moisture migrating within sliding door to the exterior.
- G. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- H. Provide thermal isolation where components penetrate or disrupt building insulation.
- I. Install sill flashings, set in sealant.
 1. Turn up ends and edges; seal to adjacent work to for watertight dam
 2. Where fasteners penetrate sill flashings, make watertight by seating and sealing fastener heads to sill flashing.
- J. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.
- K. Install operating sash.
- L. Set thresholds in bed of sealant and secure.
- M. Install hardware using templates provided.
- N. Install glass and infill panels in accordance with Section 08.80.00, using glazing method required to achieve performance.

- O. Touch-up minor damage to factory applied finish; replace components that cannot be satisfactorily repaired.
- P. Install aluminum framed storefront system level, plumb, square, true to line, without distortion or impeding thermal movement, anchored securely in place to structural support, and in proper relation to wall flashing and other adjacent construction.
- Q. All joints to be hair-line fit. Apply clear sealant on face of each joint and smooth flush with frame face.
- R. Attach to structure to permit sufficient adjustment to accommodate construction tolerances and other irregularities.
- S. Provide alignment attachments and shims to permanently fasten system to building structure.
- T. Install aluminum framed storefront system and components to drain condensation, water penetrating joints, and moisture migrating within sliding door to the exterior.
- U. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- V. Coordinate attachment and seal of perimeter air and vapor barrier materials.
- W. Pack fibrous insulation in shim spaces at perimeter of assembly to maintain continuity of thermal barrier.

3.03 TOLERANCES

- A. Maximum Variation from Plumb: 0.06 inches for every 3 feet non-cumulative or 1/16 inches per 10 feet, whichever is less.
- B. Maximum Misalignment of Two Adjoining Members Abutting in Plane: 1/32 inch.

3.04 ADJUSTING

- A. Adjust operating hardware for smooth operation.

3.05 CLEANING

- A. Remove protective material from pre-finished aluminum surfaces.
- B. Remove excess sealants, glazing materials, dirt, and other substances.
- C. Avoid damaging protective coatings and finishes.
- D. Wash down surfaces with a solution of mild detergent in warm water, applied with soft, clean wiping cloths, and take care to remove dirt from corners and to wipe surfaces clean.
- E. Upon completion of installation, thoroughly clean aluminum surfaces in accordance with AAMA 609 and 610 immediately after installing aluminum framed storefronts.

3.06 PROTECTION

- A. Protect installed products from damage until Date of Substantial Completion.

END OF SECTION 08.41.13

**SECTION 08.80.00
GLAZING****PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. Insulating glass units.
- B. Glazing units.
- C. Plastic sheet glazing units.
- D. Plastic glazing film.
- E. Glazing compounds and accessories.
- F. Glazing for the following products and applications:
 1. Windows.
 2. Storefront framing.

1.02 RELATED REQUIREMENTS

- A. Section 07.92.00 - Joint Sealants: Sealant and back-up material.
- B. Section 08.41.13 - Aluminum-Framed Entrances and Storefronts.
- C. Section 08.51.13 - Aluminum Windows: Glazed windows.

1.03 REFERENCE STANDARDS

- A. 16 CFR 1201 - Safety Standard for Architectural Glazing Materials; current edition.
- B. ANSI Z97.1 - American National Standard for Safety Glazing Materials Used in Buildings, Safety Performance Specifications and Methods of Test; 2010, with 2013 Supplements and Errata..
- C. ASTM C542 – Standard Specification for Lock-Strip Gaskets; 2017.
- D. ASTM C509 – Standard Specification for Elastomeric Cellular Preformed Gasket and Sealing Material; 2015.
- E. ASTM C864 - Standard Specification for Dense Elastomeric Compression Seal Gaskets, Setting Blocks, and Spacers; 2005 (Reapproved 2015).
- F. ASTM C920 - Standard Specification for Elastomeric Joint Sealants; 2018.
- G. ASTM C1036 - Standard Specification for Flat Glass; 2016.
- H. ASTM C1048 - Standard Specification for Heat-Strengthened and Fully Tempered Flat Glass; 2012 (Editorial 01).
- I. ASTM C1172 - Standard Specification for Laminated Architectural Flat Glass; 2014.
- J. ASTM C1193 - Standard Guide for Use of Joint Sealants; 2016.
- K. ASTM C1376 – Standard Specification for Pyrolytic and Vacuum Deposition Coatings on Flat Glass; 1015.
- L. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015b.
- M. ASTM E1300 - Standard Practice for Determining Load Resistance of Glass in Buildings; 2012a (Editorial 01).
- N. ASTM E2190 - Standard Specification for Insulating Glass Unit Performance and Evaluation; 2012.
- O. GANA (GM) - GANA Glazing Manual; Glass Association of North America; 2009.
- P. GANA (SM) - FGMA Sealant Manual; Glass Association of North America; 2008.
- Q. GANA (LGDG) - Laminated Glazing Reference Manual; Glass Association of North America; 2009.
- R. IGMA TM-3000 - Glazing Guidelines for Sealed Insulating Glass Units; Sealed Insulating Glass Manufacturers Association; 2004.

1.04 PERFORMANCE REQUIREMENTS

- A. General: Installed glazing systems shall withstand normal thermal movement and wind and impact loads (where applicable) without failure, including loss or glass breakage attributable to the following: defective manufacture, fabrication, or installation; failure of sealants or gaskets to remain watertight and airtight; deterioration of glazing materials; or other defects in construction.

- B. Delegated Design: Design glass, including comprehensive engineering analysis according to ASTM E1300 by a qualified professional engineer, using the following design criteria:
1. Design Wind Pressure: As indicated on Drawings.
 2. Comply with ASTM E1300 for design load resistance of glass type, thickness, dimensions, and maximum lateral deflection of supported glass.
 3. Seismic Loads: Design and size glazing components to withstand seismic loads and sway displacement in accordance with the governing code.
 4. Provide glass edges to less than 1/175 of their lengths under specified design load.
 5. Glass thicknesses listed are minimums.
 6. Vertical Glazing: For glass surfaces sloped 15 degrees or less from vertical, design glass to resist design wind pressure based on glass type factors for short-duration load.
 7. Differential Shading: Design glass to resist thermal stresses induced by differential shading within individual glass lites.
- C. Vapor Retarder and Air Barrier Seals: Provide completed assemblies that maintain continuity of building enclosure vapor retarder and air barrier.
1. To utilize the inner pane of multiple pane insulating glass units for the continuity of the vapor retarder and air barrier seal.
 2. To maintain a continuous vapor retarder and air barrier throughout the glazed assembly from glass pane to heel bead of glazing sealant.
- D. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on glass framing members and glazing components.
1. Temperature Change: 120 degree F ambient; 180 degree F material surfaces.

1.05**SUBMITTALS**

- A. Product Data: For each type glass product and glazing material indicated.
- B. Glass Samples: For each type of the following products:
1. Insulating glass.
- C. Glazing Schedule: List glass types and thickness for each size opening and location.
- D. Shop Drawings: Submit glazing detail of methods to be employed for glazing in each framing condition.
- E. Warranty: Submit written guarantees, signed by Manufacturer, Glazer, and Contractor agreeing to replace defective insulating and laminated units which fail within the time period(s) specified for the particular unit. Also include the manufacturer's guarantee.

1.06**QUALITY ASSURANCE**

- A. Glazing Standard: Comply with GANA Glazing Manual and FGMA Sealant Manual for glazing methods except where more stringent requirements are indicated.
- B. Safety Glazing Label: Where safety glass is indicated or required by authorities having jurisdiction, comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials. Permanently mark glazing with certification label of the manufacturer.
- C. Fire-Protection-Rated Glazing Labeling: Permanently mark fire-protection-rated glazing with certification label of a testing agency acceptable to authorities having jurisdiction. Label shall indicate manufacturer's name, test standard, whether glazing is for use in fire doors or other openings, whether or not glazing passes hose-stream test, whether or not glazing has a temperature rise rating of 450 degree F, and the fire-resistance rating in minutes.
- D. Fire Resistance Rated Wire Glass: Provide UL-labeled and listed products in accordance with UL9, UL10B and UL10C.
- E. Insulating Glass Certification Program: Provide insulating glass units complying with requirements indicated which are permanently marked with certification label of Insulating Glass Certification Council (IGCC).

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect glazing materials according to manufacturer's written instructions. Prevent damage to glass and glazing materials from condensation, temperature changes, direct exposure to sun, or other causes.
- B. Comply with insulating-glass manufacturer's written recommendations for venting and sealing units to avoid hermetic seal ruptures due to altitude change.

1.08 FIELD CONDITIONS

- A. Environmental Limitations: Do not proceed with glazing when ambient and substrate temperature conditions are outside limits permitted by glazing material manufacturers and when glazing channel substrates are wet from rain, frost, condensation, or other causes.
 - 1. Do not install glazing sealants when ambient and substrate temperature conditions are outside limits permitted by sealant manufacturer or below 40 degree F.
 - 2. Maintain minimum ambient temperature before, during and 24 hours after installation of glazing compounds.
- B. Examine the framing and glazing channel surfaces, backing, removable stop design, and the conditions under which the glazing is to be performed.
- C. Notify the Contractor in writing of any conditions detrimental to the proper and timely completion of the Work.
- D. Do not proceed with the glazing until unsatisfactory conditions have been corrected in a manner acceptable to the Glazer.

1.09 WARRANTY

- A. Manufacturer's Special Warranty on Insulating Glass: Manufacturer's standard form in which insulating-glass manufacturer agrees to replace insulation-glass units that deteriorate within specified warranty period. Deterioration of insulating glass is defined as failure of hermetic seal under normal use that is not attributed to glass breakage or to obstruction of vision by dust, moisture or film on interior surfaces of glass.
 - 1. Warranty Period: Ten (10) years from date of Substantial Completion.

PART 2 PRODUCTS**2.01 FLOAT GLASS**

- A. Manufacturers: Subject to compliance with requirements, provide products from one of the following manufacturer's or approved equal, unless indicated otherwise:
 - 1. AGC Glass Company North America, Inc.
 - 2. Cardinal Glass Industries.
 - 3. Guardian Industries Corp.
 - 4. Pilkington North America Inc.
 - 5. PPG Industries, Inc.
- B. Annealed Type: ASTM C1036, Type I (transparent flat), Class 1 (clear), Quality Q3 (glazing select), 1/4" thick.
- C. Heat-Strengthened and Fully Tempered Types: ASTM C1048, Kind HS (heat-strengthened), Type I (transparent flat), Class 1 (clear), Quality q3 (glazing select), 1/4" thick, which has been heat-strengthened (after cutting the final size), to achieve a flexural strength of 2 times normal glass strength; of kind and condition indicated by location.
 - 1. Fabrication Process: Process in horizontal position so that inherent roller distortion will run parallel to building floor lines after installation.
- D. Fully Tempered Safety Glass: ASTM C1048, Kind FT (fully tempered), Condition A, Type I (transparent flat), Class 1 (clear), Quality q3 (glazing select), 1/4 inch thickness, which has been heat-strengthened (after cutting the final size), to achieve a flexural strength of 4 times normal glass strength.
 - 1. Fabrication Process: Process in horizontal position so that inherent roller distortion will run parallel to building floor lines after installation.
- E. Impact Resistant Safety Glass: Complies with ANSI Z97.1 and 16 CFR 1201 criteria;

- Class B/Category I for products less than 9 s.f., Class A/Category II for unlimited s.f..
- F. Tinted Type: ASTM C1036, Class 2 – Tinted, Quality – Q3, color and performance characteristics as indicated on the Glazing Schedule.
 - G. Obscure Glass Type: ASTM C 1036, Type II – Patterned Flat Glass, Quality Q-5, Form 3-Patterned glass, color and performance characteristics as indicated.
 - 1. Manufacturers: Subject to compliance with requirements, provide products from the following manufacturer's or approved equal unless indicated otherwise:
 - a. AGC Flat Glass North America, Inc.; Matelux
 - b. Oldcastle Glass;

2.02 INSULATING GLASS UNITS

- A. Preassembled units consisting of organically sealed lites of glass separated by dehydrated air spaces complying with ASTM E2190.
 - 1. For properties of individual glass panes making up units, refer to product requirements specified elsewhere in this section applicable to glass types, classes, kinds and conditions of glass products indicated.
- B. Composition: Provide insulating glass units as follows:
 - 1. Clear Sealed Insulating Glass Units: Clear float glass for both panes with 1/2" air space.
- C. Units' Interspace Content: 90% Argon.
- D. Fabrication: Unit lites to be set with non-metallic "warm edge" spacers around perimeter; thermally broken aluminum, thin-gauge stainless steel, or extruded thermoset structural silicone foam.
 - 1. Where safety glazing is indicated, both panes shall be safety glass.

2.03 ELASTOMERIC GLAZING SEALANTS

- A. General: Provide products of type indicated, complying with the following requirements:
 - 1. Compatibility: Select glazing sealants and tapes of proven compatibility with other materials they will contact, including glass products, seals of insulating glass units, and glazing channel substrates, under conditions of installation and service, as demonstrated by testing and field experience.
 - 2. Suitability: Comply with sealant and glass manufacturer's recommendations for selecting glazing sealants and tapes that are suitable for applications indicated and conditions existing at time of installation.
- B. Elastomeric Glazing Sealant Standard: Provide manufacturer's standard chemically curing, elastomeric sealants of base polymer indicated that comply with ASTM C920 requirements.

2.04 GLAZING TAPES

- A. Back-Bedding Mastic Glazing Tape: Preformed, butyl-based elastomeric tape with a solids content of 100 percent, non-staining and non-migrating in contact with nonporous surfaces, with or without spacer rod as recommended by tape and glass manufacturers for application indicated, packaged o rolls with a release paper backing, and complying with AAMA 800.

2.05 GLAZING GASKETS

- A. Provide gaskets as required by installation condition from the following:
 - 1. Lock-Strip Gaskets: ASTM C542; black; neoprene with molded corners.
 - 2. Dense Elastomeric Compression Seal Gaskets: ASTM C864, extruded or molded neoprene, EPDM, or thermoplastic polyolefin rubber.
 - 3. Cellular Elastomeric Preformed Gaskets: ASTM C509, Type II, black; extruded or molded neoprene.

2.06 MISCELLANEOUS GLAZING MATERIALS

- A. General: Provide product complying with referenced glazing standard, requirements of manufacturer's of glass and other glazing materials involved for glazing application

- indicated.
- B. Cleaners, Primers and Sealers: Type recommended by manufacturer of sealants/gaskets.
 - C. Setting Blocks: Elastomeric material with a Shore A durometer hardness of 85 plus or minus 5.
 - D. Spacers: Elastomeric material or continuous extrusions with a Shore A durometer hardness required by glass manufacturer to maintain glass lites in place for installation indicated.
 - E. Edge Blocks: Elastomeric material of hardness needed to limit glass lateral movement (side-walking).

2.07 FABRICATION

- A. Fabricate glass and other glazing products in sizes required to glaze openings indicated for Project, with edge and face clearances, edge and surface conditions, and bite complying with recommendations of product manufacturer and referenced glazing standard as required to comply with system requirements.
- B. Sizes: Fabricate glass of thicknesses indicated and to sizes required for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer.

2.08 GLAZING SCHEDULE

- A. Insulated Glazing:
 1. Glass Type IG-1: Low-E, clear, tempered, insulating glass.
 - a. Overall Unit Thickness: 1 inch.
 - b. Outdoor Lite: Clear fully tempered float glass.
 - c. Interspace Content: 90% Argon.
 - d. Indoor Lite: Clear fully tempered float glass.
 - e. Low-E Coating: Sputtered on second surface.
 2. Glass Type IG-2: Low-E coated, tempered insulating obscure glass.
 - a. Overall Unit Thickness: 1 inch.
 - b. Outdoor Lite: Clear fully tempered float glass.
 - c. Interspace Content: 90% Argon.
 - d. Indoor Lite: Clear fully tempered float glass.
 - e. Low-E Coating: Sputtered on second surface.
 - f. Satin Frosted Finish: Acid-Etched on third surface.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine framing, glazing channels, and stops, with Installer present, for compliance with the following:
 1. Manufacturing and installation tolerances, including those for size, squareness, and offsets at corners.
 2. Presence and functioning of weep systems.
 3. Minimum required face and edge clearances.
 4. Effective sealing between joints of glass-framing members.

3.02 PREPARATION

- A. Clean glazing channels and other framing members receiving glass immediately before glazing. Remove coatings not firmly bonded to substrates.
- B. Examine glazing units to locate exterior and interior surfaces. Label or mark units as needed so that exterior and interior surfaces are readily identifiable. Do not use materials that will leave visible marks in the completed work.

3.03 GLAZING, GENERAL

- A. Comply with combined written instructions of manufacturers of glass, sealants, gaskets,

- and other glazing materials, unless more stringent requirements are indicated.
- B. Adjust glazing channel dimensions as required by Project conditions during installation to provide necessary bite on glass, minimum edge and face clearances, and adequate sealant thicknesses, with reasonable tolerances.
 - C. Protect glass edges from damage during handling and installation. Remove damaged glass from Project site and legally dispose of off Project site. Damaged glass is glass with edge damage or other imperfections that, when installed, could weaken glass and impair performance and appearance.
 - D. Apply primers to joint surfaces where required for adhesion of sealants.
 - E. Install setting blocks in sill rabbets, sized and located to comply with referenced glazing publications, unless otherwise required by glass manufacturer. Set blocks in thin course of compatible sealant suitable for heel bead.
 - F. Do not exceed edge pressures stipulated by glass manufacturers for installing glass lites.
 - G. Provide spacers for glass lites where length plus width is larger than 50 inches.
 1. Locate spacers directly opposite each other on both inside and outside faces of glass. Install correct size and spacing to preserve required face clearances, unless gaskets and glazing tapes are used that have demonstrated ability to maintain required face clearances and to comply with system performance requirements.
 2. Provide 1/8 inch minimum bit of spacers on glass and use thickness equal to sealant width. With glazing tape, use thickness slightly less than final compressed thickness of tape.
 - H. Provide edge blocking where indicated or needed to prevent glass lites from moving sideways in glazing channel, as recommended in writing by glass manufacturer.
 - I. Set glass lites with proper orientation so that coatings face exterior or interior as specified.
 - J. Where wedge-shaped gaskets are driven into one side of channel to pressurize sealant or gasket on opposite side, provide adequate anchorage so gasket cannot walkout when installation is subjected to movement.
 - K. Square cut wedge-shaped gaskets at corners and install gaskets in a manner recommended by gasket manufacturer to prevent corners from pulling away; seal corner joints and butt joints with sealant recommended by gasket manufacturer.

3.04**TAPE GLAZING**

- A. Position tapes on fixed stops so that, when compressed by glass, their exposed edges are flush with or protrude slightly above sightline of stops.
- B. Install tapes continuously, but not necessarily in one continuous length. Do not stretch tapes to make them fit opening.
- C. Cover vertical framing joints by applying tapes to heads and sills first and then to jambs. Cover horizontal framing joints by applying tapes to jambs and then to heads and sills.
- D. Place joints in tapes at corners of opening with adjoining lengths butted together, not lapped. Seal joints in tapes with compatible sealant approved by tape manufacturer.
- E. Do not remove release paper from tape until right before each glazing unit is installed.
- F. Apply heel bead of elastomeric sealant.
- G. Center glass lites in openings on setting blocks and press firmly against tape by inserting dense compression gaskets formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings.
- H. Apply cap bead of elastomeric sealant over exposed edge of tape.

3.05**GASKET GLAZING (DRY)**

- A. Cut compression gaskets to lengths recommended by gasket manufacturer to fit openings exactly, with allowance for stretch during installation.
- B. Insert soft compression gasket between glass and frame or fixed stop so it is securely in place with joints miter cut and bonded together at corners.
- C. Installation with Drive-in Wedge Gaskets: Center glass lites in openings on setting blocks and press firmly against soft compression gasket by inserting dense compression gaskets

formed and installed to lock in place against faces of removable stops. Start gasket applications at corners and work toward centers of openings. Compress gaskets to produce a weathertight seal without developing bending stresses in glass. Seal gasket joints with sealant recommended by manufacturer.

3.06 SEALANT GLAZING (WET)

- A. Install continuous spacers, or spacers combined with cylindrical sealant backing, between glass lites and glazing stops to maintain glass face clearances and to prevent sealant from extruding into glass channel and blocking weep systems until sealant cure. Secure spacers or spacers and backings in place and in position to control depth of installed sealant relative to edge clearance for optimum sealant performance.
- B. Force sealants into glazing channels to eliminate voids and to ensure complete wetting or bond of sealant to glass and channel surfaces.
- C. Tool exposed surfaces of sealants to provide a substantial wash away from glass.

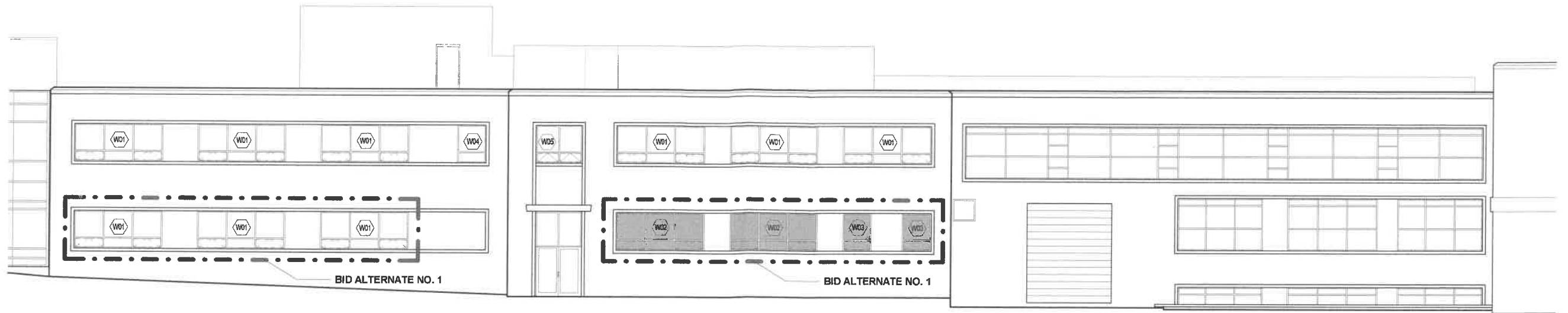
3.07 CLEANING

- A. Remove nonpermanent labels and clean surfaces.
- B. Wash glass as recommended in writing by glass manufacturer.
- C. Wash glass on both exposed surfaces in each area of Project not more than four days before date scheduled for inspections that establish date of Substantial Completion.

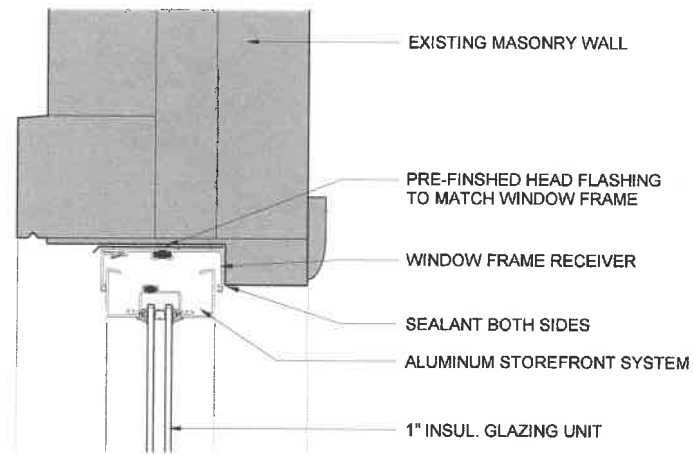
3.08 PROTECTION

- A. Protect exterior glass from damage immediately after installation by attaching crossed streamers to framing held away from glass. Protect glass from contact with contaminating substances resulting from construction operations. If, despite such protection, contaminating substances do come into contact with glass, remove substances immediately as recommended in writing by glass manufacturer.
- B. Examine glass surfaces adjacent to or below exterior concrete and other masonry surfaces at frequent intervals during construction, but not less than once a month, for buildup of dirt, scum, alkaline deposits, or stains; remove as recommended in writing by glass manufacturer.
- C. Remove and replace glass that is broken, chipped, cracked, or abraded or that is damaged from natural causes, accidents, and vandalism, during construction period.

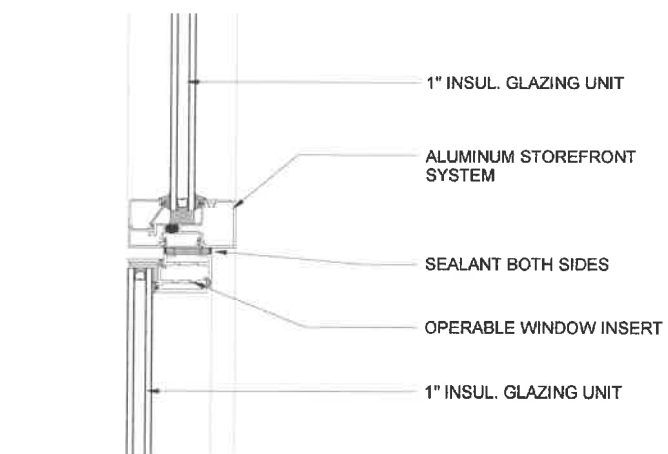
END OF SECTION 08.80.00



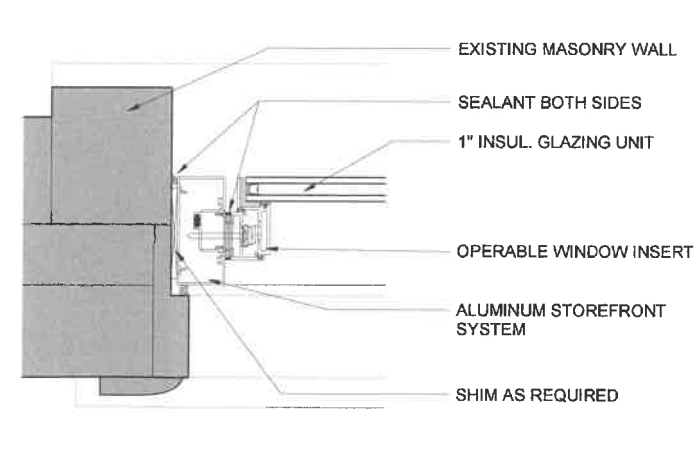
1 PARTIAL NORTH ELEVATION
1/8" = 1'-0"



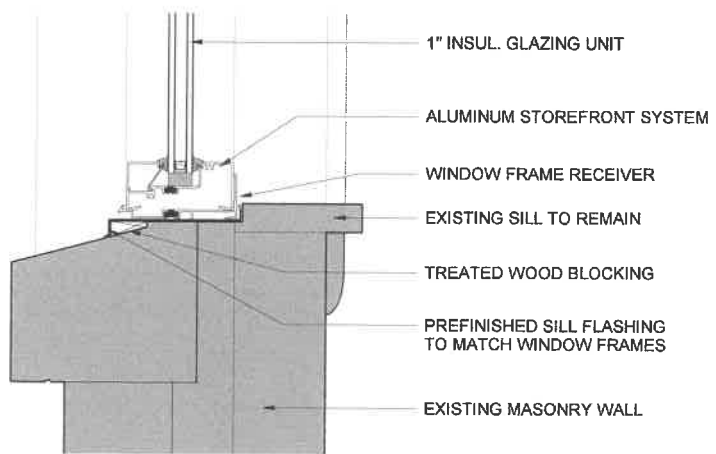
1 WINDOW HEAD DETAIL
3" = 1'-0"



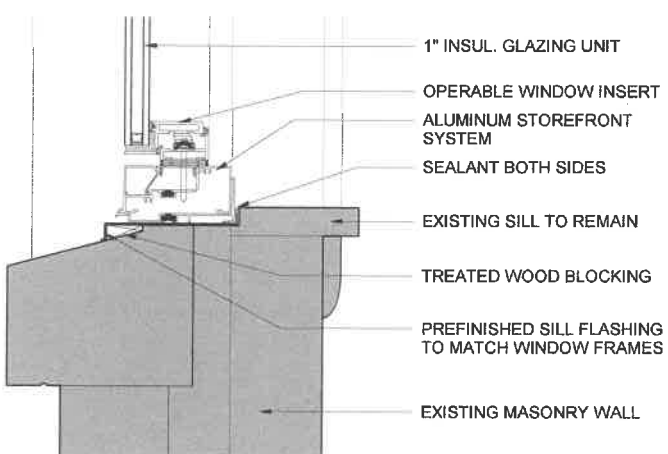
2 WINDOW MULLION DTL
3" = 1'-0"



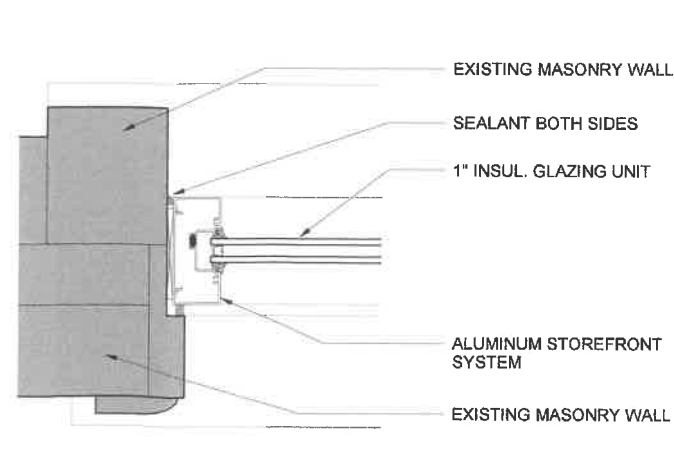
3 WINDOW JAMB DETAIL
3" = 1'-0"



4 WINDOW SILL DETAIL
3" = 1'-0"



5 WINDOW SILL DETAIL
3" = 1'-0"



6 WINDOW JAMB DETAIL
3" = 1'-0"

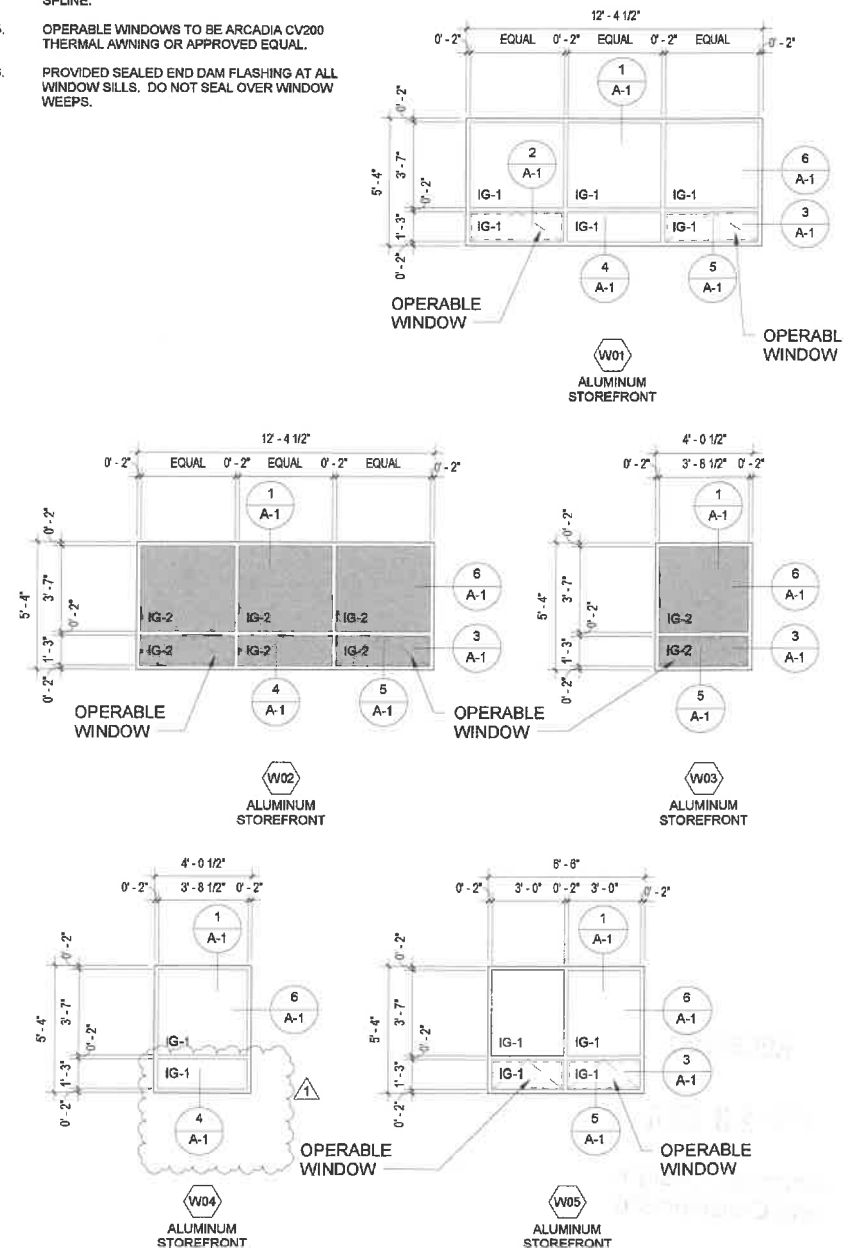
WINDOW SCHEDULE

WINDOW NOTES

- FIELD VERIFY EXISTING CONDITIONS AND DIMENSIONS.
- REMOVE EXISTING WINDOWS, FLASHING AND SEALANTS. PROTECT EXISTING SILLS AND TRIM. REPAIR/REPLACE DAMAGED EXISTING TRIM, SILLS, OR MASONRY.
- REMOVE EXISTING WINDOW BLINDS AND REINSTALL AFTER WINDOW INSTALLATION.
- FRAMES TO BE ARCADIA AG451T THERMAL OR APPROVED EQUAL: OUTSIDE GLAZED, SCREW SPLINE.
- OPERABLE WINDOWS TO BE ARCADIA CV200 THERMAL AWNING OR APPROVED EQUAL.
- PROVIDED SEALED END DAM FLASHING AT ALL WINDOW SILLS. DO NOT SEAL OVER WINDOW WEEPS.

GLAZING LEGEND

- IG-1 = 1" INSULATED LOW-E GLAZING UNIT
- EXTERIOR LITE: 1/4" CLEAR ES-40 LOW-E (#2) TEMPERED
AIR SPACE: 1/2" MILL FINISH SPACER/AIR FILLED
INTERIOR LITE: 1/4" CLEAR TEMPERED
- IG-2 = 1" INSULATED SPANDREL GLAZING
- EXTERIOR LITE: 1/4" CLEAR ES-40 LOW-E (#2) TEMPERED
AIR SPACE: 1/2" MILL FINISH SPACER/AIR FILLED
INTERIOR LITE: 1/4" CLEAR FRIT (#4) TEMPERED



STATE OF KANSAS
CONSTRUCTION PROJECT NO. A-014003

ADDENDUM NO. 2

March 18, 2020

ISSUED BY:

Department of Administration
Office of Facilities and Property Management
Design, Construction & Compliance
700 SW Harrison, Suite 1200
Topeka, Kansas 66603-3929

ISSUED FOR ARCHITECT/ENGINEER

Alloy Architecture
3500 N. Rock Road
Wichita, Kansas 67226
Contact: Jeff Sherrard
Phone Number: 316-634-1111
E-Mail: jsherrard@alloyarchitecture.com

RECEIVED

APR 09 2020

Planning, Design,
and Construction

NOTICE ALL BIDDERS FOR THE:

Pittsburg State University
Overman Student Center
Window Replacement
Pittsburg, Kansas

You are instructed to read and to note the following described changes, corrections, clarifications, omissions, deletions, additions, approvals and statements pertinent to the Contract Bid and Construction Documents.

The Addendum No. 2 is a part of the Contract Bid and Construction Documents and shall govern in the performance of the Work.

Article 2-1; Bid Date Change:

- A. The bid date for this project has changed. The new bid date is **April 16, 2020**. The time and location will remain the same.

Article 2-2, Pre-bid Conference:

- A. There were no attendees at the pre-bid conference held March 13, 2020.

*** RECEIPT OF THIS ADDENDUM IS TO BE ACKNOWLEDGED ON THE FORM OF BID - DOCUMENT C***
DESIGN, CONSTRUCTION & COMPLIANCE

STATE OF KANSAS
CONSTRUCTION PROJECT NO. A-014003

ADDENDUM NO. 3

April 8, 2020

ISSUED BY:

Department of Administration
Office of Facilities and Property Management
Design, Construction & Compliance
700 SW Harrison, Suite 1200
Topeka, Kansas 66603-3929

ISSUED FOR ARCHITECT/ENGINEER

Alloy Architecture
3500 N. Rock Road
Wichita, Kansas 67226
Contact: Jeff Sherrard
Phone Number: 316-634-1111
E-Mail: jsherrard@alloyarchitecture.com

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APR 16 2020
Planning, Design,
and Construction

NOTICE ALL BIDDERS FOR THE:

Pittsburg State University
Overman Student Center
Window Replacement
Pittsburg, Kansas

You are instructed to read and to note the following described changes, corrections, clarifications, omissions, deletions, additions, approvals and statements pertinent to the Contract Bid and Construction Documents.

The Addendum No. 3 is a part of the Contract Bid and Construction Documents and shall govern in the performance of the Work.

Article 3-1: Bid Submittal Changes:

- A. Due to the COVID-19 crisis, the Office of Procurement and Contracts in the Landon State Office Building located at 900 SW Jackson, Topeka, KS 66612 will be closed to the public until further notice. The Office of Procurement and Contracts will not be accepting hand delivered bids. During this time all bids need to be submitted via UPS, FedEx or USPS prior to the bid closing date. During this time there will not be any Public Bid Openings.
- B. Items mailed through the United States Postal Service (USPS) to the Capital Complex buildings in Topeka, KS go to a central location and then dispersed, therefore it may take longer than expected for Procurement and Contracts to receive bids sent through USPS. Please note that FedEx and UPS deliver directly to our office. Bids are not considered received until they are time stamped in our office. Procurement and contracts will not be responsible for late deliveries to our office.
- C. For questions regarding if your bid has been received by the Office of Procurement and Contracts, please call 785-296-2376.
- D. Fax modifications will still be allowed per Addendum No. 1, Article 1-3, Paragraph A.
- E. Official bid results shall be released when they are available. Bid Tabulations will be posted to the online planroom, <https://kansasdfm.idtplans.com/secure/> under their respective projects.

*** RECEIPT OF THIS ADDENDUM IS TO BE ACKNOWLEDGED ON THE FORM OF BID - DOCUMENT C***
DESIGN, CONSTRUCTION & COMPLIANCE

STATE OF KANSAS
CONSTRUCTION PROJECT NO. A-014003

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APR 16 2020

Planning, Design,
and Construction

ADDENDUM NO. 4

April 10, 2020

ISSUED BY:

Department of Administration
Office of Facilities and Property Management
Design, Construction & Compliance
700 SW Harrison, Suite 1200
Topeka, Kansas 66603-3929

ISSUED FOR ARCHITECT/ENGINEER

Alloy Architecture
3500 N. Rock Road
Wichita, Kansas 67226
Contact: Jeff Sherrard
Phone Number: 316-634-1111
E-Mail: jsherrard@alloyarchitecture.com

NOTICE ALL BIDDERS FOR THE:

Pittsburg State University
Overman Student Center
Window Replacement
Pittsburg, Kansas

You are instructed to read and to note the following described changes, corrections, clarifications, omissions, deletions, additions, approvals and statements pertinent to the Contract Bid and Construction Documents.

The Addendum No. 4 is a part of the Contract Bid and Construction Documents and shall govern in the performance of the Work.

Article 4-1; Updates to Bid Submittals:

- A. During this time that the Kansas Department of Administration, Office of Procurement and Contracts offices are closed, emailing of bids has temporarily been added to the bid submittal process.
- B. All bids need to be submitted via **UPS, FedEx** or **emailed** to procurement@ks.gov. All bids submitted must be received by the Office of Procurement and Contracts, Landon State Office Building at 900 SW Jackson, Suite 451, Topeka, KS 66612 by the specific bid closing date and time of 2:00 PM CT.
- C. For additional information please go to the "Covid-19 Procurement Guidance" link dated 04-08-2020 located on the Procurement and Contracts website at <https://admin.ks.gov/offices/procurement-and-contracts>

*** RECEIPT OF THIS ADDENDUM IS TO BE ACKNOWLEDGED ON THE FORM OF BID - DOCUMENT C***
DESIGN, CONSTRUCTION & COMPLIANCE

STATE OF KANSAS
CONSTRUCTION PROJECT NO. A-014003

ADDENDUM NO. 5

April 14, 2020

ISSUED BY:

Department of Administration
Office of Facilities and Property Management
Design, Construction & Compliance
700 SW Harrison St., Suite 1200
Topeka, Kansas 66603-3929

ISSUED FOR ARCHITECT/ENGINEER

Alloy Architecture
3500 N. Rock Road
Wichita, Kansas 67226
Contact: Jeff Sherrard
Phone Number: 316-634-1111
E-Mail: jsherrard@alloyarchitecture.com

RECEIVED

APR 23 2020

Planning, Design,
and Construction

NOTICE ALL BIDDERS FOR THE:

Pittsburg State University
Overman Student Center
Window Replacement
Pittsburg, Kansas

You are instructed to read and to note the following described changes, corrections, clarifications, omissions, deletions, additions, approvals and statements pertinent to the Contract Bid and Construction Documents.

The Addendum No. 5 is a part of the Contract Bid and Construction Documents and shall govern in the performance of the Work.

Article 5-1; Pre-Bid Meeting:

- A. The pre-bid meeting was held with no attendees. Due to the COVID-19 restrictions the mandatory attendance will be waived.

Article 5-2; Window W04: (Attachment)

- A. Sheet A-1, Window W04; The lower section of this window is to be fixed in lieu of operable.

Article 5-3; Specification Section 08.41.13. ALUMINUM-FRAMED STOREFRONTS:

- A. Part 2, 2.01; Subject to the requirements of this section EFCO Corporation, Series 403 is accepted as an approved equal.
B. Part 2, 2.02; Subject to the requirements of this section EFCO Corporation, WV410 structurally glazed is accepted as an approved equal.

*** RECEIPT OF THIS ADDENDUM IS TO BE ACKNOWLEDGED ON THE FORM OF BID - DOCUMENT C***
DESIGN, CONSTRUCTION & COMPLIANCE

CONTRACTUAL PROVISIONS ATTACHMENT

Important: This form contains mandatory contract provisions and must be attached to or incorporated in all copies of any contractual agreement. If it is attached to the vendor/contractor's standard contract form, then that form must be altered to contain the following provision:

The Provisions found in Contractual Provisions Attachment (Form DA-146a, Rev. 07-19), which is attached hereto, are hereby incorporated in this contract and made a part thereof.

The parties agree that the following provisions are hereby incorporated into the contract to which it is attached and made a part thereof, said contract being the _____ day of _____, 20_____.

1. **Terms Herein Controlling Provisions:** It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the contract in which this attachment is incorporated. Any terms that conflict or could be interpreted to conflict with this attachment are nullified.
2. **Kansas Law and Venue:** This contract shall be subject to, governed by, and construed according to the laws of the State of Kansas, and jurisdiction and venue of any suit in connection with this contract shall reside only in courts located in the State of Kansas.
3. **Termination Due To Lack Of Funding Appropriation:** If, in the judgment of the Director of Accounts and Reports, Department of Administration, sufficient funds are not appropriated to continue the function performed in this agreement and for the payment of the charges hereunder, State may terminate this agreement at the end of its current fiscal year. State agrees to give written notice of termination to contractor at least thirty (30) days prior to the end of its current fiscal year and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in this contract, except that such notice shall not be required prior to ninety (90) days before the end of such fiscal year. Contractor shall have the right, at the end of such fiscal year, to take possession of any equipment provided State under the contract. State will pay to the contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination of the agreement by State, title to any such equipment shall revert to contractor at the end of the State's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to the agency or the contractor.
4. **Disclaimer Of Liability:** No provision of this contract will be given effect that attempts to require the State of Kansas or its agencies to defend, hold harmless, or indemnify any contractor or third party for any acts or omissions. The liability of the State of Kansas is defined under the Kansas Tort Claims Act (K.S.A. 75-6101, *et seq.*).
5. **Anti-Discrimination Clause:** The contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001, *et seq.*) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111, *et seq.*) and the applicable provisions of the Americans With Disabilities Act (42 U.S.C. 12101, *et seq.*) (ADA), and Kansas Executive Order No. 19-02, and to not discriminate against any person because of race, color, gender, sexual orientation, gender identity or expression, religion, national origin, ancestry, age, military or veteran status, disability status, marital or family status, genetic information, or political affiliation that is unrelated to the person's ability to reasonably perform the duties of a particular job or position; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to

comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration; (f) Contractor agrees to comply with all applicable state and federal anti-discrimination laws and regulations; (g) Contractor agrees all hiring must be on the basis of individual merit and qualifications, and discrimination or harassment of persons for the reasons stated above is prohibited; and (h) if it is determined that the contractor has violated the provisions of any portion of this paragraph, such violation shall constitute a breach of contract and the contract may be canceled, terminated, or suspended, in whole or in part, by the contracting state agency or the Kansas Department of Administration.

6. **Acceptance of Contract:** This contract shall not be considered accepted, approved or otherwise effective until the statutorily required approvals and certifications have been given.
7. **Arbitration, Damages, Warranties:** Notwithstanding any language to the contrary, no interpretation of this contract shall find that the State or its agencies have agreed to binding arbitration, or the payment of damages or penalties. Further, the State of Kansas and its agencies do not agree to pay attorney fees, costs, or late payment charges beyond those available under the Kansas Prompt Payment Act (K.S.A. 75-6403), and no provision will be given effect that attempts to exclude, modify, disclaim or otherwise attempt to limit any damages available to the State of Kansas or its agencies at law, including but not limited to, the implied warranties of merchantability and fitness for a particular purpose.
8. **Representative's Authority to Contract:** By signing this contract, the representative of the contractor thereby represents that such person is duly authorized by the contractor to execute this contract on behalf of the contractor and that the contractor agrees to be bound by the provisions thereof.
9. **Responsibility for Taxes:** The State of Kansas and its agencies shall not be responsible for, nor indemnify a contractor for, any federal, state or local taxes which may be imposed or levied upon the subject matter of this contract.
10. **Insurance:** The State of Kansas and its agencies shall not be required to purchase any insurance against loss or damage to property or any other subject matter relating to this contract, nor shall this contract require them to establish a "self-insurance" fund to protect against any such loss or damage. Subject to the provisions of the Kansas Tort Claims Act (K.S.A. 75-6101, *et seq.*), the contractor shall bear the risk of any loss or damage to any property in which the contractor holds title.
11. **Information:** No provision of this contract shall be construed as limiting the Legislative Division of Post Audit from having access to information pursuant to K.S.A. 46-1101, *et seq.*
12. **The Eleventh Amendment:** "The Eleventh Amendment is an inherent and incumbent protection with the State of Kansas and need not be reserved, but prudence requires the State to reiterate that nothing related to this contract shall be deemed a waiver of the Eleventh Amendment."
13. **Campaign Contributions / Lobbying:** Funds provided through a grant award or contract shall not be given or received in exchange for the making of a campaign contribution. No part of the funds provided through this contract shall be used to influence or attempt to influence an officer or employee of any State of Kansas agency or a member of the Legislature regarding any pending legislation or the awarding, extension, continuation, renewal, amendment or modification of any government contract, grant, loan, or cooperative agreement.