

Solicitation 5011
Ross Manor Vestibule Storefront

11. Wage Determination – Davis Bacon Building

- Project requires certified payrolls to be submitted to SHA Contracts Administrator and
- Statement of Intent & Affidavit of Wages Paid filed with WA State Labor & Industries.

Project Specifications

12. Division 1 – General Requirements

- Section 01 10 00 Summary of Work (5 pages)
- Section 01 11 20 Contract Requirements (2 pages)
- Section 01 14 00 Work Restrictions (1 page)
- Section 01 25 00 Contract Modification Procedures (2 pages)
- Section 01 35 00 Substitutions (1 page)
- Section 01 99 90 Forms (6 pages)

13. Division 2-16 Technical Specifications

- Section 07 92 00 Joint Sealers (8 pages)
- Section 08 44 00 Aluminum Storefront and Fenestration (11 pages)
- Section 08 71 00 Finish Hardware (13 pages)
- Section 08 81 00 Glass and Glazing (6 pages)
- Sketch SK-1 Ross Manor Vestibule Storefront (1 page)

General Decision Number: WA170036 07/21/2017 WA36

Superseded General Decision Number: WA20160036

State: Washington

Construction Type: Building

County: King County in Washington.

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

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.20 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017
1	01/13/2017
2	02/03/2017
3	02/17/2017
4	03/03/2017
5	03/10/2017
6	05/19/2017
7	06/02/2017
8	06/16/2017
9	07/07/2017
10	07/21/2017

ASBE0007-002 06/01/2017

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 32.86	15.37

BRWA0001-011 06/01/2016

	Rates	Fringes
Bricklayers, Caulkers.....	\$ 38.24	15.57

CARP0770-020 06/01/2016

	Rates	Fringes
CARPENTER (Acoustical Installation).....	\$ 40.92	14.59

CARPENTER (Including Formwork, Drywall Hanging, Cabinet Installation; Insulator-Batt and Metal Stud Installation).....	\$ 40.92	14.59
MILLWRIGHT.....	\$ 42.42	14.59
PILEDRIVERMAN.....	\$ 41.17	14.59

(HOURLY ZONE PAY: WESTERN AND CENTRAL WASHINGTON - ALL CLASSIFICATIONS EXCEPT MILLWRIGHTS AND PILEDRIVERS

Hourly Zone Pay shall be paid on jobs located outside of the free zone computed from the city center of the following listed cities:

Seattle	Olympia	Bellingham
Auburn	Bremerton	Anacortes
Renton	Shelton	Yakima
Aberdeen-Hoquiam	Tacoma	Wenatchee
Ellensburg	Everett	Port Angeles
Centralia	Mount Vernon	Sunnyside
Chelan	Pt. Townsend	

Zone Pay:

0 -25 radius miles	Free
26-35 radius miles	\$1.00/hour
36-45 radius miles	\$1.15/hour
46-55 radius miles	\$1.35/hour
Over 55 radius miles	\$1.55/hour

(HOURLY ZONE PAY: WESTERN AND CENTRAL WASHINGTON - MILLWRIGHT AND PILEDRIVER ONLY)

Hourly Zone Pay shall be computed from Seattle Union Hall, Tacoma City center, and Everett City center

Zone Pay:

0 -25 radius miles	Free
26-45 radius miles	\$.70/hour
Over 45 radius miles	\$1.50/hour

ELEC0046-006 02/06/2017

	Rates	Fringes
ELECTRICIAN.....	\$ 47.56	3%+19.31

ELEC0046-007 02/06/2017

	Rates	Fringes
ELECTRICIAN (Alarm Installation Only).....	\$ 31.67	3%+12.45
ELECTRICIAN (Low Voltage Wiring Only).....	\$ 31.67	3%+12.45

ELEV0019-005 01/01/2017

	Rates	Fringes
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ELEVATOR MECHANIC.....\$ 50.82 31.585

FOOTNOTE:

- a. Employer contributes 8% of the basic hourly rate for over 5 year's service and 6% of the basic hourly rate for 6 months to 5 years' of service as vacation paid credit.
- b. Eight paid holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Veteran's Day; Thanksgiving Day; Friday after Thanksgiving and Christmas Day

ENGI0302-019 06/01/2017

	Rates	Fringes
Power equipment operators:		
Group 1A.....	\$ 41.90	19.20
Group 1AA.....	\$ 42.52	19.20
Group 1AAA.....	\$ 43.13	19.20
Group 1.....	\$ 41.29	19.20
Group 2.....	\$ 40.76	19.20
Group 3.....	\$ 40.29	19.20
Group 4.....	\$ 37.70	19.20

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1AAA - Cranes-over 300 tons, or 300 ft of boom (including jib with attachments)

GROUP 1AA - Cranes 200 to 300 tons, or 250 ft of boom (including jib with attachments); Excavator/Trackhoe: Over 90 metric tons

GROUP 1A - Cranes, 100 tons thru 199 tons, or 150 ft of boom (including jib with attachments); Loaders-overhead, 8 yards and over; excavator/Trackhoe: over 50 metric tons to 90 metric tons

GROUP 1 - Cranes 45 tons thru 99 tons, under 150 ft of boom (including jib with attachments); Excavator/Trackhoe: over 30 metric tons to 50 metric tons; Loader- overhead 6 yards to, but not including 8 yards; Dozer D-10; Screedman; Scrapers: 45 yards and over; Grader/Blade

GROUP 2 - Cranes, 20 tons thru 44 tons with attachments; Drilling machine; Excavator/Trackhoe: 15 to 30 metric tons; Horizontal/directional drill operator; Loaders-overhead under 6 yards; Crane Oiler-100 Tons and Over; Compactor; Scraper: under 45 tons

GROUP 3 - Cranes-thru 19 tons with attachments; Dozers-D-9 and under; Motor patrol grader-nonfinishing; Roller-Plant Mix; Crane Oiler under 100 tons; Excavator/Trackhoe: under 15 metric tons; Forklift: 3000 lbs and over with attachments; Service Oiler; Concrete Pump; Outside Hoist (Elevators and Manlifts); Pump Grout

GROUP 4 - Roller-other than plant mix; Forklift: under 3000

lbs with attachments; Bobcat; Rigger/Bellman

 IRON0086-010 07/01/2016

	Rates	Fringes
IRONWORKER (Reinforcing, Structural and Ornamental).....	\$ 40.52	24.71

 LABO0242-002 06/01/2017

ZONE 1:

	Rates	Fringes
LABORER		
GROUP 2.....	\$ 28.45	10.99
GROUP 3.....	\$ 35.54	10.99
GROUP 4.....	\$ 36.41	10.99
GROUP 5.....	\$ 36.99	10.99

ZONE DIFFERENTIAL (ADD TO ZONE 1 RATES):

ZONE 2 - \$1.00

ZONE 3 - \$1.30

BASE POINTS: BELLINGHAM, MT. VERNON, EVERETT, SEATTLE, KENT,
 TACOMA, OLYMPIA, CENTRALIA, ABERDEEN, SHELTON, PT.
 TOWNSEND, PT. ANGELES, AND BREMERTON

ZONE 1 - Projects within 25 radius miles of the respective
 city hall
 ZONE 2 - More than 25 but less than 45 radius miles from the
 respective city hall
 ZONE 3 - More than 45 radius miles from the respective city
 hall

LABORERS CLASSIFICATIONS

GROUP 2: Flagman

GROUP 3: General Laborer; Mason Tender-Cement/Concrete;
 Chipping Gun (under 30 lbs.); Form Stripping; Roof Tearoff

GROUP 4: Chipping Gun (over 30 lbs.); Concrete Saw Operator;
 Grade Checker; Gunite; Pipe Layer; Vibrating Plate

GROUP 5: Mason Tender-Brick

 * PAIN0005-029 07/01/2017

	Rates	Fringes
DRYWALL FINISHER/TAPER.....	\$ 39.50	17.43

 PAIN0005-030 07/01/2013

	Rates	Fringes
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Painters:

Parking Lot and Highway
 Striping Only.....\$ 28.00 14.33

* PAIN0005-031 07/01/2017

Rates Fringes

PAINTER (Including Brush,
 Roller, Spray and Prep Work).....\$ 29.75 11.58

* PAIN0188-005 07/01/2017

Rates Fringes

GLAZIER.....\$ 43.24 17.16

* PAIN1238-002 07/01/2017

Rates Fringes

SOFT FLOOR LAYER (Including
 Vinyl and Carpet).....\$ 30.82 16.56

PLAS0528-002 06/01/2017

Rates Fringes

PLASTERER.....\$ 38.10 16.34

PLAS0528-004 06/01/2017

Rates Fringes

CEMENT MASON/CONCRETE FINISHER...\$ 40.52 16.54

PLUM0032-009 01/01/2017

Rates Fringes

PIPEFITTER.....\$ 53.06 23.03
 PLUMBER (Including HVAC Pipe
 Installation).....\$ 52.81 22.28
 REFRIGERATION MECHANIC.....\$ 52.22 22.79

ROOF0054-008 01/01/2017

Rates Fringes

ROOFER (Includes Roof Tear
 Off, Waterproofing, and
 Installation of Metal Roofs).....\$ 33.32 14.17

SFWA0699-006 07/01/2017

Rates Fringes

SPRINKLER FITTER (Fire
 Sprinklers).....\$ 48.47 25.52

SHEE0066-023 06/01/2016

	Rates	Fringes
Sheet Metal Worker (Including HVAC Duct Work and Installation of HVAC Systems).....	\$ 48.17	25.52

* TEAM0174-005 01/01/2017

	Rates	Fringes
Truck drivers: ZONE A: GROUP 2:.....	\$ 34.13	18.57

ZONE B (25-45 miles from center of listed cities*): Add \$.70 per hour to Zone A rates.

ZONE C (over 45 miles from centr of listed cities*): Add \$1.00 per hour to Zone A rates.

*Zone pay will be calculated from the city center of the following listed cities:

BELLINGHAM	CENTRALIA	RAYMOND	OLYMPIA
EVERETT	SHELTON	ANACORTES	BELLEVUE
SEATTLE	PORT ANGELES	MT. VERNON	KENT
TACOMA	PORT TOWNSEND	ABERDEEN	BREMERTON

TRUCK DRIVERS CLASSIFICATIONS

GROUP 2 - Semi-Trailer Truck

HAZMAT PROJECTS

Anyone working on a HAZMAT job, where HAZMAT certification is required, shall be compensated as a premium, in addition to the classification working in as follows:

LEVEL C: +\$.25 per hour - This level uses an air purifying respirator or additional protective clothing.

LEVEL B: +\$.50 per hour - Uses same respirator protection as Level A. Supplied air line is provided in conjunction with a chemical "splash suit."

LEVEL A: +\$.75 per hour - This level utilizes a fully-encapsulated suit with a self-contained breathing apparatus or a supplied air line.

SUWA2009-024 05/22/2009

	Rates	Fringes
LABORER: Driller.....	\$ 17.17	5.36
LABORER: Irrigation.....	\$ 11.58	0.00
LABORER: Landscape.....	\$ 9.73	0.00
LABORER: Overhead Door Installation.....	\$ 22.31	3.44

OPERATOR: Backhoe.....	\$ 29.95	7.20
OPERATOR: Mechanic.....	\$ 24.33	4.33
ROOFER: Metal Roof.....	\$ 24.30	4.05
TILE SETTER.....	\$ 18.72	3.35
TRUCK DRIVER: Dump Truck.....	\$ 27.43	0.00

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

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

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

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

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of

the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

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

Survey Rate Identifiers

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

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

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

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

WAGE DETERMINATION APPEALS PROCESS

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

* an existing published wage determination

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

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

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

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

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

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

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

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

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

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

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END OF GENERAL DECISION

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. General provisions of the Contract, including General Conditions, Attachment A-Version 1, and other Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
1. Work covered by the Contract Documents.
 2. Type of the Contract.
 3. Use of premises.
 4. Owner's occupancy requirements.
 5. Work restrictions.
 6. Specification formats and conventions.
 7. Permits.
 8. Governing Codes and Regulations.
 9. Preconstruction Conference, if applicable

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Ross Manor Interior Vestibule Storefront

1. Project Location: **1420 Western Ave, Seattle, WA, 98101**

- B. Owner: Seattle Housing Authority, 190 Queen Anne Ave. N., P.O. Box 19028, Seattle, WA, 98109-1028

1. Owner's Representative:
 - a. Wendy Simonson, Construction Project Manager.

- C. The Work consists of the following:

1. The Work requires the contractor to provide a new Aluminum Storefront and Entrance system to enhance the physical security at the rear vestibule of the Ross Manor Building. Contractor will provide all labor, new materials, permits, and equipment necessary to perform all work. Contractor shall prosecute the project in accordance to the 'Work Elements' as outlined below. The work includes but is not limited to:
 - a. Furnish and Install a steel reinforced, fire rated Aluminum Storefront and Entrance system measuring 172 inch (wide) x 91 inch (high)
 - b. Storefront system shall include a 42 inch (wide) x 84 inch (high) glazed door, centrally located per the attached sketch, SK-1. This door shall be outfitted with off-set hinges, Panic Hardware, Electric Strike, Electric Door Opener system and an exterior keyed cylinder lock per the 'Hardware Schedule' below.

- c. Preferred dimensions for storefront components shall be 2 inch (wide) x 4-1/2 inch (deep)
- d. The basis of design and system performance requirements for the new Storefront system shall be in accordance with the specification sections 07 92 00, 08 44 00 08 71 00 and 08 81 00 which are included in this contract.
- e. Storefront system hardware components shall include but not be limited to the following:

CATEGORY	HARDWARE SCHEDULE FOR ROSS MANOR VESTIBULE STOREFRONT ENTRY			
1.	Elements of the Work	Suggested Manufacturer/ Model	Finish / Style	Additional Requirements and Comments
2.	Storefront Entry - Lockset	● Schlage	AL Series / Antique Bronze - 616	30 keys. Keyed to 320203 (HR) plus 98310 (Bldg. Master) / Medium to High Traffic Areas
3.	Storefront Entry - Over-door Door Closer	● Corbin-Russwin ● LCN 4040	Dark Bronze	Tamper proof / Industrial / ADA reduced opening force
4.	Storefront Entry Door Operator System (Electric)	● Horton 7000 Series/120 volt	Fluted	
5.	Storefront Entry - Threshold	● Pemko		Standard / ADA compliant
6.	Storefront Entry - Pulls	(Optional)		Standard off-set / ADA compliant / Match existing / Coordinate with storefront finish
7.	Panic Hardware /Exit Device	● Von Duprin ● Corbin-Russwin 077 ● Adams Rite		
8.	Electric Strike	● Von Duprin 6211 ● Adam Rite		To be wired by SHA Electrician
9.	Storefront Entry – Commercial Hinges (per manufacturer)	● C R Laurence	Dark Bronze	Match existing / coordinate with storefront manufacturer and finish
10.	Miscellaneous Hardware items as specified in 08 71 00 below.			

D. Work Element #1. Design Requirements:

1. Contractor is responsible for gathering any required information or documentation on as-built conditions via investigations of onsite conditions. Contractor shall gather pertinent information on local permits, building codes and local labor, prior to the submittal of product data for SHA's review and approval.
2. Deliverables shall consist of the accurately dimensioned shop drawings and manufacturers cut sheets, specifications and calculations for each component of this new Aluminum storefront system and Door. Product data and cut sheets for each item of hardware to be included in the work shall also be provided for SHA's review and approval.
3. All product submittals shall be fully coordinated to ensure each product is functionally integrated with all existing building elements and with each new product / component to be furnished and installed by the contractor.
4. Contractor shall review the technical specification sections included in the contract to ensure full compliance with all mandatory Seattle Building Code and Federal Regulatory requirements.

E. Work Element #2. Furnish and Installation Requirements

1. Based on an SHA approved design and product submittals as required above, furnish and install the new Aluminum Storefront system.
2. Conduct a Pre-Installation conference prior to the start of work with SHA Personnel (refer to Div. 08 44 00)
3. Protect all work being installed. Conduct field quality control while installation is in progress.

F. Work Element #3. Testing and Coordination with others

1. Coordinate door key schedule with SHA personnel prior to installation of the lockset

PART 2 - PRODUCTS

A. PRODUCT DATA:

The Contractor will:

1. Provide manufacturer's catalog cuts with printed specifications and installation instructions.
2. Furnish detailed sequence of operation (description of system).
3. Provide two (2) copies of operation and maintenance data covering the installed products on completion. Include name, address and telephone number of the nearest fully equipped service organization.

B. SUBMITTALS:

The Contractor will:

1. Provide Shop Drawings showing the relationship of operating systems with other work.
2. Include details of all major components. Include parts list showing manufacturer's names and part numbers for the complete installation.
3. Include complete details of gate construction, gate height, post spacing dimensions, unit weights

4. Provide manufacturers warranties for any and all new components and products installed.

C. SYSTEMS ACCEPTANCE TEST:

The Contractor will:

1. Notify SHA construction management representative at least three (3) working days prior to the test, so arrangements may be made to have facility and property management representatives witness the test.

PART 3 - EXECUTION

3.00 General notes pertaining to installation:

A. All hardware, switches, and related items shall be located and installed in accordance with the Americans with Disabilities Act, National, State and Local codes.

B. Caulk and make weather tight all new installations using a color coordinated siliconized latex or butyl material, G.E. or Dow Corning or equal, as needed. All caulking, if used shall be finish "tooled" for clean proper appearance.

C. Finish hardware installed shall match existing finishes to the best extent possible.

D. Contractor shall field verify all measurements and existing conditions at the site. The attached site plan is provided for general reference and orientation purposes only. [Sketch: SK 1]

3.1 TYPE OF CONTRACT

- A. Project will be constructed under a single-prime, general construction contract.
- B. Contractor shall use attached Prevailing Wage Rates for determining Total Bid Price and payment to eligible employees, as required by law. Contractor shall include Washington State sales tax in bid price.
- C. Sales Tax: charged to labor and materials.
- D. Full one-year warranty on all parts, labor, and materials. For one-year period Contractor will correct, repair, or replace all work performed at Contractors sole expense.

3.2 USE OF PREMISES

- A. General: Contractor shall have full use of premises for construction operations, including use of Project site, during the construction period. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
 1. Owner Occupancy: Allow for Owner occupancy of Project site.
 2. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner and emergency vehicles at all times. Inspection of concrete surface prior to work and at completion of work will be conducted by owner and contractor. Damage to concrete or asphalt from work will be repaired by the Contractor, solely at the Contractor expense, to Owner's satisfaction.

- a. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
3. Parking: parking is available on the street on first come first serve basis.

3.3 OWNER'S OCCUPANCY REQUIREMENTS

- A. Full Owner Occupancy: Owner will occupy site during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations.
 1. Provide not less than 72 hours' notice to Owner of activities that will affect Owner's operations.

3.4 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed during normal business working hours of 8 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated.
 1. Weekend Hours: No weekend work or work on Holidays permitted without owner permission.
 2. Work shall not be performed outside normal working hours without prior approval by the Owner. Approval does not constitute authorization for payment of overtime pay rates by the Owner. There are no anticipated holidays for this contract due to the short duration

3.5 PERMITS

- A. It is the Contractor's responsibility to obtain all necessary permits and inspections as may be required to perform all aspects of the required work for this project. The cost of any such permits and associated fees is to be included in the Contractor's bid amount.
- B. Contractor shall arrange for and supply personnel for inspections of work by all AHJ Inspectors (including building permit inspections) and shall give the inspectors all necessary assistance in their work of inspection as required.

3.6 GOVERNING CODES AND REGULATIONS

- A. The work shall be performed in accordance with applicable codes, and regulations. If any conflict occurs between government-adopted laws and drawings and this Specification, the laws are to govern. Nothing in the drawing or these specifications shall be construed to permit work not conforming to the governing laws. The preceding sentence shall not be construed as relieving the Contractor from complying with any requirements of those herein before mentioned governing laws and rules and not contrary to same.
- B. The Contractor is required to be familiar with the details of these standards and any local codes and ordinances as they affect the installation of specific systems. The edition of the appropriate code or standard current at commencement of installation shall govern all installations.

END OF SECTION 011000

SECTION 01 11 20 - CONTRACT REQUIREMENTS

PART 1 - GENERAL

RELATED DOCUMENTS

Drawings and general provisions of the contract, including General Conditions and other Division 0 and Division 1 Specification Sections, apply to this section.

1.1 PRE-CONSTRUCTION CONFERENCE

Prior to beginning the Work, the Contractor shall meet with the Owner to coordinate the Progress Schedule, to verify procedures and to discuss other requirements that may be of concern to any of the parties involved.

1.2 CONTRACT RESTRICTIONS

- A. Time of Completion: The work of this Contract shall commence immediately after the effective date of the Notice To Proceed and shall be Substantially Complete no later than Friday, November 17, 2017. It is hereby understood and mutually agreed, by and between the Contractor and the Owner, that the date of beginning and the time for completion as specified in the contract of work to be done hereunder are ESSENTIAL CONDITIONS of this contract. It is further mutually understood and agreed that the work embraced in this contract shall be commenced on a date to be specified in the Notice to Proceed. It is anticipated that the date of Final Completion be no later than two (2) weeks after substantial completion is achieved. The Contractor agrees that said work shall be prosecuted regularly, diligently, and uninterruptedly at such rate of progress as will insure full completion thereof within the time specified. It is expressly understood and agreed, by and between the Contractor and the Owner, that the time for completion of the same has taken into consideration the average climatic range and usual industrial conditions prevailing in this locality.
- B. Extensions of Time: Should an extension of time be granted to the Contractor, he/sheshall indemnify and save harmless the Owner for any loss to any other Contractor caused by such extension of time.

1.3 CHANGES IN THE WORK

Refer to Part 7 of the General Conditions.

1.4 INSTRUCTIONS

All instructions will be given to the Contractor, or his/her authorized agent, by the Owner's Representative for distribution to all subcontractors or tradesmen on the Work; in like manner all communication from subcontractors and tradesmen on the Work to the Owner will be given through the Contractor. No subcontractors or tradesmen shall contact the Owner to discuss the Work, except as the Contractor may arrange.

1.5 WASTE SITES

- A. The Contractor shall select his/her own waste sites not upon the job site or any property contiguous thereto. The Contractor is solely and alone responsible for any and all damages done or regulations violated in the disposal of waste material, and for any other

actions which he/she performs. Contractor holds the Owner faultless and free from liability for any and all damages and costs incurred as a result of Contractor's actions.

- B. It shall be the responsibility of the Contractor to pay all fees and costs incurred in the testing, packaging, transportation and disposal of waste material.
- C. Dispose of all waste in a legal manner at appropriate, off site legal waste sites.

1.6 STORAGE OF TOOLS AND MATERIALS

Storage of tools and materials on the site shall always be subject to the satisfaction of the Owner. The Owner shall assume no responsibility or liability for materials and equipment stored on the site. Refer to Section 5.08 of the General Conditions.

1.6 SIGNS

Posting of any and all signs are subject to the satisfaction of the Owner.

1.7 WATER AND POWER

Refer to Section 01 50 00 Temporary Facilities and Controls.

1.9 PROTECTION OF PUBLIC AND PRIVATE UTILITIES/PROPERTY

- A. The Contractor shall be responsible for any breakage of utilities or services resulting from his/her operations and shall hold the Owner and its agents harmless from any claims resulting from disruption of service or damage to utilities.
- B. The Contractor shall be responsible for any damage to improvements in the City right of way including, but not limited to, streets, sidewalks, curbs and the like and shall repair any damage prior to project's acceptance. Prior to the start of Work the Contractor shall document in writing and photographs any existing damage to adjacent streets, sidewalks, curbs etc. and submit to Owner's Representative for the Project record.

1.10 DUST CONTROL

Keep dust down at all times, including non-working hours, weekends and holidays.

1.11 AIR QUALITY

Comply with all applicable standards, order, or regulations issued pursuant to the Clean Air Act of 1970.

1.12 PROTECTION

See Section 5.11 of the General Conditions

END OF SECTION 01 11 20

SECTION 01 14 00 - WORK RESTRICTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

Drawings and general provisions of the Contract, including General Conditions and other Division 0 and Division 1 Specification Sections, apply to this Section.

1.2 USE OF PREMISES

- A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the Work is indicated.
 - 1. Limits: Confine construction operations to building and surrounding site, within project property lines or other limits established by Owner.
 - 2. Owner Occupancy: Allow for Owner occupancy of site and use by management staff and residents at all times.
 - 3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to residents, Owner's staff, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
 - 4. Contactor to provide the necessary safety warning signs and barricades where applicable during exterior / outdoor construction activities.
- B. Use of Existing Building: Maintain existing building in a weather tight condition at all times throughout construction period, including during replacement of windows and roof. Repair damage caused by construction operations. Protect building and its occupants during construction period.

1.3 OCCUPANCY REQUIREMENTS

- A. Owner Occupancy: Existing buildings will be occupied by residents and Owner's staff during entire construction period. Cooperate with Owner during construction operations to facilitate residents' and Owner's management agents and utilization with minimal disruption.
- B. Utility Shut Downs: Prior to initial shut down of any utilities, General Contractor must provide a minimum of 72 hour advance notice to Owner before turning off building utilities. Utility shut downs shall not last more than 8 hours. Building utilities must be reactivated and verified to be functioning before workers depart for the day. Any deviation from these guidelines must be approved by the Owner.

END OF SECTION 01 14 00

SECTION 01 25 00 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 0 and Division I Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

1.3 MINOR CHANGES IN THE WORK

- A. The Owner will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time in writing to the Contractor.

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: The Owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

- 1. Proposal Requests issued by the Owner are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.

- 2. After receipt of Proposal Request, within time specified in Proposal Request, submit a Change Order Proposal to the Owner providing a quotation of cost adjustments to the Contract Sum and the Contract Time necessary to execute the change. The quotation of cost adjustments shall include a detailed labor, material, and equipment breakdown. Lump sum cost quotations will not be accepted. See General Conditions Section 7.

- a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

- b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.

- c. Include costs of labor and supervision directly attributable to the change.

- d. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use one-half available total float before requesting an extension of the Contract Time.

- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a Change Order Proposal to Owner. Refer to General Conditions Section 7.

1. Include a statement outlining 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 the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use one-half available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Division 1 Section including "Products" if the proposed change requires substitution of one product or system for product or system specified.
- C. Change Order Proposal Form: May be of Contractor's own creation, provided that the above information is included and presented in a comprehensible format, and approved by Owner and Design Engineering Team.

1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Change Order Proposal, Contractor will prepare a Change Order for signatures of Owner, Design Engineer, and Contractor on an AIA Document G701 or Contractor's approved form.

1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Owner may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

END OF SECTION 01 25 00

SECTION 01 35 00 - SUBSTITUTIONS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and other Division 0 and Division 1 Specification Sections, apply to this Section.

1.2 RELATED SECTIONS

- A. Section 01 99 90 Forms D-Request for Substitution and Certification of Equal Performance

1.3 SUBSTITUTIONS

- A. The materials, products and equipment described in the Contract Documents establish a standard of required function, dimension, appearance and quality to be met by any proposed substitution.
- B. No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Owner at least ten days prior to the date for receipt of Bids. Each such request shall include the name of the material or equipment for which it is to be substituted and a complete description of the proposed substitute including drawings, cuts, performance and test data and any other information necessary for an evaluation. A statement setting forth any changes in other materials, equipment or other Work that incorporation of the substitute would require shall be included (see 1.2.E). The burden of proof of the merit of the proposed substitute is upon the proposer. The Owner's decision of approval or disapproval of a proposed substitution shall be final.
- C. If the Owner approves any proposed substitution prior to receipt of Bids, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner. Should any proposed product substitution require any re-design work by the Owner or his consultants to accommodate the substitute product, costs for such re-design work shall be included in the Bid amount and shall be paid to the Owner at reasonable rates for the time expended in the required re-design work.
- D. No substitutions will be considered after the Contract award unless specifically provided in the Contract Documents.
- E. Substitution requests shall be made only on the Substitution Request Form and Certificate of Equal Performance found hereinafter (see Section 01 99 90 FORMS). Fill in all data requested on the form and such form shall be received by the Owner and Engineer at least ten days prior to the date for receiving proposals.

PART 2 – PRODUCTS Not Used.

PART 3 – EXECUTION Not Used.

END OF SECTION 01 35 00

**SECTION 01 99 90
PROJECT FORMS**

SUMMARY

The forms listed below and included in this section are referenced in other sections, and are to be used by the Contractor during the course of this project:

Form No.	Title
01 99 90 A	Daily Construction Report (to be used by Contractor for daily field reports)
01 99 90 B	Request For Information
01 99 90 C	na
01 99 90 D	Request for Substitution

PRODUCTS

- Not Applicable

EXECUTION

- Not Applicable

END OF SECTION 01 99 90

DAILY CONSTRUCTION QUALITY CONTROL REPORT

SEND VIA EMAIL EACH DAY TO WENDY.SIMONSON@SEATTLEHOUSING.ORG

Work on Date: _____ Report #: _____

Contract Title: _____ Location: _____

Weather: _____ Clear: _____ Partly Cloudy: _____ Rainfall: (_____ % of workday)

Temperature during workday: High _____ degree F. Low _____ degree F.

1. Work performed by Contractor/Subcontractor(s):

Contractor Name: (Trade)	Number of Personnel	Craft/ Hours	Work Performed (Location)

2. Equipment Data:

Type, Size, Etc.	Owned	Rented	Hours Used	Hours Standby

3. Accidents/Unusual Events:

4. Owner Directions/Decisions:

5. Services Connected/Disconnected:

6. Stoppages/Delays/Shortages/Losses:

7. Emergency Procedures:

8. Remarks:

Contractor's Verification: The above report is complete and correct. All materials, equipment used and work performed during this reporting period are in compliance with the contract documents except as noted herein:

Completed by: _____ Date: _____
 (print name) (signature)

FORM B

REQUEST FOR INFORMATION

SEND VIA EMAIL TO Wendy.simonson@seattlehousing.com

RFI Number: _____

Project: _____

Description:

Date Sent:

Reference:

Date Needed:

Cost Impact:

Schedule Impact:

CONTRACTOR'S QUESTION AND PROPOSED ANSWER

I have thoroughly reviewed the Contract Documents and determined that required information is not included therein and that this RFI is necessary.

Question

Proposed Answer

By:

Date:

Firm:

OWNER'S RESPONSE

Response

By:

Date:

**SECTION 01 99 90
REQUEST FOR SUBSTITUTION FORM**

REQUEST NO. _____

A completed copy of this form must be submitted to the Owner for a substitution to be considered. If the substitution is given initial approval, the Contractor shall submit a completed copy of the form titled "Certification of Equal Performance and Assumption of Liability for Equal Performance," in order for the substitution to be considered fully approved.

Project: ROSS MANOR VESTIBULE STOREFRONT

Address: 1420 WESTERN AVE SEATTLE 98101

Dated: _____

Engineer: _____

Address: _____

In order to give proper consideration to all requests for approval, the following information shall be supplied and all questions answered:

1. Nature of request: _____

2. Specification Section(s) affected: _____

3. Drawing details affected: _____

4. Will the substitution affect the project schedule, and if so, state number of days added or deleted: _____

5. Does the change affect dimensions shown on the plans in any way: _____

If yes, please clearly indicate changes on the submittal(s)

6. What affect does the change have on any other trades? _____

7. Does the change meet all applicable code or ordinance requirements? _____

8. Is there a cost or maintenance benefit to the Owner? _____

a. If cost benefit, how much? _____

b. If maintenance benefit, explain how: _____

9. Submit with request all necessary samples and substantiating data; including shop drawings, catalog cuts, performance and test data; to prove conformance to the contract Documents, equal quality and performance to that which is specified. Clearly mark manufacturer's literature to indicate quality in performance.

Will the undersigned pay for any engineering or detailing cost caused by the requested change?

Firm: _____

Address: _____

Phone: _____ Date: _____

Name of Proposer: _____

Title: _____

Signature: _____

REQUEST MUST INCLUDE CERTIFICATE OF EQUAL PERFORMANCE

(see Page 3 for Certificate of Equal Performance)

**CERTIFICATION OF EQUAL PERFORMANCE AND
ASSUMPTION OF LIABILITY FOR EQUAL PERFORMANCE**

Project: Water Fixture Replacement for Conservation

Address: Lake City House – 12546 33rd Ave NE Seattle WA 98125

Description of Substitution: _____

Architect: _____

Address: _____

The undersigned has thoroughly studied the plans and specifications for the above project and guarantees by this signature that the requested material equipment or system substitution or change in construction procedure or technique will in addition to conforming to any and all applicable code requirements, perform equal to or better than that material, or combination of materials, presently detailed and specified.

Firm: _____

Address: _____

Phone: _____ Date: _____

Name: _____

Title: _____

Signature: _____

Note: Signature must be by person having authority to legally bind his firm to the above terms. Failure to provide legally binding signature will result in retraction of approval.

Accepted by Engineer

Accepted by Owner

By: _____

Date: _____

END OF CERTIFICATION

END OF SECTION 01 99 90

SECTION 07 92 00 - JOINT SEALANTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes joint sealants, fillers, compressible seals, and accessories necessary, and required for sealing joints, and reveals.
- B. Definitions for terms used in this Section: ASTM C 717.
 - 1. Compatible: Materials, and surfaces that are not detrimental to performance of sealed joint; non-staining to substrate and sealer as determined by ASTM D 2203.
 - 2. Modulus of Elasticity: ASTM D 412 Tensile strength in pounds per square inch at 100 percent elongation tested at 77 degrees F, and 50 percent relative humidity after 14 days cure.
 - a. Low: 45 psi or less.
 - b. Medium: Not less than 45 psi nor more than 75 psi.
 - 3. Hardness: ASTM D 2240 Shore A.

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Conference: Coordinate work of this Section with all other aspects of the interior vestibule construction including but not limited to proactive coordination of work sequence, provisions to prevent delay due to seasonal weather conditions that may impact work, and requirements to optimize joint geometry. Have results of the following available for review.
 - 1. Preconstruction Field-Adhesion Testing: Before installing sealants, field test their adhesion to Project joint substrates. Test joint sealants according to Method A, Field-Applied Sealant Joint Hand Pull Tab, in Appendix X1 in ASTM C 1193 or Method A, Tail Procedure, in ASTM C 1521.
- B. Sequence sealant installation to prevent conflict with other construction operations that could alter joint substrates, and reduce performance characteristics of installed sealant.

1.3 SUBMITTALS

- A. Product Data: Required for each material, manufactured product, and accessory incorporated into the Work; manufacturer's recommendations for sealant installation for materials and configuration indicated.
 - 1. Each sealant product data submittal shall identify each joint assembly the sealant will be used in with a reference to the specification Section where the constituent products or materials are specified.

- B. Samples: Each type and color of joint sealer required, in 0.5 inch wide joints formed between two six inch strips of material matching the appearance of exposed surfaces adjacent to joint sealers in the work.
- C. Test Reports: Certified, current product formulation, demonstrate compliance with requirements for proposed installation, movement capacity, and compatibility with substrate and adjacent components.
- D. Certificates: Submit certificates from manufacturers of joint sealers attesting that their products comply with specification requirements, are compatible with substrates, and joint configurations indicated, and are suitable for the anticipated service environment.
 - 1. Certification that sealant components comply with Project requirements for prohibition and limitations on certain chemical compounds.

1.4 QUALITY ASSURANCE

- A. Installer: Three years successful experience with sealers, and assembly types required for this project. Assign mechanics from these earlier applications to this project, one of whom shall serve as lead mechanic, and be on site at all times work is in progress.
- B. Manufacturer's Field Quality Control Agent: Possess expert knowledge of the products being installed including preparation, application and field testing requirements. Shall have authority to certify compliance of the Work with Project Warranty provisions. Shall be responsible for knowing the specifics of this installation and available to perform the required field testing and inspections.
- C. Pre-Installation Conference: Comply with requirements for Project meetings.
 - 1. Pre-Installation Field Samples: Evaluated with Owner and technical representative of waterproofing manufacturer present, prior to final approval of product for use on Project. Evaluate cured performance, and installation quality. Locate samples as directed.

1.5 FIELD CONDITIONS

- A. Environmental Requirements: For installation of joint sealers; ambient and substrate temperature above 40 degrees F, and within the limits recommended by joint sealer manufacturer; dry substrate free of contaminants that could impair sealer performance.
- B. Due to the potential variety of combinations between construction materials, sealant types, and sealant formulations, the final selection shall be made by the Contractor; responsibility for ensuring sealant compatibility with Project conditions, not limited to bond surfaces, shall be the Contractor's.

1.6 WARRANTY

- A. Special Warranty: Notarized, signed by manufacturer, and installer, joint sealers are free from defects in materials and workmanship, will not deteriorate in excess of normal weathering and remain in compliance with Project requirements for a period of 3 years, and agreeing upon receipt of written notice from the Owner to promptly repair, and replace any portion of the Work that does not; to the Owner's complete satisfaction, and at no cost to the Owner, nor change in contract amount.
 - 1. Manufacturer's Warranty: Manufacturer to furnish elastomeric joint sealants to repair or replace general exterior weather seals and other sealants in exterior assemblies that do not comply with performance and other requirements specified in this Section for a period of 20 years.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Design Requirements: ASTM C 1193 and ASTM C 1472; joint configuration recommended by manufacturer for optimum sealant performance for required application.
 - 1. Sealant Joints to be Painted: Comply with manufacturer's recommendations and ASTM C 1299, coordinate with Section 09 91 00 and ensure compatibility of paint and sealant.
 - 2. Sealant Backing: Closed cell material at all sealants having weather exposure; open cell for seals without weather exposure as necessary for
- B. Performance Requirements: Sealer joints that are a continuous barrier to intrusion by water, air, sound, and foreign matter able to accommodate extension and contraction at moving joints, as required such that the integrity of each sealer joint is maintained under all in-service conditions.
 - 1. Exposed Sealants: Resistant to deterioration due to weathering, and exposure to ultra violet radiation; resistant to abrasion where traffic may occur.
 - 2. Joint seals in the exterior building envelope shall comply with performance requirements for envelope integrity and as required for work of this Section.
 - 3. Provide sealant products and accessories for successful application to Project substrates in the configurations required and the installation conditions encountered in the Work. Products shall be compatible with bonding substrates and adjacent materials and suitable for the service conditions encountered.

2.2 MANUFACTURERS

- A. Joint Sealers: Products complying with Project requirements; produced by a single manufacturer for each type required, and by one of the following approved manufacturers for the sealer types listed.
 - 1. Silicone: Dow, Sonneborn, Tremco or approved.
 - 2. Preformed Hollow Neoprene Gasket: Acme Highway Products Corp., D.S. Brown Co., and Watson Bowman Associates Inc.

- B. Prefabricated Compression Seals: Michael Rizza Company, Emseal, Erie Metal Specialties Inc., or approved

2.3 MATERIALS

- A. Products, and Accessories: Compatible with one another, and with joint substrates under conditions of application, and service indicated, as demonstrated by field testing, and experience.
 - 1. Sealer Color: Exposed; selected by Owner from manufacturer's complete range of standard colors, concealed; natural color having optimal performance characteristics for product.
- B. Elastomeric Sealant: ASTM C 920, chemically curing, of base polymer indicated.
 - 1. Grade and Hardness: Recommended by manufacturer for optimal performance in application indicated; self-leveling for joints in traffic surfaces, otherwise nonsag.
 - a. Self Leveling: Hardness 55; modulus not greater than 150 psi.
 - b. Nonsag: Hardness 20 to 30; modulus not greater than 75 psi.
 - 2. Modulus of Elasticity: Unless otherwise required, lowest available consistent with joint configuration, and conditions of service, including movement.
 - 3. Type: Single component products; Type S, multicomponent products; Type M.
- C. Silicone Sealant: Non-Acid-Cure; Class 25. Provide single and two-component products of a one manufacturer for general use on exterior moving joints exposed to ultra violet radiation.
- D. Provide manufacturer's optimum product for each type of application, joint geometry, and bond surface required.
 - 1. General Exterior Weatherseal: Type S, extension 100 percent, compression 50 percent, for use on concrete, concrete masonry, PVDF painted aluminum, and painted steel; Dow 790 Silicone Building Sealant, Tremco, Sonneborn, or approved
 - 2. Structural Silicone Glazing: Type S, neutral cure; Specifically for structural silicone glazing, Dow 795 Color and 799 Clear, Tremco, Sonneborn, or approved.
 - 3. Traffic Bearing Joints and as applicable to other joint substrates, Dow SL, Tremco, Sonneborn, or approved.
 - 4. One-Part With Fungicide: For interior joints with nonporous substrates, ceramic tile, showers, sinks and plumbing fixtures.
 - 5. Narrow Joint Sealant: Dow Corning 1299 Silicone Seam Sealer.
- E. Solvent-release-curing Sealants: ASTM C 1311 Single component, Uses NT, M, G, A and, as applicable to joint substrates indicated, O.
 - 1. Butyl: 75 percent solids; Tremco Butyl Sealant.
 - 2. Small Joint Sealant: Synthetic rubber sealant formulated for sealing joints 3/16 inch width or smaller; Tremco Seam Sealer.
- F. Acrylic-Emulsion Sealant: ASTM C 834, Single component; Class 12-1/2, mildew resistant, paintable, for exposed interior applications; Tremco Acrylic Latex Caulk.

- G. Acoustical Sealant for Concealed Joints: Synthetic rubber sealant for interior concealed joints to reduce transmission of airborne sound; Tremco Acoustical Sealant.

2.4 ACCESSORIES

- A. Sealant Backing: Comply with ASTM C 717; preformed, resilient, plastic foam joint-filler strips, SOF-T Rod[®] by NOMACO Inc. Shall control sealant depth, aid in establishing optimum joint configuration, and provide isolation from components that may adversely affect sealant performance.
- B. Elastomeric Tubing Joint-Fillers: ASTM D 1056; Neoprene, butyl or EPDM non-absorbent to water and gas, resilient down to -26 degrees F, with low compression set; size and shape to provide a secondary seal, to control sealant depth and otherwise contribute to optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene or other plastic recommended by sealant manufacturer for preventing bond between sealant, joint filler, and other materials; self-adhesive tape where necessary
- D. Primer: Recommended by joint sealer manufacturer for optimum sealant performance, and as determined from preconstruction tests.
- E. Cleaners for Nonporous Surfaces: Compatible with joint materials and substrates, and acceptable to manufacturer of sealer, and accessories.
- F. Masking Tape: Provide non-staining, non-absorbent type compatible with joint sealants and to surfaces adjacent to joints.

2.5 SOURCE QUALITY CONTROL

- A. Elastomeric Sealant Tests: Aged performance under cyclic movement, for hardness, stain resistance, adhesion and cohesion low-temperature flexibility, modulus of elasticity at 100 percent strain, effects of heat aging, and accelerated weathering; Conducted within 24 months of date of submission to Owner.
 - 1. Submit to manufacturer of joint sealer products substrate materials of actual joint surfaces to be sealed for laboratory testing of sealants for adhesion to primed and unprimed substrates and for compatibility with secondary seals.
 - 2. Use test methods standard with manufacturer to determine if priming and other specific joint preparation techniques are required to obtain rapid, optimum adhesion of joint sealers to joint substrates under environmental conditions that will exist during actual installation.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify conditions under which work is to be performed for compliance with requirements. Provide written report listing conditions that may be detrimental to performance of installed work. Proceed with only when unsatisfactory conditions have been corrected.

1. Confirm required joint configuration, including backing, bond break and isolation from incompatible materials (where necessary) can be accommodated within the actual joint configurations encountered.
2. Preformed Seals: Field verify actual joint profile conforms to manufacturer's requirements for the seal products specified and that work sequence has been coordinated for proper installation of preformed seals adhered to abutting bonding substrates.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Immediately before installation of joint sealer; remove contaminants that could impair sealer performance, including paints, except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer. Use mechanical and chemical methods as recommended by sealer manufacturer, and as necessary to meet requirements.
- B. Prime joint substrates where necessary, and where recommended by sealer manufacturer based on preconstruction tests, and prior experience; comply with sealer manufacturer's recommendations. Confine primers to areas of joint sealer bond, do not allow spillage or migration onto adjoining surfaces.
- C. Protection: Prevent deterioration of adjacent materials due to sealer installation work, cover surfaces with tape or other approved means of protection recommended by sealer manufacturer. Remove protection immediately after tooling, do not disturb joint seal.
- D. Coordinate with work of other Sections affecting joint substrate conditions, geometry and all other conditions of installation for work of this Section to ensure compliance with System Description requirements; without limitation give particular attention to the following conditions.
 1. Joints In and Abutting: Precast concrete specialties and curtain wall assemblies.

3.3 INSTALLATION

- A. Comply with sealer manufacturers' printed installation instructions applicable to products and applications indicated, except where more stringent requirements apply.
- B. Installation Standard: ASTM C 1193 as applicable to materials, sealant type and joint conditions required.
- C. Sealant Backing: As indicated, and necessary to support sealers, and produce configurations which allow optimum sealant performance; continuous installation with no gaps, punctures nor variation in profile; remove absorbent joint-fillers which have become wet prior to sealant application and replace with dry material.
 1. Bond Breaker: Install to prevent third-side adhesion of sealant at back of joint.
 2. Sealant backings: Closed-cell, nonabsorbent at primary and secondary weather seals.
 3. Compressible seals serving as sealant backings: Comply with requirements for joint fillers.
- D. Sealants: Provide direct contact and full wetting of substrates, properly fill joint recesses, provide uniform, cross-section, and depth relative to width and optimum sealant movement capability.

1. Moving, Non-Traffic Elastomeric Sealant Joints: Depth 50 percent of joint width; not more than 0.5 inch, nor less than 0.25 inch deep.
 2. Non-Elastomeric Sealant and Caulk Joints: Depth of 75 to 125 percent of joint width.
- E. Tooling of Nonsag Sealants: Approved by sealant manufacturer; form smooth, uniform bead of configuration indicated, prior to skinning cure, eliminate air pockets, ensure contact, and proper sealant adhesion. Remove excess sealant. Do not discolor sealants, nor adjacent surfaces.
1. Tooled Joint Configurations: Profile indicated and conforming to ASTM C 1193, Figure 8; where no profile is indicated provide concave profile.
- F. Preformed Seals: Provide fully adhered installation to opposing surfaces at joint per manufacturer's requirements and to ensure water and air tight seal throughout the length of the joint. Mechanical restraint of preformed seal by friction and compression into joint profile is not acceptable. Bonded application shall accept movement throughout the total range of seal per manufacturer's specifications.
- G. Acoustic Seals: Conform to ASTM C 919 methodology for acoustic sealing to achieve an STC of 50 or better. For smoke seal applications comply with Section 07 84 00 Firestopping requirements.
1. Provide a 0.5 inch wide annular gap and continuous seal between gypsum panels and penetrations include electrical boxes.
 2. Provide paintable sealant for joints that will remain exposed to view in completed work.
- H. Curing: Comply with manufacturer's recommendations to obtain high early adhesive and cohesive strength, surface durability, and optimum sealer performance. Do not cure in a manner that could alter materials performance characteristics. Provide special controls and procedures as necessary to ensure proper cure.

3.4 PROTECTION AND CLEANING

- A. Protect joint sealers during and after curing period so that they are without deterioration or damage at time of substantial completion, other than normal weathering. Cut out and replace damaged, and deteriorated joint sealers to produce joint sealer installations with repaired areas indistinguishable from original work.
- B. Remove excess sealant, and spills as work progresses; use methods and materials approved by manufacturers of joint sealers, and acceptable to Owner.

3.5 FIELD QUALITY CONTROL

- A. Warranty Certification Tests; performed in addition to the tests specified herein as determined by the manufacturer's agent to be necessary for the work to qualify for the specified warranty.
 1. Test Method ASTM C 1193 Appendix X1.1 Method A, Method B may be acceptable at conditions where performing Method A test is impractical.
 2. Dissimilar Bond Surface: Cut joint to isolate each substrate and test independently.
 3. Retest failed applications until test results prove sealants comply with requirements.

- B. Visual Inspection: Inspect joints for complete fill, for absence of voids, and for joint configuration complying with specified requirements.
- C. Record results in Field Test and Inspection Log: Test and Inspection locations, sealant fill, configuration, and dimensions. Type of failure (cohesive or adhesive), whether results are indicative of specific defect in the work, pull-test extension in inches or other acceptable units and as a percentage of joint.

END OF SECTION

SECTION 08 44 00 - ALUMINUM FENESTRATION AND ENTRANCES

1.1 SUMMARY

- A. Section includes requirements for aluminum storefront, storefront, stile and rail entrances and glazed sliding door assemblies, accessories, trim, fasteners, and incidental components.
- B. Related Sections:
 - 1. Section 07 92 00 Joint Sealants
 - 2. Section 08 71 00 Finish Hardware
 - 3. Section 08 81 00 Glass and Glazing

1.2 PROCEDURAL REQUIREMENTS & REFERENCES

- A. Preinstallation Conference: Review methods and procedures related to installation of storefront assemblies specified as work of this Section and coordination with other components and assemblies of the building cladding.
 - 1. Contractor shall provide a Project Schedule and work sequence, which indicates all required tests and inspections.
 - 2. Aluminum Association (AA):
 - a. DAF-45 Designation System for Aluminum Finishes
 - 3. American Architectural Manufacturers Association (AAMA)
 - a. Aluminum Curtain Wall Design Guide Manual
 - 501.2 Field Check of Metal Curtain Walls for Water Leakage
 - 503.1 Test Method for Condensation Resistance of Windows, Doors and Glazed Wall Systems.
 - 4. American Society of Testing and Materials (ASTM):
 - a. A36 - Structural Steel
 - b. B209 - Aluminum and Aluminum-Alloy Sheet and Plate
 - c. B221 - Aluminum-Alloy Bars, Rods, Wire, Shapes and Tubes
 - d. B308 - Aluminum-Alloy 6061-TS Standard Structural Shapes Rolled or Extruded
 - e. C509 - Cellular Elastomeric Pre-formed Gasket and Sealing Material
 - f. C864 - Dense Elastomeric Compression Seal Gaskets, Setting Blocks and Spacers
 - g. C920 - Elastomeric Joint Sealants
 - h. E293 - Rate of Air Leakage Through Exterior Windows, Curtain Wall and Doors
 - i. E330 - Structural Performance of Exterior Through Exterior Windows, Curtain Wall and Doors by Uniform Static Air Pressure Difference
 - 5. Federal Specifications (FS):
 - a. TT-P-645A – Primer Paint, Zinc Chromate, Alkyd Type
 - 6. Flat Glass Marketing Association (FGMA):
 - a. Glazing Manual

1.3 SUBMITTALS

- A. Product Data: Submit as required for each material, manufactured product, accessory, and finish to be incorporated into the Work.
1. Certification of Recycled Content in Metals: To the maximum extent possible provide documentation of recycled content and that portion that is post consumer and that portion that is post industrial by weight.
 2. Manufacturer's data sheets and detail drawings for each product to be used, including:
 - a. Preparation instructions and recommendations.
 - b. Storage and handling requirements and recommendations
 - c. Installation details and methods.
 - d. Descriptive literature for each manufactured product. Include information on factory finishes, accessories and other required components.
 - e. Include color charts for finish indicating manufacture's standard colors.
- B. Shop Drawings: Prepared by the original component manufacturer; preparation by the site fabricator or installer is only acceptable where the original component manufacturer's reviews the submittals and certifies they are complete for the Work. Elevations at 0.25 inch equals one foot scale, details at 3 inch equals one foot scale, full size sections of composite members and isometric drawings of joinery intersections and internal sealant applications. Provide details of all conditions for every member, reinforcing, support system, anchorage details, glazing and interface with adjacent work. Indicate all component locations and intersection details; show weeps and drainage; method of isolating dissimilar materials; provisions for expansion and contraction. Indicate shop-assembled units and pick-points for field erection.
1. Submit shop drawings indicating elevations and detailed design, dimensions, member profiles, joint locations, arrangement of units and member connections. Show the following items:
 - a. Details of special shapes.
 - b. Reinforcing.
 - c. Anchorage system.
 - d. Interface with building construction.
 - e. Provisions for expansion and contraction.
 - f. Thermal breaks.
 2. Indicate typical glazing details, [locations of various types and thickness of glass] [emergency breakout locations,] and internal sealant requirements as recommended by sealant manufacturer.
 3. Clearly indicate locations of exposed fasteners and joints.
 4. The Contractor shall provide professional engineering services for work of this Section to comply with System Description requirements if required. Engineer shall stamp and sign drawings and calculations prepared for this Project.
 5. Show locations and details for connections to building structure and loads imposed on building structure. Indicate coordination of tolerances for supporting structure and fenestration supports. Document fastener type to be used. Highlight locations where self-drilling screws are proposed and note why other fastener type can not be used.
 6. Indicate extent of work that is shop fabricated and assembled and work that is fabricated and assembled in the field.
 7. Detail fabrication, attachments and installation for formed aluminum sills and similar custom fabrications.

8. Installation Details: Elastomeric transition gasket configuration and attachment for each assembly and gasket system required.
- C. Samples: Demonstrate fabrication, workmanship, and design of storefront. Provide a minimum of four samples of each type as required. Include an example of intersecting components either corner sections or intermediate mullion demonstrating representative appearance of component joinery to be provided in the Work.
 1. Sizes as are standard with selected manufacturer.
 - a. Submit 12 inch long sample of structural glazing gasket.
 2. Custom Fabrications: Provide samples of sills, hinges and closures in profiles and configurations required.
 3. Finish: Apply to 4 inch sections of storefront wall members; use same extrusion and alloy to be used in final Work. Demonstrate acceptable appearance match specified for the Work.
- D. Test Reports: Submit certified copies of previous test reports by independent laboratory substantiating performance of the system. Include supportive data as necessary.
 1. Submit manufacturer's certification stating that the installed systems are in compliance with the specified requirements.
 2. Manufacturer's printed installation instructions. [Include detailed instructions describing each step of re-glazing procedure]
 3. Conform to requirements of ANSI A117.1 and local amendments.
- E. Mock up:
 1. Provide a visual mock up to demonstrate visual features and workmanship.
- F. Maintenance Manual: Document recommended frequency and cycle for inspections, and maintenance work such that storefront in-service performance will comply with Project requirements. Provide complete listing of components reasonably anticipated to require replacement incidental to normal maintenance (including re-glazing).
 1. Document procedures, means and methods for cleaning of fenestration, glazing and glazing accessories including but not limited to sealants.
- G. Quality Assurance Submittals: Demonstrate compliance with requirements.
 1. Certificate of Production: For finish system and application.
 2. Test Results: For storefront assembly as specified.
 3. Single source

1.4 QUALITY ASSURANCE

- A. Fabricator and Installer Qualifications: Ten years successful experience with work similar in scope and complexity to assemblies required for this Project, including final fabrication, assembly and installation of storefront. Approved installer of one of the manufacturers specified whose storefront components are proposed for incorporation into the Work.
 1. Single Source responsibility: To ensure quality of appearance, to the greatest extent possible – provide aluminum storefront components specified herein from sources approved by a single manufacturer.
 2. Utilize a manufacturer capable of providing field service representation during construction, approving acceptable installers and approving application methods.

3. Previous Project Experience: Document three installations completed more than 2 years prior to issuance of the Contract Documents utilizing components of the proposed manufacturer that are comparable to those required for the Work, and similar in scope and complexity.
 - a. Installer qualifications: Utilize experienced installer (as determined by the manufacturer and the contractor) to perform work in this section who has specialized in the installation of work similar to that required for this project.
 4. Superintendent for work of this Section: Master glazier possessing expert knowledge of the assembly and erection of glazing systems similar to those required for this Project who shall have direct responsibility for compliance of the work with Project requirements and shall be on-site at all times the work is in progress.
- B. Manufacturer's Field Quality Control Agent: Possess expert knowledge of the products being used including preparation, installation and warranty requirements. Shall have authority to certify the storefront installation qualifies with the manufacturer's requirements for the Project Warranty specified.
- C. Field Quality Control Tests: Conducted and reported by an AAMA certified testing agent who shall perform all required tests. In lieu of AAMA certification testing agent shall provide credentials demonstrating expertise in the testing methodologies and equipment utilized and experience with projects of comparable size and complexity satisfactory to the Owner.

1.5 WARRANTY

- A. Manufacturer Warranty: Signed by authorized representative of the storefront manufacturer, agreeing upon receipt of written notice of defective work, and work not in compliance with Project requirements to correct or replace the work to the satisfaction of the Owner, and at no cost to the Owner for the time periods required.
1. Finish Durability: 20 years against loss of required match in appearance, fade, chalk and deterioration in excess of normal weathering when evaluated per AAMA 2605.
 2. Warranty shall cover the following:
 - a. Complete watertight and airtight system installation within specified tolerances
 - b. Complete installation free from rattles, wind whistles and noise due to thermal movement and wind pressure
 - c. System is structurally sound and free from distortion.
 - d. Glass and glazing gaskets will not break or 'pop' from frames due to design. Wind load pressure, expansion and contraction movement or structural loading.
 - e. Glazing sealants and gaskets will remain free from abnormal deterioration or dislocation due to sunlight, weather or oxidation.
 - f. Manufacturer's agreement to promptly correct defects in the finish. Finish will be free from fading more than 10%. [No chalking, yellowing, peeling, cracking, pitting, corroding or non-uniformity of color or gloss, gloss deterioration beyond manufacturer's descriptive standards for 2 years from installation date.
 - g. Manufacturer's agreement shall include a written thermal integrity warranty for 2 years from the ship date against all thermal barrier failures. [to include thermal barrier shrinkage, cracking, structural failure of the thermal barrier, loss of adhesion, loss of prescribed edge pressure which results in excessive air or water infiltration]

- B. Installer Warranty: Signed by authorized representative of the General Contractor and fabricator-installer for work of this Section agreeing upon receipt of written notice of defective work, and work not in compliance with Project requirements to provide all labor necessary to correct or replace the work to the satisfaction of the Owner, at no cost to the Owner for the time periods required.

1. Project Installation: 2 years.

PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. General Requirements: In addition to requirements shown or specified, comply with applicable provisions of Aluminum Curtain Wall Design Guide Manual for design, materials, fabrication and installation of component parts.
1. Design Requirements:
- a. Metal Stick Framed systems with interior and exterior exposed metal framing.
 - b. Systems manufacturer shall provide window wall systems, including necessary modifications to meet specified requirements and maintaining visual design concept.
 - c. Perimeter conditions shall allow for installation tolerances, expansion and contraction of adjacent materials, and sealant manufacturer's recommended joint design.
 - d. Drawings and Sketches are diagrammatic and do not purport to identify nor solve problems of thermal or structural movement, glazing, anchorage or moisture disposal
 - e. Requirements shown by detail are intended to establish basic dimensions of unit sight lines and profiles of members.
 - f. Do not assume glass, sealants and interior finishes contribute to framing member strength, stiffness or lateral stability
 - g. Assemblies shall be free of rattles, wind whistles and noise due to thermal and structural movement and wind pressure
 - h. Attachment considerations are to take into account site peculiarities and expansion and contraction movements so there is no possibility of loosening, weakening or fracturing connections between units and the building structure or between units themselves
 - i. Anchors, fasteners and braces shall be structurally stressed not more than 50% of allowable stress when maximum loads are applied
 - j. Allow for expansion and contraction without detriment to appearance or performance.
 - k. Provide continuous interior gutter system at sill that drains any infiltrated water to the exterior through baffled weep holes.
 - l. Provide concealed fastening.
 - m. Metal Faces are required to be visually flat under all lighting conditions, subject to acceptance of the Owner.
 - n. Provide uniform color and profile appearance at components exposed to view

- o. Stress placed on structural silicone sealants shall be kept within the sealant manufacturer's recommended maximum
 - p. No Permitted: Vibrational harmonics, wind whistles, noises caused by thermal movement, thermal movement transmitted to other building elements, loosening, weakening, or fracturing of attachments or components of system.
- B. Structural Requirements:
- a. Wind Loading: Coordinate wind loads with applicable building code, or appropriate wind loads may be determined by using ANSI A58.1-1982, "Minimum Design Loads for Buildings and Other Structures.
 - b. Deflection under uniform loading: When tested in accordance with ASTM E 330 at design pressure, maximum deflection of exterior member shall not exceed 1/75 of span.
 - c. Deflection of members parallel to the plane of the wall, when carrying its full dead load, shall not exceed the amount that will reduce glass bite by less than 75% of design dimensions and shall not reduce edge clearance between itself and the panel, glass or other fixed member immediately below to less than 1/8 inch (3.2mm).
 - d. Do not regard points of contraflexure as lateral braces or as end points of unbraced lengths; un-braced length is actual distance between effective lateral braces as defined above.
 - e. Where framing member reaction is resisted by continuous element, maximum assured effective length of the resisting element is 4 times bearing length, but not more than 12 inches (305mm).
- C. Thermal Requirements:
- a. Framing systems shall accommodate expansion and contraction movement due to surface temperature differential of 180 degree Fahrenheit (82 degree Celsius) without causing buckling, stress on glass, failure of joint seals, excessive stress on structural elements, reduction of performance or other detrimental effects.
- D. Final design of this assembly for compliance with performance requirements and attachment to building structure is the responsibility of the Contractor. Components shall have the sections, profiles and general appearance indicated. Provide profiles and sections for aluminum components and fenestration assemblies on Cut Sheets.
- 1. The Contractor shall provide final design, and engineering of internal reinforcing, secondary supports, attachments and anchors for storefront assemblies to resist imposed loads, and attach to the building structure.
 - 2. Where necessary to comply with Project requirements, modify standard components and assemblies and provide custom components and assemblies at no additional cost to the Owner.
 - 3. Glazing channel dimensions shall provide minimum glass bite relative to metal frame of 0.375 inch at maximum glazing deflection under design loads and accommodate minimum edge clearance, proper sealant joint geometry, and required tolerances.

4. Allow for erection tolerances of storefront and supporting structure. Accommodate movement of storefront due to thermal expansion, building deflection, wind loads, seismic forces and seismic drift.
5. Custom Formed Aluminum Fabrications: Profile and appearance as indicated; provide fabrications, concealed supports, attachments and anchors as necessary for construction sequence; comply with performance and appearance requirements.

2.2 MANUFACTURERS

- A. Acceptable Manufacturer: Basis of design system is as noted on A501. Subject to compliance with requirements for the Work, provide aluminum fenestration components and assemblies incorporating the specified components of one of the following manufacturers as a sole source of supply for work of this Section.
 1. Efco.
 2. WAUSAU.
 3. Oldcastle
 4. Approved Equal (acceptable to the Owner). Requests for substitution shall be considered in accordance with contract provisions [Division 0 and 1]

2.3 MATERIALS

- A. Aluminum and Storefront components:
 1. Material Standard: Extruded Aluminum, ASTM B 221, 6063-T alloy and temper.
 2. Member Wall Thickness: Each framing member shall have a wall thickness sufficient to meet the specified structural requirements.
 3. Tolerances: Reference to tolerances for wall thickness and other cross-sectional dimensions of all storefront framing members shall be in accordance with AA Aluminum Standards and Data.
- B. Aluminum Extrusions: ASTM B 221, performance characteristics of 6063-T5 alloy, actually alloy and temper as recommended by manufacturer for strength, durability, and finish appearance required.
- C. Aluminum Sheet and Plate: ASTM B 209; performance characteristics of 5005-H15 alloy. Provide alloy and temper as indicated, and recommended by producer or fabricator for required appearance and compliance with performance requirements. Fabricate components with any portion exposed to view from prefinished stock matching storefront finish.
 1. Fabricate custom sill profiles from 0.080 thick aluminum plate unless otherwise acceptable. Reinforce as necessary to prevent deflection and damage due to conditions of service and to comply with Performance Requirements. Conceal reinforcing from view.
 - a. Continuous Cleat: Form with integral sill pan.
 - b. Coordinate the work with abutting brick and metal panel assemblies for weather-resistant interface and requirements of construction sequence.
- D. Fasteners: ASTM A 666 Type 304 or 316 stainless steel, except connectors at cast-in embeddings shall be ASTM F 568 Grade 4.6 hot-dip galvanized. Metal alloys and coatings shall be galvanically compatible with metals fastened. Provide Phillips flat-head machine screws for exposed fasteners unless otherwise acceptable.

1. Corrosion preventing polymer coating: Organic polymer coating shall have a salt-spray resistance to red rust of more than 800 hours per ASTM B 117. ITW Buildex; Teks Maxiseal with Climaseal finish Textron Inc., Textron Fastening Systems; Elco Drill-Flex with Stalgard finish, or approved.
- E. Concealed Flashing: 0.062 inch extruded aluminum, or 26 gage stainless steel; stainless steel required for components in contact with concrete.
- F. Reinforcement, Supports and Anchorage: Galvanically compatible with aluminum components, and complying with requirements of this Section and Section 05 50 00.
- G. Glazing Accessories: Compatible with sealants being used and coordinated with work of Section 08 81 00 for material compatibility and performance required.
 1. Setting Blocks: Silicone, Neoprene or EPDM, 70-90 durometer hardness.
 2. Glazing Gaskets: Extruded EPDM compression and wedge gaskets with factory-molded vulcanized corners on interior gaskets only; open bulb compression gaskets.
 3. Spacers: Neoprene or EPDM, 40-50 durometer hardness.
 - a. Extruded Neoprene Glazing Strips: Shore A Hardness 50+ or -5; tensile strength 2,000 psi, and elongation 450 percent.
- H. Galvanic Isolation: Coat concealed contact and wash surfaces of metal components to prevent galvanic action between dissimilar metals. Provide alkaline resistant, rust inhibiting chlorinated copolymer primer with minimum dry film thickness of 2 mils, or manufacturer's approved system.
- I. Sealants: Comply with Section 07 92 00 requirements.
 1. Bond Break: Provide permanently elastic, inert non-absorbent, resilient sheet good of PVC, uncured EPDM or other approved polymer compatible with contact materials.
- J. Accessories and Standard Storefront Entrance Hardware: Provide the following as specified in contract provisions [Division 7 and 8]
 1. Glazing gaskets: shall be EPDM elastomeric extrusions.
 2. Adjustable glass jacks to help center the glass in the door opening.
 3. The finish hardware supplier shall be responsible for furnishing physical hardware to the entrance manufacturer prior to fabrication, and for coordination hardware delivery requirements with the hardware manufacturer, the general contractor and the entrance manufacturer to ensure the project is not delayed.
 4. Weather stripping: the door weather stripping on a single acting pivot or butt hung frame (single or pair) shall have EPDM bulb gasket (necessary to meet specified performance tests.)
 5. Bottom Door Sweep: EPDM blade gasket sweep strip in an aluminum extrusion applied to the interior exposed surface of the bottom rail
 6. Threshold: Extruded aluminum. One piece per door opening, with ribbed surface.
 7. Off-Set Pivots, Butt Hinge, Continuous Gear Hinge as required by the storefront system manufacturer to meet performance requirements.
 8. Push/Pull: as required by the storefront system manufacturer, ADAAG and SBC to meet performance requirements. Refer to Division 08 71 00.

9. Panic Device: as required by the ADA, ADAAG and SBC to meet performance requirements. Refer to Division 08 71 00.
10. Latch Handle, Security Lock on Active leaf: as required by the ADA, ADAAG and SBC to meet performance requirements. Refer to Division 08 71 00.
11. Electric Strike, Strike Keeper: as required by the ADA, ADAAG and SBC to meet performance requirements. Refer to Division 08 71 00.
12. Door operator: as required by the ADA, ADAAG and SBC to meet performance requirements. Refer to Division 08 71 00.

2.4 FABRICATION

- A. Fabricate components at manufacturer's plant to the fullest extent possible and complying with System Description in sizes and configurations required. Comply with applicable requirements of AAMA Metal Storefront Manual. Shop assemble work to optimize precision and efficiency in the installed work. Provide components in sizes, configuration and site-lines indicated for each of the following assembly types using only the manufacturer and components listed and including necessary accessories and appurtenances.
- B. Aluminum Entrance Frame and Stile and Rail Doors: Heavy-duty minimum wall thickness 0.1875 inch, 2 inch stiles, 10 inch bottom rail and compatible with storefront components required. WAUSAU Monumental Door, Oldcastle MS 375, Efcu Dura Stile D518.
 1. Finish Hardware: Provide seals and weather stripping as work of this Section; all other components shall comply with requirements of Section 08 71 00.
 2. Reinforcing, Supports and Anchorage: Sized and configured for internal reinforcing of aluminum extrusions and for external support and anchorage as necessary for the Work. Coordinate work with aluminum frame assemblies and building structure for the configuration required. Comply with Performance Requirements for all loading conditions.
- C. Joints in exposed metal work shall be accurately fitted for continuity of line and profile across joints and rigidly secured with concealed fasteners. Where connection must rely on exposed welds, grind and finish weldment to match adjacent surfaces. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 1. Conceal connections between members and seal intersections internally so seal is not visible from exposed-to-view surfaces. Cope intersecting members for full contact to attain continuity of seal through entire metal thickness. Clean surfaces of all cutting and painting residues with appropriate solvent.
 2. Galvanic Isolation: Prevent direct contact and wash-down of galvanically non-compatible metals. Cover contact and wash surfaces with isolators of non-porous, inert, durable plastic or other approved material.
- D. Custom Formed Aluminum Fabrications: Where required provide components fabricated from prefinished aluminum matching finished appearance of fenestration. Form work to profile and configuration required with true lines and angles, free of cracks, and grain separation. Shop assemble work, and disassemble only as necessary to perform field installation; avoid the need for field modification to shop fabricated work.
 1. Custom Closures: Fabricate from 0.080 aluminum plate and provide for concealed

attachment.

2. Exposed Flashing: Coordinate with work of Section 07 62 00 for fabrications adjacent to storefront and provide component interface and installed appearance required for items indicated.

2.5 SHOP FINISHES

- A. Finish on Aluminum Components: Work of single applicator; provide finish system type and appearance as selected.
 1. AAMA 2605 high performance, 70 percent fluorocarbon resin content qualifying for the required finish warranty; chemical pretreatment of substrate, primer and mica flake color coat. Apply in accordance with coating manufacturer's written recommendations, including directional marking on non-exposed surfaces.
 2. Finish Color: No 21 Dark Bronze. [color to match exiting exterior storefront]

2.6 SOURCE QUALITY CONTROL

- A. Certify work of this Section complies with the specified performance requirements when tested as follows.
 1. Air Leakage: ASTM E 283.
 2. Water Penetration: ASTM E 331.
 3. Structural Performance: ASTM E 330.
- B. Verification of Performance: Certify finishes to formed sheet metal sill, and storefront is the work of a single applicator using same paint lot, and that finish system and application process comply with Project requirements.

PART 3 EXECUTION

3.1 PREPARATION

- A. Prior to start of installation verify as-built conditions are within required tolerances and that storefront cladding can accommodate the range of deviations identified.
- B. Locate attachment hardware for storefront cladding per approved submittals, using established control points. Ensure compliance of installed storefront with tolerances requirements and accommodate required weather-seals and similar work executed in the field.
 1. Sealant Joint Geometry: Comply with Section 07 92 00 requirements.

3.2 INSTALLATION

- A. Comply with manufacturer's specifications and recommendations for installation of storefront components. Securely anchor units plumb, level and true to line, without warp or rack of frames or sash.
 1. Protect finished surfaces from damage during handling and installation.
 2. Isolate dissimilar metals from each other, sources of corrosion, and electrolytic action. Provide separators and isolators at moving joints.

3. Field fabricated work shall comply with requirements for shop fabrication. Field fabrication is acceptable only as shown on approved submittals.
- B. Field Connections: As shown on approved submittals. Develop strength necessary to comply with performance requirements, and of identical quality and appearance to shop work. Use concealed mechanical connections, except where welds are specifically approved. Grind exposed welds flush, and smooth, and finish as required for shop welds.
- C. Installed fenestration work, including but not limited to joints within the assembly and between storefront and other construction shall comply with System Description requirements. Provide concealed seal at penetrations and mechanical fasteners unless otherwise acceptable.
- D. Comply with Section 08 81 00 for glass and glazing requirements.
- E. Tolerances: Measured from established lines and levels.
 1. Plumb: 0.125 inch in ten feet, 0.25 inch in forty feet.
 2. Level: 0.125 inch in twenty feet, 0.25 inch in forty feet.
 3. Member Offset: 0.0625 inch at abutting surfaces, 0.125 inch elsewhere.
 4. Location: 0.375 inch deviation from theoretical location.
- F. Clean aluminum surfaces promptly after installation, exercise care to avoid damage of protective coatings, finishes and sealant joints. Remove excess sealant compounds, dirt and other substances.

3.3 FIELD QUALITY ASSURANCE

- A. The Contractor shall be responsible for ensuring that the storefront manufacturer's Field Quality Control Agent is present at the Project for the following milestones as a minimum.
 1. Required Site Visits: Pre-Installation Conference, review of first in-place sample, start of work and at completion of storefront work. Manufacturer's agent shall also visit the site not less than 2 times while the work is actively in progress with prior notice neither to the Contractor nor installer at such intervals that they have observed and inspected execution of representative sample of the work for each assembly type required.
 2. Field Reports: Documentation to include but is not limited to identification of assembly types and locations observed and inspected; include photographs and graphic record of installation work.
 3. Provide manufacturer's certification that completed work of this Section complies with all of the manufacturer's warranty requirements and has been installed in accordance with manufacturer's accepted practices. Contractor shall notify the Owner of any exclusion and exceptions in this certification and provide corrective work to eliminate each exclusion and exception at no additional cost to the Owner.

END OF SECTION

SECTION 087100 – FINISH HARDWARE

PART 1 GENERAL

1.1 SUMMARY

CATEGORY	HARDWARE SCHEDULE FOR ROSS MANOR VESTIBULE STOREFRONT ENTRY			
1.	Elements of the Work	Suggested Manufacturer/ Model	Finish / Style	Additional Requirements and Comments
2.	Storefront Entry - Lockset	● Schlage	AL Series / Antique Bronze - 616	30 keys. Keyed to 320203 (HR) plus 98310 (Bldg. Master) / Medium to High Traffic Areas
3.	Storefront Entry - Over-door Door Closer	● Corbin-Russwin ● LCN 4040	Dark Bronze	Tamper proof / Industrial / ADA reduced opening force
4.	Storefront Entry Door Operator System (Electric)	● Horton 7000 Series/120 volt	Fluted	
5.	Storefront Entry - Threshold	● Pemko		Standard / ADA compliant
6.	Storefront Entry - Pulls	(Optional)		Standard off-set / ADA compliant / Match existing / Coordinate with storefront finish
7.	Panic Hardware /Exit Device	● Von Duprin ● Corbin-Russwin 077 ● Adams Rite		
8.	Electric Strike	● Von Duprin 6211 ● Adam Rite		To be wired by SHA Electrician
9.	Storefront Entry – Commercial Hinges (per manufacturer)	● C R Laurence	Dark Bronze	Match existing / coordinate with storefront manufacturer and finish
10.	Miscellaneous Hardware items as specified in 08 71 00 below.			

A. Section includes:

1. Provide complete Finish Hardware and suitable fastenings for the Project in accordance with Drawings, Specifications, and Schedules.
2. Furnishing items of proper design for use on doors and frames of the thicknesses, profile, swing, security and similar requirements indicated, as necessary for proper installation and function.
 - a. Provide UL Listed systems for exit doors where required by Code.
 - b. Provide UL Listed systems for fire rated doors where required by Code.
3. Furnishing items not specifically mentioned, but necessary to complete the work. These are to match quality and finish of the items specified.
4. Electronic Hardware Coordination: Coordinate Work of this Section with Owner's Electricians and the requirements of systems specified under Divisions 7 and 8, as required to provide materials, fabrication, and installation for complete and operating system meeting the operational requirements stated.

1.2 REFERENCES

- A. Standards: Current edition at date of bid.
 1. ADAAG - Americans with Disabilities Act, "Accessibility Guidelines for Buildings and Facilities"
 2. ANSI/BHMA A156.18 - Materials and Finishes
 3. NFPA 80 - Standard for Fire Doors and Windows
 4. Underwriters Laboratories - Building Materials Directory
 5. UL 10C - Underwriters Laboratories, "Positive Pressure Fire Tests of Door Assemblies".
 6. ICC/ANSI A117.1 - "Accessible and Usable Building and Facilities"
- B. Codes:
 1. Washington State Building Code, Chapter 51-50 WAC

1.3 SUBMITTALS

- A. General Requirements: Submittals shall be in accordance with Division 01 "Submittal Procedures".
- B. Product Data: Submit manufacturer's product data for each item of finish hardware.
- C. Hardware Schedule: Submit a detailed Finish Hardware Schedule.

1. The submitted Finish Hardware Schedule shall indicate the complete designation of every item required for this door and opening.
 2. Each heading shall indicate opening location, handing, degree of opening, door size, type, fire rating, and Door and Frame material.
 3. Indicate product Manufacturer and incorporate cross-reference to categories shown on the Past 1 - Hardware schedule.
 4. Locations shall be included and miscellaneous hardware items.
 5. Processing: Hardware schedules will not be reviewed by the Owner until they have been reviewed and approved by Contractor.
 6. Revisions: The Finish Hardware Submittal shall be kept current throughout the project duration. Revisions incorporated shall be submitted in accordance with the above requirements. Submit only cover sheet and revised pages. Clearly identify changes from previous submittal content.
- D. Samples: If requested by the Owner, submit one (1) sample of each exposed hardware category, finished as required, and tagged with full description for coordination with the hardware schedule. Samples will be reviewed, by the Owner, for design and finish only, compliance with other requirements is the responsibility of the Contractor. Units which are acceptable and remain undamaged through submittal procedures may be used on the project.
- E. Color Samples: Submit color charts and physical samples of each product requiring color selection.
- F. Keying Schedule: After completion of the Key meeting, submit a key schedule indicating the complete project key system for approval.
- G. Wiring Diagrams and Risers:
1. Submit electronic hardware system riser and terminal-to-terminal wiring diagrams for each Electronic Hardware application, cross-referenced to the Finish Hardware Submittal and Door Schedule.
 2. Include voltage, wire quantity and gauge requirements along with product data and installation instructions.
 3. Indicate connection points for equipment on the Storefront shop drawing.
 4. Wiring Diagrams must be produced by the product manufacturer, or prior approved firms.
- H. Operations and Maintenance Data.

1. Submit Operations and Maintenance Manuals under the provisions of Division 01 Section Closeout Procedures.
2. Manuals shall contain final copy of the Finish Hardware Submittal, Product Data, Parts Lists and Diagrams, Key Schedule, Installation Instructions, and Warrantees.

1.4 QUALITY ASSURANCE

A. Supplier:

1. Finish hardware shall be supplied by a recognized builders' hardware supplier who has been furnishing hardware in the same area as the project for a period of not less than five (5) years.
2. Factory direct, authorized, and stocking distributor of the Exit Devices, Locksets and Door Closers.

B. Source: Obtain each kind of Hardware (Butts, Locksets, Exit Devices, Door Closers, etc.) from only one manufacturer.

C. Installer: Finish hardware shall be installed only by experienced tradesmen in compliance with trade union jurisdictions, either at the door and frame fabrication plant or at the project site.

D. Automatic Operators:

1. The Operators and Accessories shall be installed by factory authorized and trained personnel and certified in compliance with American Association of Automatic Door Manufacturers (AAADM) requirements.
2. Pre-installation Conference: Prior to commencement of electrical work, provide for local factory representatives of the Automatic Operators to attend a pre-installation conference to review rough in and installation requirements with representatives of the General Contractor, Electrical Contractor, Finish Hardware Supplier, Automatic Operator and Finish Hardware Installers.
3. Certificates: Prior to substantial completion, provide certification from the local manufacturers representative of the Automatic Operators that all Operator applications are installed in accordance with manufacturer recommendations. Submit certification in writing to the Owner in care of the Owner.

E. Templates: Furnish hardware templates for each fabricator of doors, frames and other work to be factory prepared for the installation of hardware. Upon request, check the shop drawings of such other work to confirm that provisions will be made for the proper installation of hardware.

F. Regulatory Requirements:

1. Comply with applicable local and state current building codes.
2. Hardware for fire-rated openings shall also be in compliance with fire building codes applicable to the district in which the building is located. Provide only hardware which has been tested and listed by "UL" for the types and sizes of doors required, and which complies with the requirements of the door and door frame labels. Provide Door Closers, Automatic self latching bolts, coordinators, gasketing, and astragals if required to conform to label requirements.
3. Comply with the requirements of ADAAG and ICC/ANSI A117.1 - Accessible and Usable Building and Facilities.

1.5 PRODUCT HANDLING AND STORAGE

- A. Packaging: Each item or package is to be separately tagged with identification related to the final hardware schedule. Complete installation instructions shall be included in the packages.
- B. Storage: Provide a locked room at the jobsite for the storage of the hardware.

1.6 WARRANTY

- A. Submittal: Submit Warrantees in accordance with Division 01 Section Closeout Procedures.
- B. Finish hardware shall be guaranteed against defects in workmanship and operation for a period of one (1) year, backed by a factory guarantee of the hardware manufacturer. The following products shall be guaranteed for periods beyond one (1) Year:
 1. Locks - Two Years
 2. Door Closers - Ten years
 3. Panic Devices - Two Years

1.7 MAINTENANCE

- A. Furnish the following extra materials, which shall be delivered directly to the Owner prior to substantial completion.
 1. Provide one set of Special Tools required for installation and adjustment.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Manufacturers: Products may be furnished by the manufacturers listed under "As Specified" below, or equivalent products of type, grade, design, and function from manufacturers listed under "Acceptable Substitutions". Requests for products not listed must be made in accordance with Division 01 Section "Product Requirements".

Product	As Specified	Acceptable Substitutions
Butt Hinges	McKinney	Bommer, Hager, Ives
Continuous Gear Hinges	Pemko	Ives, Select
Common Area Locksets	Schlage ND and AL Series	Best 9K and 7K Series
Unit Entry Lockset	Schlage FE Series	Best QCI 203 E
Unit Interior Locks	Schlage	Kwikset
Exit Devices	Von Duprin	Corbin, Sargent
Weatherized Exit Devices	Detex	Pre-approved equal
Door Closers	LCN	Norton, Sargent

Product	As Specified	Acceptable Substitutions
Automatic Operators	Horton	None
Actuator Switches	MS Sedco	Camden, Larco
Automatic Flush Bolts	Ives	Door Controls
Push and Pull Plates	Trimco	Ives, Rockwood, Tice
Kick & Mop Plates	Trimco	Ives, Rockwood, Tice
Wall and Floor Stops	Trimco	Ives, Rockwood
Overhead Stop and Holders	Glynn-Johnson	ABH
Weatherstrip & Thresholds	Pemko	National Guard, Reese, Zero
Bi-Pass Door Hardware	Pemko	LE Johnson
Key Tray	MMF Industries	None

2.2 HARDWARE MATERIALS AND FABRICATION

- A. Fasteners: Provide fasteners for installation with each hardware item. Provide Phillips head fasteners, countersunk oval, flat head, or undercut head as appropriate for material to be installed. Provide Door Closers and Exit Devices applied to wood composite or mineral core doors with Sex Bolts sized to the thickness of the door.
- B. Compatibility: Provide fasteners which are compatible with both unit fastened and substrate, and which will not cause corrosion or deterioration of hardware, base material, or fastener.

2.3 HARDWARE FINISHES

- A. General: Unless specifically indicated otherwise, provide Owner-rural hardware in the following finishes.
 1. Door Closers: Aluminum Painted (BHMA 689).
 2. Automatic Operators: Clear Anodized Aluminum (BHMA 628)
 3. Kick Plates: .050 US23D, Satin Stainless Steel (BHMA 630).
 4. Smoke Gasketing: As selected by Owner.
 5. Threshold, Weatherstrip & Door Bottoms: As selected by Owner.

2.4 BUTTS AND CONTINUOUS GEAR HINGES

- A. Provide Butts and Hinges as described below, and as may be required by Storefront Manufacturer.
1. Quantity (per Leaf):
 - a. Door Openings up to 60": two each.
 - b. Door Openings 60 to 90": three each.
 - c. Doors over 90": Furnish one additional for each 30" increment or fraction thereof.
 - d. Dutch Doors: Two (2) each per leaf.
 2. Pins: Hinges shall have non-removable pins (NRP – Set Screw in Barrel).
 3. Width: Width of Hinges shall be as required to clear projecting trim or other conditions to allow maximum degree of opening.
 4. Tips: Hinges shall have Flat Button Tips.
 5. Non-Standard Sizes: For unusual size or weight doors, furnish type, size and quantity recommended by the hinge manufacturer.
 6. Coordinate Continuous Gear Hinge Type (Flush, Inset, or Kawneer)

2.5 LOCKSETS AND CYLINDERS

1. Fire Ratings: All Locksets and Latchsets shall be listed with Underwriters Laboratories for A label and lesser class doors.
2. Cylinders:
 - a. Furnish all Locksets and Cylinders with "Full Sized" 6 Pin Key Removable Interchangeable Cores.
 - b. Provide Collars, Compression and Blocking Rings, and Cams as appropriate for each application.
3. Knurling: Provide Knurled Lever where Lock Symbol is suffixed with "K" in the Hardware Schedule.
4. Strikes: Provide Curved Lip Strikes with adequate projection to protect door trim. Provide flat, flush lip strikes for pairs of doors with overlapping Astragals.
5. Strike Boxes: Provide manufacturers standard wrought or plastic strike boxes.

2.6 EXIT DEVICES

A. Types: Types required are indicated as Opt 1, Opt 2 and Opt 3 etc. under Hardware Schedule, as described below.

1. Rated Openings: Provide UL listed Fire Exit Devices at rated openings.
2. Sizes: Provide Exit Devices sized in accordance with the manufacturer manufacturers recommendations.
3. Backset: Locate all Surface Vertical Rod Exit Devices with 2-3/4” Backset to allow for mounting of Meeting Stile Seals without notching for trim.
4. Vision Frames: Provide Glass Bead Kits where interference with vision frames occurs.
5. Lever Trim:
 - a. Exit Device Lever Trim shall match design specified
 - b. Provide Knurled Lever where Exit Device

Options	Function Description	Factory Number
Opt 1	Electrified Exit Device	LD35A-NL-OP
	Rim Cylinder	20-057-ICX
	Permanent Core	23-030
	Door Pull	1191-4
	Electric Strike	6300-FSE
Opt 2	Electrified Exit Device (Fail Secure)	RX-E98L-F-FSE x 996L-NL
	Rim Cylinder	20-057-ICX
	Permanent Core	23-030
Opt 3	Electric Through Wire Hinge	Match Type and Size, Column B
	Electrified Exit Device (Fail Safe)	E98L-F-FS x 996L-NL
	Rim Cylinder	20-057-ICX
Opt 4	Permanent Core	23-030
	Electric Through Wire Hinge	Match Type and Size, Column B
	Exit Device	9875NL-F x 575-2
	Mortise Cylinder	20-061-ICX
	Permanent Core	23-030
	Exit Device	9827EO-F
	Coordinator	COR x FB x 3/MB Bracket
	Carry Bar	CB1

2.7 AUTOMATIC OPERATORS AND ACCESSORIES

A. Types: Types required are indicated as Opt 1, Opt 2 etc. under Hardware Schedule, as described below or provide another product equivalent to the specified options.

1. General: Locate Wall Plate Actuators and Key Switch as noted in the Ownerural Drawings or as directed by Owner.
2. Wiring: All System Wiring shall be concealed in the Wall and Door Frame.
3. Wiring Diagrams: Submit Wiring Diagrams.
4. Coordination: Coordinate location, rough-in and wiring requirements with Owner’s Electrical Contractor / Personnel.

Options	Function Description	Factory Number
Opt 1	Automatic	4100LE-PUSH
	Operator Jamb	59J-HSS
Opt 2	Actuators (2)	4100LE-PULL
	Automatic	59J-HSS

2.8 STOPS AND HOLDERS

- A. Provide Doors Stops as described below, or provide another product equivalent to the specified options.
 1. Pair Openings: Furnish two Stops for Pair Openings.
 2. Size: Furnish Overhead Stop and Holders sized as recommended by Manufacturer.
 3. Special Applications: Furnish Overhead Stop and Holders with Special Shims, Brackets, or Special Template mounting where required.
 4. Voltage: Coordinate location, rough-in, and voltage requirements for Magnetic Holders with Electrical Contractor.
 5. Provide wall stops or furnish floor stops, or Overhead Stops if required by the Owner.

Options	Function Description	Factory Number
Opt 1	Floor Stop	1233 / Trimco
Opt 2	Concealed Heavy Duty Overhead Stop	GJ-100ADJ-S Series
Opt 3	Concealed Medium Duty Overhead	GJ-410S
Opt 4	Stop Electro-Magnetic Door Release	Series FM998
Opt 5	Surface Heavy Duty Overhead	GJ-90S
Opt 6	Concealed Heavy Duty Overhead	GJ-100ADJ-H

2.11 THRESHOLDS

- A. Types: Types required are indicated as Opt 1, Opt 2 etc. under Hardware Schedule, as described below or provide another product equivalent to the specified options.
 1. Fasteners: Furnish Thresholds with FHSL14200, ¼-20 x 2” Phillips Flat Head Sleeve Anchors.

Options	Function Description	Factory Number
Opt 1	Saddle Threshold, 1/4" High x 1/4" Offset x 7" Wide	2727A
Opt 2	Saddle Threshold, 1/2" High x 5" Wide or Carpet Separator, 7/16" High x 4" Wide	154A (VCT or Carpet to VCT) or 2364A (Carpet to Carpet)
Opt 3	Saddle Threshold, 1/4" High x 1/4" Offset x 5- 1/2" Wide	158A
Opt 4	Saddle Threshold, 1/2" High x 5" Wide	171A

2.12 WEATHERSTRIP AND SMOKE GASKETING AND DOOR SWEEP

- A. Provide hardware accessories as described below.
1. Weatherstrip and Seals: Furnish weatherstrip and gaskets for complete perimeter of opening, including mullions, and astragals. Furnish weatherstrip at sill of four sided frames.
 2. Rain Drips: Rain Drips shall be full opening width including frame faces.
 3. Door Bottom Sweep shall be provided at new storefront door.

2.13 DOOR SILENCERS

- A. General: Furnish Rubber Door Silencers for all openings.
- B. Quantity: Furnish three for each single door frame, and four for each pair of door frames.
- C. Type: 1229A

2.14 MISCELLANEOUS HARDWARE REQUIREMENTS

- A. Key Tray: Provide one each MMF Industries Model 201705689, 56 Key Capacity. Locate as directed by the Owner.

2.15 KEYING

- A. All Permanent Cores and Keys shall be sent direct from the lock manufacturer via Registered Mail, Return Receipt Requested.
- B. Stamp all Keys "Do not Duplicate" and with change designation as directed.
- C. Furnish:
1. Six Master Keys.

PART 3 EXECUTION

Kick

3.1 PREPARATION

- A. Examination: Examine Doors, Frames, and related items for conditions that would prevent the proper application and operation of the Doors and Finish Hardware. Do not proceed until defects are corrected.
- B. Provide solid blocking for wall mounted components.
- C. Fasteners: Check conditions and use fastening devices as needed to securely anchor the hardware as per manufacturer's published templates. Self-tapping sheet metal screws are not acceptable.

3.2 INSTALLATION

- A. Mounting Heights: Mount units at heights as recommended in "Recommended Locations for Ownerural Hardware for Standard Steel Doors and Frames (2001)" by Doors and Hardware Institute, except as indicated below. Products not specifically covered shall be installed in accordance with the manufacturer templates and instructions.

1. Hinges:

- a. Top Hinge: 7-1/4", Top of frame rabbet to centerline of hinge.
- b. Bottom Hinge: 12-1/4", Bottom of Frame to centerline of hinge
- c. Intermediate Hinges: Centered, equal spacing between top and bottom hinges.

2. Mortise Lock Strikes: 40", bottom of frame to centerline of Strike.

3. Wall Stops: Locate Wall Stops intended for use with Lever Handle Locksets and Exit Devices at the Centerline of the Spindle or Pull.

4. Deadlocks: 48", bottom of frame to centerline of Cylinder.

5. Push and Pull Plates: 42", bottom of frame to centerline of Plate.

6. Automatic Operator Wall Switches: 36" from finish floor to centerline of switch.

7. Key Switches: 48" from finish floor to centerline of switch.

8. Wall Stop and Holders: 4" from top of Door, 4" from latch edge.

- B. Install each hardware item in compliance with manufacturer's instructions.

- 1. Cutting and Fitting: Wherever cutting and fitting are required to install hardware surfaces which will be painted or finished at a later time, install each item completely and then remove and store in a secure place. After completion of the finishes, re-install each item.
- 2. Finishes: Do not install surface-mounted items until finishes have been completed on the substrate.

3. Install Fire Rated Openings to comply with NFPA 80.
 4. Door shall swing to the maximum degree that project conditions will allow. The swings indicated on the floor plan are intended to depict direction and do not indicate full degree of opening.
 5. Trim Exit Devices to provide 1-1/2" clearance between End Cap and hinge jamb stop face and/or stop applied weatherstrip.
 6. Door Closers shall be located to allow maximum degree of opening that project conditions will allow. Door Closers shall not be used to stop the door, except for models equipped with an integral stop-on-the-arm feature.
 7. Overhead Stops: Furnish Overhead Stop and Holders with maximum degree of opening that project conditions will allow.
 8. Floor Stops: Locate Floor Stops at maximum degree of opening that project conditions will allow. Do not locate Floor Stops where they create a hazardous condition. Stops should be located no more than 1/3 Door width from the latch edge of the Door.
 9. Thresholds: Set exterior Thresholds in a bed of butyl rubber sealant in conformance with Division 7 requirements. Remove excess sealant. Caulk edges and joints to exclude moisture.
 10. Weatherstrip and Sound Seals:
 - a. Weatherstrip and Sound Seals shall be installed to provide a continuous seal at head and jambs.
 - b. Mount and adjust Rigid Jamb Weatherstrip prior to mounting Parallel Arm Door Closers. Do not notch Weatherstrip for Door Closer shoe. Provide Parallel Arm 5th hole spacer of increased thickness to allow for revised location.
 - c. Do not notch Sound Seals for surface applier Automatic Door Bottoms.
 11. Smoke Gasket:
 - a. Completely clean frame and apply gasket in accordance with manufacturer's instructions.
 - b. Apply Gasket to Door rabbet of hinge jamb and to stop face of Strike Jamb and Headers, as described in Pemko's installation instructions for alternative positioning.
 12. Mount Astragals on the pull side of active leaf for out-swinging applications, inactive leaf for in-swinging.
- C. Adjust and check each operating item of hardware and each door to insure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly.

3.3 ADJUSTMENT

- A. Wherever hardware installation is made more than one (1) month prior to acceptance or occupancy, make a final check and adjustment of hardware during the week prior to acceptance or occupancy. Clean and lubricate operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- B. Door Closer Adjustment: After mechanical systems have been balanced, adjust Door Closers to comply with following ICC/ANSI A117.1 - requirements, as modified by WAC 51-50 and the International Building Code:

1. Closing Speed: Door Closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to an open position of 12 degrees shall be 5 seconds minimum.
 2. Opening Force: The maximum force for pushing or pulling a door open shall be as follows: (these forces do not apply to the force required to retract latch bolts or disengage other devices securing the door.
 - a. Fire Doors: The minimum opening force allowable by the appropriate administrative authority.
 - b. Exterior Doors: 10.0 lbf. (44.4N)
 - c. Interior Doors: 5.0 lbf. (22.2 N)
 - d. Automatic Doors: Comply with ICC/ANSI A117.1, 404.3.
 3. Adjust backcheck to prevent damage to the closer, hardware, door and frame, and wall.
 4. The Door Closer's manufacturer's representative shall inspect approve installation of their products. Inspection shall occur after mechanical systems have been balanced.
- C. Instruct Owner's Personnel in proper adjustment and maintenance of hardware and hardware finishes

END OF SECTION

SECTION 08 81 00 - GLASS AND GLAZING

PART 1 GENERAL

1.1 SUMMARY

- A. Section includes requirements for shop and field glazing of frames, doors and openings throughout the Project.
 - 1. Install glazing gaskets furnished by other Sections.
- B. Related Sections:
 - 1. Section 07 92 00 Joint Sealants
 - 2. Section 08 44 00 Aluminum Fenestration and Entrances

1.2 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Conference: Review methods and procedures related to installation of store-front assemblies specified as work of this Section and coordination with other components and assemblies of the building cladding.
 - 1. Contractor shall provide a Project Schedule and work sequence, which indicates all required tests and inspections.

1.3 SUBMITTALS

- A. Product Data: Required for each product to be incorporated into the Work.
- B. Shop Drawings: Provide for each glazing assembly required.
 - 1. Calculations: Provide for Exterior and Interior glazing assemblies to demonstrate compliance with Performance Requirements.
 - 2. Glazing Assembly Schedule: Coordinated with submittals required in Section 08 44 00, Section 07 92 00; indicate glazing assembly to be provided for each frame and location on the building regardless of shop or field installation requirements.
- C. Certificates: Document that glazing materials furnished comply with Project requirements.

1.4 QUALITY ASSURANCE

- A. Contractor responsibility to provide Work complying with contract requirements shall not be altered by statements made in referenced standards and documents.
 - 1. Flat Glass Marketing Association Glazing Manual.
 - 2. Safety Glazing Standard: Comply with ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials.
 - 3. Insulating Glass Certification: Permanently mark units with Insulating Glass Certification Council, or Associated Laboratories, Inc. label.

- B. Fabricator and Installer Qualifications: Ten years successful experience with fabrication and installation as appropriate of glazing work similar in material, design, and extent to that required for this Project. When directed provide records of representative work including warranty and in-service performance of previous work.
 - 1. Glaziers for this Project: Certified under the National Glass Association, Glazier Certification Program as Level 2 (Senior Glaziers) or Level 3 (Master Glaziers).
 - 2. Comply with Section 08 44 00 requirements for aluminum storefront.

1.5 DELIVERY STORAGE AND HANDLING

- A. Store and handle products in accordance with written recommendations of manufacturer, and fabricator, and to prevent damage to glass, including edges.
- B. For insulating-glass units that will be exposed to substantial altitude changes, comply with insulating-glass manufacturer's written recommendations for venting and sealing to avoid hermetic seal ruptures

1.6 WARRANTY

- A. Special Warranty: Signed by the Fabricator, and agree to furnish replacements for defective glazing at no cost to the Owner for the glazing assembly types and time periods below. Defective glazing includes, but is not limited to, failure due to weakening edge characteristics shown in Figure 16 of FGMA Glazing Manual, as determined by the Architect.
 - 1. Insulating Glazing Units: Ten years for vertical glazing (including performance of low-e coating), and five years for sloped glazing.
 - 2. Laminated Glazing: Five years.

2 PART 2 PRODUCTS

2.1 SYSTEM DESCRIPTION

- A. Design Requirements: Glazing when installed in the required assembly capable of withstanding the stresses imparted in accordance with the Performance Requirements, IBC Chapter 24 Glass and Glazing requirements, and service conditions reasonably anticipated for the Work without deterioration, damage or failure.
 - 1. Contractor shall analyze Project loads, glazing assembly sizes and configurations and in-service conditions and provide glass of the thickness and type required for each assembly as necessary to comply with Code requirements and ASTM E 1300 for required criteria. In no case shall glass be less than 0.25 inch thick. Provide heavier glazing, heat treated glass and laminated units as necessary to resist stresses.
 - 2. Glazing in Hazardous Location as defined in this Section shall comply with Performance Requirements for Safety Glazing.

3. Sealant: Provide clear silicon sealant complying with Section 07 92 00 requirements; provide structural grade sealant where required for joint type or configuration indicated. Exposed edges of glazing shall be polished and finished smooth, edge of laminated glazing not captured by framing shall be fully covered by sealant.

B. Performance Requirements.

1. Deflection Limit: Comply with WAC 51-50 Section 2403.3 for Exterior assemblies and Section 2403.4 for Interior assemblies.
2. Probability of Breakage for Vertical Glazing: 8 lights per 1000 for lights set not more than 15 degrees off vertical and under wind action with 60 second load duration.
3. Thermal Differential: Accommodate temperature range from 20 to 120 degrees F.
4. Safety Glazing: ANSI Z97.1 and testing requirements of 16 CFR Part 1201 for category II materials. Field applied films are not acceptable for compliance with this requirement.
5. Thermal Performance of Insulating Glazing: U-value equal to or better than $U=0.38$ and $SHGC=0.40$ and otherwise complying with Washington Energy Code for unit sizes and configurations required with fenestration assemblies as required by Section 08 44 00, Section 08 44 13 and Section 08 53 13 when evaluated per AAMA 507 as certified by NFRC. In addition to required glazing materials the Contractor shall provide argon gas fill, thermally enhanced spacer bar and all other performance enhancements necessary for glazing compliance with Washington Energy Code at no additional cost to the Owner.

2.2 MATERIALS

- A. Glazing Assemblies: Product of one fabricator for each type required. Fabricate glass to sizes necessary for glazing of openings as required, with edge clearances and tolerances complying with recommendations of glass manufacturer and requirements of this Section.
- B. Primary Glass Products: Product of one manufacturer for each variety; comply with ASTM C 1036.
 1. Clear Float Glass: Type I, Class 1, Quality q3.
 2. High Purity Float Glass: Low Iron Transparent Glass (LITG), PPG Starfire, Schott, or Pilkington.
- C. Coated Glass: Provide for clear float glass and other substrates as necessary for the performance and appearance required; coating on number 2 surface except as required for pyrolytic Low-e coating.
 1. Low-e: Neutral color PPG Industries Solarban 70XL, applied to Starfire substrate.
 - a. Shading Coefficient : 0.31.
 - b. Summer and Winter U-Value: 0.27 and 0.29 respectively.
 - c. Visible Light Transmission: 63 Percent.
 - d. Solar Heat Gain Coefficient (SHGC): 0.27.
 - e. Outdoor Visible Light Reflectance: 11 percent.

2.3 GLAZING ASSEMBLIES

- A. Fabricate glass to sizes necessary for glazing openings indicated, with edge clearances and tolerances complying with recommendations of glass manufacturer.
- B. Glazing Assembly Types: Products of one fabricator.
- C. Laminated Architectural Flat Glass: Heat and pressure process to fuse glass to interlayer conforming to ASTM C 1172. Provide 0.060 inch thick clear polyvinyl butyral interlayer unless otherwise required.
 - 1. Laminated Safety Glazing: Comply with Performance Requirements.
- D. Heat-Treated Primary Glass Products: ASTM C 1048, by horizontal method with rollwave distortion parallel to bottom edge of glass. Provide fully tempered glass for glazing in hazardous locations except where laminated safety glazing is required. Heat treat glass where necessary to resist thermal stresses induced by differential shading of individual glass lights and for all lights 35 square feet and larger. Fabricate to size and configuration required with penetration and edge work completed prior to heat treating.
 - 1. Clear Tempered: Kind FT, Condition A.
 - 2. Coated Tinted Heat-Strengthened: Kind HS, Condition C, or B where fritted spandrel is required.
 - 3. Tempered Safety Glazing: Comply with Performance requirements.
- E. Insulating Glazing Unit: Indicated as IGU, ASTM E 2190 for units incorporating materials specified for Assembly Types required and to comply with State energy Code performance requirements at no additional cost to the Owner.
 - 1. Vertical IGU: One inch thick assembly with one-half inch air space, and one quarter inch thick lights, except as otherwise required to comply with System Description.
 - 2. Provide heat strengthened float glass where required for light size and configuration and to resist thermal stresses induced by differential shading per System Description Article. Provide Kind FT (fully tempered) glass lights where safety glass is indicated.
 - 3. Sealing System: Dual seal of polyisobutylene, and silicone.
 - 4. Spacer: Desiccant filled aluminum with matte black powdered paint finish; bent at three corners; provide enhanced thermal performance space bar as necessary for compliance with performance requirements for glazing products, assemblies and fenestration framing required.
 - 5. Provide argon gas filled units as necessary for compliance with Energy Code

2.4 ACCESSORIES

- A. Gaskets: Provide as necessary for glazed opening; black unless otherwise indicated
 - 1. Dense Compression Seal: ASTM C 864, neoprene, EPDM, or thermoplastic polyolefin rubber.
 - 2. Cellular Elastomeric Preformed: ASTM C 509, Type II, extruded or molded neoprene.

- B. Glazing Tape: ASTM 1193 butyl-polyisobutylene preformed; continuous spacerrod as recommended by manufacturers of tape and glass for installation.
- C. Cleaners, Primers and Sealers: Type recommended by manufacturer of gaskets, and tape.
- D. Blocks and Spacers: Neoprene, EPDM or silicone as necessary for compatibility with glazing sealants.
 - 1. Hardness: 90 Shore A for setting blocks, and as recommended by glass and sealant manufacturers.
- E. Filler Rods: Closed-cell synthetic rubber, or plastic foam, 25 percent compression at five to ten psi.
- F. Sealants: Comply with Section 07 92 00 requirements for joint types required.

3 PART 3 EXECUTION

3.1 EXAMINATION

- A. Inspect glass prior to and during installation; discard pieces with edge characteristics that could affect glass performance. Verify glass is free of chips, cracks, and other inclusions that could inhibit structural or aesthetic integrity.
- B. Examine frames to receive glazing for compliance with recommended tolerances, face and edge clearances, and general proper installation. Notify Contractor in writing of unacceptable conditions, and do not proceed with glazing where conditions have not been corrected.

3.2 INSTALLATION

- A. Comply with FGMA Glazing Manual, and instructions of manufacturers of glass, and gaskets, to achieve air, and watertight performance.
 - 1. Provide safety glazing in individual lights, laminated and insulated glazing units per System Description requirements.
- B. Prevent damage to glass edges during installation. Use rolling blocks, suction cups, wedges and other devices for proper handling of glass.
- C. Set units of glass in each series with uniformity of pattern, draw, bow and similar characteristics.
- D. Setting Blocks: Properly sized for glazing unit; locate at quarter points of unit width.
- E. Cleaning: As recommended by glass fabricator and manufacturer. Wash both faces within four days of scheduled inspection intended to establish date of substantial completion.
- F. Protect glass from contact with deleterious contaminants; immediately remove contaminants using method approved by glass manufacturer, and fabricator.

- G. Installation Conditions: Some conditions of installation may represent a departure from conventional applications of certain glazing materials. Review each application and provide glass products and assemblies which are suited to the required use. Such applications may include heat treatment of glazing to enhance strength, supplemental back-coating of spandrel

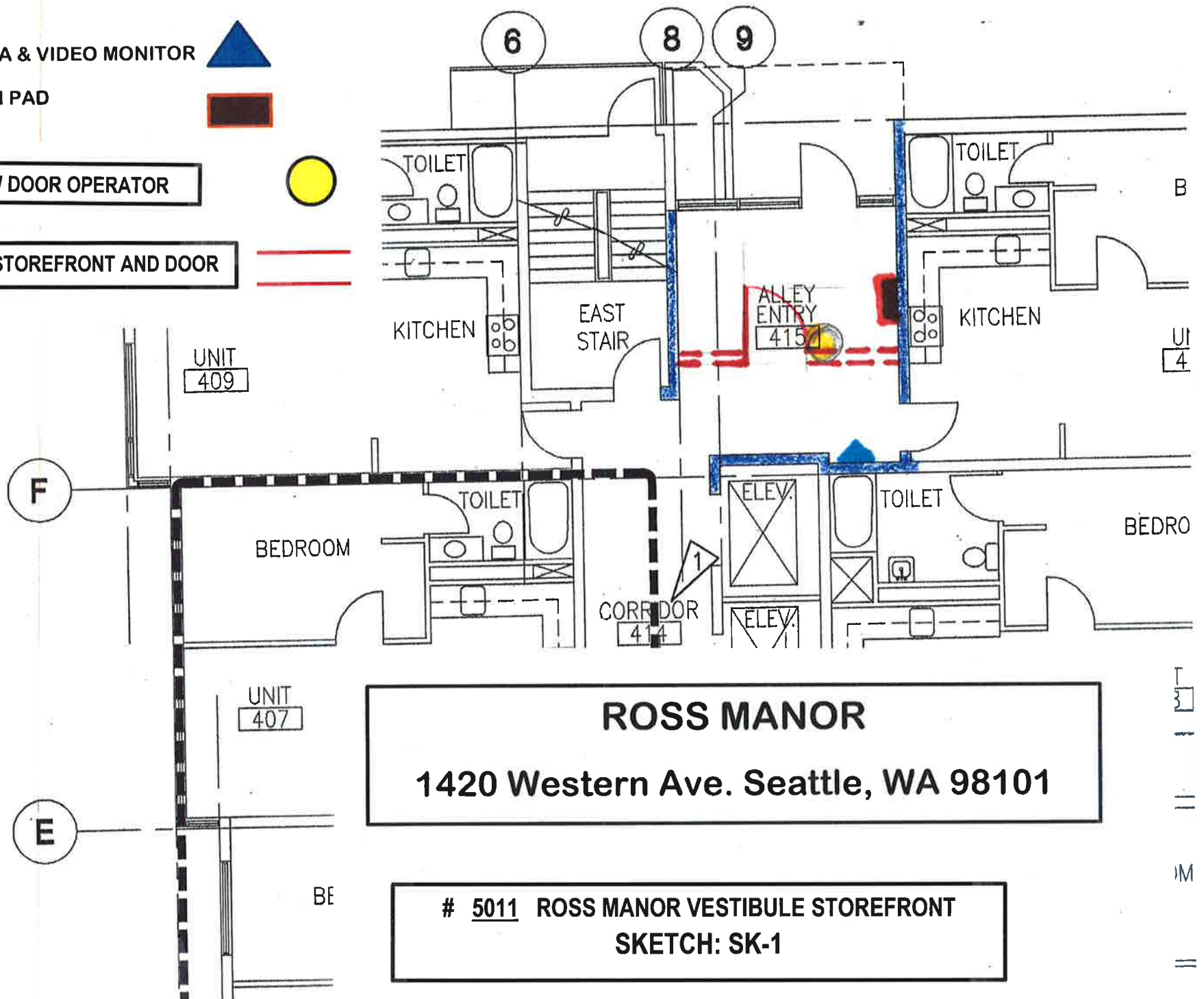
END OF SECTION

NEW CAMERA & VIDEO MONITOR ▲

NEW A.C.A.M PAD ■

NEW DOOR OPERATOR ●

NEW STOREFRONT AND DOOR ==



ROSS MANOR
 1420 Western Ave. Seattle, WA 98101

5011 ROSS MANOR VESTIBULE STOREFRONT
 SKETCH: SK-1