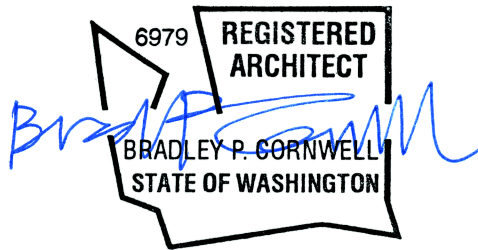


MUNICIPAL COURT REMODEL

City of Ferndale

**5694 Second Avenue
Ferndale, WA 98248**

PROJECT MANUAL



RMC Architects, PLLC
1223 Railroad Avenue
Bellingham, WA 98225

(360) 676-7733
rmc@rmcarchitects.com

RMC Project #2015
October 2020

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END OF SECTION 00 01 10

SECTION 00 11 16 – INVITATION TO BID

ADVERTISEMENT FOR BIDS

Project Name:	Courthouse Renovation and Addition
Bid Date:	November 4, 2020, Wednesday - 11:00 AM
Pre-Bid Meeting:	October 26, 2020, Monday – 1:00 PM
Architect:	RMC Architects, Bellingham, WA
Arch Estimate:	\$300,000 to \$500,000 (including sales tax)

NOTICE IS HEREBY GIVEN by THE CITY OF FERNDALE that electronic .pdf copies of bid proposals will be received by the City of Ferndale via email to public-works@cityofferndale.org until 11:00 AM, Wednesday, November 4, 2020 for the Municipal Court Renovation and Addition. The opening and reading of the bids will then be live streamed via Microsoft Teams for the “FERNDALÉ COURTHOUSE RENOVATION AND ADDITION”. Live stream information can be found on the City of Ferndale’s project website at <https://www.cityofferndale.org/public-works-department/capital-projects/city-annex-and-court-improvement-project/>. Hard copies matching the electronically delivered bid proposals must be received via U.S. Mail attn: Ferndale Public Works Dept., Courthouse Renovation & Addition Bid, PO Box 936, Ferndale, WA 98248; (360) 384-4006 no later than Tuesday, November 3, 2020 at 5:00pm. The Project involves the proposed new and renovation construction work per the contract documents.

There will be a non-mandatory, pre-bid site walk for the Project held at 1:00 PM, Monday, October 26, 2020, at the site, 5694 Second Avenue, Ferndale, WA 98248. Contractors/Bidders will need to register for participation with the City.

Bid Guaranty

All bid proposals shall be accompanied by a bid proposal deposit in cash, certified check, cashier’s check, or surety bond in an amount equal to five percent (5%) of the amount of such bid proposal. Should the successful bidder fail to enter into such contract and furnish satisfactory performance bond and payment bond both in an amount of 100 percent (100%) of the contract price within the time stated in the specifications, the bid proposal deposit shall be forfeited to the City of Ferndale. All bidders and subcontractors shall have a contractor’s license to work in the State of Washington and a City of Ferndale Business License before starting work. All work performed on this project will be subject to prevailing state wage rates.

Project Documents

Maps, plans, and specifications may be obtained electronically from the Ferndale Public Works Department, via download on the City of Ferndale website at <https://www.cityofferndale.org/public-works-department/capital-projects/city-annex-and-court-improvement-project/>. If you download the bid documents, you are required to contact the City via email at public-works@cityofferndale.org to be added to the plan holders’ list.

The City of Ferndale in accordance with Title VI of the Civil Rights Act of 1964, 78 Stat. 252, 42 USC 2000d to 2000d-4 and Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally-Assisted Programs of the Department of Transportation issued pursuant to such Act, hereby notifies all bidders that it will affirmatively ensure that in any contract entered into pursuant to this advertisement, disadvantaged business enterprises as defined at 49 CFR Part 26 will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, or sex in consideration for an award.

The City of Ferndale is an Equal Opportunity and Affirmative Action Employer. Minority and Women-Owned firms are encouraged to submit bids.

END OF SECTION 00 11 16

SECTION 00 21 13 – INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

Neither the State of Washington nor any of its departments or employees are, or shall be, a party to this contract or any subcontract.

1. Bidder Qualifications

- A. Prospective Bidders shall be registered by the Washington State Department of Labor and Industries in accordance with State law.
- B. Corporations shall be registered with the State of Washington, Office of the Secretary of State.
- C. Bidders shall be regularly employed in the type of work contemplated herein.

2. Bidder's Representations

Submittal of a bid shall be deemed conclusive evidence that the bidder has:

- A. Carefully examined the proposed work site, become familiar with conditions impacting the work, and incorporated such observations into the bid.
- B. Read and understands the bidding and contract documents.
- C. Produced a bid that is without exception based on the materials, equipment and systems required by the bidding documents.
- D. Produced a bid that is made based on a complete set of Bidding Documents. The Owner is not responsible for any bidding errors resulting from the use of incomplete documents.

3. Document Interpretation

- A. The bidder shall carefully study and review the Bid Documents and promptly report any errors or omissions to the Architect/Owner.
- B. Bidders or sub-bidders shall make any requests for clarification to the Engineer. If so directed, the Architect/Owner may require the Bidder to submit requests in writing.
- C. Interpretations, corrections and changes to the Bidding Documents shall be made by Addendum. Interpretations, corrections and changes to the Bidding Documents made in any other manner will not be binding, and Bidders shall not rely on them.
- D. Substitutions shall not be considered prior to the receipt of bids. The Owner is not responsible for any bidding errors resulting from the use of substitutions.

4. Addenda

- A. Addenda will be mailed, emailed, delivered or faxed to all who are known by the Engineer to have received a complete set of Bidding Documents. Copies will also be provided to the locations where plans are available for review.
- B. The Bidder shall acknowledge receipt of addenda in their bid.

5. Bidding Procedures

- A. To be considered responsive, bids shall be submitted on the enclosed form and shall be filled in by typewriter or manually in ink.
- B. The Bid form shall include the Bidder's legal name exactly as it appears on his/her registration. Form shall be signed by the individual authorized to represent the Bidder.
- C. A list of subcontractors individually accounting for more than 10-percent of the Contract Sum and the work said subcontractor will perform shall be submitted with the bid or within one hour of the published bid time.

6. Pre-Bid Meeting

- A. There will be a pre-bid meeting at date and time shown on the Invitation to Bid.
- B. Prior to attending the pre-bid meeting, bidders shall have carefully studied and compared all drawings, specifications and other instructions to identify any inconsistency or omission. Also any discrepancies between the contract documents and the physical condition of the locality shall be identified. The intent is to identify any questions or concerns regarding the proposed improvements that the bidders may have.

7. Bid Security

- A. Each Bid shall be accompanied by a Bid Security in the form of a cashier's check, certified check or surety bond equal to 5-percent of the total Bid amount. Security shall pledge that the Bidder shall enter into a contract with the Owner in accordance with the terms of the Bid Documents including furnishing payment and performance bonds.
- B. In the event a Bidder refuses to enter into such contract or fail to furnish such bonds as required, the bid security shall be forfeited to the Owner as liquidated damages.
- C. The Owner may retain bid securities submitted with the bid until such time as; (1) the contract has been executed and bonds received, (2) 30-days have elapsed, (3) all Bids have been rejected.

8. Submission of Bids

- A. Bids shall be submitted in a sealed envelope. Envelopes shall clearly show (1) the project's name and owner as it appears on the Bid Solicitation, (2) the Contractor's name and registration number, and (3) the time and date of the bid opening.
- B. Bids received after the published bid time and date will be returned unopened.
- C. Bids submitted by mail shall conform with the above requirements and be sent to City of Ferndale – City Hall, 2095 Main Street, P.O. Box 936, Ferndale, WA 98248, All bids shall be received in sealed envelopes with "FERNDALE COURTHOUSE RENOVATION AND ADDITION" marked plainly thereon. Bidder shall assume full responsibility for timely delivery of bid documents and the Owner is not responsible for bids received late.
- D. Oral, facsimile or telegraphic bids, modifications, or adjustments are not valid and will not receive consideration.

9. Modification or Withdrawal of Bid

- A. After the bid opening, bids shall not be withdrawn, modified or canceled by the Bidder during the stipulated time period.
- B. Bids submitted by mail prior to the bid opening may be modified or withdrawn by notice to the Owner. Such notice shall be in writing and signed by the same authorized individual signing the bid form. If such modifications or withdrawals are transmitted electronically, the original document shall be mailed and postmarked on or before the date and time of the bid opening.
- C. Withdrawn bids may be resubmitted up until the date and time of the bid opening and in accordance with these Instructions to Bidders.
- D. Bid security shall be in an amount sufficient for the bid as modified or resubmitted.

10. Opening of Bids

- A. Bids received on time will be opened and read aloud at the time and place stipulated in the Bid Solicitation. An abstract or tabulation will be made available to Bidders.
- B. Should a Bidder discover an error in his/her bid after submittal, the Bidder may request withdrawal of the bid with the following conditions:
- C. The Bidder must document the error(s) for the Owner. The Owner will review documentation and determine if the bid withdrawal and release of the Bid Security will be allowed.
- D. The Owner must receive the Bidder's intent to withdraw his/her bid submittal in writing no more than 30-hours after the bid opening (faxed notice is acceptable).
- E. The Owner alone will approve or disapprove the request for withdrawal. If approved, the Bidder will no longer be considered for Contract award and the Bid Security will be returned.
- F. If the Bidder fails to notify the Owner in accordance of an error as set forth above, and the Owner awards the Bidder the Contract, the Bidder shall either execute the Contract for the bid amount or withdraw the bid and forfeit the Bid Security.

11. Rejection of Bids

- A. The Owner reserves the right to reject any or all bids, reject a bid not accompanied by a proper bid security or other material required by the Bidding Documents, or reject a bid which is in anyway irregular or incomplete.

12. Acceptance of Bids

- A. The Owner intends to award the Contract to the lowest responsible responsive bidder whose bid submittal does not exceed available funds and conforms with the requirements described herein. The Owner shall have the right to waive informalities or irregularities in a bid submittal and to accept the bid that, in the opinion of the Owner, is in the Owner's best interest.
- B. After determination of the successful bidder based on the lowest responsible responsive bidder and other factors set forth in these instructions, the award may be made to said successful bidder on its base Bid and any combination of its additive bid items for which Owner determines funds will be available at the time of award.

- C. In evaluating whether a bidder is responsible, Owner will consider the qualifications of the bidder and many consider the qualifications and experience of subcontractors and suppliers purposed for those portions of the work for which the identity of subcontractors and suppliers must be submitted as provided in the bidding documents.

13. Contract Bond

- A. Bidders shall provide a contract bond as attached. Contract bond shall be signed by an approved surety or sureties, be in the full contract amount, and cover the faithful performance of the work described in the Contract Documents. The Contract Bond shall be in full effect until one year after Substantial Completion.

14. Contract Agreement and Award

- A. Owner's execution of the contract is contingent on the timely receipt of the Contract Bond and other submittals required by the Contract Documents.
- B. The award of the Contract, if it be awarded, shall be made within 45-days of the bid opening to the Bidder deemed by the Owner to be the lowest responsible responsive bidder.
- C. The 45-day period may be extended by mutual consent of the bidder and the Owner. If, after the 45-day period and no agreement to time extension has been made, the Contractor may withdraw his bid.
- D. The Owner reserves the right to award the bid schedules and bid alternates in any combination.

15. Execution of Contract

- A. The Bidder to whom the contract has been awarded shall sign the contract and return it and other submittals within 10 working days of the award.
- B. The Owner shall have the right to reject a contract submitted by a bidder if it is qualified by reservations or conditions stipulated by the bidder or its surety.
- C. No bid is binding on the Owner until executed by the City of Ferndale. No work shall be performed within the project site prior to the Notice to Proceed. Material or equipment orders or work undertaken away from the project site prior to contract execution shall be at the sole risk of the bidder.

16. Failure to Execute Contract

- A. If the bidder to whom award has been made fails to sign the contract and furnish satisfactory bonds within 10 calendar days of the award, or declares in writing its intent not to execute the contract, the bid security will be forfeited to the Owner and the second lowest responsible bidder will be notified of its receipt of award.
- B. If the second lowest responsible responsive bidder fails to execute the contract and furnish bonds within 20 calendar days after such notification, forfeiture of its bid security shall also be made and the third lowest responsible responsive bidder will be notified of its receipt of award, and in like manner until either (1) the contract and bond are executed by a responsible responsive bidder, (2) or further bid submittals are rejected, or (3) the number of bids submitted is exhausted.

- C. If the contract is not executed by the Contractor and Owner within the stipulated time, and it is evident that circumstances warrant an extension of time, the Owner may extend the time for executing the contract and/or bond for a period not to exceed 10 additional calendar days.

17. Return of Bid Security

- A. When bid submittals have been examined, bid securities and deposits accompanying submittals ineligible from further consideration will be returned.
- B. All other bid securities and deposits will be held until the contract has been properly executed, after which bid securities and deposits except those subject to forfeiture will be returned.

END OF SECTION 00 21 13

SECTION 00 24 13 – SCOPE OF BIDS

BID SCHEDULE –

CITY OF FERNDALE – COURTHOUSE RENOVATION AND ADDITION

SCOPE OF BID

This section outlines the individual bid items listed on the Bid Schedule in Section 00 41 00 - Bid Form. The descriptions are not all-inclusive, but generally indicate where costs should be allocated within the bid proposal. Descriptions represent work that shall be complete, in-place, tested, and in full operation prior to Owner's acceptance.

Each item is to be paid on a lump sum or unit price basis and shall include furnishing all necessary planning, labor, equipment, materials, and supplies required to furnish, install and test the improvements covered under the item. Each item shall include, as applicable, work shown on the plans including all excavations, back-fill, back-fill materials, compaction, pavement removal, disposal of waste material at contractor's site, locating and protecting existing utilities and services, base and top course, paving, trenching, imported backfill, pipe bedding, cleaning, testing, surface restoration and landscaping. The scope of each bid item is outlined below. It is not intended to include all of the appurtenances of an item in the description. See appropriate Specification or applicable WSDOT Standard Specifications and as shown on the Drawings for a more complete representation of the work. It is the responsibility of the Bidders to include all costs for the completed project in the bid items listed.

BASE BID ITEM

1. Courthouse Renovation and Addition, Lump Sum

- A. Measurement for payment for individual items of Courthouse Renovation and Addition will be based upon a bid values listed in the Schedule of Values submitted by the CONTRACTOR and reviewed and approved by the Engineer.
- B. Payment for the Courthouse Renovation and Addition will be made at the Lump Sum Price shown on PROPOSAL for Bid Item 1, which will constitute full compensation for all WORK as described in the Contract Documents.

UNIT QUANTITY BID ITEMS

2. Trench Safety System, Lump Sum (LS)

This work consists of installing trench safety excavation provisions in accordance with WSDOT, OSHA, and other applicable rules and regulations.

END OF SECTION 00 24 13

SECTION 00 31 13 – PRELIMINARY PROJECT PHASES

The following Preliminary Project Phasing Plan is provided for planning purposes. This phasing plan is not meant to dictate means and methods to perspective Bidders or take the place any required planning on the part of the Bidder to provide a responsive Bid. This phasing plan is simply an outline of the work to be performed that takes into the account the lead-time and critical path nature of the submittals, ordering, and delivery of the project equipment.

Preliminary Project Phasing Plan

- A. Work Summary (October 2020 to June 2021)
 - 1. Bid Advertisement: October 14, 2020 – Wednesday
 - 2. Pre-Bid Site Walk: October 26, 2020 – Monday
 - 3. Last Day to Issue Bid Addendum: October 28, 2020 – Wednesday
 - 4. Open Bids: November 4, 2020 – Wednesday
 - 5. Notice of Award: November 17, 2020 – Tuesday
 - 6. Preconstruction Meeting: December 8, 2020 – Tuesday
 - 7. Construction Submittals: throughout Construction period
 - 8. Notice to Proceed: Mobilize on-site: December 9, 2020 – Wednesday
 - 9. Construct Remodel and Addition Improvements (Building, sidewalk, etc.)
 - 10. Substantial Completion Deadline: June 7, 2021 – Monday
 - 11. Final Completion: July 7, 2021 – Tuesday

END OF SECTION 00 31 13

SECTION 00 41 00 – BID PROPOSAL

Date: _____

Name of Bidder: _____

To: City of Ferndale Project: Courthouse Renovation and Addition
2095 Main Street
Ferndale, Washington 98248

Gentlepersons:

This certifies that the Undersigned has examined the location of the project site and the conditions of work, and has carefully read and thoroughly understands the contract documents entitled "FERNDALE COURTHOUSE RENOVATION AND ADDITION", in Ferndale, Washington including the "Bid Procedures and Conditions", "Specifications and Conditions", "Contract Forms", and "Plans" governing the work embraced in this project and the method by which payment will be made for said work. The Undersigned hereby proposes to undertake and complete the work embraced in this project in accordance with said contract documents, and agrees to accept as payment for said work, the schedule of lump sum and unit prices as set forth in the "Bid" below.

The Undersigned acknowledges that payment will be based on the actual work performed and material used as measured or provided for in accordance with the said contract documents, and that no additional compensation will be allowed for any taxes not included in each lump sum or unit price, and that the basis for payment will be the actual work performed and measured or provided for in accordance with the said contract documents.

BASE BID – Courthouse Renovation and Addition

ITEM		APPROX. QTY	UNIT	UNIT PRICE	AMOUNT
1	Courthouse Renovation and Addition	1	LS		
	BASE BID ITEM 1				

UNIT QUANTITY BID ITEMS

ITEM		APPROX. QTY	UNIT	UNIT PRICE	AMOUNT
2	Trench Safety System	1	LF		
	SUBTOTAL UNIT QUANTITY BID ITEMS				

ALTERNATES

ITEM		APPROX. QTY	UNIT	AMOUNT	ADD OR DEDUCT
1	Replace ACT Tiles at 101	1	LS	\$	
2	Replace Carpeting at 101	1	LS	\$	
3	New Roofing at Office Structure	1	LS	\$	
4	New Roofing at Courtroom Structure	1	LS	\$	

	SUBTOTAL ITEMS 1 & 2 & 3		\$
	8.7% SALES TAX (City of Ferndale)		\$
	TOTAL BID		\$

MANUFACTURERS ALTERNATES:

Contractors may submit substitution requests for equipment or materials of alternate manufacturers to the base bid manufacturer for review with their bid per the Substitution Form prior. A pre-approval review prior to bid will not be done. Contractors proposing alternate manufacturers will be responsible for all costs associated with system evaluation and redesign including all electrical, mechanical, and civil aspects of the installation.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

The Owner reserves the right to accept or reject any or all bid prices within sixty (60) days of the bid date.

Time for Completion

See Supplementary Condition 15 - Completion Date for completion time requirements.

Liquidated Damages

The undersigned agrees to pay the Owner as liquidated damages the sum of \$250/day, as specified in the General Conditions for each consecutive calendar day that is in default after the Contract Time. Liquidated damages shall be deducted from the contract by change order or from the Contractor's application for payment as determined by Owner in its sole discretion.

Contractor is required to pay Washington State Prevailing Wages. All work performed on this project will be subject to the prevailing state wage rates.

Receipt of Addenda

Receipt of the following addenda is acknowledged:

Addendum No. ____	Addendum No. ____	Addendum No. ____
Addendum No. ____	Addendum No. ____	Addendum No. ____

Name of Firm _____

NOTE: If bidder is a corporation, write State of Incorporation; if a partnership, give full names and addresses of all parties below.

Non-Collusion Declaration: By signing below, I hereby declare that I, firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action restraining free competitive bidding for this project.

Signed by _____, Official Capacity _____

Print Name _____

Address _____

City _____ State _____ Zip Code _____

Date _____ Telephone _____ FAX _____

State of Washington Contractor's License No. _____

Federal Tax ID # _____ e-mail address: _____

Employment Security Department No. _____

END OF SECTION 00 41 00

SECTION 00 43 13 – BID BOND FORM

Deposit Statement

Herewith find a deposit in the form of certified check, or cashier's check, in the amount of Five percent (5%) of maximum amount bid (Total for all Bid Items + sales tax) in the attached Proposal.

Bid Bond

KNOW ALL PEOPLE BY THESE PRESENTS, that _____ the
CONTRACTOR, hereinafter known as PRINCIPAL, and _____
hereinafter known as SURETY, are held and firmly bound to the City of Ferndale hereinafter
known as OWNER, in the penal sum of _____

_____ dollars (not less than 5% of Base Bid plus Additive Alternates including Washington State Sales Tax) for the payment of which sum well and truly to be made, we do jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns firmly by these presents.

WHEREAS, the PRINCIPAL has submitted a bid for

(Project Title): _____

NOW, THEREFORE, the condition of this obligation is such that if the OWNER accepts the bid of the PRINCIPAL, and

- a. the PRINCIPAL executes such contract documents required by the terms of the bid and provides required Bonds for the performance of the contract and for the prompt payment of labor and material furnished for the project as may be specified in the bid then this obligation is satisfied, or
- b. in the event of the failure of the PRINCIPAL to execute such contract documents and provide such Bonds required by the terms of the bid, the PRINCIPAL shall pay and forfeit to the OWNER the full penal sum hereof, then this obligation shall be null and void; otherwise this obligation remains in full force and effect and the SURETY shall forthwith pay and forfeit to the OWNER, as a penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS _____ day of _____, 20_____.

PRINCIPAL

SURETY

By

By

Title

Title

Address of PRINCIPAL

Address of SURETY

Note: If PRINCIPAL is Partnership, all Partners should execute bond. Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State of Washington. A power of attorney must be provided which appoints the SURETY's true and lawful attorney-in-fact to make, execute, seal and deliver this bond.

END OF SECTION 00 43 13

SECTION 00 43 93 – BID SUBMITTAL CHECKLIST

The bidder is advised to use the following list to assemble all forms required to be submitted with their bids. In accordance with RCW 39.30.060, bidders shall submit the required documentation listed below.

Bid must be received prior to **11:00 A.M. PST, Wednesday, November 4, 2020.**

Bid Submittal Checklist

Part 1 – (to be submitted with the bid)

- _____ Bid Proposal (Section 00 41 00 BID PROPOSAL)
- _____ Bid Guarantee (Section 00 43 13 BID BOND or other type of Bid Guarantee)
- _____ Contractors Qualifications (Section 00 45 13)
- _____ Non-Collusion Affidavit (Section 00 45 19)
- _____ Certification of Compliance with Wage Payment Statutes (Section 00 45 29)

Part 2 – (to be submitted either with the bid or within 1-hour of the bid)

- _____ List of Subcontractors (Section 00 45 33)
- _____ Subcontractors Qualifications (Section 00 45 43)

END OF SECTION 00 43 93

SECTION 00 45 13 - CONTRACTORS QUALIFICATIONS

CONTRACTORS QUALIFICATIONS

The below listed reference information shall be submitted with the Bid.

Bidder to list three previous public building renovation projects and/or new public sector construction projects with similar value (\$500,000+) completed by Bidder the as prime contractor. Bidder shall have successfully completed with their own equipment and personnel a minimum of three similar projects in the last seven years to be considered qualified.

1. Project: _____

(Name and Location)

Contract Amount: _____

Reference: _____

(Company Name, Contact & Telephone)

2. Project: _____

(Name and Location)

Contract Amount: _____

Reference: _____

(Company Name, Contact & Telephone)

3. Project: _____

(Name and Location)

Contract Amount: _____

Reference: _____

(Company Name, Contact & Telephone)

Bidder shall provide the following information.

1. Resume of superintendent proposed for project.
2. List and provide references (Owner and Architect) for any project within the last three years which have involved disputes for which the Contractor filed a claim resulting in formal dispute resolution, third-party mediation or arbitration, or a lawsuit.
3. List and provide references (Owner and Architect) for all public works contracts in which the Contractor was sued by the Owner.

END OF SECTION 00 45 13

SECTION 00 45 19 – NON-COLLUSION AFFIDAVIT

NON-COLLUSION AFFIDAVIT

STATE OF WASHINGTON)
) ss.
COUNTY OF WHATCOM)

The undersigned, being duly sworn, deposes and says that the person, firm, association, co-partnership or corporation herein named, has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in the restraining of free competitive bidding in the preparation and submission of a proposal to the City of Ferndale for consideration in the award of a contract on the improvement named above.

Contractor

Subscribed and sworn to before me this _____ day of _____, 20__.

Notary Public in and for the
State of Washington, residing at

END OF SECTION 00 45 19

**SECTION 00 45 29 – CERTIFICATION OF COMPLIANCE WITH WAGE PAYMENT
STATUTES**

The bidder hereby certifies that, within the three-year period immediately preceding the bid solicitation date (October 14, 2020), the bidder is not a “willful” violator, as defined in RCW 49.48.082, of any provision of chapters 49.46, 49.48, or 49.52 RCW, as determined by a final and binding citation and notice of assessment issued by the Department of Labor and Industries or through a civil judgment entered by a court of limited or general jurisdiction.

I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

Bidder’s Business Name

Signature of Authorized Official*

Printed Name

Title

Date

City

State or country

Check One:

Sole Proprietorship ☐ Partnership ☐ Joint Venture ☐ Corporation ☐

State of Incorporation, or if not a corporation, State where business entity was formed:

If a co-partnership, give firm name under which business is transacted:

** If a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign). If a co-partnership, proposal must be executed by a partner.*

END OF SECTION 00 45 29

**SECTION 00 45 33 – LIST OF SUBCONTRACTORS - BIDS ON PUBLIC WORKS -
IDENTIFICATION, SUBSTITUTION OF SUBCONTRACTORS**

The prime contractor shall submit as part of the bid, or within one hour after the published bid submittal time, the names of the subcontractors with whom the bidder, if awarded the contract, will subcontract for performance of the work of: HVAC (heating, ventilation, and air conditioning); plumbing; and electrical, or to name itself for the work. The prime contract bidder shall not list more than one subcontractor for each category of work identified, unless subcontractors vary with bid alternates, in which case the prime contract bidder must indicate which subcontractor will be used for which alternate. Failure of the prime contract bidder to submit as part of the bid the names of such subcontractors or to name itself to perform such work or the naming of two or more subcontractors to perform the same work shall render the prime contract bidder's bid nonresponsive and, therefore, void.

HVAC Subcontractor: _____

Address: _____ **Phone:** _____

Plumbing Subcontractor: _____

Address: _____ **Phone:** _____

Electrical Subcontractor: _____

Address: _____ **Phone:** _____

Contractor shall also provide a list of all subcontractors whose work exceeds any ten (10) percent of the bid. Additional sheets may be used if necessary. This combined subcontractor list must be submitted with the bid OR within one-hour of the bid as described in Section 00 43 93 – BID SUBMITTAL CHECKLIST.

Specialty: _____

Name: _____

Address: _____

Telephone Number: _____

Portion of Work: _____

Specialty: _____

Name: _____

Address: _____

Telephone Number: _____

Portion of Work: _____

Subcontractors performing more than 10% of the bid price:

Specialty: _____

Name: _____

Address: _____

Telephone Number: _____

Portion of Work: _____

Specialty: _____

Name: _____

Address: _____

Telephone Number: _____

Portion of Work: _____

Specialty: _____

Name: _____

Address: _____

Telephone Number: _____

Portion of Work: _____

Specialty: _____

Name: _____

Address: _____

Telephone Number: _____

Portion of Work: _____

END OF SECTION 00 45 33

SECTION 00 45 43 – SUBCONTRACTOR QUALIFICATIONS

The below listed reference information will be required after the bid opening for all listed subcontractors of the apparent low bidder. The information may also be asked of the subcontractors of the next two low bidders at that time.

Bidder to list the following information for **three** projects for **each** of the subcontractors listed in Section 00 45 33 LIST OF SUBCONTRACTORS. The selected projects must be of equivalent size and scope to the portion of work the subcontractor will complete on the **Ferndale Courthouse Renovation and Addition**, and the subcontractor must have completed the work using his/her own personnel and equipment.

(This sheet shall be duplicated for each Subcontractor)

Name of Subcontractor: _____

1. Project: _____
(Name and Location)

Contract Amount: _____

Reference: _____
(Company Name, Contact & Telephone)

2. Project: _____
(Name and Location)

Contract Amount: _____

Reference: _____
(Company Name, Contact & Telephone)

3. Project: _____
(Name and Location)

Contract Amount: _____

Reference: _____
(Company Name, Contact & Telephone)

END OF SECTION 00 45 43

SECTION 00 51 00 – NOTICE OF AWARD

NOTICE OF AWARD

To: _____

For: City of Ferndale
Courthouse Renovation and Addition

The Owner has considered the BID submitted by you for the above described WORK in response to its Advertisement for Bids and Information for Bidders.

You are hereby notified that your BID has been ACCEPTED in accordance with your proposal for the amount of \$_____.

You are required by the Information for Bidders to execute the Contract and furnish the required Bond(s) and certificates of insurance within ten (10) calendar days from the date of this Notice of Award.

If you fail to execute said Contract and furnish said Bond(s) within ten (10) working days from the date of this Notice, the City will be entitled to consider all your rights arising out of the City's acceptance of your BID as abandoned and as a forfeiture of your BID BOND. The Owner will be entitled to such other rights as may be granted by law.

You are required to return an acknowledged copy of this NOTICE OF AWARD to the City within 3 days of its receipt.

Dated this _____ day of _____, 20__

City of Ferndale
Owner

By _____
Title _____

=====

ACCEPTANCE OF NOTICE:

Receipt of this NOTICE OF AWARD is hereby acknowledged:

By _____
Dated this _____ day of _____, 20__
By _____
Printed Name: _____

END OF SECTION 00 51 00

SECTION 00 52 00 – AGREEMENT FORM

THIS AGREEMENT is made and entered into at Ferndale, Washington, this _____ day of _____, 2019, by and between City of Ferndale, hereinafter designated as the OWNER, and _____, hereinafter designated as the CONTRACTOR. It is made with reference to the following facts:

1. OWNER has heretofore caused to be prepared certain Contract Documents including Bidding Requirements, Contracting Requirements, Technical Specifications, Miscellaneous Documents and Plans for the construction of the **Courthouse Renovation and Addition**.
2. CONTRACTOR filed with the OWNER on _____, 20____, a proposal to complete said work.
3. Contractor agreed to accept as payment therefor the sum fully stated and set forth in the Proposal.
4. The Contract Documents fully and accurately describe the terms and conditions upon which the CONTRACTOR proposed to furnish said equipment, labor, material and appurtenances and perform said work, together with the manner and time of furnishing same.
5. Third-Party Beneficiary: The State of Washington shall be, and is hereby, named as an express third-party beneficiary of this contract, with full rights as such.

IT IS THEREFORE AGREED, first, that a copy of said Contract Documents as aforesaid, does in all particulars become a part of the Agreement by and between the parties hereto in all matters and things therein set forth and described; and further, that the OWNER and CONTRACTOR hereby accept and agree to the terms and conditions of said Contract Documents as filed completely as if said terms and conditions and plans were herein set out in full.

This Agreement shall be binding upon all parties hereto and their respective heirs, executors, administrators and assigns.

IN WITNESS WHEREOF, the parties hereto have executed, or caused to be executed by their duly authorized officials, this Agreement in triplicate each of which shall be deemed an original on the day first above written.

OWNER: CITY OF FERNDALE

By: _____

Name: _____

Title: _____

(SEAL)

ATTEST:

Name: _____

TITLE: _____

APPROVED AS TO FORM:

By: _____

Name: _____

Dated: _____

CONTRACTOR _____

By: _____

Name: _____

Title: _____

(SEAL)

ATTEST:

Name: _____

Title: _____

END OF SECTION 00 52 00

SECTION 00 55 00 – NOTICE TO PROCEED

NOTICE TO PROCEED

DATE _____

CONTACT _____

CONTRACTOR _____

ADDRESS _____

ADDRESS _____

RE: Notice to Proceed
Courthouse Renovation and Addition
City Project No. _____

Dear CONTACT:

The City of Ferndale has reviewed and approved the contract bond and evidence of insurance for the aforementioned Project. Therefore, the contract has been executed.

This notice shall constitute the Notice to Proceed on the above referenced project. Contract time (____ working days) will begin on DATE. The date of completion of all work is _____.

If you have comments, questions, or require further information, please do not hesitate to contact me at (360) 384-4006.

Sincerely,

CITY OF FERNDALE

Kevin Renz, Public Works Director
City of Ferndale

CC. file

END OF SECTION 00 55 00

SECTION 00 61 13 – PERFORMANCE AND PAYMENT BOND FORMS

**PERFORMANCE BOND
to the City of Ferndale**

KNOW ALL PEOPLE BY THESE PRESENTS, That we _____
the Contractor named in the Contract hereinafter referred to as PRINCIPAL,
and _____ as SURETY, are jointly and severally
held and firmly bound to the City of Ferndale, hereinafter referred to as OWNER named in said
Contract Courthouse Renovation and Addition Project, Ferndale, Washington, for the penal sum
of, _____
_____ DOLLARS (\$ _____),
lawful money of the United States, for the payment of which sum well and truly to be made, we
bind ourselves, our heirs, assigns, administrators and successors jointly and severally, firmly by
these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that Whereas, the Principal entered into a
contract with the Owner, dated the _____ day of _____, 20____, for such construction work
with the City of Ferndale, Washington.

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform all of the provisions
and fulfill all of the undertakings, covenants, terms, conditions and agreements of said contract
during the period of the original contract and any extensions thereof that may be granted by the
Owner, with or without notices to the surety; and during the life of any guaranty required under
the contract; and shall also well and truly perform and fulfill all of the undertakings, covenants,
terms, conditions and agreements of any and all duly authorized modifications of said contract
that may hereafter be made; notice of which modifications to the surety being hereby waived,
shall indemnify and save harmless owner from all cost and damage by reason of the principal's
default of failure to do so, and shall pay the State of Washington sales and use taxes, and
amounts due said state pursuant to Titles 50 and 51 of the Revised Code of Washington then
this obligation to be void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, the above bonded parties have executed this instrument under their
separate seals this _____ day of _____, 20____, the name and corporate seal of each
corporate party hereto affixed, and these presents duly signed by its undersigned
representatives pursuant to authority of its governing body.

Corporate Seal:

PRINCIPAL

ATTEST: (If Corporation)

By: _____

Title: _____

Corporate Seal:

SURETY

By: _____

Title: _____

PAYMENT BOND
to the City of Ferndale

KNOW ALL PEOPLE BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal,
(Corporation, Partnership or Individual)

and _____
(Name of Surety)

(Address of Surety)

hereinafter called **SURETY**, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called **OWNER**, in the penal sum of _____ Dollars, \$(_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the **OWNER**, dated the _____ day of _____ 20____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, **SUBCONTRACTORS**, and corporations furnishing materials for or performing labor in the prosecution of the **WORK** provided for in such contract, and any authorized extension or modification thereof including all amounts due for materials, lubricants, oil, gasoline, coal, and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such **WORK**, and all Insurance premiums on said **WORK**, and for all labor, performed in such **WORK** whether by **SUBCONTRACTOR** or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PAYMENT BOND (cont.)

PROVIDED, FURTHER, that the said **SURETY** for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the **WORK** to be performed thereunder or the **SPECIFICATIONS** accompanying the same shall in any wise affect its obligation on this **BOND**, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the **WORK** or to the **SPECIFICATIONS**.

PROVIDED, FURTHER, that no final settlement between the **OWNER** and the **CONTRACTOR** shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each one of which
(number)

shall be deemed an original, this the _____ day of _____

ATTEST:

Principal

(Principal) Secretary

(SEAL) By _____(s)

(Address)

Witness as to Principal

(Address)

(Surety)

ATTEST:

By _____
(Attorney-in-Fact)

Witness as to Surety

(Address)

(Address)

NOTE: Date of **BOND** must not be prior to date of Contract.
If **CONTRACTOR** is Partnership, all partners should execute **BOND**.

IMPORTANT: Surety companies executing **BONDS** must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the **PROJECT** is located.

SECTION 00 61 23 – RETAINAGE BOND FORM

**CITY OF FERNDALE
RETAINAGE INVESTMENT OPTION**

CONTRACTOR: _____

PROJECT NAME: _____

DATE: _____

Pursuant to Chapter 60.28 RCW, you may choose how your retainage under this contract will be held and invested. Please complete and sign this form indicating your preference. If you fail to do so, the City of Ferndale (City) will hold your retainage as described in "Current Expense", option 1 below.

- _____ 1. Current Expense: The City will retain your money in its Current Expense Fund Account until thirty days following final acceptance of the improvement or work as completed. You will not receive interest earned on this money.
- _____ 2. Interest Bearing Account: The City will deposit retainage checks in an interest-bearing account in a bank, mutual savings bank, or savings and loan association, not subject to withdrawal until after the final acceptance of the improvement or work as completed or until agreed to by both parties. Interest on the account will be paid to you.

BONDS AND SECURITIES ACCEPTABLE BY THE CITY OF FERNDALE:

1. Bills, certificates, notes or bonds of the United States.
2. Other obligations of the United States or its agencies.
3. Indebtedness of the Federal national Mortgage Association.
4. Time Deposits in commercial banks.

Designate below the type of investment selected:

- _____ 3. **Bond-in-Lieu:** With the consent of the City, the Contractor may submit a bond for all or any portion of the amount of funds retained by the City in a form acceptable to the City and from a bonding company meeting standards established by the City, if any. Unless otherwise indicated, the Contractor elects to submit a bond for the entire 5% retainage amount. Such bond and any proceeds there from shall be made subject to all claims and liens and in the same manner and priority as set forth for retained percentages in Chapter 60.28 RCW. Whenever the City accepts a bond-in-lieu of retained funds from a Contractor, the Contractor shall accept like bonds from any subcontractors or suppliers from which the contractor has retained funds. The Contractor shall then release the funds retained from the subcontractor or supplier, to the subcontractor or supplier, within thirty days of the Contractor's receipt of the retained funds from the City.

Retainage is normally released 30 - 45 days after final acceptance of work by the City, or following receipt Employment Security / Department of Revenue clearance, whichever takes longer.

(Contractor's Signature)

Date

Title: _____

END OF SECTION 00 61 23

SECTION 00 73 00 – SUPPLEMENTARY CONDITIONS

SUPPLEMENTAL CONDITIONS

The following supplementary conditions modify WSDOT Standard Specifications. If there are any conflicts between these Supplemental Conditions and the Standard Specifications, these Supplemental Conditions shall take precedence.

1. **DOCUMENTS INCORPORATED BY REFERENCE**

The following documents are incorporated by reference, to include, but not be limited to:

- Specifications
- Proposal
- Drawings
- Contract Requirements
- WSDOT Standard Specifications Plans for Road, Bridge and Municipal Construction, 2020 Edition and Standard Plans for Road, Bridge and Municipal Construction, 2020 Edition

2. **CONFLICT AND PRECEDENCE**

In the event of any conflicting provisions or requirements between the component parts of the Contract Documents, the component parts shall take precedence in the following order:

1. Change Orders
2. Contract Form
3. Addenda
4. Permits and requirements from governmental agencies
5. Drawings
6. Supplemental Conditions
7. Technical Specifications
8. Ferndale City Standards
9. WSDOT Standard Drawings & Details
10. WSDOT Standard Specifications

3. **CONTRACT PLANS AND SPECIFICATIONS**

One (1) sets of Contract Documents and a CD with Contract Documents and plans in PDF will be furnished to the Contractor free of charge. Additional sets may be purchased at the cost price per set from the Architect.

4. **EXAMINATION OF PLANS, SPECIFICATIONS AND SITE OF WORK**

The bidder shall carefully examine the proposed work site (including material sites), and the contract documents. Submittal of a bid shall be conclusive evidence that the bidder has made these examinations and understands all requirements for the performance of the completed work.

The Contractor shall make deductions and conclusions as to the nature of the materials to be excavated, the difficulties which may arise from subsurface conditions, and of doing any other work affected by the subsurface conditions and shall accept full responsibility. The accuracy of information furnished by the Owner and/or Engineer and/or the plans and specifications as to underground structures, foundation conditions, character of soil, position and quantity of surface and ground water, etc., is not guaranteed. Bidders must satisfy themselves by personal examination and by such other means as they desire with respect to actual conditions in regard to existing groundwater or surface structures. Unforeseen conditions shall not constitute a claim for additional payment under the terms of the contract or constitute a basis for cancellation thereof.

The Specifications do not necessarily discuss complete details of construction, work or materials, performance or installation, and do not necessarily cover construction details or other items of work or fixtures of equipment may affect any installation. These details must be ascertained by the Contractor and correlated to bring the parts together to a completed whole.

Where alternate methods have not been brought to the Owner's attention, it is assumed that the Contractor has figured the costlier method or methods.

5. WORK AND MATERIALS

In addition to the requirements stated in this contract document, the following shall apply:

All work and materials under this contract shall conform to the 2018 Edition of *Standard Specifications for Road, Bridge and Municipal Construction* as prepared by Washington State Department of Transportation (WSDOT) and Washington State Chapter of American Public Works Association (APWA), and according to the instructions and recommendations of the manufacturer of the material concerned. In case of a conflict between any of the above referenced Standards, the more stringent shall apply.

References throughout the above-mentioned Standard Specifications to "State" or "Owner" shall refer to the City of Ferndale.

6. OMISSIONS AND DISCREPANCIES

Upon receipt of Award of Contract, the Contractor shall carefully study and compare all drawings, specifications and other instructions and shall, prior to ordering material or performing work, report in writing to the Owner any error, inconsistency or omission not discovered at the pre-bid meeting. If during the accomplishment of the work, a discrepancy is found between the drawings and the physical condition of the locality, it shall be the Contractor's duty to inform the Owner in writing, and the Owner shall promptly verify the same. Any work done after such discovery, until authorized, will be done at the Contractor's risk.

Minor items of work or material omitted from the original plans or specifications, but clearly inferable from the information presented and which are called for by accepted good practice, shall be provided and/or performed by the Contractor as part of the original bid.

7. SURVEYS, PERMITS, REGULATIONS

The Contractor shall provide construction staking for the project if necessary. The Contractor shall provide a minimum of 1-week notice for required construction staking. The construction staking scope of work is included in Part 4 – Reference Documents, Appendix J – Construction Staking Scope.

The bidder shall be familiar with all Federal, State, and local requirements that affect the completion of work in any way (such as laws, ordinances, or rules affecting employees, subcontractors, materials, equipment or procedures). In addition, the Contractor must comply with the following Washington State Laws, including without limitation: Chapter 60.28 RCW (retainage); 39.08 RCW (bond requirements); 18.27 RCW (contractor registration); 35.22.650 RCW (equal opportunity); and 70.92 RCW (handicapped). The Owner will not consider any plea of misunderstanding or ignorance of such requirements.

The Owner will assist with coordinating City permit applications, if needed. The Contractor is to pick up the Land Disturbance permit from the City and fill-out remaining information required, prior to mobilization. However, the Contractor will be responsible for providing submittal information, as needed (including shop drawing, mechanical, and plumbing information) to the City (if requested). Temporary permits, easements, and other Non-City permits shall be acquired by the Contractor (if needed).

8. EXISTING UTILITIES

The location of all existing utilities shown on the plans is per the best available information, and is therefore approximate only. The Owner/Engineer does not guarantee the accuracy of this information. The contractor shall take whatever measures deemed necessary to verify the accuracy of this information and the cost of such shall be incidental to the bid.

Forty-eight (48) hours prior to starting construction, the Contractor shall contact the City of Ferndale and Underground Utility Locate (if needed). All costs incurred by the Contractor in complying with the requirements of this Section shall be incidental to the entire project and shall be included in the contract price.

9. CONNECTIONS TO EXISTING MAINS (WATER MAINS AND SEWER FORCE MAINS)

Connection to existing mains is the full responsibility of the Contractor. Temporary routing of existing pipelines or services, shoring, temporary thrust blocks, extra fittings required to route the pipe over or under existing or new pipe or other utilities and all other work and materials required for making complete, permanent and workable connections are incidental to other items of work.

The Contractor shall be responsible for determining which residents will be affected by shutoffs, and will notify them in writing (with a copy provided to the City) 24 hours in advance. In addition, the Contractor shall notify private property owners or tenants, by having a representative of the Contractor personally contact the private property owner or tenant. If the property owner or tenant is not available, the Contractor shall leave a door hanger notice indicating the commencement date of work, duration of work, the type of work being done, and the Contractor's and Engineer's phone number and address for questions and concerns. The Engineer shall be provided adequate time to review, comment, and approve the door hanger notice prior to the Contractor placing any notices.

The Contractor shall locate and verify the type of pipe, size and depth prior to making the connection. Detailed sketches and plans of the connection proposed by the Contractor shall be given to the Engineer not less than one week prior to the expected construction. The City of Ferndale shall be notified not less than two (2) working days prior to connection to existing mains.

10. SUBSURFACE CONDITIONS

The CONTRACTOR shall make deductions and conclusions as to the nature of the materials to be excavated, the difficulties which may arise from subsurface conditions, and of doing any other work affected by the subsurface conditions and shall accept full responsibility. The accuracy of information furnished by the OWNER and/or ENGINEER and/or the plans and specifications as to underground structures, foundation conditions, character of soil, position and quantity of surface and ground water, etc., is not guaranteed. Bidders must satisfy themselves by personal examination and by such other means as they desire with respect to actual conditions in regard to existing groundwater or subsurface structures. Unforeseen conditions shall not constitute a claim for additional payment under the terms of the contract or constitute a basis for cancellation thereof.

PLAN AND PROCEDURES FOR THE UNANTICIPATED DISCOVERY OF CULTURAL RESOURCES AND HUMAN SKELETAL REMAINS - The following **Inadvertent Discovery Plan (IDP)** outlines procedures to follow, in accordance with state and federal laws, if archaeological materials or human remains are discovered.

Recognizing Cultural Resources: A cultural resource discovery could be prehistoric or historic. Examples include:

- An accumulation of shell, burned rocks, or other food related materials,
- Bones or small pieces of bone,
- An area of charcoal or very dark stained soil with artifacts,
- Stone tools or waste flakes (i.e. an arrowhead, or stone chips),
- Clusters of tin cans or bottles, logging or agricultural equipment that appears to be older than 50 years,
- Buried railroad tracks, decking, or other industrial materials.

When in doubt, assume the material is a cultural resource.

On-Site Responsibilities:

STEP 1: STOP WORK. If any City employee, Contractor or Subcontractor believes that he or she has uncovered a cultural resource at any point in the project, all work adjacent to the discovery must stop. The discovery location should be secured at all times.

STEP 2: NOTIFY CITY PROJECT MANAGEMENT TEAM. Contact the City Project Manager and Architect.

Contacts:

City Project Manager:

Name: Kevin Renz

Phone: (360) 384-4006

Email: KevinRenz@cityofferndale.org

RMC Architects PLLC

Name: Brad Cornwell

Phone: (360) 676-7733

Email: brad.c@rmcarchitects.com

The City Project Manager will make all other calls and notifications.

If human remains are encountered, treat them with dignity and respect at all times. Cover the remains with a tarp or other materials (not soil or rocks) for temporary protection in place and to shield them from being photographed. **Call the Ferndale Police Department at 360-384-3390** (Do not call 911 or speak with the media).

11. TRAFFIC CONTROL

Traffic shall be maintained in accordance with WSDOT Section 1-07.23 of the WSDOT Standard Specifications and Manual of Uniform Traffic Control Devices. The Contractor shall not close any roadway without first obtaining authorization from the city. The cost for all necessary traffic control by the Contractor shall be incidental to the entire project and shall be included in the contract price.

12. SUBCONTRACTING

The Contractor shall perform work amounting to a minimum of 50% percent of the Awarded Contract Price using his own personnel and equipment. All subcontracting shall be in conformance with WSDOT Section 1-08.1 of the WSDOT Standard Specifications.

13. PRE-CONSTRUCTION CONFERENCE

A Pre-Construction conference shall be held at a time and place fixed by the Owner which will be within two weeks from the date of notification of award of contract. At a minimum, the Contractor's project manager and field superintendent are required to attend. Sub-contractors, suppliers and others interested are encouraged to attend.

14. HOURS OF WORK

The Contractor shall schedule operations so that the work will be performed during the hours of **7AM to 6PM Monday through Thursday**, excluding holidays. A normal 40-hour Monday through Thursday work week (4 – 10hr) or Monday-Thursday and Saturday (5 – 8hr days) is intended. The City will have restrictions on "Fridays" mobilization due to ongoing Court functions at a portion of the Area of Work. The Contractor shall compensate the City \$140 per hour for each hour over 40 hours per week worked to pay for additional inspection time. The Contractor shall obtain prior approval from the City for overtime hours and schedules.

15. COMPLETION DATE

The contracted work is to be completed by no later than month, day, 2021. The Contractor will be limited to **180 working days (36 weeks)** on-site work. The Contractor shall plan accordingly to meet this completion requirement.

16. SCHEDULE OF CONSTRUCTION & VALUES

Within 10 working days of receiving the notice to proceed, the contractor shall furnish to the City a Schedule of Values. In addition, the Contractor shall furnish a Schedule of Construction at the Pre-Construction Meeting. The Schedule shall identify the project start and finish dates with a detailed breakdown of the proposed order of work and completion dates for major phases of the work. The schedule shall be developed by a critical path method. Time required for testing, backfiring, inspections, ordering, punch lists, etc. shall be incorporated into the schedule (although they do not necessarily need to be specifically identified).

17. RETAINAGE

The owner will deduct from the partial pay estimate a retainage of five percent (5%). Upon completion of all work, specified training, final inspection, and acceptance by Owner, the amount retained under the Contract will be paid within thirty (30) days following final acceptance by Owner and receipt by the Owner of the following:

- State Department of Labor and Industries Release
- Washington State Department of Revenue Release
- Washington State Employment Security Department Release
- Contractor and Subcontractors Affidavit of Wages Paid

The retainage will not be released if any claim has been filed on the project.

18. LIQUIDATED DAMAGES

Liquidated damages will be assessed at \$250/day for each working day beyond the Contracted completion dates (both Phase 1 and Phase 2 dates) listed above.

19. PHYSICAL COMPLETION FOR PROJECT

Completion of the Courthouse Renovation and Addition Project shall be defined as follows, with no exceptions:

Substantial Completion:

The addition and remodel work shall be occupiable by Owner with an occupancy permit ok by the AHJ.

20. PAYMENT TO CONTRACTOR

At least five (5) working days before the end of the month, the Contractor shall submit to the Engineer an itemized application for payment, supported by receipt or other vouchers, showing payments for materials and labor, payments to sub-contractors, and such other evidence of the Contractor's right to payment as the Engineer may direct. The Owner's progress payment shall be made approximately 30 days after the date of submittal.

The Owner will deduct from the partial pay estimate a retainage as defined above. Upon completion of all work, final inspection, and acceptance by Owner, the amount retained under the Contract will be paid at the expiration of the thirty (30) day period following final acceptance by owner provided the following conditions are met:

- A. Releases have been obtained from the State Department of Labor and Industries, the State of Washington Employment Security Department, the Washington State Department of Revenue, and all other departments and agencies having jurisdiction over the activities of the Contractor.
- B. No claims, as provided by law, have been filed against the retained percentage.
- C. Affidavit of Wages Paid is on file with the Owner for the Contractor and all Subcontractors.
- D. All contract work is complete in every respect, including operations and maintenance manuals, as-built drawings, etc.

21. INDEMNIFICATION

The Contractor agrees to protect, indemnify, and hold harmless the Owner, Architect and their employees, agents, and staff, from all claims, liabilities, damages, expenses, or rights of action, directly or indirectly attributable to the Contractor's activities in connection with this contract, except for the sole negligence of the Owner or Architect as outlined in Section WSDOT 1-07.14.

22. RECORD DRAWINGS

Before receiving payment for more than 90% of the work or declaring physical completion of the work, the Contractor will provide the Owner with accurate record information of all construction activity for the entire project (red line drawing on a full-size print). This red line drawing shall include, but not be limited to, any changes to the project and the exact location of all constructed utilities and any other existing utilities discovered during construction that are not identified on existing record information. The red line drawing shall be based on accurate field measurements tied to project benchmarks. The Owner will use this information to prepare Record Drawings. The cost for furnishing this record information shall be considered incidental to the entire project and shall be included in the contract price.

23. BARRIER REQUIREMENTS

During construction, the Contractor shall always maintain satisfactory and substantial temporary fencing, railing, barricades or steel plates at all openings, obstructions or other hazards. All such barriers shall have warning signs or lights as necessary for safety. Safe access to and protection of the construction site and the Contractor's records shall be maintained always.

24. CONTROL OF WORK

The presence or absence of an Inspector at the job site will be at the sole discretion of the Owner and such presence, or absence, of an Inspector will not relieve the Contractor of his responsibility to obtain the construction results specified in the Contract Documents. The Owner, Inspector and Architect do not purport to be Safety Engineers and are not engaged in that capacity and shall have neither authority nor responsibility to enforce construction safety laws, rules, regulations, procedures or the safety of persons on and about the construction site. Any personal assistance which an Inspector may give the Contractor will not be construed as the basis of any assumption of responsibility in any manner, financial or otherwise, by the Owner, Inspector, or the Architect. The Inspector is on site to ensure the project is completed in accordance with all plans and specifications, to ensure the Owner is getting what is required. They are not there to do the Contractor's scheduling or contact his subs or deliver messages.

25. BLASTING

Blasting is not anticipated and will not be permitted without expressed written consent of the Owner. If blasting is permitted, contractor is responsible for obtaining all necessary permits and insurance.

26. INSURANCE

The Contractor shall take out and maintain during the life of this contract Public Liability Insurance for bodily injury and property damage liability including without limitation, coverage for explosion, blasting, collapse and destruction of underground utilities (X.C.U.) and contingent liability, including products and completed operations and blanket contractual liability, as shall protect the Contractor, the Owner and the Engineer. The Contractor shall have the Owner and the Engineer specifically added as additional named insured in said policies (on Form B), all at no cost to the Owner or the Engineer. The above insurance shall cover the Owner, the Engineer, Contractor and Subcontractors for claims or damages for bodily injury, including wrongful death, as well as other claims for property damage which may arise from operations under this contract whether such operations be by themselves or by any subcontractor or anyone directly or indirectly employed by either of them. The Contractor agrees, in addition, to indemnify and save harmless the Owner and Engineer, either or both, from all suits, claims, demands, judgements, and attorney's fees, expenses or losses occasioned by the performance of this Contract by the Contractor or Subcontractor or persons working directly or indirectly for the Contractor or Subcontractor, or on account of or in consequence of any act or omission of any such person, including but not limited to neglect in safeguarding the work, or failure to conform with the safety standards for construction work adopted by the Safety Division of the Department of Labor and Industry of the State of Washington.

The amount of such insurance shall be as follows:

Bodily injury liability insurance in an amount not less than \$1,000,000.00 for injuries, including wrongful death, to any one person and subject to the same limit for each person, in an amount not less than \$2,000,000.00 on account of any one occurrence, and property damage liability insurance in an amount not less than \$1,000,000.00 for each occurrence. Builders Risk (All Risk Insurance) coverage equal to project bid amount.

The Contractor shall not cause any policy to be canceled or permit it to lapse, and all policies shall include a clause to the effect that the policy or certificate shall not be subject to cancellation or to a reduction in the required limits of liability or amounts of insurance or any other material change until notice has been mailed to the Engineer and Owner stating when, not less than thirty (30) days thereafter, such cancellation or reduction or change shall be effective. In the event notice of cancellation is received by the Owner, the Contractor shall immediately obtain other comparable insurance acceptable to the Owner and provide proof thereof to the Owner. In the event the Contractor is unable to obtain and provide such insurance, the Contractor shall immediately cease all work on the project, save and except that which is necessary to secure the site and prevent injury.

All certificates of insurance, authenticated by the proper officer of the insurer, shall state in particular those insured, the extent of the insurance, the location and operations to which the insurance applies, the expiration date, and the above-mentioned notice of cancellation clause.

Provided, however, the Owner may accept insurance covering a Subcontractor in character and amounts less than the standard requirements set forth under this subsection where such standard requirements appear excessive because of the character or extent of the work to be performed by such subcontractor.

A Certificate of Insurance evidencing coverage and a copy of the endorsement naming the Owner and Engineer as additional insured must be submitted to the Engineer prior to the commencement of the Contract in accordance with WSDOT Section 1-03.3.

The following endorsement for additional insured shall be included in all applicable policies and on the Certificate of Insurance:

The Owner and Engineer are additional named insured for all coverages provided by the policy of insurance and shall be fully and completely protected from all claims and risks by this policy and for any and every injury, death, damage, and/or loss of any sort whatsoever, including consequential damages, sustained by any person, organization or corporation in connection with any activity performed by the Contractor or any subcontractors or by anyone directly or indirectly by virtue of the provisions of that contract between the (Owner name), as Owner and (Contractor's name), entitled (Project Title), dated (date).

The coverages provided by this policy to the Owner or any other named insured shall not be terminated, reduced, or otherwise modified in any respect without providing at least 30 days prior written notice by certified mail to the Owner and other additional named insured. The coverages provided by this policy are primary to any insurance maintained by the Owner.

Third-Party Beneficiary: All parties agree that the State of Washington shall be, and is hereby, named as an express third-party beneficiary of this contract, with full rights as such.

27. CHANGES

The Owner reserves the right to make changes in the work within the general scope of the Contract Documents at any time during the progress of the work. The Contractor shall perform all work in accordance with the changes specified by the Owner.

Changes required by the Owner may include but are not limited to:

- (a) Deletion of any portion of the work.
- (b) Increases or decreases in quantities.
- (c) Changes in specifications and/or designs.
- (d) Method or manner of performance of the work.
- (e) Addition of any new work.
- (f) Acceleration or delay in the performance of the work.

The Owner shall have the option of paying for such changes by one or more of the following methods:

- (1) by the lump sum or unit contract prices set forth in the Proposal;
- (2) by equitable adjustment mutually agreed upon by the Contractor and the Owner; or
- (3) by Force Account in accordance with WSDOT Section 1-09.6

In the case that the Contractor and the Owner are unable to agree on the amount of equitable adjustment, the Owner will unilaterally determine the amount to be paid for the change in accordance with WSDOT Section 1-09.4. The Owner's decision concerning such amount to be paid shall be final as provided in WSDOT Section 1-05.1.

All administrative costs associated with change orders shall be considered to be part of the Contractor's overhead for the work as bid and not a direct cost of the change. Such administrative costs shall include, but not be limited to, costs of defining changed work, determining estimated cost of changed work, preparing proposals for change orders and negotiation of the method and amount of compensation for changed work.

The compensation for each change shall include all direct and indirect costs including, but not limited to, costs of impacts on related and indirect operations and of delay or acceleration of other work resulting from the change. Failure of the Contractor to identify all direct and indirect costs at the time of negotiation of compensation for each changed shall preclude subsequent claim, after formal execution of a change order, by the Contractor for any additional costs associated with the change.

No payment for extra work or any other change in the contract will be made unless the extra work or change has been authorized by the Owner prior to start of the extra work by the Contractor.

For (a) Deletion of any portion of the work, above, the following requirements shall apply:

No payment will be made for items which are deleted from the contract and not performed. No payment will be made for any anticipated profits which would have been earned on work deleted. Payment for costs incurred by the Contractor prior to the deletion of the work shall include and be limited to actual documented costs of field labor, equipment and materials and shall not cover and include overhead as defined in WSDOT Section 1-09.6.

Acceptable materials ordered by the Contractor or delivered on the work prior to the date of cancellation of the work will be either purchased from the Contractor by the Owner at the actual cost and shall become property of the Owner or the Owner will reimburse the Contractor for his actual costs connected with returning these materials to the suppliers.

For (b) Increases or decreases in quantities, above, the following requirements apply:

Payment for all bid items shall be at the unit prices bid, regardless of the actual final quantities of the bid items incorporated into the work and regardless of any increase or decrease from the quantities designated in the Schedule of Contract Prices.

No extra or additional payment will be made for any increase in quantity of any bid item. No extra or additional payment will be made for any decrease in quantity of any bid item. No payment will be made for any anticipated profits which would have been earned on deleted quantities.

For (c) Changes in specifications and/or designs; (d) Addition of any new work; and (e) Acceleration or delay in the performance of the work above, the following requirements shall apply:

If the Engineer determines that the above changes cause an increase or decrease in the Contractor's cost of performance of that portion of the work associated with the change and/or an increase or decrease in the contract time required for performance of the work, the increase or decrease in compensation and/or contract time will be determined by agreement of the parties.

28. INCREASED OR DECREASED QUANTITIES

The Contractor shall not purchase or place orders for full quantities of materials until the work has advanced to a state permitting the determination of the exact quantities required. The original bid item quantities designated on the Proposal and other estimates of quantities of materials furnished by the Engineer shall be considered as approximate and not indicative of the actual quantities required. The Owner will not be responsible for any materials purchased in excess of actual requirements and will not be responsible for any increased costs or extra expense that the Contractor may have on account of materials or work not being ordered at some earlier date.

29. SALES TAX

The work is within the City of Ferndale. The Contractor shall correctly reference on payments of sales tax to the Washington Department of Revenue Ferndale's tax code.

30. GUARANTEES

Except where special longer warranties are required, the Contractor shall guarantee all materials and workmanship for a period of one year from the date of Substantial Completion of the project.

Neither final acceptance by the Owner nor partial and final payment nor any provision in the Contract Documents shall relieve the Contractor of responsibility for faulty materials or workmanship.

If, prior to the expiration of one year after the date of the City's acceptance of all work or such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the Contract Documents, any work is found to be defective or not in compliance with the Contract Documents, the Contractor shall promptly, without cost to Owner, either correct such work, or, if it has been rejected by Owner, remove and replace it with acceptable work. If the Contractor does not promptly comply with the notification issued by the Owner for correction of defective and/or non-complying work and have the defect completely repaired within 30 calendar days, the Owner may have the work corrected or removed and replaced and all direct and indirect costs of such removal and replacement, including costs of all professional services, shall be paid by Contractor.

The guarantee shall apply to all elements and parts of the work, regardless of knowledge by the Owner, engineer and inspector(s) of defects or deficiencies and regardless of failure of the Owner, Engineer and/or inspector(s) to inform the Contractor of known or suspected defects or deficiencies prior to Substantial Completion of the work by the Owner.

All subcontractors', manufacturers', and suppliers' warranties and guarantees, express or implied, for any part of the work, materials and equipment shall be deemed obtained and shall be enforced by the Contractor for the benefit of the Owner without the necessity of formal transfer or assignment thereof. Warranties and guarantees by subcontractors, manufacturers, and suppliers shall begin on and extend for one year after the date of Substantial Completion of all work.

All work (including materials and equipment) repaired or replaced in accordance with this Section shall be guaranteed for a period of one year after the date of City's acceptance of the repair/replacement work.

END OF SECTION 00 73 00

SECTION 03 10 00 – SUMMARY OF WORK

PART 1 - GENERAL

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The work covered by the Contract Documents consists of furnishing all labor, equipment and materials necessary for the construction of the Municipal Court Remodel project as shown on the plans and specified herein.
- B. Contractor shall furnish all labor, tools, equipment and materials not pre-purchased or supplied by the Owner. In addition, the Contractor shall provide demolition, shoring, bracing, sheeting, cribbing, falsework, pumping, dewatering, drainage, forms, and all material as required or necessary to demolish, excavate, backfill, grade, construct, lay, erect, install, test, and clean-up site. The work shall consist of, in general, the construction renovations and addition to the Municipal Courthouse and associated site work.

1.2 WORK AND RESPONSIBILITIES

- A. Unless otherwise indicated, work and responsibilities include, but are not limited to the following:
 - 1. Providing and paying for labor, materials, equipment, tools, machines, facilities, and services necessary for execution and completion of work.
 - 2. Paying required taxes.
 - 3. Giving required notices.
 - 4. Enforcing strict discipline and good order among employees.
 - 5. Using new materials, except as noted.
 - 6. Maintaining required egress and other requirements in accordance with governing Codes and Ordinances throughout the work.
 - 7. Obtaining and paying for required permits, fees and notices, see General Conditions.

1.3 SEQUENCE/PHASING

- A. These documents are not to be interpreted implicitly or explicitly as definition of procedure and sequence of operations. Order as to procedure and sequence of operations are Contractor options, consistent with contract documents and as approved by Owner. A preliminary construction phasing plan is included in Section 00 31 13 PRELIMINARY PROJECT PHASING.
- B. Site Work: Proposed stockpiling areas must be approved by the Owner.

1.4 COOPERATION AND COORDINATION

- A. Contractor is responsible for coordinating and scheduling work of subcontractors to expedite progress of the Project.
- B. Subcontractor Instructions: Subcontractors to become familiar with Conditions of the Contract and the work of other Sections related to their own work.

- C. Project Coordination and Scheduling Control: Responsibility for coordination and close adherence to time schedules rests solely with the General Contractor who shall maintain coordination and scheduling control at all times.
- D. Each separate contractor and subcontractor responsible to the General Conditions shall cooperate diligently with the General Contractor in the execution of their work so as to cause no delay in the completion of the Project. This responsibility includes the completion of all work in a timely manner and all items of equipment connected and fully operating at the time of Substantial Completion. Each separate contractor and each subcontractor shall diligently comply with the following requirements:
 - 1. Inform other trades of requirements at proper time to prevent delay or revisions.
 - 2. Be informed on the requirements of other trades and check own work for conflicts with the work of other trades.
 - 3. Insure delivery of materials and performance of work on coordinated schedule with other trades.
 - 4. Contractor is to ensure the subcontractors and equipment suppliers are responsible for compatibility and completeness of the installation and operation of the equipment in their respective Specification Sections including conformance with code requirements. If power, piping, conduit, or other work required for complete installation is not provided by others to equipment location or is not adequate for complete installation, the subcontractor or equipment supplier shall be responsible for providing the necessary connections.
- E. Notification and Correction of Defective Work: Before starting a section of work, each contractor and subcontractor shall carefully examine all preparatory work that has been executed to receive his work. Check carefully, by whatever means required, to ensure that the work and adjacent, related work will finish to proper contours, planes, and levels. Promptly notify the Contractor of any defects or imperfections in preparatory work which will in any way affect satisfactory completion of the work. Under no condition shall a section of work proceed prior to preparatory work having been completed, cured, dried, or otherwise made satisfactory to receive such related work. Correction of defective work shall be the responsibility of the contractor or subcontractor providing the defective work. Correction of work due to underlying defects shall be the responsibility of the contractor or subcontractor providing work.
- F. Intent of Drawings: The work of each contractor and subcontractor shall conform to the intent of the contract drawings. Drawings showing work of other trades are partly diagrammatic and do not intend to show in details all features of work. Each contractor shall carefully review and compare related drawings and shall thoroughly understand the building conditions affecting their work. All changes required in the work caused by failure to do so shall be at no expense to the Owner. The design is based upon dimensions and requirements for the equipment of the "first-named" manufacturer. All changes required in the work caused by the use of an approved "substitute" to the first-named manufacturer shall be at no expense to the Owner.
- G. Interferences and Right-Of-Way: Make proper provisions to minimize interferences. Where conflicts occur, gravity drainage improvements have right-of-way over mechanical and electrical work; electrical work has right-of-way over landscaping work. Submit conflicts which cannot be resolved by right-of-way to Engineer for instructions.

- H. Cooperate and coordinate with any other separate Contractors under Contract with the Owner.

1.5 CONSTRUCTION STAGING AREA

- A. Coordinate staging areas with the City representatives.

1.6 EXISTING UTILITIES

- A. Administrative Requirements:
 - 1. The Contractor is advised that underground excavation is regulated under RCW Chapter 19.122. Included therein are the following requirements:
 - a. 48-hours before beginning any excavation work, the Contractor shall inform local utilities through the utility one-call locator service at (800) 424-5555 or 811;
 - b. Protect existing utilities in the vicinity of excavation work;
 - c. In the event of any damages, notify the utility purveyor and the utility one-call locator service immediately;
 - d. Immediately repair any damaged utilities deemed to be an emergency;
 - e. Coordinate non-emergency repairs with the utility purveyor;
 - f. Provisions for assigning the financial liability of any repair work.
 - g. Further, the Contractor is required to contact the Owner's Project Manager 48-hours before starting construction.
- B. Field Protection Requirements:
 - 1. Utilities of record are shown on the Drawings insofar as possible to do so. These, however, are shown for convenience only and the Owner and his representatives assume no responsibility for improper locations or failure to show utility locations on the Drawings. At Contractor's expense, immediately repair utilities damaged during construction.

1.7 MISCELLANEOUS

- A. Additional work items include, but are not limited to:
 - 1. Maintaining a pedestrian and vehicular access to and around existing projects.
 - 2. Not unreasonably encumbering site with materials or equipment.
 - 3. Assuming full responsibility for protection and safekeeping of products stored on premises.
 - 4. Moving any stored products interfering with any other Contractors.
 - 5. Obtaining and paying for use of additional storage or work areas needed for operations.
 - 6. Restoration of any damage to existing improvements adjacent to work site.
 - 7. Moving and replacing items incidental to completion of the work including mailboxes, fences, small shrubs and trees, street signs, yard decorations, etc.

END OF SECTION 01 11 10

SECTION 01 25 01 – SUBSTITUTION REQUEST FORM

SUBSTITUTION REQUEST FORM

SUBMITTED TO: RMC Architects

PROJECT: Courthouse Renovation and Addition

SPECIFIED ITEM: _____

Section No.	Paragraph No.	Description of Specified Item
_____	_____	_____

The Undersigned requests consideration for the following substitution to that specified

PROPOSED SUBSTITUTION:

ATTACHED DATA:

Include product description, specifications, drawings, photographs, performance, and test data as necessary for evaluation. Clearly identify proposed substitution and portions of data from other items where more than one item is described.

Include description of changes to Contract Documents required by proposed substitution.

CERTIFICATION:

The Undersigned certifies that the following paragraphs are correct:

1. Proposed substitution does not affect dimensions shown on Drawings.
2. The Undersigned will pay for changes to building design, including engineering design, detailing, and construction costs, caused by requested substitution.
3. Proposed substitution will have no adverse effect on other trades, Construction Schedule, or specified warranty requirements.
4. Maintenance and service parts will be locally available for proposed substitution.

Undersigned further states that function, appearance, and quality of proposed substitution are equivalent or superior to specified item.

SUBMITTED BY:

Signature _____

Firm _____

Address _____

Date _____

Telephone () _____

FAX () _____

LIST ATTACHMENTS:

FOR USE BY ARCHITECT:

☐ Approved

☐ Approved as Noted

☐ Not Approved

☐ Received too Late

By _____

Date _____

Remarks _____

END OF SECTION 01 25 01

SECTION 01 31 00 – PROJECT COORDINATION

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. Project meetings will be held to accomplish the following:
 - 1. Coordinate the work of the project and resolve any conflicts or construction problems.
 - 2. Establish a sound working relationship between the Contractor, Owner, and Architect.
 - 3. Establish sound working procedures.
 - 4. Review job progress and quality of work.
 - 5. Expedite the work to completion within the scheduled time limit.
- B. Representatives of Contractors, subcontractors, and suppliers attending the meetings shall be qualified and authorized to act on behalf of the entity each represents.

1.2 RELATED SECTIONS:

- A. Related work specified elsewhere:
 - 1. Section 00 25 13 - Pre-Bid Conference
 - 2. Section 00 31 13 - Preliminary Project Phases
 - 3. Section 01 11 00 - Summary of Work
 - 4. Section 01 33 00 – Submittals

1.3 PRECONSTRUCTION MEETING

- A. The pre-construction meeting will be scheduled within the time frame identified in the General Conditions after the Notice to Proceed has been issued. The Owner will notify the Contractor as to the time and place of the meeting.
- B. Present at the meeting shall be a representative of the Owner, the Architect, the Contractor, Project Superintendent, and major subcontractors.
- C. The Contractor must be prepared for a thorough discussion and review, as well as revisions which may be deemed necessary in the opinion of the Owner, of the following:
 - 1. General project information
 - 2. Responsibilities of all involved parties
 - 3. Content of the contract
 - 4. Contractor's schedule
 - 5. Project Phasing and Schedule of construction
 - 6. Penalties and Liquidated Damages
 - 7. Subcontracts
 - 8. Status of Owner furnished materials
 - 9. Change order procedures
 - 10. Staking of work
 - 11. Project inspection
 - 12. Acceptance of work
 - 13. Labor standards requirements
 - 14. Rights-of-way and easements

15. Placement of project signs and posters
16. Handling of disputes
17. Additional issues as required.

1.4 PROGRESS MEETINGS

- A. Unless otherwise required, progress meetings will be held by the Owner/Architect on a scheduled bimonthly basis at a location near or at the site. Present at these meetings shall be the Contractor, subcontractors and suppliers as required, the Owner and other interested parties, i.e., material suppliers, public utility, etc.
- B. The Contractor must be prepared for a thorough discussion and review, as well as revisions which may be deemed necessary in the opinion of the Owner, of the following:
 1. Review work since previous meeting.
 2. Make field observations and address any conflicts or problems.
 3. Review material delivery schedules
 4. Review work progress including any issues that may impact project schedule.
 5. Review submittal schedule.
 6. Maintenance, testing and quality standards.
 7. Review any proposed changes.
 8. Review pay requests and procedures.
- C. The Owner shall preside over progress meetings. The Contractor shall be responsible for taking minutes, recording all significant proceedings and decisions. Copies of minutes shall be distributed within one week after the meeting.

1.5 SCHEDULE

- A. The Contractor shall develop and submit a preliminary construction progress schedule for the contracted work. This schedule shall be submitted to the Owner within 10 days of Contract Award.
- B. Schedule shall be a critical path diagram depicting the first day of each week and sized to be legible and permit notations and future revisions.
- C. Schedule shall be arranged chronologically by the start date of each item, and consider the following:
 1. The estimated construction progress schedule shall:
 - a. Show complete sequence of construction by activity.
 - b. Show start and stop dates of each major construction element.
 - c. Show projected percent completion for each major construction element at the first of each month.
 2. Through construction, the Contractor shall record progress of each major construction element.
 3. Revisions shall show changes relative to previously submitted schedules and updated projections of progress and completion.
 4. The schedule shall be updated on a monthly basis and submitted with the pay estimate.

- D. The schedule and all subsequent revisions shall be kept at the Contractor's field office with copies available for the Architect and Owner.

END OF SECTION 01 31 00

SECTION 01 33 00 – SUBMITTAL PROCEDURES

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. Summarize, but not necessarily a complete listing, submittals required of the Conditions of the Contract and the General Requirements.
- B. General procedures for specification submittals. Specific requirements for submittals are included in the individual sections.

1.2 RELATED SECTIONS

- A. Related work specified elsewhere:
 - 1. Section 00 73 00 – Supplementary Conditions
 - 2. Section 01 70 00 - Contract Closeout

1.3 SUBMITTAL SCHEDULE

This listing of submittals is a checklist for the Contractor's convenience and is not an exhaustive listing of provisions of any law or the requirements of these Contract Documents. The Owner reserves the right to amend this list.

- A. With his bid, the Contractor shall furnish the following:
 - 1. Bid Proposal (Section 00 41 00 BID PROPOSAL)
 - 2. Bid Guarantee (Section 00 43 13 BID BOND or other type of Bid Guarantee),
 - 3. Certification of Nonsegregated Facilities (Attachment 3 of Section 00 73 00 SUPPLEMENTAL CONDITIONS),
 - 4. EPA Form 6100-3 DBE Program Subcontractor Performance Form (Attachment 6 in Section 00 73 00 SUPPLEMENTAL CONDITIONS) for all DbE subcontractors.
 - 5. EPA form 6100-4 DBE Program Subcontractor Utilization Form (Attachment 7 in Section 00 73 00 SUPPLEMENTAL CONDITIONS).
- B. Within 1-hour of the bid, the Contractor shall furnish the following:
 - 1. List of Subcontractors (Section 00 43 36 PROPOSED SUBCONTRACTORS FORM).
- C. Within 24-hours of bid opening, Bidders so directed shall furnish the following:
 - 1. Contractors Qualifications, (as described in Section 00 22 13 SUPPLEMENTAL BIDDER RESPONSIBILITY CRITERIA).
 - 2. Subcontractors Qualifications, (as described in Section 00 45 14 SUBCONTRACTOR QUALIFICATIONS).
- D. Prior to executing the Contract Agreement, (Section 00 52 00 AGREEMENT FORM), the Contractor shall furnish the following:
 - 1. Payment and Performance Bonds, (Section 00 61 13 PERFORMANCE AND PAYMENT BONDS FORMS).
 - 2. Insurance Certificates.
Prevailing wage rate requirements.

- E. 10 days after execution of the Agreement, the Contractor shall furnish the following:
 - 1. Construction schedule.
 - 2. Requests for material substitutions.
 - 3. Schedule of Values for the work.
- F. After starting construction, each month the Contractor shall furnish the following:
 - 1. Application for Payment on Owner approved form with breakdown of work performed organized in accordance with the Schedule of Values.
 - 2. Updated construction schedule (submitted with each monthly pay request)
- G. 14-days prior to beginning any work at the site which will necessitate a shutdown, the Contractor shall furnish a timeframe and emergency response plan for the site.
- H. Certified Payroll in accordance with current federal wage requirements of the Davis-Bacon Act, (per requirements of Section 00 73 00b SUPPLEMENTAL CONDITIONS).
- I. With the final application for payment, the Contractor shall furnish the following:
 - 1. Contractor's affidavit stating payment of subcontractors
 - 2. Subcontractors' statements of being paid
 - 3. Final location, by each property, of all items on private property for which payment is requested.
- J. Before releasing retained funds, the Contractor shall furnish the following:
 - 1. Record drawings and related contract closeout documents
 - 2. Affidavits of Payment (wages, subcontractors, taxes, etc.)

1.4 GENERAL SUBMITTAL REQUIREMENTS

- A. Identification of Submittals
 - 1. Identify each submittal with Project title and number; clearly define location of submittal in the project and/or its location in the Contract Documents.
 - 2. It is the responsibility of the Contractor to coordinate the work of the various trades involved with the work under this agreement. Contractor shall check all submittals by his subcontractors and mark them with his approval prior to submittal.

1.5 SUBMITTAL OF SHOP DRAWINGS & SAMPLES

- A. General
 - 1. Provide all submittals in PDF format electronically with sequential ordered mark and with proper link to specifications.
 - 2. Submittal of shop drawings and samples shall be accompanied by a transmittal letter containing project name, Contractor's name, number of drawings and samples, titles and other pertinent data.
 - 3. Shop drawings shall be at a convenient size. A space shall be provided in the lower right-hand corner for the review stamp.
 - 4. The Contractor is responsible for obtaining and distributing required prints of shop drawings to his subcontractors and suppliers.
 - 5. Contractor shall maintain a complete material list and file of approved submittals at the project site for use as reference by interested parties.
- B. Samples

1. Form of Submittal: When samples are specified to be submitted, furnish two samples, except as noted herein, of sufficient size to indicate general visual effect or as otherwise specified in the specifications, and in as nearly the form in which the material will appear on the project as practicable; i.e., submit paint on samples of actual material for which they are specified as a finish; one set of reviewed and selected samples will be retained by the owner.
 2. Review:
 - a. The Owner will check submitted samples against file samples and project requirements, will make final selection of colors and finishes from samples, and will approve sample for application on the project in conformance with the Specifications.
 - b. Should a submitted sample not be in conformance with the specifications, resubmit sample which conforms with the requirements of Contract Documents.
- C. Catalog Cuts, Data & Brochures
1. Where indicated in the Specifications, catalog cuts and similar data will be accepted in lieu of shop drawings, provided they contain required information and are clearly printed. Submit manufacturer's descriptive data including catalog sheets for materials, equipment and fixtures, showing dimension, performance characteristics and capacities, wiring diagrams and controls, schedules, and other pertinent information as required.
- D. Submittal of Product Certificates
1. Where manufacturer certificates are specified to be furnished attesting to conformance with specification requirements, submit certificates in triplicate prior to acceptance of the Work.
- E. Test Reports
1. Submittal is classified either as "shop drawing" or "product data", depending upon whether the report is uniquely prepared for the project or a standard publication of regular product or workmanship control testing at the point of production (respectively).
 2. Refer to individual sections of the Specifications for specific requirements; furnish three (3) copies when required.
- F. Warranties
1. Provide warranties, guarantees and/or maintenance agreements where the Specifications require a period longer than the Contractor warranty period.

G. Operation & Maintenance Data

Furnish instructions and data on materials and equipment installed in the work in accordance with requirements of the technical provisions of the specifications and assemble as specified below. These manuals shall be submitted prior to application for payment exceeding 90% of the total contract amount.

1. Provide four (4) hard copy sets and two (2) electronic copy sets of Operation and Maintenance Data. Each hard copy set shall be bound in separate commercial quality three-ring binders with durable and cleanable plastic covers. The words "Operation and Maintenance Manual (or Instruction)" along with the type of equipment covered shall be typed or neatly printed on the cover. The electronic copy sets shall be in PDF format and stored on either CD or flash drive units.
2. Each set shall be complete with an index and, as a minimum, cover the following items:
 - a. Name, location and telephone number of manufacturer and product's model number.
 - b. Name, location and telephone number of nearest supplier and spare parts warehouse.
 - c. Start-up procedures and normal operating characteristics and instruction.
 - d. Regulation, control, shut-down and emergency instructions.
 - e. Recommended preventative maintenance procedures including a lubrication schedule with recommended lubricants.
 - f. Trouble-shooting guide.
 - g. Complete nomenclature and commercial number of all parts including exploded views of each assembly.
 - h. List of recommended spare parts.
 - i. Complete as-built elementary wiring and outline diagrams.
 - j. Statements of warranty or guarantee.
3. Operation and Maintenance Manuals shall be submitted in at least draft form for Engineer's review with Shop Drawings, Catalog Cuts and other material submittal data. Final drafts, incorporating Engineer's comments, shall be submitted prior to Contractor's application of payment for 75 percent or more of the work.
4. Contractor shall maintain a complete file of all Architect reviewed Operation and Maintenance Manuals at the project site for use as a reference by interested parties.

END OF SECTION 01 33 00

SECTION 01 41 00 – REGULATORY REQUIREMENTS

PART 1 – GENERAL

1.1 SECTION INCLUDES

As required by General Conditions: "Contractor shall comply with and give notices required by all federal, state, and local laws, ordinances, rules, regulations and lawful orders of public authorities applicable to performance of the Work." Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER will be responsible for monitoring CONTRACTOR'S compliance with any Laws and Regulations. Contractor is responsible for keeping the District, Labor & Industries and other authorities completely informed of any changes in the work in a timely manner, and is responsible for informing them of any changes in the work which may affect codes and laws. This includes contract modifications, amendments, additions, shop drawings, and the like, current as of Project Manual date.

- A. Make any and all adjustments and modifications as required to conform to ordinances, and regulations.
- B. Referenced codes establish minimum requirement levels. Where provisions of various codes or standards conflict, the more stringent provisions govern. Promptly submit to Engineer written notice of observed contract document variations from legal requirements.
- C. Compliance requirements include, but are not limited to following:
 - 1. International Building Code and Related Standards, most recent edition, published by the International Conference of Building Officials.
 - 2. State Rules and Regulations for Barrier Free Design/WAC 51-10.
 - 3. The Americans with Disabilities Act (ADA) "Accessibility Guidelines for Buildings and Facilities."
 - 4. Washington State Department of Labor and Industries Regulations.
 - 5. Electrical Work:
 - a. Underwriters' Laboratories (UL).
 - b. National Electrical Manufacturers' Association (NEMA).
 - c. NFPA, National Electric Code (NEC), National Electric Safety Code, and above electrical listings, as applicable.
 - d. State Electrical Construction Code.
 - 6. Environmental Requirements: All work to be performed in compliance with relevant statutes and regulations dealing with prevention of environmental pollution and preservation of public natural resources.
 - 7. Standard Specifications for Road and Bridge Construction, Washington State Department of Transportation, (WSDOT) latest edition.
 - 8. Standard Specifications for Municipal Public Works Construction, Washington State Chapter, American Public Works Association, latest edition.
 - 9. Whatcom County Standards, latest editions.
 - 10. City of Ferndale Standards, latest edition.

1.2 MISCELLANEOUS EXPLANATIONS/INTENT

- A. Number of Specified Items Required: Wherever in these Specifications an article, device, or piece of equipment is referred to in the singular number, the reference applies to as many such articles as are shown on the Drawings or required to complete the installation.
- B. Drawings/Diagrammatic:
 - 1. Drawings are in part diagrammatic and do not necessarily show complete details of construction, work or materials, performance or installation. And they do not necessarily show how construction details, other items or work, fixtures, and equipment may affect any particular installation. Contractor is required to ascertain and correlate the work to bring the parts together into a satisfactory and completed whole.
 - 2. Furnish and install work not covered under any heading, Section, branch, class or trade of the project manual, but shown on or reasonably inferable from the Drawings. This includes all work necessary to produce the intended results. Install similarly for items more positively indicated.
- C. Wording of these Specifications: These Specifications are of the abbreviated or streamlined type and may include incomplete sentences.
 - 1. Words such as "shall", "the Contractor shall", "shall be", and similar mandatory phrases, are required to be supplied by inference in the same manner as they are in a note on the Drawings.
 - 2. Provide all items, articles, materials, and operations listed, including all labor, materials, equipment and incidentals, required for their completion.
- D. Tense, Gender, Singular, Plural: Present tense words include future tense. Words in masculine gender include feminine and neutral genders. Words in the singular include plural. Plural words include singular.
- E. All, Entire, and the Like: For brevity throughout the documents, these words may be omitted. Read their implications into all work.
- F. Specifications by Reference: Any material specified by reference or number, symbol or title of a specified standard, such as commercial standard, ANSI and ASTM documents, Federal Specifications, trade association standard, or the like, shall comply with the following:
 - 1. The latest revision requirements thereof, and any amendment or supplement thereto, in effect on Bid date or date of Owner-Contractor Agreement when there are no bids.
- G. Dimensions and Measurements on Drawings: Dimensions govern. Do not scale. Contractor is to check all dimensions in the field and verify them with respect to adjacent or incorporated work. Large scale drawings take precedence over plans, elevations, and cross sections.

- H. First Class Workmanship: First Class Workmanship is expected.
 - 1. Prior to installing any item or material, verify that receiving surfaces are plumb, level, true to line, and straight to the degree necessary to achieve tolerances specified or required. Perform without extra cost all shimmering, blocking, grinding, or patching required to make such surfaces plumb, level, true to line, and straight.
 - 2. Take care in attention to details and fitting at intersections and junctures of materials. All joints are to be tight, straight, even, and smooth.
- I. Presence of Engineer/Owner: Do not misconstrue presence of this person or any of his representatives at the site as assuring compliance with Contract Documents.

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 41 00

SECTION 01 45 00 – QUALITY CONTROL

PART 1 – GENERAL

1.1 DESCRIPTION OF WORK

- A. Inspection and testing laboratory qualifications, duties and responsibilities.
- B. Contractor's quality control requirements.

1.2 RELATED SECTIONS

- A. Related Requirements Specified Elsewhere:
 - 1. Section 01 33 00 – Submittal Procedures
 - 2. Section 01 66 00 – Product Storage and Handling Requirements
 - 3. Section 01 70 00 – Execution and Closeout Requirements
 - 4. Technical Specifications include quality control requirements for certain portions of the work.
- B. See Structural Notes on Drawings for Special Inspections.

1.3 APPLICABLE PUBLICATIONS AND REGULATORY REQUIREMENTS

- A. ASTM E329: Inspection and Testing Agencies for Concrete, Steel, and Bituminous Materials as used in Construction.
- B. WSDOT and ASHTO: Applicable sections that pertain to compaction testing for subgrade, base and top course, and asphalt testing.
- C. Washington State Building Code and International Building Code Standards.
- D. Nothing in the Drawings or Specifications shall be construed to permit Work not conforming to applicable laws, ordinances, rules or regulations.
- E. When Drawings or Specifications exceed requirements of applicable laws, ordinances, rules, or regulations, comply with documents establishing the more stringent requirements.

1.4 DEFINITIONS

- A. Factory Tests: Tests made on various products and component parts prior to shipment to the job site, including but not limited to such items as pumps, valves, miscellaneous piping equipment, electrical equipment, and precast concrete.
- B. Field Tests: Tests or analyses made at, or in the vicinity of the job site in connection with the actual construction.
- C. Product: The term "product" includes the plural thereof, and means a type or a category of manufactured goods, constructions, installations and natural and processed materials or those associated services whose characterizations, classification or functional performances determination is specified by standards.

- D. Person: The term "person" means associations, companies, corporations, educational institutions, firms, government agencies, at the Federal, State and Local level, partnerships, and societies, as well as divisions thereof, and individuals.
- E. Testing Laboratory: The term "testing laboratory" means and "person", as defined above, whose functions include testing, analyzing, or inspecting "products" as defined above, and/or evaluating the designs or specifications of such "products" according to the requirements of applicable standards.
- F. Certified Test Reports: Certified test reports are reports of tests signed by a qualified professional attesting that tests were performed in accordance with the test method specified, that the test results reported are accurate, and that items tested either meet or fail to meet the stated minimum requirements. These test reports include those performed by Factory Mutual, Underwriter's Laboratories, Inc., and others.
- G. Certified Inspection Reports: Certified inspection reports are those signed by approved inspectors attesting that the items inspected meet the specification requirements other than any exceptions included in the report.
- H. Manufacturer's Certificate of Conformance or Compliance: A certificate signed by an authorized manufacturer's official attesting that the material or equipment delivered meets the specification requirements.

1.5 QUALITY CONTROL REQUIREMENTS

- A. All work under the contract shall be inspected and tested as specified herein. The Contractor shall maintain records of all inspections and tests. Approvals shall be obtained before delivery of materials to the project site.
- B. The Contractor is responsible for all field testing (liner, concrete, and compaction). The Contractor is responsible for notifying Owner and coordinating compaction test requests as discussed elsewhere in these documents. The Contractor is responsible for the costs of any repeat tests required where failed compaction tests were obtained.
- C. If required, contractor responsibility for quality control testing shall be as follows:
 - 1. Factory Tests: Unless otherwise specified, the Contractor will arrange and pay for factory tests when required by the contract documents.
 - 2. Factory Inspection: Unless otherwise specified, the Contractor will arrange and pay for factory inspection when required by the contract documents.
 - 3. Field Inspection and Tests by the Contractor: Unless otherwise specified, the Contractor shall furnish all equipment, instruments, qualified personnel, and facilities necessary to inspect all work and perform all tests when required by the contract documents. All inspections and tests performed and test results shall be promptly submitted to the Owner.
 - 4. Approval of Testing Laboratories: All laboratory work under this contract shall be performed by a laboratory approved by the Owner.

- D. Laboratory Reports: Reports shall cite the contract requirements, the test or analysis procedures used, the actual test results, and include a statement that the item tested or analyzed conforms or fails to conform to the specifications requirements. All test reports shall be signed by a representative of the testing laboratory authorized to sign certified test reports. The Contractor shall arrange for immediate and direct delivery of the signed original of all reports, certifications, and other documentation to the Owner.
- E. Repeated Tests and Inspections: The Contractor shall repeat tests and inspections after each failed test until passing test results are obtained. The retesting and reinspection shall be performed at no additional cost to the Owner and the Contractor shall reimburse the Owner for their, or their representative's, time and expenses due to the failed test results.

1.6 CONTRACTOR'S RESPONSIBILITY

- A. Access. Furnish free access to various parts of the work and assist testing inspection personnel in performance of their duties at no additional cost to the Owner.
- B. Concealed Work. When directed by the Owner, the Contractor shall open for inspection any part of the work which has been concealed. Should the Contractor refuse or neglect such a request, the Owner may employ any other person to open up the same or do so himself. If any part of the work has been concealed in violation of the Owner's instruction or, if on being opened, it is found not to be in accordance with the terms of the Contract Documents the expense of opening and recovering, whether done by the Contractor or not, shall be charged to the Contractor. If the work has been concealed but not in violation of the Owner's instructions and is found to be in accordance with the terms of the Contract Documents the actual necessary expense of opening and recovering is done by the Contractor it shall be considered as extra work and paid for accordingly.
- C. Notices. The Contractor shall notify the Owner not less than 48 hours, unless otherwise noted, before work requiring inspection is started. The Contractor shall schedule portions of the work requiring inspection and testing, so that the agency's time on the project is continuous and as brief as possible.

1.7 CONSTRUCTION SURVEILLANCE BY OWNER

- A. Appointment. The Owner may appoint an on-site representative for surveillance of any and all portions of the work. Such surveillance may extend to any or all parts of the work, and to the preparation or manufacture of materials to be used.
- B. Authority of On-Site Representative.
 - 1. On-site representative is not authorized to revoke, alter, enlarge or relax the provisions of the Contract Documents, and is placed on the work site to keep the Owner informed as to the progress of the work and the manner in which it is being done.
 - 2. On-site representative may also call the attention of the Contractor to any deviations from the plans or specifications. Failure of the Owner or his representative to call the attention of the Contractor to faulty work or deviation from the Contract Documents shall not constitute acceptance of said work.
 - 3. The representative is not authorized to approve or accept any portions of the work or to issue instructions contrary to the Contract Documents.

4. The representative will exercise only such additional authority as may be specially delegated to him by the Owner, notice of which will be given in writing to the Contractor.

1.8 DEFECTIVE WORK

- A. Remove and replace any work found defective or not complying with requirements of Contract Documents, at no additional cost to Owner. Work will be checked as it progresses, but failure to detect any defective work or materials shall not in any way prevent later rejection when such defect is discovered, nor shall it obligate the Owner for final acceptance.

PART 2 – MATERIAL (NOT USED)

PART 3 – EXECUTION (NOT USED)

(Summary of Quality Control Testing Services Follows)

-- STRUCTURAL SPECIAL INSPECTION SCHEDULE --			
	STRUCTURAL ITEM	FREQUENCY (C=continuous, P=periodic)	REFERENCE (2015 IBC Section, uon)
1	CONCRETE		1705.3, Chap 26
	- Reinf Placement	P (and prior to all pours)	Table 1705.3
	- Anchor Placement	P (and prior to all pours)	Table 1705.3
	- Concrete Placement	C	Table 1705.3
	- Concrete Testing	Per ACI 318-14	Table 1705.3
	- Formwork & Curing	P	Table 1705.3
2	MASONRY	"Level B" QA (not req'd for veneer)	1705.4, 2105, ACI 530-13, ACI 530.1-13
	- Mortar Proportions & Joints	P	ACI 530.13 Table 3.1.2
	- Reinf Placement	P (and prior to grouting)	ACI 530.13 Table 3.1.2
	- Type/Size/Location (Elements)	P	ACI 530.13 Table 3.1.2
	- Type/Size/Location (Anchors)	P (and prior to grouting)	ACI 530.13 Table 3.1.2
	- Reinf Welding	C	ACI 530.13 Table 3.1.2
	- Cold Weather Measures	P	ACI 530.13 Table 3.1.2
	- Grout Placement	C	ACI 530.13 Table 3.1.2
	- Prism Testing	P (not req'd for Unit Strength Method)	2105, ACI 530.13 Table 3.1.2
3	POST-INSTALLED ANCHORS		Table 1705.3
	- Epoxy or Adhesive Anchors Used in Horizontal or Overhead Position	C	See ICC-ES report
	- All Other Anchors Installed in Hardened Concrete or Masonry	P (except where C req'd by ICC-ES report)	See ICC-ES report
4	WOOD		1705.5
	- Shearwalls (nailing, thickness, grade, blocking, top and bottom fastening, sill bolts, holdowns)	P (not req'd when fasteners are in single row and spaced greater than 4" o/c)	1705.11.1, 1705.12.2
	- Floor/Roof Diaphragms (nailing, thickness, grade, blocking)	P (not req'd when fasteners are in single row and spaced greater than 4" o/c)	1705.5.1, 1705.11.1, 1705.12.2
5	SOILS & FOUNDATIONS		1705.6, Table 1705.6, Geotech Report
	- Subgrade Adequacy	P (beneath fill and/or foundations)	Table 1705.6
	- Excavation Depth	P	Table 1705.6
	- Fill Materials	P	Table 1705.6
	- Fill Placement & Compaction	C	Table 1705.6

END OF SECTION 01 45 00

SECTION 01 50 00 – TEMPORARY FACILITIES

PART 1 – GENERAL

1.1 DESCRIPTION OF SECTION

- A. The Contractor shall provide all arrangements, material and labor needed for obtaining temporary utility services.
- B. The Contractor is encouraged but not required to maintain a field office, but water and sanitation facilities must be provided for the Contractor's employees and subcontractors.
- C. Make all connections to the utility purveyor's requirements and in accordance with code requirements; remove from site upon completion of all work or when directed.
- D. Providing Temporary Facilities:
 - 1. Provide temporary construction, devices, equipment, power and convenience utilities for use, convenience and safety of personnel engaged in the work of the contract.
 - 2. Provide temporary utilities and access during construction to existing homeowners at all times.

1.2 RELATED SECTIONS

- A. Related Requirements Specified Elsewhere:
 - 1. Section 01 11 00 – Summary of Work
 - 2. Section 01 70 00 - Execution and Closeout Requirements

1.3 REGULATIONS

- A. Health and Safety: Conform with "Safety Standards for Construction Work, Chapter 296-155 WAC" by State of Washington Department of Labor and Industries.
- B. Construction Codes: Comply with regulatory construction codes as applicable.
- C. Washington State Department of Health: Comply with all applicable codes for temporary sewer and water service.

1.4 TEMPORARY FACILITIES

- A. Temporary Electrical Light & Power:
 - 1. Provide all temporary lighting and power, including pole or poles, transformer if required, for construction purposes.
 - 2. Provide temporary connections to closest utility source.
 - 3. Provide all required extension cords, lighting outlets and power outlets (grounding type), lamps, and other required equipment and accessories necessary only for adequate temporary lighting and power for construction purposes.

4. Remove temporary lighting and power equipment and their connections at completion of the work or sooner if approved or directed.
 5. Connections to the existing building are allowed.
- B. Water for Construction Purposes:
1. The Contractor is responsible for obtaining and providing water as required for the work and for testing.
 2. If agreed, Contractor to make temporary connections (with metered connection) with backflow preventers to utility piping as required for the work and provide meter, piping, hoses, nozzles and other accessories required.
 3. At completion, or before as directed, disconnect temporary connections and piping and remove from site.
 4. Provide secure system to prevent unauthorized use during Contractor's absence.
- C. Sanitary Facilities:
1. The Contractor shall provide temporary restroom services at the field office location, or other centrally located site. Service may be provided by contract service. Facilities shall be regularly serviced and maintained, and kept reasonably clean. Facilities shall be promptly removed at the conclusion of the work.
- D. Drinking water:
1. Provide from proven safe source, for all those connected with the work in accordance with WISHA and Health Department requirements.
 2. Pipe and transport in such manner as to keep it clean and fresh; serve in single containers or provide sanitary drinking fountains.
- E. Residential and Commercial Access:
1. Provide City access to the site at all times.
 2. Provide access to the area at all times for emergency and service vehicles.
- F. Job Shack:
1. Contractor is responsible for providing a job shack, if desired.
 2. Coordinate location of any job shack(s) with City.
 3. Provide all utilities (power, sewer and water) as required.
 4. Provide adequate parking (including import of base course, if required) and security as required.
- G. Equipment Storage
1. Contractor is fully responsible for safe storage of all materials and equipment.
 2. Provide all fences, gates, locks, covers, weather protection, surveillance, etc. to assure safe storage.
 3. Protect all materials and equipment from the weather.
- H. First Aid
1. In accordance with requirements of 296-24 WAC, furnish personnel trained in first aid and certified as approved by Washington Department of Labor and Industries.

1.5 MISCELLANEOUS PROVISIONS

- A. Cleaning Up:
 - 1. General: The Contractor and each subcontractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. Clean up work areas as required at the end of each day's work.
 - 2. Trash removal: Remove all trash and debris from site and dispose of at Contractor's expense. Allow no debris, broken or open cartons, or other refuse to collect in the project or around it; allow no inflammable or hazardous materials to be stored on the site without approved protection precautions and procedures.
 - 3. Street and parking area cleaning: Immediately clean all spilled material which results from the work of this contract and waste hauling operations; use motorized equipment and hand labor as required. Remove from streets, driveways or parking areas in time to prevent such materials from affecting traffic or clogging street drainage system; clean any drains contaminated.
- B. Noise Control: During the period of construction, provide satisfactory means, as approved by the Owner, of controlling noise originating from construction work and equipment.
- C. Dust Control: During the period of construction, provide satisfactory means of controlling dust and dirt, including application of water to control dust but not cause erosion.
- D. Temporary Erosion and Sedimentation Control: The Contractor shall provide sedimentation and erosion control in accordance with the City's adopted BMPS.

1.6 DEBRIS CONTROL

- A. Cleaning during construction: Maintain all areas free of extraneous debris.
- B. Prevent accumulation of debris at construction site, storage and parking areas, and along access roads and haul routes.
- C. Keep storm sewers free of debris or extraneous materials.
- D. Offsite Cleanup: Prevent any leaking of materials from the vehicle used to haul offsite and clean haul routes daily.

1.7 POLLUTION CONTROL

- A. Provide all method, means and facilities required to prevent any contamination of the project site and areas adjacent to project site. Contractor will be expected to respond immediately to any spills and to take whatever measures are necessary to prevent further contamination and clean up accidental contamination. Contractor will be solely responsible for any and all costs of clean up in the event of discharge (of any kind). In the event that the Contractor is slow in responding, the Owner may elect to pay for clean-up costs directly, and all costs incurred from this, including labor, overhead, materials, management, etc., will be deducted from the next pay request.

- B. Provide methods, means, and facilities required to prevent contamination of soil, water, or atmosphere. Allow no discharge of noxious substances from construction operations.
- C. Provide systems for control of atmospheric pollutants in accordance with Federal/State/Local published rules and regulations.

1.8 BARRIER REQUIREMENTS

- A. During construction, the Contractor shall at all times maintain satisfactory and substantial temporary fencing, railing, barricades or steel plates at all excavations, obstructions or other hazards. All such barriers shall have warning signs or lights as necessary for safety.

1.9 CONTRACTOR "NAME" SIGNAGE

- A. Signage noting Contractor or Subcontractor names (not affixed to a temporary job shack) are not allowed on the work site.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 50 00

SECTION 01 60 00 – PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.1 DESCRIPTION OF SECTION

- A. General requirements for providing transportation, handling, storage, and protection of materials and equipment.
- B. Contractor's options in selection of products and manufacturers, and procedures for consideration of proposed substitutions.
- C. All material and equipment incorporated into the work:
 - 1. Shall be new, free from defects and of equal or superior quality as specified herein and on the drawings.
 - 2. Shall be the products of established manufacturers regularly engaged in the fabrication of such equipment.
 - 3. Shall comply with the size, type and quality specified and shall be designed for use in the particular application.
 - 4. Shall be designed, fabricated and assembled in accordance with standard engineering and shop practice.
 - 5. Shall be complete with accessories, trim, finish, safety guards, and other devices and details needed for a complete installation and for intended use and effect.

1.2 RELATED SECTIONS

- A. Related Requirements Specified Elsewhere:
 - 1. Section 01 30 00 - Submittals
 - 2. Section 01 45 00 - Quality Control

1.3 MANUFACTURER'S INSTRUCTIONS

- A. Installation of all materials and equipment shall comply with manufacturer's printed instructions. The Contractor shall have the responsibility to distribute copies of such instructions to all parties involved in the installation, including the Owner. One complete set of instructions shall be maintained on the job site during installation and until completion.
- B. All materials and equipment shall be handled, installed, connected, cleaned, conditioned and adjusted in strict accordance with such instructions and in conformance with the specified requirements. The Owner should be immediately notified should job conditions or specified requirements conflict with the manufacturer's instructions.

1.4 TRANSPORTATION AND HANDLING

- A. All materials and equipment shall be transported and handled in such a manner as to prevent any damage.

- B. Deliveries of products shall be in accordance with construction schedules as to cause no delay in the work or to conflict with work and conditions at the site.
- C. Products shall be delivered in the manufacturer's original containers with identifying labels intact and legible. Where materials are specified to conform to ASTM, Federal or other reference specifications, the materials shall be delivered to the site bearing the manufacturer's label stating that the materials meet the requirement of such referenced specifications.
- D. Products shall be inspected immediately upon delivery to assure compliance with specified requirements and approved submittals and that products are properly protected and undamaged.
- E. The Contractor shall provide personnel and equipment to receive and unload products delivered to the site. No products shall be delivered to the site unless such forces are available.

1.5 STORAGE AND PROTECTION

- A. Contractor is fully responsible for safe storage of all materials and equipment.
- B. All products shall be stored in strict accordance with the manufacturer's instructions, with seals and labels intact and legible.
- C. All products shall be arranged in a neat order and protected from damage from the weather, traffic and construction operations. Easy access for periodic inspection shall be provided.

1.6 PRODUCTS AND SUBSTITUTIONS

- A. Products:
 - 1. Where available, provide standard products of types which have been produced and used previously and successfully on other projects and in similar application.
 - 2. Where additional amounts of a product, by nature of its application, are likely to be needed by Owner at a later date for maintenance and repair or replacement work, provide a standard, domestically produced product which is likely to be available to Owner at such later date.
 - 3. For Products specified only by a reference standard, the Contractor may select any product meeting that standard.
 - 4. Where the make or name of a material is specified in the written documents or on the drawings, it is to establish a quality standard in that particular field of manufacture. Requests for substitutions of materials of other makes or names must be submitted to the Owner and must receive favorable written response from the Owner prior to ordering, furnishing or installing the proposed substitution item.

- B. Requests for Substitutions:
1. For a period of thirty (30) days after the Contract Date, the Owner will consider written requests from the Contractor for substitution of Products.
 2. Requests for each Product substitution shall be submitted separately. Requests for substitutions will be received and considered when revisions to contract documents are not required, and the product or material is in keeping with the general intent of the Contract Documents.
 3. A request for substitution by the Contractor constitutes a representation that the Contractor:
 - a. Will provide the same warranties or bonds for the substituted item as for the Product specified.
 - b. Will coordinate the installation of an accepted substitution into the work and make all other changes as required to make the work complete in all respects.
 4. Submit six (6) copies of requests for substitutions, fully identified for Product or method being replaced by substitution, including related specification section and drawing number(s), and fully documented to show compliance with requirements for substitutions.
 5. Include product data/drawings, description of methods, samples where applicable, Contractor's detailed comparison of significant qualities between specified item and proposed substitution, statement of effect on construction time and coordination with other affected work, cost information or proposal, and Contractor's statement to the effect that proposed substitution will result in overall work equal-to-or-better-than work originally indicated.
 6. The contractor agrees to pay all Engineering costs accruing as a result of checking and/or redesign due to substitutions. These costs will be charged to the Contractor and will be considered incidental to the contract price.
- C. Owner's Review
1. Within two weeks of receipt of request, or within one week of receipt of requested additional information or documentation (whichever is later), the Owner will notify the Contractor of either his acceptance or his rejection of the proposed substitution. Rejection will include statement of the reasons for rejection (non-compliance with the requirements for requested substitutions, or other reasons as detailed.)

PART 2 – MATERIALS (NOT USED)

PART 3 – EXECUTION (NOT USED)

END OF SECTION 01 60 00

SECTION 01 70 00 – EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.1 DESCRIPTION OF SECTION

- A. Specific administrative procedures, and closeout submittals at substantial completion and at final acceptance of the work.
- B. Requirements for record documents and start-up procedures.
- C. The listing of procedures and submittals is given generally as a checklist for the Contractor's convenience. The Owner reserves the right to add to this list. This list is not an exhaustive listing of either all applicable laws or of the provisions of any law. The Contractor shall comply with all contract requirements prior to contract closeout. Specific administrative procedures, and closeout submittals at substantial completion and at final acceptance of the work.

1.2 RELATED SECTIONS

- A. Related Requirements Specified Elsewhere:
 - 1. Section 01 33 00 – Submittal Procedures

1.3 SUBSTANTIAL COMPLETION

- A. Prior to submitting for substantial completion, the Contractor shall have:
 - 1. Delivered tools, spare parts, extra stocks of materials, and similar physical items to Owner.
 - 2. Made final changeover of locks and transmit keys to Owner.
 - 3. Completed start-up testing of systems, and performed instructions for Owner's operating/maintenance personnel. Discontinued (or change over) and removed from project site temporary facilities and services.
 - 4. Provided record information to the owner of the as-constructed facilities.
 - 5. Completed final cleaning up requirements, including but not limited to, touch-up of marred surfaces, grading, installation of handrails, etc.
 - 6. Provided O&M Manuals for all equipment, controls, and operations.
 - 7. Provide Compliance Documentation per 2015 Washington State Energy Code (WSEC) close out requirements per section C103.6.3 as follows:
C103.6.3 Compliance Documentation. All energy code compliance forms and calculations shall be delivered in one document to the building owner as part of the project record drawings, manuals, or as a standalone document. This document shall include the specific energy code year utilized for compliance determination for each system, NFRC certificates for the installed windows, list of total area for each NFRC certificate, the interior lighting power compliance path (building area, space by space) used to calculate the lighting power allowance. For projects complying with Section C401.2 item 1, the documentation shall include:
 - a. The envelope insulation compliance path (prescriptive or component performance).
 - b. The completed code compliance forms, and all compliance calculations including, but not limited to those required by section C402.1.5, C403.2.12.1, C405.4, and C405.5.

- B. When the Contractor considers the work to be substantially complete, he shall submit to the Owner:
 - 1. Written notice that the work, or designated portion thereof, is substantially complete. (The term "substantially complete" shall be defined as in accordance with the WSDOT General Specifications and Sections 00 72 00 and 00 73 00a of these documents).
 - 2. List of items to be completed or corrected and reasons for being incomplete. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents.
 - 3. Progress payment request coincident with or first following date claimed, show either 100% completion for portion of work claimed as "substantially complete", or list incomplete items and the value of the incomplete work.
 - 4. Submit statement showing accounting of changes to the Contract Sum.
 - 5. Specific warranties, workmanship/maintenance bonds, maintenance agreements, final certification and similar documents.
 - 6. Obtain and submit releases enabling Owner's full and unrestricted use of the work and access to services and utilities, including (where required) certificate of occupancy permits, operating certificates, and similar releases.
 - 7. Record (as-built) drawings, project manual, manual of materials, operation and maintenance manuals, and similar final record information.
- C. Upon receipt of Contractor's request, the Owner will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Owner will either prepare certificate of Substantial Completion, or advise Contractor of work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form the initial "punch list" for final acceptance.
- D. When the Architect, on the basis of an inspection, concurs that the work is substantially complete, he will:
 - 1. Prepare and deliver to the Contractor a certificate of Substantial Completion accompanied by the Contractor's list of items to be completed or corrected. The Certificate of Substantial Completion shall state the responsibilities of the Contractor for security, maintenance, heat, damages to the work and insurance and shall fix the time within which the Contractor shall complete the items listed therein. Warranties and guarantees required by the Contract Documents shall commence on the Date of Substantial Completion.
 - 2. The Certificate of Substantial Completion is submitted to the Contractor for their written acceptance of their responsibilities as stated therein.

1.4 FINAL INSPECTION

- A. When the Contractor considers the work to be complete, he shall submit written notice to the Owner that the work has been completed and inspected in compliance with the Contract Documents including punchlist items, and equipment and systems have been tested and are operational; and requesting a contract completion inspection.
- B. When the Architect, on the basis of an inspection, concurs that the work is acceptable under the Contract Documents, he will notify the Contractor in writing and request the Contractor to provide remaining submittals.

- C. Should the Architect determine that the work is not acceptable under the Contract Documents:
 - 1. The Architect will promptly notify the Contractor in writing giving the reasons therefor.
 - 2. The Contractor shall remedy the deficiencies in the work and submit a new written notice for final inspection to the Owner.

1.5 FINAL PAYMENT

- A. When the Contractor has satisfied all requirements of this section and all other conditions of the Contract Documents, the Contractor may submit a final Application for Payment. Should the Owner determine the Work acceptable under the Contract Documents and the Agreement fully performed, he will promptly issue a final Certificate for Payment stating that to the best of his knowledge, the Work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance due the Contractor, and as noted in the final certificate, is due and payable.
- B. The accumulated retainage shall not be paid until the Contractor submits to the Owner:
 - 1. Affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work for which the Owner might in any way be responsible, have been paid or otherwise settled.
 - 2. Release of Lien. One will be required from each lien holder who has duly filed a notice of claim with the Owner. If any liens remain unsatisfied after the expiration of the statutory lien period, the Contractor shall refund the Owner all amounts that the Owner may be compelled to pay in discharging such lien including all costs and reasonable attorney's fees.
 - 3. State Department of Revenue form that all taxes have been paid.
 - 4. State Department of Labor and Industry affidavit of wages paid.
 - 5. State Department of Employment Security Contractor release.
- C. The making of final payment shall constitute a waiver of all claims by the Owner except those arising from:
 - 1. Unsettled liens or disputes.
 - 2. Faulty or defective work appearing after Substantial Completion under the project guarantee and equipment warranty period.
 - 3. Failure of the work to comply with the requirements of the Contract Documents.
 - 4. Terms of any special warranties required by the Contract Documents.The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment.

1.6 FIELD TESTS AND ADJUSTMENTS

- A. All mechanical and electrical equipment, as required under the separate section headings, shall be tested by the Contractor to the satisfaction of the Engineer before any facility is put into operation. Tests shall be as specified herein and shall be made to determine whether the equipment has been properly assembled, aligned and connected. Any changes, adjustments or replacements required to make the equipment operate as specified shall be performed by the Contractor as part of the Work.

- B. At least 14 days before the time allowed in the construction schedule for commencing testing and start-up procedures, the Contractor shall submit to the Engineer details of the procedure proposed for testing and start-up of all mechanical and electrical equipment, except when such procedures have been covered in the specifications.
- C. The Contractor's testing and start-up procedures shall include detailed descriptions of all preoperational electrical, mechanical and instrumentation testing work. Each control device, item of mechanical, electrical and instrumentation equipment, and all control circuits shall be considered in the testing procedures, which shall be designed, in a stepwise, logical sequence to ensure that all equipment has been properly serviced, aligned, connected, calibrated and adjusted prior to operation. The Contractor is advised that failure to observe these precautions may place the acceptability of the subject equipment in question, and he may either be required to demonstrate that the equipment has not been damaged, or replace it as determined by the Architect. Testing procedures shall be designed to duplicate as nearly as possible all conditions of operations, and shall be carefully selected to ensure that the equipment is not damaged. Once the testing procedures have been accepted by the Architect, the Contractor shall produce checkout, alignment and adjustment, and calibration sign-off forms for each item of equipment, which shall be used in the field by the Contractor and the Architect jointly, to ensure that each item has been properly installed and tested. All testing must be performed in the presence of the Architect.
- D. During the testing of the mechanical, instrumentation and electrical equipment, the Contractor shall make available, as necessary, representatives of the manufacturers of all the various pieces of equipment, or other qualified persons, who shall instruct the Owner's personnel in the operation and care thereof. Instructions shall include written step-by-step operation and trouble-shooting procedures with a complete description of all necessary test equipment and all protective device settings. Upon completion of testing, the manufacturer's representative shall provide the Architect with a letter stating that the specific piece of equipment has been properly installed and tested and will satisfy the requirements of the Contract Documents.

1.7 RECORD (AS-BUILT) DRAWING INFORMATION

- A. During the construction period, the Contractor shall maintain a complete set of prints for the sole purpose of maintaining a day-by-day record of installed information. This information shall include, but not limited to: the size and location of all concealed or underground piping, conduit, and ductwork; all approved deviations from the specifications and drawings; the location of any visible objects relocated due to interferences or requested relocations submitted and approved on shop drawings. Such relocations shall be dimensioned.
- B. Addenda, bulletins, field orders, and change orders shall be posted and referenced in the record set of prints.

1.8 RECORD PROJECT MANUALS

- A. Maintain one copy of the Contract Documents, including addenda, change orders and similar modifications issued in printed form during construction, and mark-up variations (of substance) in actual work in comparison with text of the Project Manual and modifications as issued.

- B. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation. Not related record drawing information and product data, where applicable.

1.9 MISCELLANEOUS RECORD SUBMITTALS

- A. Refer to other sections of these specifications for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the work. Immediately prior to date(s) of substantial completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Architect for Owner's records.

1.10 FINAL CLEAN-UP

- A. At the completion of the work, the Contractor shall leave the premises in a neat and unobstructed condition, ready for Owner occupancy. The buildings shall be left in a dust free condition and all equipment and materials in perfect repair and adjustment.
- B. After all trades have completed their work and just before final acceptance and occupancy by owner, thoroughly clean all surfaces of project. Clean lighting fixtures and electrical equipment, including washing and polishing lenses inside and out. Wash and polish all exposed metal surfaces. Broom clean exterior paved areas and rake clear other surfaces of the grounds. All waste building materials, pipe, etc. shall be removed from the site and disposed of.

END OF SECTION 01 70 00

SECTION 01 91 00 – COMMISSIONING

PART 1 – GENERAL

1.1 GENERAL

- A. Related Requirements Specified Elsewhere:
 - 1. Section 01 33 00 – Submittals Procedure
 - 2. Section 01 70 00 – Execution and Closeout Requirements
- B. Description of Section:
 - 1. Specific commissioning procedures and start-up requirements.
 - 2. Requirements for equipment settings and field verification.
 - 3. The listing of procedures and field tests is given generally as a checklist for the Contractor's convenience. The Owner reserves the right to add to this list. This list is not an exhaustive listing of all applicable settings and requirements to achieve specified results.
 - 4. The Contractor shall comply with all contract requirements prior to contract closeout. Specific administrative procedures, and closeout submittals at substantial completion and at final acceptance of the work.

END OF SECTION 01 91 00

SECTION 02 41 19 – SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED SECTIONS

- A. Execution: Section 01 70 00

1.2 REFERENCES

- A. American National Standards Institute (ANSI).
 - 1. A10.6 "American National Standard Safety Requirements for Demolition."
- B. NFPA 241.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Salvage: Detach items from existing construction, in a manner to prevent damage, and deliver to Owner ready for storage.
- C. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- D. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- E. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable rules, codes, regulations, and safety orders of all public agencies having jurisdiction.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of the contractor.
- B. Historic items, relics, antiques, and similar objects including but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of the Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 SITE CONDITIONS

- A. Preplan demolition Work for minimal interruptions or disruptions to Owner's ongoing operations.
- B. Provide dirt and dust barriers, debris containers, removal routes, and disposal to protect areas utilized by Owner's personnel.
- C. Where existing unidentified utilities, structures or services are discovered submit information for resolution prior to proceeding.
- D. Prohibited from use are any form of explosives.
- E. Work to be demolished that has been tested and contains material believed to contain asbestos, lead paint, or other hazardous materials. Should Contractor encounter materials suspected to be hazardous and not identified as such, the Contractor shall stop work in that area and notify the Owner.
- F. Protect existing electrical and HVAC and fire protection and plumbing system. Protect Tenant or Owner existing equipment.
- G. Notify Architect of discrepancies between existing conditions and drawings before proceeding with demolition (and/or) salvage.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition by methods and with materials and using approved contractors so as not to void existing warranties. Notify warrantor before proceeding.
- B. Notify warrantor on completion of selective demolition, and obtain documentation verifying that existing system has been inspected and warranty remains in effect. Submit documentation at project closeout.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Carefully remove items marked or designated for salvage or reuse and store as directed.
- B. Comply with NFPA 241.
- C. Protect areas and items adjacent to areas of demolition. Repair or replace adjacent damaged items with items that match in quality and profile. Provide submittals when requested by Architect/Owner.

PART 3 - EXECUTION

3.1 EXAMINATION

- E. Examine areas affected by Work of this Section and verify that necessary shoring and other required protection is in place.
- B. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- C. Review record documents of existing construction provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in bid or record documents.
- D. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- E. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly submit a written notice to Architect and Owner Representative.

3.2 PREPARATION

- E. Provide protection as necessary and in accordance with applicable regulations.
- F. Verify existing utility services to remain in operation, cooperate with Owner in scheduling Work so there will be a minimum of interference. Prearrange utility shutdown or temporary interruption with Owner prior to Work commencement.
- G. Notify Utility Providers having service connections within the building.
- H. Contact municipal and regulatory agencies affected by and interested in the Work. Secure necessary information and permits required, and make detailed arrangements for smooth safe prosecution of the Work.
- E. Cover all existing floor, wall and ceiling registers, grilles and diffusers for supply, return and exhaust air prior to demolition and any possible abatement activities.

3.3 DEMOLITION – GENERAL

- A. Perform Work in accordance with ANSI A10.6, and regulatory requirements.
- B. Contractor shall be solely responsible for safety, adequacy and satisfactory performance of methods and means employed.
- C. Sequence of removal of concrete, masonry, and similar building elements shall be such that structural integrity of building is maintained at all times.
- D. Legally dispose of demolition materials off site. Location of disposal site and length of haul are the Contractor's responsibility.

- E. Carefully remove salvage items to be retained by Owner and place in an area designated by Owner.
- F. Remove items scheduled to be reused and store as directed.

3.4 SELECTIVE DEMOLITION PROCEDURES

- A. Concrete and Asphaltic Concrete: Demolish in small sections. Using power-driven saw, cut concrete to a depth of at least 3/4 inch at junctures with construction to remain. Dislodge concrete from reinforcement at perimeter of areas being demolished, cut reinforcement, and then remove remainder of concrete. Neatly trim openings to dimensions indicated.
- B. GWB or Lath & Plaster: Demolish in sections. Cut walls at full depth at junctures with construction to remain and at regular intervals using power-driven saw, then remove wall cleanly between saw cuts.
- C. Masonry: Demolish in small sections. Cut masonry at junctures with construction to remain, using power-driven saw, then remove masonry between saw cuts.
- D. Concrete Slabs-on-Grade: Saw-cut perimeter of area to be demolished, then break up and remove.
- E. Resilient Floor Coverings: Remove floor coverings and adhesive according to recommendations in RFCI's "Recommended Work Practices for the Removal of Resilient Floor Coverings." Do not use methods requiring solvent-based adhesive strippers.
- F. Roofing and Flashing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Division 7 for new roofing requirements.
 - 1. Remove existing roof membrane, flashings, copings, and roof accessories.
 - 2. Remove existing roofing system down to substrate.
- G. Wood Siding and Framing: Demolish in small sections, carefully with straight line cuts to wood components. Block and support areas supported by removed framing components as described on structural drawings or per framing standards as described in IBC Chapter 23.
- H. Tile Flooring and Wainscotting: Remove tile and associated adhesive or setting bed to original substrate.
- I. Toilet accessories: Remove, salvage, and reinstall.

3.5 CLEANING

- A. Provide interval cleaning during demolition as necessary and to the acceptance of the Architect.
- B. Leave all portions of demolition area in a level, safe, and sanitary condition acceptable to public authorities and the Architect.

END OF SECTION 02 41 19

SECTION 03 10 00 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Products Installed but not Furnished Under this Section:
 - 1. Embedded anchors, inserts, hangers, bolts, and structural steel shapes shown and specified.
 - 2. Built-in sleeves, flashing, reglets, door frames, anchors, and related items.
- B. Related Sections:
 - 1. Section 03 20 00 Concrete Refinishing
 - 2. Section 03 30 00 Cast-in-Place Concrete
 - 3. Divisions 21, 22, 23, and 26: Sleeves, inserts, anchors, hangers, bolts, and other embedded items specified shall be provided by the trade concerned and under the supervision of the Contractor.
- C. Related Documents
 - 1. See Structural Notes in drawing set. In case of discrepancy, Structural Notes will govern.

1.2 REFERENCES

- A. American Concrete Institute (ACI).
 - 1. ACI 347 - "Recommended Practice for Concrete Formwork."
- B. International Building Code (IBC).
- C. United States Product Standard (PS).
 - 1. PS-1 - "Softwood Plywood, Construction and Industrials."
- D. Western Wood Products Association (WWPA).
 - 1. "Grading Rules for Lumber."

1.3 SYSTEM DESCRIPTION

- A. Design Requirements: Contractor shall be solely responsible for the design and safety of forms, falsework supports, and reshoring procedures. Design shall be in accordance with recommendations of ACI 347. Ensure that members are not stressed more than allowed by IBC for materials used.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform with applicable requirements of IBC Chapter 19, and as noted on Structural Drawings.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Lumber: Stress grade marked Douglas Fir-Larch. Graded in accordance with WWPA.
- B. Plywood: 5/8 inch minimum, 5-ply, BB Plyform, Class 1, conforming to PS-1.
- C. Form Coatings: Non-staining, shall not cause dusting or softening of concrete surface. They shall produce a smooth, hard, non-oily concrete surface which will bond with concrete paints and cement coatings. Use of a form release agent of any substance which has not been specifically manufactured for that purpose is prohibited.
- D. Form Ties and Spreaders: Metal cone nut type or as necessary to meet requirements for form design specified.
- E. Rough hardware: Nails, bolts, screws, anchors, and similar items as required.

PART 3 - EXECUTION

3.1 ERECTION

- A. Construct forms mortar tight, true to required lines, grades, and surfaces to obtain smooth, uniform concrete surfaces.
- B. Set embedded items prior to concrete placement. Use setting drawings, diagrams, instructions, and directions provided by suppliers of the items to be attached thereto.
- C. Shores and Braces: Install as necessary to support construction loadings and as required to maintain required tolerances. Comply with ACI 347.
- D. Leave forms in place a minimum of 3 days before removal. Leave forms for suspended slabs in place at least 7 days or until concrete has attained 75 percent of its specified strength.
- E. During period that forms are in place on concrete, keep wet at all times. Wet down concrete after removal of forms, and keep wet for 7 days after concrete is placed or spray with curing compound. Use trigger operated spray nozzles for water hoses.
- F. Remove forms carefully to avoid damaging corners and edges of exposed concrete. Upon removal of forms cut off bolts, wires and other projections of formwork anchorage.

END OF SECTION 03 10 00

SECTION 03 20 00 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Sections
 - 1. Section 03 10 00 Concrete Forming and Accessories
 - 2. Section 03 30 00 Cast-in-Place Concrete
- B. See Structural Notes in drawing set. In case of discrepancy, Structural Notes will govern.

1.2 REFERENCES

- A. American Concrete Institute (ACI).
 - 1. ACI 301 - "Specifications for Structural Concrete for Buildings."
 - 2. ACI 318 - "Building Code Requirements for Reinforced Concrete."
 - 3. SP-66 - "ACI Detailing Manual."
- B. ASTM International (ASTM).
 - 1. A 82 - "Specification for Steel Wire, Plain, for Concrete Reinforcement."
 - 2. A 185 - "Specification for Steel Welded Wire Reinforcement, Plain, for Concrete."
 - 3. A 615 - "Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement."
- C. Concrete Reinforcing Steel Institute (CRSI).
 - 1. "Manual of Standard Practice."
- D. International Building Code (IBC).

1.3 SUBMITTALS

- A. Shop Drawings: Show bar schedules, stirrup spacing, diagrams of bent bars, and arrangement and assemblies. Make Shop Drawings in accordance with ACI SP-66.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform with applicable requirements of IBC Chapter 19, and as noted on Structural Drawings.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver reinforcement to jobsite bundled, tagged, and marked. Use metal tags indicating bar size, lengths, and other information corresponding to markings shown on placement diagrams.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Reinforcing Bars: In accordance with requirements of ASTM A 615, and as noted on Structural Drawings.
- B. Steel Wire: Cold-drawn steel wire in accordance with requirements of IBC Chapter 19 and ASTM A 82.
- C. Tie Wire: American Wire 16-gage or heavier black annealed wire.
- D. Supports for Reinforcement: Bolsters chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement in place:
 - 1. Use wire bar type supports complying with CRSI recommendations, unless otherwise shown or specified. Do not use wood, brick or other similar materials.
 - 2. For slabs on grade, use concrete blocks or supports with sand plates or horizontal runners where base material will not support chair legs.
 - 3. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with either hot-dip galvanized or plastic protected legs.

2.2 FABRICATION

- A. Fabricate reinforcing bars to conform to required shapes and dimensions, with fabrication tolerances complying with CRSI. Provide elbow bars to lap horizontal bars at all corners and intersections. All hooks shall be "Standard" in accordance with ACI 318. In case of fabricating errors, do not re-bend or straighten reinforcement in a manner that will injure or weaken material.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Place reinforcing steel in accordance with Drawings, reviewed Shop Drawings, and applicable requirements of codes and standards. Install reinforcement accurately and securely against movement, particularly under the weight of workers and the placement of concrete.
- B. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which might reduce or destroy bond with concrete.
- C. Position, support, and secure reinforcement against displacement by formwork, construction, or concrete placement operations. Locate and support reinforcing by metal chairs, runners, bolsters, spacers, and hangers as required.
- D. Splices: Provide standard reinforcement splices by lapping ends, placing bars in contact, and tightly wire tying. Splice lengths shall be per the Structural Drawings.

END OF SECTION 03 20 00

SECTION 03 30 00 – CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Sections
 - 1. Section 03 10 00 Concrete Forming and Accessories
 - 2. Section 03 20 00 Concrete Reinforcing
 - 3. Section 07 26 00 Vapor Barrier
- B. Related Documents
 - 1. See Structural Notes in drawing set. In case of discrepancy, Structural Notes will govern.

1.2 REFERENCES

- A. American Concrete Institute (ACI).
 - 1. ACI 301 - "Specifications for Structural Concrete for Buildings."
 - 2. ACI 304R - "Guide for Measuring, Mixing, Transporting, and Placing Concrete."
 - 3. ACI 318 - "Building Code Requirements for Reinforced Concrete."
- B. ASTM International (ASTM).
 - 1. C 31 - "Practice for Making and Curing Concrete Test Specimens in the Field."
 - 2. C 33 - "Specification for Concrete Aggregates."
 - 3. C 39 - "Test Method for Compressive Strength of Cylindrical Concrete Specimens."
 - 4. C 94 - "Specification for Ready-Mixed Concrete."
 - 5. C 143 - "Test Method for Slump of Hydraulic-Cement Concrete."
 - 6. C 150 - "Specification for Portland Cement."
 - 7. C 172 - "Practice for Sampling Freshly Mixed Concrete."
 - 8. C 260 - "Specification for Air-Entraining Admixtures for Concrete."
 - 9. C 618 - "Specification for Coal Fly-Ash and Raw or Calcined Natural Pozzolan for Use in Concrete."
 - 10. D 1751 - "Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types)."
- C. International Building Code (IBC).

1.3 SUBMITTALS

- A. Mix designs, for each proposed mix, prepared by Testing Agency.
- B. Plan and schedule of concrete placement. Show construction, contraction and expansion joints.
- C. Fly-ash percentage.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform with applicable requirements of IBC Chapter 19, and as noted on Structural Drawings.

1.5 PROJECT CONDITIONS

- A. Unless adequate protection is provided and acceptance is obtained, concrete shall not be placed during rain, sleet, or snow.
- B. Rainwater shall not be allowed to increase mixing water nor to damage surface finish.
- C. When temperature of surrounding air is expected to be below 40 degrees F during placing or within 24 hours after placing, temperature of plastic concrete, as placed, shall be no lower than 55 degrees F for sections less than 12 inches in any dimension nor 50 degrees F for any other sections. Temperature of concrete as placed shall not exceed 90 degrees F.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Portland Cement: Type I or II, ASTM C 150.
- B. Standard Weight Aggregates: per the Structural Drawings.
- C. Fly-ash: per the Structural Drawings. Use of post-industrial recycled content fly-ash is encouraged.
- D. Water: Clean, potable, and free of deleterious materials.
- E. Air Entraining Admixtures: ASTM C 260.
- F. Curing Materials:
 - 1. Fiber reinforced asphaltic vapor barrier Kraft paper.
 - 2. Polyethylene sheet, 4-mil thickness.
 - 3. Curing Compound: Curecrete Chemical Company, Inc., Ashford Formula Concrete Treatment; or approved; compatible with finish flooring material adhesives.
- G. Premolded Joint Filler: ASTM D 1751.

2.2 MIXES

- A. The various concrete mixes to be used are as noted on Structural Drawings
 - 1. Provide air entrainment in all concrete subject to freezing after curing.
 - 2. Concrete mixes shall comply with ASTM C 94. Proportioning shall comply with Option C; mixing and transporting shall comply with requirements for Truck-Mixed Concrete.

2.3 SOURCE QUALITY CONTROL

- A. Testing Laboratory will review mix designs, certificates of compliance, and samples.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Chip keys and roughen existing concrete surfaces where new concrete abuts.
- B. Provide vapor retarder and slab casting base as specified in Section 07 26 00.
- C. Remove foreign matter accumulated in forms. Wet wood forms sufficiently to tighten up cracks. Wet other materials sufficiently to reduce suction and maintain workability of concrete mix. Wet subgrade surfaces immediately prior to placing slabs on grade. Use trigger operated spray nozzles for water hoses.

3.2 INSTALLATION

- A. Placing Concrete:
 - 1. Transport concrete from batching plant to place of final deposit as rapidly as practicable. Place concrete before initial set has occurred per ASTM C94 Guidelines.
 - 2. Pour all concrete monolithically unless shown otherwise or approved prior to placement.
 - 3. Convey concrete from mixer to forms as rapidly as possible and deposit as nearly as practicable in its final position by methods which will prevent segregation or loss of ingredients.
 - 4. Thoroughly vibrate and tamp concrete so that all parts of forms are filled and so that no voids remain in mass or on surface. Take special care to Work concrete through and around reinforcing steel. Provide concrete cover on reinforcing steel as follows:
 - a. Concrete cast against and permanently exposed to earth - 3 inches.
 - b. All other – per the Structural Drawings.
 - 5. Embed anchor bolts per the Structural Drawings.
- B. Finishing Concrete:
 - 1. General: Vibrate to compact, screed, level, and tamp with a grid tamper to raise a thin mortar bed to the surface. Trowel after concrete has hardened sufficiently to prevent drawing moisture to the surface. Do not dust with dry materials.
 - 2. Interior Floor Slabs: Steel trowel and tool joints.
 - 3. Sidewalks, Exterior Slabs on Grade and Curbs: Steel trowel and medium broom finish.
- C. Curing Concrete:
 - 1. Interior Slabs: Apply curing compound, cover and maintain free moisture for 7 days.
 - 2. Exterior Flatwork: Apply curing compound after finishing. Apply a second coat 24 hours after pouring.

- D. Tolerances:
 - 1. Interior and Exterior Slabs: 1/4 inch in 10 feet.
- E. Patching: Patch tie holes, defective pour joints, projections, and rock pockets immediately after form removal. Sack finish exterior exposed concrete surfaces, over 12 inches high, to blend with adjacent surfaces or as required by Architect because of voids or form lines.

3.3 FIELD QUALITY CONTROL

- A. Testing Laboratory will perform slump tests in accordance with ASTM C 172 and C 143, and strength tests in accordance with ASTM C 31 and C 39.

END OF SECTION 03 30 00

SECTION 03 54 16 - HYDRAULIC CEMENT UNDERLAYMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes hydraulic-cement-based, polymer-modified, self-leveling underlayment for application below interior floor coverings.
- B. Related Sections:
 - 1. Section 09 65 00 – Resilient Flooring
 - 2. Section 09 68 00 – Carpeting

1.2 SUSTAINABILITY REQUIREMENTS

- A. General: Comply with all applicable Sustainable requirements as specified in this Contract Document, including the following.
 - 1. 01 81 13 – Sustainability Requirements
- B. Submittals:
 - 1. Product Data: Submit product data highlighting sustainability specific data as required for this Specification Section. Clearly distinguish sustainability data from other general product data required for each Specification Section.

1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Installer who is approved by manufacturer for application of underlayment products required for this Project.
- B. Product Compatibility: Manufacturers of underlayment and floor-covering systems certify in writing that products are compatible.
- C. Floor level after completion shall comply with tolerances specified in Part 3 of this specification.

PART 2 - PRODUCTS

2.1 HYDRAULIC-CEMENT-BASED UNDERLAYMENTS

- A. Underlayment: Hydraulic-cement-based, polymer-modified, self-leveling product that can be applied in minimum uniform thickness of 1/4 inch and that can be feathered at edges to match adjacent floor elevations.
 - 1. Products: Subject to compliance with requirements, provide one of the following:
 - a. Bonsal American, an Oldcastle company; ProSpec Level Set LW-60.
 - b. MAPEI Corporation; Ultraplan 1 Plus.
 - c. RAECO, Inc.; S.L.U.
 - d. Ardex K-15 Self leveling compound.
 - e. LSM Construction Chemicals Inc. Levelex.
 - 2. Cement Binder: ASTM C 150, portland cement, or hydraulic or blended hydraulic cement as defined by ASTM C 219.
 - 3. Compressive Strength: Not less than 4000 psi at 28 days when tested according to ASTM C 109/C 109M.
 - 4. Underlayment Additive: Resilient-emulsion product of underlayment manufacturer, formulated for use with underlayment when applied to substrate and conditions indicated.
- B. Aggregate: Well-graded, washed gravel, 1/8 to 1/4 inch; or coarse sand as recommended by underlayment manufacturer.
 - 1. Provide aggregate when recommended in writing by underlayment manufacturer for underlayment thickness required.
- C. Water: Potable and at a temperature of not more than 70 deg F.
- D. Reinforcement: For underlayment applied to wood substrates, provide galvanized metal lath or other corrosion-resistant reinforcement recommended in writing by underlayment manufacturer.
- E. Primer: Product of underlayment manufacturer recommended in writing for substrate, conditions, and application indicated.

PART 3 - EXECUTION

3.1 PREPARATION

- A. General: Contractor to prepare and clean substrate according to manufacturer's written instructions.
 - 1. Treat nonmoving substrate cracks to prevent cracks from telegraphing (reflecting) through underlayment.
 - 2. Fill substrate voids to prevent underlayment from leaking.
- B. Concrete Substrates: Mechanically remove laitance, glaze, efflorescence, curing compounds, form-release agents, dust, dirt, grease, oil, and other contaminants that might impair underlayment bond.
- C. Adhesion Tests: After substrate preparation, test substrate for adhesion with underlayment.

3.2 APPLICATION

- A. General: Mix and apply underlayment components according to manufacturer's written instructions.
 - 1. Close areas to traffic during underlayment application and for time period after application recommended in writing by manufacturer.
 - 2. Coordinate application of components to provide optimum underlayment-to-substrate and intercoat adhesion.
 - 3. At substrate expansion, isolation, and other moving joints, allow joint of same width to continue through underlayment.
- B. Apply primer over prepared substrate at manufacturer's recommended spreading rate.
- C. Apply underlayment to produce uniform, level surface.
 - 1. Concrete shall be level within .25" over a 50 foot span.
 - 2. Apply a final layer without aggregate to product surface.
 - 3. Feather edges to match adjacent floor elevations.
 - 4. True-to-edge maximum gap between floor and straight edge = 0.0625".
- D. Cure underlayment. Prevent contamination during application and curing processes.
- E. Do not install floor coverings over underlayment until after time period recommended in writing by underlayment manufacturer.
- F. Remove and replace underlayment areas that evidence lack of bond with substrate, including areas that emit a "hollow" sound when tapped.

END OF SECTION 03 54 16

SECTION 04 22 00 – CONCRETE UNIT MASONRY

PART 1 - GENERAL

1.1 RELATED SECTIONS

- A. Section 07 19 00 – Water Repellents.

1.2 RELATED DOCUMENTS

- A. See Structural Notes in drawing set. In case of discrepancy, Structural Notes govern.

1.3 SUBMITTALS

- A. Shop Drawings: For reinforcing steel. Detail bending and placement of unit masonry reinforcing bars. Comply with ACI 315, "Details and Detailing of Concrete Reinforcement."
- B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.
 - 1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C 109/C 109M for compressive strength, ASTM C 1506 for water retention, and ASTM C 91 for air content.
 - 2. Include test reports, according to ASTM C 1019, for grout mixes required to comply with compressive strength requirement.

1.4 QUALITY ASSURANCE

- A. Masonry Standard: Comply with ACI 530.1/ASCE 6/TMS 602 unless modified by requirements in the Contract Documents.

PART 2 - PRODUCTS

2.1 MASONRY UNITS, GENERAL

- A. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated in the standard. Do not use units where such defects will be exposed in the completed Work.
- B. Fire-Resistance Ratings: Where indicated, provide units that comply with requirements for fire-resistance ratings indicated as determined by testing according to ASTM E 119, by equivalent masonry thickness, or by other means, as acceptable to authorities having jurisdiction.

2.2 CONCRETE MASONRY UNITS

- A. Shapes: Provide 8" modular shapes indicated and for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.

- B. CMUs: ASTM C 90 by Mutual Materials or approved.
 - 1. Density Classification: Normal weight unless otherwise indicated.
 - 2. Provide liquid admixture water repellent; RainBloc by Mutual Materials or equivalent.
 - 3. Color & Texture: Grey, smooth face.

2.3 MORTAR AND GROUT MATERIALS

- A. Specified in Section 04 05 13.
- B. Water-Repellent Admixture: Liquid water-repellent mortar admixture intended for use with CMUs, containing integral water repellent by same manufacturer.
 - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Grace Construction Products, W. R. Grace & Co. - Conn.; Dry-Block Mortar Admixture.

2.4 REINFORCEMENT

- A. Uncoated Steel Reinforcing Bars: ASTM A 615/A 615M or ASTM A 996/A 996M, Grade 60.

2.5 TIES AND ANCHORS

- A. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated.
 - 1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A 82/A 82M; with ASTM A 153/A 153M, Class B-2 coating.
 - 2. Steel Sheet, Galvanized after Fabrication: ASTM A 1008/A 1008M, Commercial Steel, with ASTM A 153/A 153M, Class B coating.
 - 3. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Adjustable Anchors for Connecting to Concrete: Provide anchors that allow vertical or horizontal adjustment but resist tension and compression forces perpendicular to plane of wall as indicated in Structural Drawings.

PART 3 - EXECUTION

3.1 LAYING MASONRY WALLS

- A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.
- B. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

- C. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.
- D. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.
- E. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.
- F. Where built-in items are to be embedded in cores of hollow masonry units, place a layer of metal lath, wire mesh, or plastic mesh in the joint below and rod mortar or grout into core.
- G. Fill cores in hollow CMUs with grout 24 inches under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.2 MORTAR BEDDING AND JOINTING

- A. Lay hollow CMUs as follows:
 - 1. With face shells fully bedded in mortar and with head joints of depth equal to bed joints.
 - 2. With webs fully bedded in mortar in all courses of piers, columns, and pilasters.
 - 3. With webs fully bedded in mortar in grouted masonry, including starting course on footings.
 - 4. With entire units, including areas under cells, fully bedded in mortar at starting course on footings where cells are not grouted.
- B. Lay solid masonry units with completely filled bed and head joints; butter ends with sufficient mortar to fill head joints and shove into place. Do not deeply furrow bed joints or slush head joints.
- C. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.
- D. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.3 REPAIRING, POINTING, AND CLEANING

- A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:
 - 1. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
 - 2. Clean concrete masonry by cleaning method indicated in NCMA TEK 8-2A applicable to type of stain on exposed surfaces.

END OF SECTION 04 22 00

SECTION 05 50 00 – METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide miscellaneous steel fabricated and similar items as shown and specified.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. A 36 - "Specification for Carbon Structural Steel."
 - 2. A 53 - "Specification for Pipe, Steel, Black, and Hot-Dipped, Zinc-Coated Welded and Seamless."
 - 3. A 153 - "Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware."
 - 4. A 307 - "Specification for Carbon Steel Bolts and Studs, 60,000 PSI Tensile Strength."
 - 5. A 501 - "Specification for Hot-Formed Welded and Seamless Carbon Steel Structural Tubing."
 - 6. A 1011 - "Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy and High-Strength Low-Alloy with Improved Formability."
 - 7. B 6 - "Specification for Zinc."
- B. American Welding Society (AWS).
 - 1. D1.1 - "Structural Welding Code."
- C. Federal Specifications (FS).
 - 1. TT-C-490 - "Cleaning Methods for Ferrous Surfaces and Pretreatments for Organic Coatings"
- D. International Building Code (IBC).
- E. The Society for Protective Coatings (SSPC).
 - 1. "Painting Manual."

1.3 SUBMITTALS

- A. Shop Drawings for all fabricated items including all connections, field joints, and finishes.

1.4 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Metal Fabrications: Meet applicable requirements of IBC Chapter 22.
 - 2. Handrails and Railings: Meet or exceed applicable requirements of IBC Chapter 10.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Standard Structural Steel Shapes, Bars, and Plates: ASTM A 36.
- B. Structural Tubing: ASTM A 501 welded or seamless steel.
- C. Architectural and Miscellaneous Steel: ASTM A 53 Type E or S, Grade B galvanized for exterior use.
- D. Flat Plates and Sheets: ASTM A 1011, standard mill steel, Grade 30 where 3/16 inch or less thick, otherwise ASTM A 36.
- E. Typical Unfinished Bolts, Nuts, and Washers: Low carbon steel standard fasteners, externally and internally threaded, ASTM A 307; malleable washers.
- F. Expansion Bolts: Phillips wedge rod anchors, Wej-It, Kwik-bolt. Reverse cone, self-wedging, expansion type. Tightening of nut or increased tension on bolt shank shall act to force wedges outward to create positive increased resistance to withdrawal.
- G. Powder actuated Devices: Tempered steel pins with special corrosion resistant finish. Provide guide washers to accurately control penetration. Accomplish fastening by low-velocity piston-driven powder- actuated tool. Pins and tool: Hilti Fastening Systems, Impex Tool Corporation.
- H. Welding Electrodes: In accordance with AWS D1.1.
- I. Primer: Rust-inhibitive type. Fuller-O'Brien Corporation; The Glidden Company; Sinclair Paint Company; or approved.
- J. Zinc for Galvanizing: ASTM B 6.

2.2 FABRICATION

- A. Fabricate by firms or shops experienced and skilled in custom fabrication and construction of metal fabrications and miscellaneous metal.
 - 1. Drill or punch holes, do not use cutting torch. Miter corners and angles of frames unless otherwise noted.
 - 2. Welding: Shielded electric arc process complying with AWS D1.1.
- B. Fabricated Items:
 - 1. Miscellaneous metal fabricated items are not necessarily individually described. Provide all miscellaneous items not described as required to complete. metal fabrications Work.
 - 2. Bollards: Standard Weight galvanized steel pipe, nominal 6 inch by 66 inches long, embed bottom 24 inches in concrete and fill core with concrete. Finish top to uniform convex surface.
 - 3. Miscellaneous Metal: Provide all miscellaneous steel angles, channels, plates and shapes, threaded rods, pipe, bolts, nuts, washers, spacers, and fastenings shown or required to complete the Work.

4. Galvanize items which will be exposed to weather in the completed Work or as shown.
5. Bolts and screws for attachment of galvanized items shall be galvanized in accordance with ASTM A 153, or of non-corrodible material.
6. Cleaning and Painting: Conform with SSPC for cleaning steel and for application.
7. Prior to application of shop prime coat clean and treat ferrous metal surfaces in accordance with FS TT-C-490 to assure maximum paint adherence.
8. Ferrous metalwork shall be given a shop coat of zinc-chromate rust-inhibitive metal primer or other approved rust-inhibitive metal primer standard with the metalwork manufacturer and compatible with finished coats specified in Section 09 90 00. Apply by spray method.
9. Galvanized metal surfaces shall be given a shop coat of approved galvanized primer standard with manufacturer. Apply by spray method.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Metal fabrications and miscellaneous metalwork shall be installed plumb, true, rigid, and neatly trimmed out, in accordance with Drawings and reviewed shop drawings, by mechanics and workers skilled and experienced in the installation of the type of Work involved.
- B. Install metal fabrications and miscellaneous metalwork with all accessories furnished by the fabricator as required for complete and finished installations.
- C. Field Painting: After installation, damaged surfaces, field bolts and fasteners, and all welds shall be touched up and spot painted with the same corrosion- inhibitive primer used for shop painting.

END OF SECTION 05 50 00

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Documents
 - 1. See Structural Notes in drawing set. In case of discrepancy, Structural Notes will govern.

1.2 REFERENCES

- A. American Plywood Association (APA).
 - 1. "Guide to Plywood Grades."
- B. ASTM International (ASTM):
 - 1. A 307 - "Specification for Carbon Steel Bolts and Studs. 60,000 PSI Tensile Strength."
 - 2. D 3201 - "Test Method for Hygroscopic Properties of Fire-Retardant Wood and Wood-Based Products."
 - 3. E 497 - "Practice for Installing Sound-Isolating Lightweight Partitions."
- C. Federal Specifications (FS).
 - 1. TT-W-571 - "Wood Preservation: Treating Practices."
- D. International Building Code (IBC).
- E. United States Product Standard (PS).
 - 1. PS-1 - "Construction and Industrial Plywood."
- F. West Coast Lumber Inspection Bureau (WCLIB).
 - 1. "Standard Grading Rules for West Coast Lumber No. 16."
- G. Western Wood Products Association (WWPA).
 - 1. "Grading Rules for Lumber."
- H. South Coast Air Quality Management District (SCAQMD)
 - 1. Rule 1168 – Low / No VOC Adhesives and Caulks
 - a. Maximum allowed VOC Levels (G/L) as indicated

VOC Limit Product Type	G/L
Wood Flooring Adhesives	100
Subfloor Adhesives	50
Drywall and Panel Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Structural Wood Member Adhesive	140
Architectural Sealants, Including Caulk	250

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: Conform with applicable requirements of IBC Chapter 23 and as noted on Structural Drawings.
- B. Certifications:
 - 1. Each piece of lumber shall bear the grade mark of WCLIB or WWP, and each mill shipment to the site shall be accompanied by a certificate of inspection by WCLIB or WWP.
 - 2. Each piece of plywood shall be grade stamped in accordance with APA "Guide to Plywood Grades," in conformance with requirements of PS-1.

1.4 SUBMITTALS

- A. Show compliance with SCAQMD Rule 1168 Low/No VOC Adhesives and Caulks
- B. Show compliance with no added urea formaldehyde (NAUF) for Composite Wood Products.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Sills and all Wood in Contact with Concrete, Masonry, or Earth: Pressure-treated Hem-fir. See the Structural Drawings for additional requirements.
- B. Lumber: Species and Grades in accordance with WCLIB, Standard Grading Rules for West Coast Lumber No. 16, and WWP, Western Lumber Grading Rules, latest editions as noted on Structural Drawings.
- C. Plywood: U.S. Product Standard PS 1, and as noted on Structural Drawings.
 - 1. Roof Sheathing: APA RATED PLYWOOD, Exposure 1, T & G edges or panel clips, 1/2 inch nominal thickness.
 - 2. Wall Sheathing: APA RATED OSB OR PLYWOOD SHEATHING, Exposure 1, 1/2 inch nominal thickness.
- D. Adhesive: APA Specification AFG-01.
- E. Rough Hardware: Hot-dipped galvanize exterior hardware.
 - 1. Nails: Common wire galvanized, at exposed locations and all fastening to treated wood, coated sinkers or galvanized box at concealed locations.
 - 2. Screws: Self-drilling, self-tapping, corrosion resistant, Phillips wafer head.
 - 3. Powder actuated Devices: Tempered steel pins with special corrosion resistant finish. Provide guide washers to accurately control penetration. Accomplish fastening by low-velocity piston-driven powder-actuated tool. Pins and Tool: Hilti Fastening Systems, Impex Tool Corporation.

4. Expansion Bolts: per the Structural Drawings.
 5. Bolts, Nuts, and Washers: ASTM A 307, galvanized, Hex head. Provide standard cut washers at all bolt heads and nuts bearing on wood or concrete except where the larger washers required by the Structural Drawings.
 6. Metal Timber Framing Connectors: Simpson Company "Strong Tie"; Silver; or approved; types as shown. Fabricate from hot-dipped galvanized steel, unless otherwise shown or specified, punched for nailing. Provide full nailing or bolting in accordance with manufacturer's recommendations. Provide a catalog-specified fastener for each punched hole.
 7. Miscellaneous Hardware: Provide all common screws, bolts, fastenings, washers, and nuts required to complete rough carpentry Work.
- F. Preservative Treatment: per the Structural Drawings.
- G. Fire Retardant Treatment: Conform with requirements of AWWA C-20 and C-27, Type A, when tested in accordance with ASTM D 3201. Acceptable products include Hickson Corporation, DRICON, or approved.

2.2 FABRICATION

- A. Lumber:
1. Typical: Kiln-dry to maximum 19 percent moisture content at time of surfacing. Pressure-treated lumber shall be similarly kiln dried after preservative treatment.
 2. Furnish surfaced four sides, S4S, unless otherwise specified.
 3. Size in accordance with rules of governing standard. Sizes shown are nominal unless otherwise specified.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Coordination:
1. Prior to bidding, contact local regulatory authorities having jurisdiction to identify, and comply with, any special framing, blocking or backing details, or caulking conditions as may be required for structural or fire stopping, or energy code requirements.
 2. Coordinate with Work of other Sections to ensure that all fixtures, devices, switches, outlets, ducts, pipes, and similar items can be installed as shown without modifications to framing. Provide all blockouts, raceways and similar framing as required.
- B. General: Fit accurately. Secure rigidly, to lines and levels shown, plumb and square to a tolerance of 1/8 inch in 10 feet. Provide any special framing, even if not specifically shown, as required to properly complete Work.
- C. Blocking:
1. Provide all wood blocking, backing, furring, grounds, nailers, stripping, and similar rough carpentry as detailed and as otherwise required to anchor fixtures and equipment to be installed by other trades. Perform all cutting, boring and similar Work.

2. Provide continuous 16" wide, 16 gauge metal strapping for all wall mounted or wall supported items and accessories. Confirm locations with Owner or Architect prior to application of covering materials.
 3. Provide additional studs or blocking as required to assure solid end and edge nailing for all siding and facias.
 4. Provide additional blocking as required for edge nailing of all soffit materials at all soffits and overhangs.
 5. Provide blocking or bracing as required to make interior walls rigid.
- D. Framing: Provide as specified unless otherwise noted on Structural Drawings.
1. Provide fiberglass sill sealer under bottom plate of all exterior walls.
 2. Remove all wood used in forming and placing concrete if within the ground or between foundation sills and ground. Remove all loose or casual wood in contact with the ground from under the building.
 3. Studs, Joists, Beams, and Posts: Install all members true to line. Shims shall be seasoned, dried, and same Grade (minimum) as members connected. Place joists with crown up; maximum 1/4 inch crown permitted.
 4. Maintain minimum 6 inch clearance between any wood and earth, or provide approved wood as specified.
 5. Provide positive connection between post support and post, and between post and beam sufficient to ensure against uplift and lateral displacement.
 - 6.
 7. Support all joists laterally at ends and over supports with 2 inch wide by full joist depth solid blocking, rim joist, joist hanger, or other approved means.
 8. See Structural Drawings for allowable holes and notches in wood members.
 9. Support joists framing into sides of wood girders by framing anchors.
 10. Double all trimmers and headers framing openings or provide lumber of equivalent cross section. Support each end with proper sized framing anchors unless adequate bearing is provided through other means. Support tail joists with proper sized framing anchors.
 11. Provide double top plate, overlap at corners and intersections with all partitions. Offset end joints 4 feet minimum.
 12. All studs shall have full bearing on a plate or sill not less than 2 inches in thickness, and having a width not less than that of stud.
 13. Effectively brace all exterior and main cross stud partitions, by an approved method, at each end or as near thereto as possible, and at a maximum 8 feet of length.
 14. Provide all openings in bearing walls with header framing per the Structural Drawings.
 15. Provide fire stopping, of non-combustible material or 2 inch nominal wood members, to cut off concealed openings (both vertical and horizontal), to form an effective barrier between floors, between top story and roof or attic space, and as follows:
 - a. In concealed spaces between stair stringers at top and bottom of run.
 - b. Between studs along and in line with run of stairs.
 - c. Around vent pipes, ducts, and similar penetrations at ceiling and floor levels which afford a passage for fire.
 16. Provide metal nail plates in all locations where plumbing or wiring comes within 1-1/4 inch of the edge of any stud.

17. Frame stud partitions containing plumbing, heating, or other pipes, and space joists underneath to provide proper clearance. Where a partition containing such piping runs parallel to joists double, space, and bridge joists to permit passage of piping. Where such piping is placed in or partly in a partition requiring cutting of soles or plates provide metal ties minimum 1/8 inch thick and 1-1/2 inch wide. Fasten across and to each side of opening with not less than 4 - 16d nails.
 18. Lumber, Plywood, and Particleboard: Comply with applicable standards and grading rules of appropriate Association, and identified by Grade mark of approved inspection agency.
- E. Nailing: Conform to IBC Table 2304.9.1 for all nailing unless otherwise noted on Structural Drawings.
1. Staples or other power driven fasteners, with equivalent capacity of fasteners shown or specified, may be substituted only with prior written approval of Building Official and Architect.
- F. Plywood Subflooring:
- 1.
- G. Plywood Roof Sheathing:
1. Lay up with face grain perpendicular to supports, with panel continuous over two or more spans, end joints over framing, and end laps staggered.
 2. Provide edge support by use of 2X4 flat solid blocking. Allow 1/8 inch spacing at panel ends and edges.
 3. Nail per the Structural Drawings.
- H. Plywood Wall Sheathing:
1. Lay up with face grain perpendicular to supports, with panel continuous over two or more spans, end joints over framing, and end laps staggered. Block all shearwall panel edges with 2X4 flatwise.
 2. Nail per the Structural Drawings.
- I. All wood members in contact with concrete shall be pressure treated per the Structural Drawings. Field treat all cuts and holes per the Structural Drawings.
- J. Framing for Sound-Retardant Partitions: Comply with applicable requirements of ASTM E 497.

END OF SECTION 06 10 00

SECTION 06 20 00 – FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED SECTIONS

- A. Section 02 41 19 – Selective Demolition

1.2 REFERENCES

- A. American Plywood Association (APA).
- B. Architectural Woodwork Institute (AWI).
- C. United States Product Standard (PS).
1. PS-1 - "Construction and Industrial Plywood."
- D. South Coast Air Quality Management District (SCAQMD)
1. Rule 1168 – Low / No VOC Adhesives and Caulks
- a. Maximum allowed VOC Levels (G/L) as indicated

VOC Limit Product Type	G/L
Wood Flooring Adhesives	100
Rubber Flooring Adhesives	60
Subfloor Adhesives	50
Drywall and Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Structural Wood Member Adhesive	140
Architectural Sealants, Including Caulk	250

1.3 SUBMITTALS

- A. Shop Drawings: Show materials, methods of fabrication, and details of installation.
- B. Samples: Furnish required samples with finishes specified.
- C. Proof of compliance with ESDS 6.2 Low/No VOC adhesives and Sealants and 7.1 Composite Wood Products that contain Emit Low / No Formaldehyde (NAUF).

1.4 QUALITY ASSURANCE

- A. Qualifications: Provide finish carpentry Work in accordance with AWI "Quality Standards," in the grades specified.
- B. Show compliance with SCAQMD Rule 1168 Low/No VOC Adhesives and Caulks
- C. Show compliance with no added urea formaldehyde (NAUF) for Composite Wood Products.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Trim:
 - 1. Exterior: Tight Knot Western Red Cedar, Paint Grade, Sizes as indicated.
 - 2. Interior: Western Hemlock, or finger jointed primed, paint grade, sizes as indicated.
- B. Telephone Terminal Board: Douglas fir BC Grade interior plywood, 3/4 inch thick, size as shown. Edge band with 1/2 inch hardwood on exposed edges.
- C. Window Sills and Apron: Plastic laminate over exterior plywood substrate.
- D. Corner Guards: InPro Corp or approved equal. Clear 1 1/8" x 1 1/8" x .075".
4' lengths with fasteners
 - 1. PLAM color: TBD.
- E. Fasteners:
 - 1. As shown, specified, and as required to securely install materials.
 - 2. Size of fasteners for siding and paneling shall be as recommended by manufacturer.
- F. Joint Sealant: As specified in Section 07 92 00.

2.2 FABRICATION

- A. Conform with AWI "Quality Standards," Section 300, Custom Grade requirements as applicable. Standard wood moldings shall conform with Western Wood Product Association WP Series, where applicable.
- B. Window sills as shown: Plastic laminate with plastic laminate over NAVF EXT plywood. Color and pattern as selected.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install all millwork in accordance with reviewed Shop Drawings and AWI "Quality Standards."
- B. Cope internal corners and miter external corners at all standing and running trim.
- C. Provide running trim in as long lengths as practical. Make splices with 45 degree butt joints.
- D. Install materials straight and true. Leave 1/8 inch space between ends of exterior trim, seal joint. Tightly butt ends of interior trim.

- E. In exterior Work drive nail heads flush with surface of siding and trim. Maintain nailing pattern in straight horizontal lines.
- F. At interior Work countersink nails and fill nail holes.
- G. Machine sand trim and finish with hand sanding. Leave free from machine or tool marks that will show through finishes specified. Ease all edges of trim.
- H. Install all finish hardware, accurately fit, securely apply, and carefully adjust to provide smooth and proper operation of all hardware.
- I. Miscellaneous Items: Install all items shown and specified, which are not called for to be installed under other Sections, to plumb, true, and level lines and positions. Install in accordance with details, manufacturer's printed instructions and additional requirements specified. Provide connections and miscellaneous items required to make Work of this Section complete. Securely fasten wall and ceiling mounted items to solid backing or blocking.

3.2 CLEANING

- A. Remove dirt and other foreign matter from installed materials.
- B. Upon completion of installation, leave materials clean and ready for finishing.

END OF SECTION 06 20 00

SECTION 07 11 13 – BITUMINOUS DAMPPROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide bituminous dampproofing to below grade foundation walls.

1.2 SUBMITTALS

- A. Product Data: Manufacturer's material specifications and recommended installation instructions for application over substrates on Project.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packaging, with labels intact and legible.
- B. Store materials protected from damage and between temperature limits recommended by manufacturer.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Dampproofing: Atco #1931 Roof Primer (2 coats), Karnak Corporation, Karnak 100 Non-Fibrated Emulsion Coating, or approved.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that surfaces to receive dampproofing are free from dirt and debris, that voids and cracks are filled and that ridges and fins are removed leaving a smooth, firm surface.
- B. Verify that concrete has cured the minimum period recommended by dampproofing materials manufacturer.

3.2 APPLICATION

- A. Apply uniform coating of dampproofing material by brush or spray, flowing the material on the surface to obtain a smooth and uniform film at the rate of not less than 2 to 3 gallons per 100 square feet.

3.3 CLEANING

- A. Clean material from adjacent surfaces and any surfaces exposed to view.

END OF SECTION 07 11 13

SECTION 07 21 00 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Glass-fiber blanket insulation.
 - 2. Rigid insulation (other than roof).
 - 3. Closed cell spray foam insulation (at difficult reach/seal locations).
- B. Related Sections
 - 1. Section 07 50 00 – Thermoplastic Roofing System

1.2 REFERENCES

- A. ASTM C 423 - Standard Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method; 2000.
- B. ASTM C 518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 1998.
- C. ASTM C 612 - Standard Specification for Mineral Fiber Block and Board Thermal Insulation; 2000a.
- D. ASTM C 665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 1998.
- E. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2000a.
- F. NAIMA - Recommendations for Installation in Residential and Other Light-Frame Construction - Fiber Glass Building Insulation; North American Insulation Manufacturers Association; 1999.

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements: International Building Code; Washington State Energy Code – Commercial Project (WSEC)

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Product test reports.
- C. Research/evaluation reports.

PART 2 - PRODUCTS

2.1 GLASS-FIBER BLANKET INSULATION

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal:
 - 1. Knauf Insulation.
 - 2. Owens Corning.
 - 3. CertainTeed Corporation.
- B. Unfaced, Glass-Fiber Blanket Insulation: ASTM C 665, Type I; with maximum flame-spread and smoke-developed indexes of 25 and 50, respectively, per ASTM E 84; passing ASTM E 136 for combustion characteristics.
- C. Sound Attenuating Insulation: friction-fit fiberglass batt, Type 1, Owens-Corning Sonicbatt or equal. Seal all noise shortcuts: back to back j boxes, above ceiling plane, and sealants around door and relite openings.
- D. Thermal Performance:
 - 1. R-21 at exterior walls
 - 2. R-49 at ceilings
 - 3. R-13 at interior walls

2.2 EXTRUDED POLYSTYRENE FOAM PLASTIC BOARD INSULATION

- A. Manufacturers: Owens Corning or approved equal.
- B. Materials
 - 1. Extruded Polystyrene Board, Type IV ASTM C 578, Type IV, 25-psi minimum compressive strength at vertical wall conditions and Type V 100 PSI at vertical or underslab horizontal conditions; unfaced; maximum flame-spread and smoke-developed indexes of 25 and 450, respectively, per ASTM E 84.
- C. Thermal Performance: R-10 at foundation.

2.3 CLOSED-CELL POLYURETHANE FOAM INSULATION

- A. Low pressure, low expansion, single component polyurethane foam, with maximum flame-spread and smoke-developed indexes of 15 and 25, respectively, per ASTM E 84.
 - 1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; DuPont™ Window & Door Foam.
 - 2. Pressure Build-Up: 0.0247 psi (0.170 kPa) maximum, AAMA 812.
 - 3. Deflection: 0.0050 inch (0.127 mm) maximum, AAMA 812.

2.4 POLYISOCYANURATE BOARD INSULATION

- A. Polyisocyanurate ISO: Rigid board with fiber reinforced facers on both sides, meeting or exceeding the requirements of ASTM C 1289. Carlisle SecurShield Polyiso.
 - 1. Compressive Strength: 20 psi (138 kPa).
 - 2. Density: 2 lb per cubic foot (24 kg/cu m) minimum.
 - 3. R-Value: R-38 at roof.

- B. Tapered Insulation: Provide factory-tapered insulation boards fabricated to slope of 1/4 inch per 12 inches, unless otherwise indicated.
- C. Provide preformed saddles, crickets, tapered edge strips, and other insulation shapes where indicated for sloping to drain. Fabricate to slopes indicated.
- D. Fasteners: Factory-coated steel fasteners and metal or plastic plates meeting corrosion-resistance provisions in FMG 4470, designed for fastening roof insulation to substrate, and acceptable to roofing system manufacturer.
- E. Gypsum Cover Board: ASTM C1177; glass-mat; water resistant gypsum substrate; 1/2 inch thick; "Dens-Deck Prime" by Georgia-Pacific Corporation, Securock, or equivalent.
- F. Insulation and Cover Board Adhesive: As recommended by the manufacturer for the application; FM approved.
- G. Walkways: Provide non skid, contrasting color walkpads in areas of heavy traffic around mechanical equipment and from point of roof access location

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications indicated.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Extend insulation to envelop entire area to be insulated. Cut and fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- D. Provide sizes to fit applications indicated and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units to produce thickness indicated unless multiple layers are otherwise shown or required to make up total thickness.

3.2 INSTALLATION OF BLANKET INSULATION

- A. Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch (76-mm) clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. For metal-framed wall cavities where cavity heights exceed 96 inches (2438 mm), support unfaced blankets mechanically and support faced blankets by taping flanges of insulation to flanges of metal studs.

3.3 INSTALLATION OF SLAB INSULATION

- A. On vertical slab edge and foundation surfaces, set insulation units using manufacturer's recommended adhesive according to manufacturer's written instructions.
 - 1. If not otherwise indicated, extend insulation a minimum of 24 inches below exterior grade line with 45 degree cut top edge of insulation board at slab interface.
- B. On horizontal surfaces, loosely lay insulation units according to manufacturer's written instructions. Stagger end joints and tightly abut insulation units.

3.4 INSTALLATION OF CLOSED CELL SPRAY FOAM INSULATION

- A. Utilize foam insulation at difficult wall to roof and wall to slab/blocking conditions for continuity of tight sealing of air membrane.

END OF SECTION 07 21 00

SECTION 07 25 00 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Commercial weather barrier assemblies.
 - 2. Flexible flashing.
 - 3. Weather barrier flashing.
 - 4. Fluid-applied flashing.
 - 5. Weather barrier accessories.
 - 6. Drainage material.
- B. Related Requirements:
 - 1. Section 07 46 46 Mineral Fiber Cement Siding

1.2 DEFINITIONS

- A. Weather Barrier: A combination of materials and accessories that do the following:
 - 1. Prevents the accumulation of water as a water-resistive barrier.
 - 2. Minimizes the air leakage into or out of the building envelope as a continuous air barrier.
 - 3. Provides sufficient water vapor transmission to enable drying as a vapor-permeable membrane.
- B. Water-Resistive Barrier: A combination of materials and accessories that prevent the accumulation of water within the wall assembly per International Building Code Section 1403.2.
- C. Continuous Air Barrier: The combination of interconnected materials, assemblies, and sealed joints and components of the building envelope that minimize air leakage into or out of the building envelope per ASHRAE 90.1 section 5.4.3.1.
- D. Vapor Diffusion: A slow movement of individual water vapor molecules from regions of higher to lower water vapor concentration (higher to lower vapor pressure).
- E. Vapor Permeable Membrane: The property of having a water-vapor permeance rating of 10 perms or greater, when tested in accordance with the desiccant method using Procedure A of ASTM E 96 per definition in International Building Code. Vapor permeable material permits the passage of moisture vapor through vapor diffusion.

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.
 - 1. Meet with Owner, Architect, Manufacturer's Certified Installer, weather barrier manufacturer's designated field representative, and installers of work that interfaces with or affects weather barrier.
 - 2. Review methods and procedures related to weather barrier installation, including manufacturer's written instructions.
 - 3. Review and finalize construction, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 - 4. Examine substrate conditions and finishes for compliance with requirements.
 - 5. Review flashings, special weather barrier details, weather barrier penetrations, and condition of other construction that affects weather barrier.
 - 6. Review weather barrier manufacturer's Project Registration and Observation process.
 - 7. Review temporary protection requirements for weather barrier during and after installation.

1.4 SUBMITTALS

- A. Product Data: For each type of product.
 - 1. For weather barrier, include data on air and water-vapor permeance based on testing in accordance with referenced standards.
- B. Shop Drawings: Show details of weather barrier at terminations, openings, and penetrations. Show details of flexible flashing applications.
- C. Manufacturer's Instructions: For installation of each product specified.
- D. Qualification Data: For Installer.
- E. Sample Warranty: For manufacturer's warranty.
- F. Reports: Field test and inspection reports.
- G. Installer's weather barrier manufacturer-training certificate.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is certified by weather barrier system manufacturer to install manufacturer's product.
- B. Manufacturer's Field Service: Register project with weather barrier manufacturer prior to installation of weather barrier and comply with weather barrier manufacturer's Project registration and observation process.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Do not store near heat source or open flame.

1.7 WARRANTY

- A. Manufacturer's Product Warranty: To repair or replace weather barrier product that fails in materials within specified warranty period.
 - 1. Warranty Period: 10 years from date of purchase.
- B. Manufacturer's Product and Labor Warranty: Manufacturer agrees to repair or replace weather barrier that fails in materials within specified warranty period, including removal and replacement of affected construction up to manufacturer's limits.
 - 1. Warranty Period: 10 years from date of purchase.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain weather barrier assembly components, including weather barrier flashing from same manufacturer as weather barrier for a complete system.

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed weather barrier and accessories shall withstand specified wind pressures, liquid water penetration, and water vapor pressures, without failure due to defective manufacture of products.
- B. High-Performance Installations:
 - 1. For installation with one of the following building envelope performance or structural characteristics:
 - a. Exceeding 65 mph (100 km/h) equivalent structural load.
 - b. Exceeding 15 mph (24 km/h) equivalent wind-driven rainwater infiltration.
 - c. Buildings with 60 feet (18 m) or more total height above grade plane, as defined in the International Building Code.
 - d. Construction with gypsum or cement-based exterior sheathing.
 - e. Non-wood based primary structure such as: steel, light gage steel, masonry or concrete.

2.3 WEATHER BARRIER

- A. Commercial Building Wrap: ASTM E 2357 passed, ABAA (Air Barrier Association of America) evaluated air barrier assembly, and assembly water resistance per ASTM E 331; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested in accordance with ASTM E 84; UV stabilized for nine-month exposure; and acceptable to authorities having jurisdiction.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® CommercialWrap® D, or approved equal.
 - 2. System Description, Single-Layer Drainable: Single-layer weather barrier with integral drainage, including flashing and sealing of penetrations and seams.
 - 3. Drainability: 98 percent or greater when tested in accordance with ASTM E 2273.
 - 4. Air Permeance, Product: Not more than 0.001 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.005 L/s x sq. m at 75 Pa) when tested in accordance with ASTM E 2178.

5. Air Permeance, Assembly: Not more than 0.04 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.2 L/s x sq. m at 75 PA) when tested in accordance with ASTM E 2357 and evaluated by ABAA.
6. Water Penetration Resistance, Product: Hydrostatic head resistance greater than 7.7 feet (2.35 m) in accordance with AATTC 127.
7. Water Penetration Resistance, Assembly: Assembly wall specimen described in ASTM E 2357 to water resistance in accordance with ASTM E 331 to 12.5 lbf/sq. ft. (575 Pa).
8. Water-Vapor Permeance: Not less than 30 perms (1700 ng/Pa x s x sq. m) per ASTM E 96/E 96M, Desiccant Method (Procedure A) or not less than 46 perms (2600 ng/Pa x s x sq. m) per ASTM E 96/E 96M, Water Method (Procedure B).
9. Allowable UV Exposure Time: Not less than nine months when tested in accordance with ASTM G 155 (Accelerated Weathering).
10. Flame Propagation Test: Materials and construction shall be as tested in accordance with NFPA 285.
11. Heat and Visible Smoke Release Rates: Maximum rates in accordance with NFPA 285.
 - a. Peak Heat Release: 13,217 Btu/sq. ft. (150 kW/sq. m).
 - b. Total Heat Release: 1762 Btu/sq. ft. (20 MJ/sq. m).
 - c. Effective Heat of Combustion: 7744 Btu/lb (18 MJ/kg).
12. Weather barrier system to have a VOC content of 30 g/L or less.

2.4 WEATHER BARRIER FLASHING

- A. Conformable Weather Barrier Flashing: Composite flashing material composed of micro-creped, polyethylene laminate with a 100 percent butyl-based adhesive layer; AAMA 711 Class A (no primer), Level 3 thermal exposure, 176 deg F (80 deg C) for 7 days.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; FlexWrap™ NF or equal approved by Architect and Weather Barrier Manufacturer.
 2. Conformability: Able to create a seamless sill pan extending up the jambs without cuts, patches, or fasteners.
 3. Water Penetration: No leakage at 15 psf (720 Pa) per ASTM E 331.
 4. Low Temperature Adhesion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm) at 25 degrees F (minus 4 deg C) as Class A (without primer use).
 5. Adhesion After Water Immersion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm), after AAMA 800, Sections 2.4.1.3.1/2.4.1.4.3, Test B.
- B. Strip Flashing: Composite flashing material composed of spunbonded polyethylene laminate with 100 percent butyl-based, dual-sided, adhesive layer; AAMA 711, Class A (no primer), Level 3 thermal exposure, 176 deg F (80 deg C) for 7 days.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; StraightFlash™ or equal approved by the Architect and Weather Barrier Manufacturer.
 2. Water Penetration: No leakage at 15 psf (720 Pa) per ASTM E 331.
 3. Low Temperature Adhesion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm) at 25 deg F (minus 4 deg C) as Class A without primer use.
 4. Adhesion After Water Immersion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm), after AAMA 800, Sections 2.4.1.3.1/2.4.1.4.3, Test B.

2.5 FLUID-APPLIED FLASHING

- A. Fluid-Applied Flashing: Trowel or brush applied, non-water soluble, single component, silyl terminated polyether technology (STPE), vapor permeable, flashing material.
 - 1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® Fluid Applied Flashing & Joint Compound+ or equal approved by the Architect and Weather Barrier Manufacturer.
 - 2. VOC Content: ASTM C 1250, less than 2 percent by weight and between 25 to 30 g/L.
 - 3. Water Vapor Transmission: ASTM E 96, Method B, greater than 20 perms (1100 ng/Pa x s x sq. m) at 25 mils (0.635 mm) thick.
 - 4. Minimum Tensile Strength: ASTM D 412, 165 lb/sq. ft. (1140 kPa)
 - 5. Minimum Elongation at Break: ASTM D 412; 360 percent.

2.6 WEATHER BARRIER ACCESSORIES

- A. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by weather barrier manufacturer for sealing joints and penetrations in commercial building wrap.
 - 1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® Tape.
- B. Closed-Cell Polyurethane Foam Insulation: Low pressure, low expansion, single component polyurethane foam, with maximum flame-spread and smoke-developed indexes of 15 and 25, respectively, per ASTM E 84.
 - 1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; DuPont™ Window & Door Foam.
 - 2. Pressure Build-Up: 0.0247 psi (0.170 kPa) maximum, AAMA 812.
 - 3. Deflection: 0.0050 inch (0.127 mm) maximum, AAMA 812.
- C. Fasteners with Self-Gasketing Washers: Commercial building wrap manufacturer's recommended pneumatically or hand-applied fasteners with 2-inch- (50-mm-) diameter, high-density polyethylene cap washers with UV inhibitors.
 - 1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; Tyvek® Wrap Caps.
- D. Primer for Flashings: Synthetic rubber-based product; spray applied. Strengthen adhesive bond at low temperature applications between weather products such as self-adhered flashing products, commercial building wraps, and common building sheathing materials.
 - 1. Basis-of-Design Product: DuPont Safety & Construction: E. I. du Pont de Nemours and Company; DuPont™ Adhesive Primer.
 - 2. Peel Adhesion Test: Passes in accordance with ASTM D 3330, Test Method F, for the following.
 - a. Peel Angles: 0, 25, 72, and 180 degrees.
 - b. Substrates: Concrete masonry units (CMU), exterior gypsum sheathing, oriented strand board (OSB), aluminum, and vinyl.
 - 3. Chemical Compatibility: Pass; AAMA 713.
 - 4. Flame Spread Index: 5; ASTM E 84.
 - 5. Smoke Development Index: 0; ASTM E 84.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements.
- B. Verify that substrate and surface conditions are in accordance with commercial weather barrier manufacturer recommendations prior to installation.
 - 1. Verify that rough sill framing for doors and windows is sloped downwards towards the exterior and is level across width of the opening.
- C. Verify that surfaces to receive weather barrier flashing are clean, dry, and free of frost.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Direct water onto an acceptable weather barrier drainage plane with an unobstructed path to exterior of wall.
 - 1. Provide a drainage path for water intrusion through window and door attachment system that collects at window and door sills and directs water to the exterior or weather barrier.

3.3 COMMERCIAL BUILDING WRAP INSTALLATION

- A. General: Comply with weather barrier manufacturer's written instructions and warranty requirements.
- B. Cover exposed exterior surface of sheathing with weather barrier securely fastened to framing immediately after sheathing is installed.
 - 1. Maintain continuity of air and water barrier assemblies.
 - 2. Start weather barrier installation at a building corner, leaving 12 inches (300 mm) of weather barrier extended beyond corner to overlap.
 - 3. Install weather barrier horizontally starting at lower portion of wall surface.
 - 4. Provide minimum 6 inches (150 mm) overlap at horizontal- and vertical-wrap seams in a shingle manner to maintain continuous downward drainage plane and air and water barrier.
- C. Seams: Seal seams with building wrap tape per manufacturer's recommended installation instructions.
 - 1. Shiplap horizontal seams in weather barrier to facilitate proper drainage.
- D. Fasteners: Use weather barrier manufacturer's recommended fasteners to secure weather barrier and install fasteners according weather barrier manufacturer's installation guidelines.
 - 1. Do not use temporary fasteners to permanently attach weather barrier.
 - 2. Do not place fasteners with gasketing washers where weather barrier flashing will be installed.
 - 3. Install fasteners with gasketing washers through flashing where recommended by manufacturer.

- E. Openings: Completely cover openings with weather barrier, then cut weather barrier membrane to openings according to weather barrier manufacturer's installation guidelines.
 - 1. Provide head and jamb flaps and seam overlaps to maintain continuous drainage.
 - 2. Repair damage to weather barrier using method recommended by weather barrier manufacturer.
 - 3. Install flashing according to weather barrier manufacturer's installation guidelines.

3.4 WEATHER BARRIER FLASHING INSTALLATION

- A. Installation: Remove wrinkles and bubbles, reposition weather barrier as necessary to produce a uniform, smooth surface.
 - 1. Ensure that ambient and substrate surface temperatures are acceptable in accordance with manufacturer instructions and recommendations.
 - 2. Wipe surfaces to remove moisture, dirt, grease and other debris that could interfere with adhesion.
 - 3. Apply weather barrier manufacturer's recommended primer over concrete, masonry, and glass-mat gypsum wall sheathing substrates to receive weather barrier flashing.
 - 4. Lap weather barrier flashing a minimum of 2 inches (50 mm) onto weather barrier.
 - 5. Apply pressure over entire surface using roller or firm hand pressure
- B. Rough Openings: Shiplap flashing with weather barrier in a shingle manner to maintain a continuous downward drainage plane and air and water barrier in accordance with manufacturer's written instructions.
 - 1. Apply 9-inch- (230-mm-) wide conformable weather barrier flashing at door and window sills.
 - 2. Ensure that sill flashing does not slope to the interior.
 - 3. Install backer rod in joint between frame of opening product and flashed rough opening on the interior.
 - 4. Apply sealant or closed-cell polyurethane foam insulation around entire opening/fenestration product to create air seal around interior perimeter of window openings in accordance with weather barrier manufacturer's instructions.
 - 5. Around door and window openings, apply butyl-based flashing to flaps of weather barrier.
 - 6. Use strip flashing with wrap cap screws to secure head flap of the windows.
- C. Penetrations: Apply weather barrier manufacturer's recommended weather barrier flashing patches behind fastening plates, such as brick-tie base plates, metal-flashing clips, and metal channels.
 - 1. Seal weather barrier around each penetration with weather barrier manufacturer's recommended self-adhered flashing product or sealant. Integrate products with flanges into the weather barrier.
- D. Terminations: Provide minimum 2 inches (50 mm) overlap using strip flashing on adjoining roof and base of wall systems to maintain continuous downward drainage plane.
 - 1. Secure weather barrier with fasteners and weather-barrier flashing.

3.5 FLUID-APPLIED FLASHING INSTALLATION

- A. General: Before installing fluid-applied flashing, do the following:
 - 1. Ensure drainage path is not blocked or disrupted. Do not install on walls that do not feature a continuous path for moisture drainage. Blocked or disrupted paths for drainage can result in excess moisture buildup in wall cavity. Do not install below grade.
 - 2. Remove surface dust, dirt, and loose mortar.
 - 3. Verify that surface is free of grease and other contaminants and that surface is smooth.
 - 4. Fill joints in concrete masonry units, and voids in cast-in-place concrete with trowel-applied fluid-applied flashing to ensure surface is flush and smooth.
 - 5. Allow masonry mortar and cast-in-place concrete a minimum of 24 hours to cure before installing fluid-applied flashing.
- B. Fluid-Applied Flashing Installation: Using a trowel or brush, apply fluid-applied flashing around perimeter of window and door openings to a minimum thickness of 25 mils (0.635 mm).
 - 1. Extend flashing a minimum of 2 inches (50 mm) onto exterior face of adjacent surface.
 - 2. Inspect for gaps and pinholes in fluid-applied flashing and apply additional coats until no gaps and pinholes appear.
 - 3. Joint Applications: Using a trowel or a brush, fill cracks and voids up to 1/4 inch (6 mm) in width.
 - a. For joints and cracks between 1/4 and 1/2 inch (6 and 12 mm) wide, cover first with mesh tape.
 - b. For joints and cracks between 1/2 and 1 inch (12 and 24 mm) wide, cover first with butyl-based strip flashing.
 - c. Apply a bead, then trowel smooth.
 - d. Seam coverage should be a minimum of 2 inches (50 mm) wide and 15 to 20 mils (0.38 to 0.51 mm) thick.
 - e. Inspect for gaps and pinholes in fluid-applied flashing and apply additional coats until no gaps and pinholes appear.

3.6 DRAINAGE MATERIAL INSTALLATION

- A. Install drainage material with grooves or channels running vertically in compliance with manufacturer's written instructions.

3.7 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to train installers and observe subject test-wall areas and installations.
- B. Testing Agency: Engage a qualified third-party testing agency to perform tests and inspections.
- C. Test Area: Perform tests on one bay at least 30 feet (9.15 m), by one story. Test Area to include typical window and door openings, building corner, top and bottom up wall conditions.
- D. Field Quality Control Testing: Perform the following test on Test Area to include typical window and door openings, building corner, top and bottom up wall conditions.

- E. Air Infiltration Whole Building: ASTM E 779 at not more than 0.40 cfm/sf (2.00 L/s per sq. m) at 1.57 lb/sq. ft. (75 Pa), and as required per 2015 WSEC.
- F. Test and Inspection Reports: Prepare test and inspection reports.

3.8 CLEANING

- A. Immediately remove release paper and scrap from work area and dispose of material in accordance with requirements of Section 017000 "Execution".

3.9 PROTECTION

- A. Protect installed weather barrier from the following:
 - 1. Damage from cladding, structure, or a component of the structure (e.g., window, door, or wall system).
 - 2. Contamination from building site chemicals, premature deterioration of building materials, or nonstandard use or application of products.
 - 3. Foreign objects or agents, including the use of materials incompatible with weather barrier products.
 - 4. UV exposure in excess of products' stated limits.

END OF SECTION 07 25 00

SECTION 07 26 00 – VAPOR RETARDERS

PART 1 - GENERAL

1.1 REFERENCES

- A. ASTM International (ASTM).
 - 1. E 1745 - "Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs."

1.2 SUBMITTALS

- A. Provide manufacturer's data and installation instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Vapor Retarder: Fortifiber Building Systems Group, Moistop Ultra 6; ASTM E 1745; 6 mil sheeting, polyethylene coated both sides and reinforced with fiberglass fibers or Stego-Wrap equivalent.
- B. Tape and Boot: Fortifiber Building Systems Group, Moistop Tape and Boot; pressure-sensitive rubber adhesive.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install vapor retarder over compacted sub-base at concrete floor slabs. Lap 12 inches and tape all edges. Turn up at edges and secure to foundations or footings. Fix and seal around pipes and conduits.
- B. Provide Boots around pipes, conduits, and other penetrations of any size as required to maintain vapor retarder integrity.

END OF SECTION 07 26 00

SECTION 07 46 46 – MINERAL FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry
 - 2. Section 07 21 00 – Thermal Insulation
 - 3. Section 07 25 00 – Weather Barriers

1.2 DESCRIPTION OF WORK

- A. The Work of this Section includes Fiber cement panels of the following types:
 - 1. James Hardie Building Products Inc., Hardie Reveal Panel or approved; fiber reinforced cement, 7/16 inch thick, sheet sizes as shown, smooth texture. Factory primed.
 - a. Trim: James Hardie Building Products, Hardi-Trim, 7/16" thick, widths as shown, length 12 feet, smooth texture.
 - b. Fasteners:
 - i. Reveal panel: as recommended by Manufacturer.
 - c. Rainscreen Strapping/Clips: PT 1x Lumber or galvanized steel furring members for compliance with system
 - d. Reveal Trim: Provide manufacturer's standard warranty reveal trim to suit application shown.

1.3 REFERENCES

- A. ASTM International (ASTM):
 - 1. ASTM C 1185 - 08 Standard Test Methods for Sampling and Testing Non-Asbestos Fibre-Cement Flat Sheet, Roofing and Siding Shingles, and Clapboards.
 - 2. ASTM C 1186 - 08 Standard Specification for Flat Fibre-Cement Sheets.
 - 3. ASTM E 84 - Surface Burning Characteristics of Building Materials.
 - 4. ASTM E 119 - 12a Standard Test Methods for Fire Tests of Building Construction and Materials
 - 5. ASTM E2226-12 Standard Practice for application of Hose Stream
 - 6. ASTM G 155-05a, Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials
 - 7. ASTM D 2244-09a, Standard Practice for Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
 - 8. AISI S905-08, Test Methods for Mechanically Fastened Cold-Formed Steel Connections
- B. ICC-ES AC90, Acceptance Criteria for Fiber Cement Siding used as Exterior Wall Siding
- C. NFPA 285 – Standard fire test method for evaluation of fire propagation characteristics of exterior non-load-bearing wall assemblies containing combustible components

- D. ISO –ISO 9001 Quality Management System
ISO 14001 Environmental Management System
OHSAS 18001 Safety Management System

1.4 SUBMITTALS

- A. Products Submittals shall be per Section 01 33 00 – Submittal Procedures.
- B. Product Data: Manufacturer's data sheets on each product to be used, including, but not limited to:
 - 1. Preparation instructions and recommendations for EQUITONE [natura].
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods for the supporting framework and the EQUITONE [natura] panels.
- C. Shop Drawings: Provide detailed drawings of non-standard applications of fibre cement materials which are outside the scope of the standard details and specifications provided by the manufacturer.
- D. Code Compliance: Documents showing product compliance with local building code shall be submitted prior to the bid. These documents shall include, but not be limited to, appropriate Evaluation Reports and/or test reports supporting the use of the product.
- E. Engineering Calculations: Submit engineering calculations as required by the local building code, showing that the installed panels and attachment system meets the wind load requirements for the project.
- F. Selection Samples: For each finish product specified, two complete sets of 5 1/4" x 2 1/2" (160x65mm) color chips representing manufacturer's full range of colors and patterns available in the US shall be provided upon request.
- G. Verification Samples: For each finish product specified, two samples, size 11-11/16" inches (305 mm) x 11 3/4" (297mm), representing actual product, color, and patterns.
- H. Operation and Maintenance Data: Submit operation, maintenance, and cleaning information for products covered under this section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: All products listed in this section are to be installed by a single installer trained and approved by the manufacture or representative.
- B. Color Evaluation: No visible change, 2000 hours of accelerated weathering with color evaluation when calculated to ASTM D 2244-09a.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Moving panels that are stacked on pallets should be done with a forklift with wide fork setting or a crane. Ensure the panels are secured to the pallet in a way that will not cause damage. Stacks should be transported under a waterproof cover.

- B. All panel materials must be stored flat on pallets, inside and undercover in dry conditions, protected from weather both rain and direct sunlight and other trades. Stack the pallets in a way so that the panels are ventilated.
- C. Always lift panels off of each other, never slide them over one another, since scratching may occur.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits or which could involve life safety situations.
- B. Field Measurements: Verify actual measurements/openings by field measurements performed by the installer prior to release for fabrication. The General Contractor or Installer shall be responsible for existing site dimensions. Recorded measurements shall be indicated on shop drawings based on field measurements provided by the installer. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.8 WARRANTY

- A. Warranty: At project closeout, provide manufacturer's limited ten (10) year warranty covering defects in materials. Warranty is only available when material is installed by an installation contractor trained and approved by the manufacturer's representative.

PART 2 - PRODUCTS

2.1 PRODUCT MANUFACTURER

- . Siding:
 - 1. James Hardie Building Products, Inc., Hardie Reveal Panel; or approved; fiber reinforced cement, 7/16 inch thick, sheet sizes as shown, smooth texture. Factory primed.
- B. Trim:
 - 1. James Hardie Building Products, Hardi-Trim, 7/16" thick, smooth texture, factory primed.
- C. Fasteners:
 - 1. Hardie panel: as recommended by manufacturer.

2.2 MISCELLANEOUS CLADDING MATERIALS

- A. Perforated Insect/Vermin Screen: Per Manufacturer's standard.
- B. Weather Resistive Barrier: Refer to Section 07 25 00 Weather Barrier

- C. Aluminum Joint Closures and Decorative Corner Profiles: Manufacturer's standard products as detailed. Maximum thickness of non structural finishing profile to be 0.8 mm or 21 gauge.
- D. Panel Fastening Options: Face Fixed Rivets or Face Fixed Screws.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean panel surfaces thoroughly prior to installation. Remove any cutting or drilling dust from the surface of the panel using a micro-soft cloth. {This is especially important when panels are being adhesively fixed}
- A. Prepare surfaces using the methods recommended by Equitone for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION OF HARDIE PANELS:

- A. Install in accordance with manufacturer's instructions and approved submittals.
- B. For exterior applications, comply with local codes and structural engineer's fastening calculations along with manufacturer's recommendations for fastener spacing.
- B. Rainscreen Strapping: Install vertically, allowing for weeping at base of each bay including at obstructions like windows. Install insect screen at bottom of each bay.
- C. Install materials straight and true. Leave 1/8" space between ends of siding and trim. Provide sealant at end joints in accordance with manufacturer's recommendations.
- D. Install reveal panel system per manufacturer's instructions.
- E. Secure screw/rivet heads flush with surface of siding and trim.

3.4 GENERAL EXTERIOR CLADDING FOR RAINSCREEN APPLICATIONS

A. Detailing Requirements:

1. Air space inlets and outlets are required at top and bottom of building or wall termination and shall be equivalent to a continuous 1/2" to 3/4" (12 mm to 18 mm) to facilitate airflow behind the panels. Do not block vertical airflow at windows, doors, eaves, or at the base of the building. Airflow shall be continuous from bottom to top so there is air movement behind each panel. The minimum cavity width should be at least 25/32" (20mm) for facades up to 33' (10m) high. For facades between 66'-165' (20-50 m) the cavity width needs to increase to 1 3/16" (30mm). Air flow behind the fiber cement panels is critical to the performance of the rain screen constructions.
2. Fasteners in profile shall accommodate thermal expansion/contraction of metal and not interfere with panel application.
3. Install panels starting from top of building and work down the facade.
4. Provide Floor Breaks (vertical) with furring every other floor (Levels 1 and 3).
5. For straight walls, start panel installation in center and work outward.
6. For walls with inside corners, start installation at corner and work across wall.
7. Pattern: Straight pattern with vertical panels. Panel size as indicated.
8. Pattern: Straight pattern with horizontal panels. Panel size as indicated.
9. Pattern: Semi pattern with horizontal panels. Panel size as indicated.

B. Rain Screen Installation: Comply with manufacturer's installation requirements.

3.5 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION 07 46 46

SECTION 07 50 00 - THERMOPLASTIC MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes TPO roofing, roof insulation, and accessories.

1.2 REFERENCES

- A. ASTM International (ASTM):
1. D 751 - "Test Methods for Coated Fabrics."
 2. D 4637 - "Specification for Vulcanized Rubber Sheet Used In Single-Ply Roof Membrane."
- B. South Coast Air Quality Management District (SCAQMD)
1. Rule 1168 – Low / No VOC Adhesives and Caulking
 - a. Maximum allowed VOC Levels (G/L) as indicated.

VOC LIMIT PRODUCT TYPE	(G / L)
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Single-Ply Roof Membrane Adhesives	250
Structural Wood Member Adhesive	140
Architectural Sealants, Including Caulk	250

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements:
1. Roofing installer shall be responsible for weather tightness of membrane roofing and associated flashing.

1.4 SUBMITTALS

- A. Manufacturer's information on materials and step-by-step application procedures.
- B. Shop Drawings showing cricket configuration, walkway locations, applicable manufacturer's standard details, and proposed custom details, if any.
- C. Show compliance with SCAQMD Rule 1168 Low/No VOC adhesive or caulks.

1.5 QUALITY ASSURANCE

- A. Qualifications: Applicator shall have a minimum of 5 years experience installing roofing of type specified and be certified, in writing, by roofing materials manufacturer.

- B. Pre-installation Conference:
 - 1. Arrange and participate in a coordination meeting to be attended by all installers and material manufacturers' representatives involved in the Work specified and in related Sections to review and prepare written step-by-step application procedure, including a written detailed Statement of Work and Shop Drawings for a complete elastomeric membrane roofing system.
 - a. Following the pre-installation conference, furnish a written statement with date of meeting, names and affiliations of participants.
 - b. Also furnish written list of any modifications of Contract Documents proposed in the step-by-step application procedure. Such modifications shall be done at no increase in Contract Sum.
 - 2. Work of this Section shall not proceed until the Architect has reviewed and accepted the documents to be submitted following the pre-installation conference.
 - 3. Prior to starting Work, arrange a Jobsite meeting with the Architect and participants in the pre-installation conference to discuss Contract Documents, accepted step-by-step application procedure, Shop Drawings, job and surface readiness, and material storage and protection.
 - 4. Notify Owner seven (7) calendar days prior to Jobsite Meeting, starting Work and, if Work is done intermittently, before restarting Work.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Follow storage and handling requirements of manufacturer.
- B. Loads placed on roof from storage of materials shall not exceed safe loading requirements.

1.7 WARRANTY

- A. Roofing system shall be warranted by the manufacturer to be watertight and weatherproof for a minimum of 20 years from date of acceptance.
- B. Roofing assembly shall be warranted by the Contractor to be watertight and weatherproof for a period of 5 years from date of acceptance.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Carlisle SynTec Inc., G.A.F., Versico, or approved equal. Use one manufacturer's product line for a complete system.

2.2 MATERIALS

- A. Membrane: Fully adhered TPO 60 mil Roofing System.
 - 1. Reinforced thermoplastic polyolefin membrane sheet 5 foot wide at perimeters and 10 foot wide at field.
 - 2. Packaging to bear UL label.
 - 3. Thickness: ASTM D 751, nominal 0.060 inch.
 - 4. Color: Grey
 - 5. Energy Star compliant.
- B. Flashing:
 - 1. Same as specified membrane except for perimeter use of EverGuard TPO laminated metal flashings for gravel stops or drip edges.
 - 2. Vent Stacks, Pipes, Drains, and Corners: Prefabricated pipe boots and inside and outside corners provided by manufacturer.
- C. Bonding Adhesive: manufacturer's bonding adhesive.
- D. Sealant: manufacturer's products, to seal membrane to metal.
- E. Seam Caulk: manufacturer's products, to seal exposed cut edges of reinforced membrane.
- F. Tapered Edge Strips: High density fiber board.
- G. Mechanical Fasteners: In accordance with manufacturer's recommendations.
- H. Termination Bars: As recommended by manufacturer.
- I. Edge Metal Systems: Membrane manufacturer's standard, install in accordance with manufacturer's standard details.
- J. Insulation Cover Board: ½" G.P. Dens Deck roofing board or per Manufacturer Standard.
- K. Insulation: Minimum R-38 rigid polyisocyanurate (7") with tapered insulation as shown on drawings to drain, or as required for full drainage.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine surfaces to receive Work of this Section. Surfaces shall be free from material projections, dust, loose or foreign materials and any other obstructions, and shall present a smooth plane, ready for installation of elastomeric membrane roofing Work.

- B. Report in writing to Contractor, with copy to Architect and Owner, any conditions which may prove detrimental to Work of this Section. Failure to observe this injunction shall constitute waiver to subsequent claims to the contrary and shall make the roofing installer responsible for any corrections required. Such corrections shall be made at no increase in Contract Sum. Commencement of Work will be construed as acceptance of surfaces to receive this Work as satisfactory.

3.2 PREPARATION

- A. Surfaces to receive membrane roofing shall be firm, smooth, clean and dry. Roofing operations shall not be conducted when water from any source is present or materials are wet.

3.3 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions, reviewed Shop Drawings, detailed Specifications, and step-by-step application procedures.
- B. Membrane:
 - 1. Loosely lay membrane over roof deck and allow to relax 30 minutes minimum before bonding, splicing or attaching.
 - 2. Bond, splice and attach in accordance with membrane manufacturer's instructions. Neatly fit all joints and miters.
 - 3. Flash at building wall and at all penetrations through membrane in accordance with manufacturer's recommendations.
 - 4. Finish in 1 day's operation, application of all membrane roofing to a line of termination at end of day's Work.
- C. Roof Drains and Flashing: Install in accordance with membrane roofing manufacturer's installation instructions.

3.4 COMPLETION EACH DAY

- A. Expedite installation so that Work started in any particular area will result in fully completed and protected roof system at end of the same work day. Roofing that has not been fully completed in one workday will not be acceptable.

3.5 CLEANING

- A. Remove excess roofing and debris, and leave premises in acceptable condition.

END OF SECTION 07 50 00

SECTION 07 60 00 - FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Sections:
 - 1. 06 10 00 Rough Carpentry.
 - 2. 07 25 00 Weather Barriers.
 - 3. 07 50 00 Thermoplastic Membrane Roofing.
 - 4. 07 92 00 Joint Sealants.
 - 5. Division 8 Exterior Openings.

1.2 REFERENCES

- A. ASTM International (ASTM):
 - 1. A 653 - "Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process."
 - 2. B 29 - "Specification for Refined Lead."
 - 3. B 32 - "Specification for Solder Metal."
- B. Federal Specification (FS).
- C. Sheet Metal and Air Conditioning Contractors National Association (SMACNA).
 - 1. "Architectural Sheet Metal Manual."

1.3 SYSTEM DESCRIPTION

- A. Comply with details and recommendations of SMACNA "Architectural Sheet Metal Manual."

1.4 SUBMITTALS

- A. Shop Drawings showing shape, size, material, assembly, joints, seams, laps, fastenings, and connections of all flashing and sheet metal Work.
- B. Written statements, in cooperation with Section 07 50 00, indicating step-by-step application procedure for flashing and sheet metal Work as a part of the Thermoplastic membrane roofing system.

1.5 WARRANTY

- A. Furnish two year material and workmanship warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Prefinished Metal Flashing (used at parapet caps, gutters, collector heads, scuppers and downspouts): 26 gauge prefinished metal with Kynar finish from AEP span.
- B. Galvanized Sheet Steel: Commercial Quality, ASTM A 526, shop primed 22 gage minimum, galvanized in conformance with ASTM A 525, G 90 coating designation.
- C. Nails, Discs, and Rivets: Hot-dip galvanized steel nails. Where sheet metal is built in over roofing materials or other sheet, use nails with 1 inch diameter tinned discs. Rivets shall be tinned soft iron rivets.
- D. Fastenings: Bolts and nuts, powder-driven fasteners, screws, washers, and other fasteners for exterior use shall be galvanized.
- E. Anchors to Concrete: Equivalent to Phillips "Red Head."
- F. Reglets: Extruded aluminum with clear lacquer coating, Morrison & Co., "Cushion Lock," Fry Reglet Corporation.
- G. Solder: ASTM B 32, Alloy Grade 50 A.
- H. Flux: FS 0-F-506C.
- I. Sealant: As specified in Section 07 92 00.
- J. Pipe Flashing: Compression molded EPDM rubber, conical shaped steps to provide a taut weatherproof seal around pipes. Sizes as required. Provide manufacturer's standard stainless steel clamps.
- K. Flexible Wall Flashing: Grace Perm-A-Barrier.

2.2 FABRICATION

- A. Fabricate all flashing and sheet metal Work in accordance with requirements of SMACNA and as shown.
- B. Fabricate as much Work in shop as is practicable.
- C. Accurately form all sheet metal Work to fit snugly with exposed edges folded under at least 1/2 inch without sharp exposed corners.
- D. Seam and solder watertight all corners and joints shown or required to make a watertight installation.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove all dirt and foreign materials from surfaces to receive flashing and sheet metal. Surfaces shall be clean, smooth, even, and free from defects, prior to installation.

3.2 INSTALLATION

- A. Install materials in accordance with SMACNA recommendations, reviewed shop drawings, detailed Specifications, and step-by-step application procedures.
- B. Provide expansion joints as required to permit normal expansion and contraction without straining of metal, joints, or fasteners. Provide at all material junctions and at a maximum of 30 feet in straight runs. Unless otherwise shown, select joint type best suited and least obtrusive for conditions of installation.
- C. Perform all cutting, fitting, drilling, and other similar Work in sheet metal as required to accommodate other Work.
- D. Provide sheet lead sanitary vent flashing with all seams burned watertight. Turn top of sleeve into roof vent in a neat manner so that lead extends down into vent pipe 1-1/2 inch minimum.
- E. Pipe and Conduit Penetrations: Provide EPDM rubber flashing collars, extend base flanges 4 inch minimum onto roof. Provide stainless steel draw bands to secure top of collar to pipe or conduit. Allow space at top of collar for application of sealant specified in Section 07 92 00.
- F. Completed installation shall be watertight and divert water away from the building towards drainage.

3.3 CLEANING

- A. Following installation, clean all exposed surfaces of flashing and sheet metal Work of excess solder, flux, and dirt. Remove grease and oil with appropriate solvent. Wipe surfaces with clean rags and leave in condition suitable for application of paint as specified in Section 09 90 00.

END OF SECTION 07 60 00

SECTION 07 72 00 - ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Roof Curbs.
 - 2. Piping Supports.
 - 3. Roof Drains, overflow Roof Drains

1.2 RELATED SECTIONS

- A. Section 07 54 23 – TPO Membrane Roofing.

1.3 SUBMITTALS

- A. Product Data: For each type of roof accessory indicated.
- B. Shop Drawings: For roof accessories.
- C. Samples: For each exposed product and for each color and texture specified.
- D. Warranty: Sample of standard warranty.
- E. Operation and maintenance data.

1.4 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 METAL MATERIALS

- A. Aluminum-Zinc Alloy-Coated Steel Sheet: ASTM A 792/A 792M, AZ50 (AZM150) coated.
 - 1. Baked-Enamel or Powder-Coat Finish: Manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat, with a minimum dry film thickness of 1 mil (0.025 mm) for topcoat.
- B. Aluminum Extrusions and Tubes: ASTM B 221, manufacturer's standard alloy and temper for type of use, finished to match assembly where used, otherwise mill finished.
- C. Stainless-Steel Sheet and Shapes: ASTM A 240/A 240M or ASTM A 666, Type 304.
- D. Steel Shapes: ASTM A 36/A 36M, hot-dip galvanized according to ASTM A 123/A 123M unless otherwise indicated.

2.2 MISCELLANEOUS MATERIALS

- A. General: Provide materials and types of fasteners, protective coatings, sealants, and other miscellaneous items required by manufacturer for a complete installation.
- B. Wood Nailers: Pressure Treated Softwood lumber per Section 06 10 00.
- C. Fasteners: Roof accessory manufacturer's recommended fasteners suitable for application and metals being fastened. Match finish of exposed fasteners with finish of material being fastened. Provide nonremovable fastener heads to exterior exposed fasteners.
- D. Sealants: As recommended by roof accessory manufacturer for installation indicated, see Section 07 92 00.

2.3 ROOF CURBS

- A. Roof Curbs: Internally reinforced fully welded roof-curb units capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings; with welded or mechanically fastened and sealed corner joints, integral metal cant, and integrally formed deck-mounting flange at perimeter bottom.
 - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 2. Basis-of-Design Product: Subject to compliance with requirements, provide Curbs Plus Inc. CPPC-2 and CPC-2 or comparable product by one of the following:
 - a. AES Industries, Inc.
 - b. Custom Solution Roof and Metal Products.
 - c. Greenheck Fan Corporation.
 - d. LM Curbs.
- B. Material: 18 gage primed/galvanized steel sheet.
 - 1. Finish: Factory prime coating - Galvanize.
 - 2. Color: As selected by Architect from manufacturer's full range.
- C. Material: Aluminum sheet, 0.090 inch (2.28 mm) thick.
 - 1. Finish: Two-coat fluoropolymer.
- D. Construction:
 - 1. Insulation: Factory insulated with 1-1/2-inch thick glass-fiber board insulation.
 - 2. Liner: Same material as curb, of manufacturer's standard thickness and finish.
 - 3. Factory-installed wood nailer at top of curb, continuous around curb perimeter.
 - 4. Fabricate curbs to minimum height of 8 inches unless otherwise indicated.
 - 5. Top Surface: Level around perimeter with roof slope accommodated by sloping the deck-mounting flange.
 - 6. Sloping Roofs: Where roof slope exceeds 1:48, fabricate curb with perimeter curb height tapered to accommodate roof slope so that top surface of perimeter curb is level. Equip unit with water diverter or cricket on side that obstructs water flow.

2.4 PIPING SUPPORTS

- A. Piping/Conduit Supports: Dura-Block DBP (or equivalent by OMG Roofing Specialties), 4" high X 6" width X 9'-6" long recycled rubber supports capable of supporting superimposed live and dead loads, including piping.

2.5 ROOF DRAINS

- A. Zurn Z121, 12" diameter roof drain with low profile silhouette dome, or equivalent.
- B. Zurn Z121-89, 12" diameter roof drain with 2" exterior water dam with low profile dome, or equivalent.

2.6 SPLASH BLOCKS

- A. Precast concrete type sloped splash blocks at downspout discharge locations to roof surfaces.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Verify dimensions of roof openings for roof accessories. Install roof accessories according to manufacturer's written instructions.
 - 1. Install roof accessories level, plumb, true to line and elevation, and without warping, jogs in alignment, excessive oil canning, buckling, or tool marks.
 - 2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
 - 3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
 - 4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.
- B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.
 - 1. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of felt underlayment and cover with a slip sheet, or install a course of polyethylene sheet.
- C. Seal joints with sealant as required by roof accessory manufacturer.

3.2 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780.
- B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Section 09 90 00 Paints and Coatings.
- C. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 07 72 00

SECTION 07 92 00 – JOINT SEALANTS

PART 1 - GENERAL

1.1 REFERENCES

- A. ASTM International (ASTM):
 - 1. C 920 - "Specification for Elastomeric Joint Sealants."
- B. South Coast Air Quality Management District (SCAQMD)
 - 1. Rule 1168 – Low / No VOC Adhesives and Caulking
 - a. Maximum allowed VOC Levels (G/L) as indicated.

VOC LIMIT PRODUCT TYPE	(G / L)
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Outdoor Carpet Adhesives	150
Wood Flooring Adhesives	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT and Asphalt Tile Adhesives	50
Drywall and Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Single-Ply Roof Membrane Adhesives	250
Structural Wood Member Adhesive	140
Architectural Sealants, Including Caulk	250

1.2 SUBMITTALS

- A. Manufacturer's data on materials, and application equipment and procedures.
- B. Show compliance with SCAQMD Rule 1168 Low/No VOC Adhesives and Caulks.

1.3 QUALITY ASSURANCE

- A. Qualifications: Applicator shall have experience in the satisfactory installation of joint sealants of the types specified.
- B. Comply with SWR Institutes "Sealants, The Professional's Guide", latest edition.

1.4 WARRANTY

- A. Furnish 2 year special warranty.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. All Sealants and Caulking exposed to the interior shall have VOC levels at or less than those specified in Rule 1168 of the South Coast Air Quality Management District (SCAQMD).
- B. Exterior Sealant: Tremco, Pecora Corporation, Sonneborn Building Products, ASTM C 920, single component, gun-grade, non-sag, acrylic terpolymer sealant, with movement capability of plus or minus 12-1/2 percent. Color as selected.
- C. Interior Sealant: Tremco, Pecora Corporation, Sonneborn Building Products, single component, gun-grade, paintable, acrylic-latex, water-base sealant. Color as selected.
- D. Sanitary Sealant: Dow-Corning, General Electric, single component, gun-grade, silicone rubber sealant, with movement capability plus or minus 25 percent.
- E. Acoustical Sealer: Tremco, Pecora Corporation, permanently plastic, non-skinning, non-bleeding, non-staining sealant, for use in concealed spaces.
- F. Glazing Sealant: As specified in Section 08 80 00.
- G. Accessories:
 - 1. Joint Backing: Closed cell neoprene or polyethylene, compatible with sealant materials, of sizes and shapes as recommended by the joint sealant manufacturer.
 - 2. Pest Screen: Provide rodent and corrosion-proof screens (e.g., copper or stainless steel mesh or rigid cloth) at openings greater than 1/4".
- H. Primers, Solvents, and Cleaning Materials: Non-staining and non-injurious to exposed surfaces, of types as recommended by the joint sealant manufacturer.

PART 3 - EXECUTION

3.1 GENERAL

- A. Building Envelope: Caulk, gasket or otherwise seal all joints, transitions in materials and penetrations in the building envelope to ensure a continuous air barrier.
- B. Seal all wall, floor and joint penetrations to prevent pest entry. Use pest screens for openings greater than 1/4".
- C. Seal all material joints on interior.
- D. Seal at acoustical walls.

3.2 PREPARATION

- A. Surface Preparation:
 - 1. Thoroughly clean and dry surfaces prior to installation.
 - 2. Clean metals with manufacturer's recommended solvent, wipe clean.
 - 3. Remove any dust, dirt, oil, grease, and any other foreign substances from surface areas to receive sealant.
 - 4. Prime surfaces as recommended by sealant manufacturer. Prime all concrete, brick masonry, and concrete unit masonry substrates, regardless of manufacturer's requirements.
 - 5. Mask off any adjacent surfaces which are not to receive sealant.

3.3 APPLICATION

- A. General: Comply with sealant manufacturer's installation instructions. Provide bond breaker tape as required to prevent sealant adhesion to backing. Joint depth 1/2 joint width, but not less than 1/4 inch nor more than 1/2 inch, unless otherwise specified by sealant manufacturer.
- B. Joint Backing: Install as recommended by sealant manufacturer to prevent sealant from adhering to rigid, inflexible materials or joint surfaces where such adhesion would result in sealant failure. Sealant shall bond two opposing joint surfaces.
- C. Sealant Application:
 - 1. Do not install sealants during rainfall or very windy conditions when windborne contaminants can become embedded in uncured sealant.
 - 2. Apply materials with hand gun, powered gun, or trowel to completely fill voids and joints, free of wrinkles and skips.
 - 3. Observe temperature control in accordance with sealant manufacturer's written recommendations.
 - 4. Do not allow any air entrapment in sealant.
 - 5. Extrude sealant fully into joint to be sealed, tool sealant to press into joint, assuring full adhesion to sides of joint surfaces, resulting in a uniformly smooth concave profile.
 - 6. Tool sealant using only materials recommended by sealant manufacturer.
 - 7. Remove masking tape immediately after sealant application to produce clean, sharp line.
 - 8. Do not seal weeps or drainage provisions in sill channels.
 - 9. Allow sealants to cure adequately prior to covering with other Work.
 - 10. Coordinate sealant installation with concrete, masonry, and flashing applications.
 - 11. Apply sand to wet sealant surfaces to match finish of adjacent concrete and masonry conditions.

3.4 CLEANING

- A. Remove all empty containers, materials, and debris from the site. Dispose off site in accordance with applicable regulations.
- B. Remove any sealant spills, masking materials, and similar items from all surfaces not intended for their application.
- C. Clean and repair surfaces soiled or damaged by sealant Work.

END OF SECTION 07 92 00

SECTION 08 11 00 – METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide New Metal Frames and Doors as shown and specified. Reinstall existing salvaged Metal Frames and doors as shown on Drawings.
- B. Products Installed but not Furnished Under this Section: Finish Hardware specified in Section 08 70 00.
- C. Related Sections:
 - 1. Section 08 14 00 – Flush Wood Doors.
 - 2. Section 08 70 00 – Finish Hardware.
 - 3. Section 08 80 00 – Glazing.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM).
 - 1. A 366 - "Specification for Steel, Carbon, Cold-Rolled Sheet, Commercial Quality."
- B. Steel Door Institute (SDI).
 - 1. 100 - "Recommended Specifications, Standard Steel Doors and Frames."
 - 2. 107 - "Hardware on Steel Doors (Reinforcement- Application)."
 - 3. 105 – "Recommended Erection Instructions for Steel Frames."
- C. International Building Code (IBC).
- D. Underwriters Laboratories, Inc. (UL).
 - 1. UL-10B – "Standards for Fire Tests of Door Assemblies."

1.3 SUBMITTALS

- A. Certificates of compliance with UL requirements.
- B. Manufacturer's literature.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Fire-rated metal doors and frames shall be manufactured by one company listed in Underwriters Laboratories, Inc. "Building Materials List."
 - 2. Comply with UL Publication UL-10B.
 - 3. Comply with SDI Publication, 100.

- B. Regulatory Requirements:
 - 1. Fire rated doors shall conform with IBC requirements and UL classification shown, and bear appropriate UL label.
 - a. All exit-access and corridor doors shall bear an approved label showing required rating followed by the letter "S" verifying testing for smoke control in accordance with IBC Section 715.

1.5 DELIVERY STORAGE AND HANDLING

- A. Deliver frames in cardboard wrapped or crated wrapping to provide protection during shipping. Store frames under cover. If cardboard wrapper of frames becomes wet, remove carton immediately.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Frames: Commercial quality cold-rolled sheet steel in conformance with ASTM A1008 for interior locations. Galvanealed steel (A) for exterior frames locations in conformance with ASTM A653. Type A, A60 coating designation.
- B. Doors: Commercial quality cold-rolled sheet steel in conformance with ASTM A1008. Stretcher level steel for door faces. Hot dip galvanized steel for exterior doors in conformance with ASTM A 653, G90 coating designation.
- C. Hardware: Comply with SDI 107. Furnished as specified in Section 08 70 00.

2.2 FABRICATION

- A. Frames: One-piece, welded, 16 gage minimum, with integral stops, jambs, and trim in accordance with SDI 100 for Level 2 Model 1 doors.
- B. Interior Doors:
 - 1. Type: Level 2 – Heavy-duty, full flush design, in accordance with SDI 100 for Model 1 doors.
 - 2. Face Sheets: 18 gage minimum.
- C. Exterior Doors
 - 1. Type: Level 2 – Heavy-duty, full flush design, in accordance with SDI 100 for Model 1 doors.
 - 2. Face Sheets: 18 gage minimum.
 - 3. U-Factor: 0.37 minimum.
- D. Glazed Openings: Location and size as shown on drawings. Glass as specified in Section 08 80 00. Factory install glazing for fire doors in accordance with requirements of labeling authority.

2.3 MANUFACTURER

- A. Ceco Corporation, Republic Builders Products, Steelcraft Manufacturing Company or approved substitution.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with SDI 105, manufacturer's recommendations, and requirements of labeling authority.
- B. Frames: Install plumb, rigid, in true alignment, and fastened to retain their position and clearance during construction of partitions.
- C. Doors: Install plumb, rigid, in true alignment in a prepared opening and fasten to achieve maximum operational effectiveness and appearance of unit.
- D. Hardware:
 - 1. Install in accordance with manufacturer's instructions, regulatory requirements, and industry standards, taking care not to damage doors, frames, or their finishes, with all mortises flush, and all screws turned to a flat seat.
 - 2. Adjust and lubricate hardware, as required, for proper operation.
 - 3. Upon completion of installation, doors and finish hardware shall operate smoothly. Doors shall stand open in any position.

3.2 ADJUSTING

- A. Replace or re-hang doors, which are hinge-bound and do not swing or operate freely.
- B. Install hardware, adjust, and lubricate for proper operation.

END OF SECTION 08 11 00

SECTION 08 14 00 – FLUSH WOOD DOORS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide all Flush Wood Doors as shown and specified.
- B. Products Installed but not Furnished Under this Section: Finish Hardware specified in Section 08 70 00, or reuse existing hardware at specific opening as noted.
- C. Related Sections:
 - 1. Metal Doors and Frames: Section 08 11 00.
 - 2. Finish Hardware: Section 08 70 00.
 - 3. Glazing: Section 08 80 00.

1.2 REFERENCES

- A. Commercial Standard (CS).
 - 1. CS-171 - "Hardwood Veneered Doors (Solid-Core, Hollow-Core, and Panel and Sash)."
 - 2. CS-236 - "Mat-Formed Wood Particleboard."
- B. National Wood Window and Door Association (NWWDA).
 - 1. I.S.-1 - "Industry Standard for Hardwood Veneer Flush Doors."

1.3 SUBMITTALS

- A. Samples of corner portion of each type of door showing core, edge band, veneer, and construction.
- B. Shop Drawings showing details of fabrication and installation, and method of reinforcement for hardware.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Construction shall meet or exceed requirements of NWWDA I.S.-1.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver doors after building is enclosed and gypsum board Work is dry. Store flat on a level surface in a dry, well ventilated area where relative humidity is 50 percent to 55 percent at 70 degrees F. Cover to keep clean but allow air circulation. Handle with clean gloves and do not drag doors across one another or across other surfaces.

1.6 WARRANTY

- A. Furnish "Life-of-the-Installation" special warranty and statement that mortised butt hinges will remain permanently attached to doors.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Pre-finished doors manufactured by Lynden Door, Weyerhaeuser Company, Algoma Hardwoods, Inc., Sauder Door Company, and Vancouver Door Company will be acceptable subject to conformance with specified requirements.

2.2 MATERIALS

- A. Provide flush solid core doors as shown or scheduled.
- B. Face Veneer at Transparent Finished Doors: Plain sliced Red Oak to match adjacent doors, NWWDA premium grade, standard thickness, kiln dried and smoothly sanded.
- C. Face Veneer at Paint Grade Doors: Birch, WDMA paint grade, standard thickness, kiln dried and smoothly sanded.
- D. Edge Bands: Select Red Oak to match adjacent doors.
- E. Crossbands: 1/16 inch thick kiln dried hardwood.
- F. Cores: Kiln dried softwood blocks or solid particleboard in conformance with CS-171 or CS-236 at non-rated doors. Non-combustible mineral core at fire-rated doors.
- G. Hardware: Furnished as specified in Section 08 70 00.
- H. Vision Panel Frames: Sheet steel, with corners and intersections mitered, welded, and ground smooth. Shop prime with manufacturer's standard primer. Glazing is specified in Section 08 80 00.
- I. Doors may be pre-finished as specified in Section 09 90 00 at Contractor's option.

2.3 WOOD DOOR FRAMES

- A. Interior Frames:
 - 1. Architectural Woodwork Standards. Grade: Custom.
 - 2. Wood species and Cut: Match species and cut indicated for wood doors unless otherwise indicated.
 - 3. Profile: T-Stop
 - 4. Construction: Solid lumber, fire-retardant particleboard, or fire-retardant medium density fiberboard (MDF) with veneered exposed surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that existing door frames are of types required for doors and are installed as required for proper installation of doors. Do not install doors in frames that would hinder operation of doors.

3.2 INSTALLATION

- A. Comply with requirements of NWWDA I.S.-1 and labeling authority, reviewed Shop Drawings, and manufacturer's instructions.
- B. Install doors plumb, rigid, in true alignment in a prepared opening and fasten to achieve maximum operational effectiveness and appearance of unit.
- C. Hardware:
 - 1. Install in accordance with manufacturer's instructions, regulatory requirements, and industry standards, taking care not to damage doors, frames, or their finishes, with all mortises flush, and all screws turned to a flat seat.
 - 2. Adjust and lubricate hardware, as required, for proper operation.
 - 3. Upon completion of installation, doors and finish hardware shall operate smoothly. Doors shall stand open in any position.

3.3 ADJUSTING

- A. Replace or re-hang doors, which are hinge-bound and do not swing or operate freely.
- B. Replace pre-finished doors damaged during installation.
- C. Install hardware, adjust and lubricate for proper operation.

END OF SECTION 08 14 00

SECTION 08 42 00 - ENTRANCES AND STOREFRONTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Sections:
 - 1. Section 08 70 00 – Hardware.
 - 2. Section 08 80 00 – Glazing.

1.2 REFERENCES

- A. ASTM International (ASTM).
 - 0. E 283 - "Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen."
 - 1. E 330 - "Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference."
- B. Flat Glass Marketing Association (FGMA).
 - 1. "Glazing Manual."
- C. International Building Code (IBC), currently adopted version.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Meet or exceed ASTM E 283 requirements when tested at a pressure differential of 1.57 lbf/sf.
 - 2. Maximum Deflection: 1/175 of span when tested in accordance with ASTM E 330.
 - 3. Design Wind Pressure: 90 MPH, Exposure B.
 - 4. Systems shall have min. U value = 0.65
 - 5. SHGC = 0.40

1.4 SUBMITTALS

- A. Color finish samples showing clear anodizing finish specified.
- B. Shop Drawings showing sections of typical members, details of accessories, and installation details.

1.5 QUALITY ASSURANCE

- A. Regulatory Requirements: Glass and glazing shall conform with applicable requirements of IBC Chapter 24.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aluminum Extrusions: 6063-T5 alloy. Finish as selected from manufacturer's standards on entrances, storefront system, and trim exposed to view.
- B. Provide manufacturer's standard corrosion resistant fasteners, internal components and connections, applied stops, neoprene gaskets, and setting blocks as required for complete installation.
- C. Hardware: Manufacturer's standard and as specified in Section 08 70 00.
- D. Glazing: As specified in Section 08 80 00.
- E. Weatherstripping: As required to comply with performance requirements specified.
- F. Finish: 3 coat high performance, organic fluoropolymer finish complying with AAMA 2605 and containing not less than 70% PVDF resin by weight in both color and clear top coat.
- G. Color: Selected from Manufacturer Standard Color Range, Clear Anodizing.

2.2 FABRICATION

- A. Storefront System: Kawneer Company, Inc., TRI-FAB VG 451T 4½" x 2"; or approved; thermally broken framing for 1 inch glazing meeting U-value =0.40 minimum' at operable units; and U=0.38 minimum at operable units.
- B. Entrance Doors: Kawneer Company, Inc., 350 Medium Stile as scheduled; or approved .
- C. Fabricate all entrance doors and storefronts to withstand minimum 90 psf wind load at first floor. Allow for expansion and contraction due to temperature variation and building movement.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install systems under direct supervision of trained manufacturer's representative and in accordance with manufacturer's instructions and reviewed Shop Drawings.
- B. Glaze in accordance with FGMA and manufacturer's recommendations.
- C. Install hardware in accordance with manufacturer's instructions, requirements of regulatory agencies, and industry standards taking care not to damage hardware, doors, frames, or their finishes.

3.2 ADJUSTING

- A. Adjust entrance components to operate smoothly in accordance with manufacturer's instructions and to meet specified performance requirements when closed.
- B. Upon completion of installation, entrance doors shall operate smoothly, and storefront system shall be weather tight as specified.

END OF SECTION 08 42 00

SECTION 08 54 13 - FIBERGLASS WINDOWS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Furnish labor, materials and other services to complete the fabrication of new fiberglass windows, including all materials required for the supply and installation of the units in the manner, direction and performance shown on the design drawings and specified herein.
 - 2. Fiberglass window framing to incorporate a drained and vented system with complete air, vapor and moisture seals, allowing water entering the framing to drain to the exterior.
 - 3. Fiberglass inswing windows to be glazed with an interior air seal using a continuous silicone heel bead from the IGU to the sash frame.
 - 4. Fiberglass inswing windows to incorporate a concealed hinge system with a continuous interior air seal, uninterrupted by any hardware.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry
 - 2. Section 07 25 00 – Weather Barriers
 - 3. Section 07 21 00 – Insulation
 - 4. Section 07 92 00 – Joint Sealants

1.2 TESTING AND PERFORMANCE

- A. Air Tightness:
 - 1. Air infiltration rate at a static air pressure differential of 1.6 psf when tested in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-11 and ASTM E283.
 - a. Fixed Windows: 0.00 ft².
 - b. Operable windows and swing doors: A3 rating or better.
- B. Water Penetration Resistance:
 - 1. Laboratory Testing
 - a. There shall be no water infiltration at a static air pressure differential as follows when tested in accordance with AAMA 101 and ASTM E331.
 - b. Water penetration resistance test pressure for all vent types, including: Fixed windows, casement, awning, tilt & turn, hopper, inswing doors, and outswing doors: 15 psf (720 Pa).
 - 2. Field Testing:
 - a. Windows shall have no water infiltration at a cyclic static air pressure difference at 12 psf (575 Pa) when tested in accordance with AAMA 101 and ASTM E1105.

3. Structural Requirements:
 - a. Performance Grade (PG) and Class of all windows and doors shall be:
 - 1) For fixed windows, CW-95 or higher
 - 2) For operable window (inswing or outswing), CW-45 or higher
 - b. Components and cladding design wind pressure (DP) for the project of: 110 MPH, Exposure B – ASD calculation method (not factored). Use this design wind pressure for the design of mullions, reinforcing, and other spanning members.
 - c. Design glass according to AAMA/WDMA/CSA 101/I.S.2/A440-11
 - d. Design fiberglass according to AAMA/WDMA/CSA 101/I.S.2/A440-11.
 - e. Design glazing and spanning window frame members, including any required reinforcing, in accordance with AAMA/WDMA/CSA 101/I.S.2/A440-11. There shall be no deflection in excess of L/175 of the span of any framing member.
 - f. Allow for deflection of building structure. Ensure no structural loads are imposed on window assemblies. In lieu of other specific requirements the minimum requirements are as specified by the structural engineer.
4. Thermal Requirements
 - a. The Thermal Transmittance U-Value shall be certified in accordance with the National Fenestration Rating Council (NFRC).
 - 1) Overall U-values, utilizing double glazed IG units:
 - a) Windows - fixed and operable: 0.25
 - 2) Overall U-values, utilizing triple glazed IG units, incorporating two LowE coatings:
 - a) Fixed windows = 0.15
 - b) Tilt & Turn windows = 0.15
 - c) Hopper windows = 0.16
 - d) Casement = 0.16
 - e) Awning = 0.17
5. Energy Star: Windows must be ENERGY STAR® certified. Window manufacturer must provide required documentation and labeling.

1.3 SUBMITTALS

- A. Product Data: For each type of product.
- B. Shop Drawings: Include plans, elevations, sections, accessories, and details of installation, including anchor, flashing, and sealant installation.
- C. Samples: Color chart for selection.

1.4 WARRANTY

- A. Provide manufacturers standard express limited warranty on fiberglass frame components for a period of 20 years for workmanship and materials.
- B. Provide manufacturers standard express limited warranty on integral hardware for a period of 10 years for workmanship and materials.
- C. Provide manufacturers standard express warranty for the insulated glass units to cover premature hermetic seal failure (condensation between the lites at normal service temperatures) appearing within a period of 10 years from the date of substantial completion.

- D. Provide data for maintenance and cleaning in accordance with instructions under General Conditions.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Comply with Manufacturer's/Dealer's ordering instructions and lead time requirements to avoid construction delays.
- B. Delivery: Deliver materials in Manufacturer's standard packaging for protection of product.
- C. Storage & Protection: Store products away from exposure to environmental conditions that may be harmful to materials.
- D. Store materials off ground in an upright position. Provide cover from weather and construction activity.
- E. Follow Manufacturer's instructions on label applied to units.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design, Universal 400 Series reverse flange: Fiberglass Windows and Doors shall be manufactured by: Cascadia Windows and Doors – Langley, BC, Canada. (www.cascadiawindows.com); Or as approved via substitution by Architect/Owner

2.2 MATERIALS

- A. All frame and sash profiles are made from Pultruded Fiberglass.
 - 1. Pultrusions shall be manufactured with clamp-action equipment. No surface texture from rollers is permitted.
 - 2. Glass content average for pultruded profiles: 55% or more.
- B. Fasteners shall be 300 series stainless steel, 400 series stainless steel, or Leland Industries DT2000 coated of sufficient size and quantity to perform their intended function.
 - 1. Fastener corrosion resistance shall be: 2000 hours minimum, when tested in accordance with ASTM B117.
- C. Glazing tape: black, closed cell copolymer, polyethylene foam coated with an aggressive acrylic adhesive. All upward facing exterior horizontal joints to have an additional cap bead of neutral cure silicone.
- D. Internal sealants for frame joints and continuous heel beads: 1199 DOW Corning sealant, or equal or better neutral cure silicone sealant.

- E. Insulated Glazing Units: Insulated glazing unit certified by IGMA. Glass thickness shall be in accordance with applicable Building Codes, but not less than 4mm. All insulated glass units shall be argon filled and utilize soft coat metallic low-E coating(s). Edge construction to consist of a primary seal of polyisobutylene; a tubular low conductivity stainless steel spacer-bar with sealed corners, filled with desiccant; and a secondary seal of neutral cure silicone. Performance requirements indicated in this section are for center-of-glass.
 - 1. Acceptable Low-E coated, insulated glazing units (double glazed):
 - a. Cardinal LowE 270, on #2 surface, argon filled. COG performance: U-0.25 (Imperial), SHGC 0.37, VT 70%.
 - 2. Tempered glass in insulated glazing units:
 - a. Where required by local building code or bylaw, and additionally as indicated in the construction documents.
- F. Window Hardware for Tilt/Turn Hopper Function
 - 1. All hardware to be supplied by a single manufacturer:
 - 2. Basis of Design manufacturer: Rotosil Nano Roto Frank of America.
 - 3. Hardware finish: Color to be selected from supplier's standard range, black.
- G. Finish
 - 1. Hydro Tuff two-component waterborne polyurethane, meeting the requirements of AAMA-625.
 - a. Interior Frame Finish: White.
 - b. Exterior Frame Finish: White.
- H. Glazing Stop
 - 1. Provide manufacturer pultruded fiberglass glazing stops as required by IGU thickness.
 - 2. Lock-in, screw-less type.
 - 3. No PVC materials shall be used for glazing stop or related accessories.

PART 3 - EXECUTION

3.1 FABRICATION

- A. Fabricate framing from pultrusions of size and shape shown on shop drawings.
- B. All framing joints shall be accurately machined, assembled, and sealed to provide neat weather-tight connections.
- C. Provide interior heel bead as required for rain screen system.
- D. All glazing pockets shall be vented, pressure equalized and drained to the exterior.

3.2 INSTALLATION

- A. Windows shall be installed, glazed and adjusted by experienced personnel in accordance with the manufacturer's instructions and approved shop drawings.
- B. All items in this section shall be set level, square, plumb and at proper elevations and in alignment with other work.

- C. Install windows in accordance with approved shop drawings.

3.3 PROTECTION AND CLEANING

- A. Windows shall be isolated and protected from concrete, mortar, plaster and other Building materials during and after installation until acceptance by the General Contractor. Thereafter, it shall be the responsibility of the General Contractor to maintain protection and provide final cleaning.

END OF SECTION 08 54 13

SECTION 08 70 00 – FINISH HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. Finish Hardware is Bidder Designed.
- B. Work under this section includes the complete finish hardware requirements for the project. Quantities listed are for the contractor's convenience only and are not guaranteed. Items not specifically mentioned, but necessary to complete the work shall be furnished, matching the items specified in quality and finish.
- C. Related Sections:
 - 1. Section 08 11 00 – Metal Doors and Frames
 - 2. Section 08 14 00 – Wood Doors
 - 3. Section 08 42 00 – Entrances and Storefronts

1.2 QUALITY ASSURANCE

- A. Product Qualification:
 - 1. To assure a uniform high quality of materials for the project, it is intended that only specified items be furnished. Comparable products may be accepted upon prior approval of architect.
 - 2. Hardware to be new, free of defects, blemishes and excessive play. Obtain each kind of hardware (Mechanical latch and locksets, exit devices, hinges and closers) from one manufacturer except where specified.
 - 3. Fire-Rated opening in compliance with NFPA80. Hardware UL10C/UBC-7-2 (positive pressure) compliant for given type/size opening and degree of label. Provide proper latching hardware, non-flaming door closers, approved bearing hinges and smoke seal. Furnish openings complete.
- B. Supplier Qualifications:
 - 1. Hardware supplier will be a direct factory contract supplier who employs a certified Architectural Hardware Consultant (AHC) available at all reasonable times during the course of the work for project hardware consultation to owner, architect and contractor.
 - 2. Supplier will be responsible for detailing, scheduling and ordering of finish hardware.
 - 3. Conduct pre-installation conference at jobsite. Initiate and conduct with supplier, installer and related trades. Coordinate materials and techniques and sequence complex hardware items and systems installation.
 - 4. Key Conference shall be initiated and conducted with owner to determine system, keyway(s) and structure.
- C. Installer Qualifications:
 - 1. Installer to have not less than 3 years' experience specializing in installation of work in this section. Company must maintain qualified personnel trained and experienced in installing hardware.

1.3 REFERENCES

- A. NFPA80 – Fire Doors and Windows
- B. NFPA101 – Life Safety Code
- C. NFPA105 – Smoke and Draft Control Door Assemblies
- D. ANSI A117.1 – Accessible and Usable Buildings and Facilities

1.4 SUBMITTALS

- A. Hardware schedule: Submit digital copies of schedule. Organize vertically formatted schedule into Hardware Sets with index of doors and headings, indication complete designations of every item required for each door or opening. Include the following:
 - 1. Type, style, function, size, quantity and finish of hardware items.
 - 2. Name, part number and manufacture of each item.
 - 3. Fastenings and other pertinent information.
 - 4. Explanation of abbreviations, symbols and codes contained in schedule.
 - 5. Door and frame sizes, materials and degrees of swing.
- B. Product Data: Submit digital copies for each product indicated.
- C. Templates: Obtain and distribute templates for doors, frames, and other works specified to be prepared for installing door hardware.
- D. Wiring/Riser diagrams: As required for electric hardware indicated.
- E. Maintenance Data: For each type of door hardware to include in maintenance manuals specified in Division 1.
- F. Keying Schedule: Prepared by or under the supervision of supplier, after receipt of the approved finish hardware schedule, detailing Owner's final keying instructions for locks.
- G. Samples: Upon request submit material samples.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, handle and protect products to project site under provisions of Division 1 and as specified herein.
- B. Tag each item or package separately, with identification related to the final Door Hardware Schedule, and include basic installation instructions with each item or package.
- C. Deliver keys to Owner by registered mail.

1.6 WARRANTY

- A. The finish hardware shall have a limited warranty against defects in workmanship and operation for a period of one year from date of substantial completions and the following items are as shown:
1. Closers: Ten years
 2. Exit Devices: Ten years
 3. Locksets: Ten years

PART 2 - PRODUCTS

2.1 MATERIAL AND FABRICATION

- A. Provide all door hardware for complete work, in accordance with the drawings and as specified herein.
- B. Provide items and quantities not specifically mentioned to ensure a proper and complete operational installation.

2.2 MANUFACTURERS

- A. Approval of products from manufacturers indicated as "Acceptable Manufacturer" is contingent upon those products providing all functions and features and meeting all requirements of scheduled manufacturer's product.

ITEM	ACCEPTABLE MANUFACTURERS
Hinges	Stanley, Bommer, Ives
Flush Bolts & Coordinators	DCI, Ives
Locksets & Deadlocks	Best/Schlage
Exit Devices & Mullions	Corbin-Russwin, Precision
Cylinders & Keying	Best
Door Closers	NortonDorma, Corbin-Russwin, LCN
Protection Plates	Rockwood, Trimco, DCI, Ives
Overhead Stops	Rixon, Dorma, Glynn-Johnson, ABH
Thresholds & Weatherstrip	Pemko, NGP, Reese, Zero International
Wall & Floor Stops	Rockwood, ABH/Ives
Silencers	Rockwood/Ives
Access Control	Match City System Standard

2.3 HANGING

- A. Conventional Hinges: Hinge open width minimum, but of sufficient throw to permit maximum door swing. Steel or stainless steel pins:
1. Three hinges per leaf to 7 feet, 6-inch height. Add one for each additional 30 inches in height or any fraction thereof.
 2. Provide 4 ½ x 4 ½ for 1 ¾" thick doors up to 36". Provide 5 x 4 ½ on doors 36" and over.
 3. Exterior outswing doors to have non removable (NRP) pins.
 4. Pin tips, flat button, finish to match leaves
 5. Interior doors over 36" – Heavy weight
 6. Interior doors up to 36" – Standard weight

2.4 LOCKSETS, LATCHSETS, DEADBOLTS

A. Heavy Duty Cylindrical Locks

1. Provide cylindrical locks conforming to ANSI A156.2 Series 4000, Grade 1.
2. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with a 1/2 inch (13 mm) latch throw. Provide proper latch throw for UL listing at pairs.
3. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws.
4. Provide independently operating levers with two external return spring cassettes mounted under roses to prevent lever sag.
5. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
6. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.
 - a. Lever Design: ADA Compliant

B. Cylindrical Locks

1. Provide cylindrical locks conforming to ANSI A156.2 Series 4000, Grade 2.
2. Provide locks with standard 2-3/4 inches (70 mm) backset, unless noted otherwise, with a 1/2 inch (13 mm) latch throw. Provide 2-3/8 inches (60 mm) backset where noted of if door or frame detail requires. Provide proper latch throw for UL listing at pairs.
3. Provide locksets with separate anti-rotation thru-bolts, and no exposed screws. Provide levers that operate independently, and have internal return springs to prevent lever sag.
4. Provide standard ASA strikes unless extended lip strikes are necessary to protect trim.
5. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.
 - a. Lever Design: ADA Compliant

C. Tubular Locksets - Schlage F Series or equivalent

1. Provide tubular locks conforming to ANSI A156.2 Series 4000, Grade 2.
2. Provide locks with standard 2-3/8 inches (60 mm) adjustable to 2-3/4 inches (70 mm) backset with 1/2 inch (13 mm) latch throw. Provide 2 3/4 inches (70 mm) backset, unless 2-3/8 inches (60 mm) is required by door or frame detail, or noted otherwise.
3. Provide locksets that fit standard 2-1/8 inches (54 mm) diameter bore without use of thru-bolts.
4. Standard Rose Size: 2-1/2 inches (64 mm) in diameter.
5. Door Thickness: Locksets adjustable to fit in 1-3/8 inches (35 mm) or 1-3/4 inches (44 mm) door thickness.
6. Provide standard T-strikes unless extended lip strikes are necessary to protect trim.
7. Lever Trim: Solid cast levers without plastic inserts, and wrought roses on both sides.
8. Lever Design: ADA Compliant

D. Auxiliary Locks:

1. Provide deadbolt series conforming to ANSI/BHMA A156 and function as specified.
2. Provide deadbolts with standard 2-3/4 inches (70 mm) backset. Provide 2-3/8 inches (60 mm) where noted or if door or frame detail requires. Provide deadbolt with full 1 inch (25 mm) throw, constructed of steel alloy.
3. Provide manufacturer's standard strike.

2.5 EXIT DEVICES

A. Panic and Fire Exit Devices

1. Provide exit devices tested to ANSI/BHMA A156.3 Grade 1, and UL listed for Panic Exit or Fire Exit Hardware.
2. Exit Devices: Touchpad type, fabricated of brass, bronze, stainless steel, or aluminum, plated to standard architectural finishes to match balance of door hardware.
3. Touchpad: Extend minimum of one half of door width. Match exit device finish or provide compatible finish. Provide compression springs in devices, latches, and outside trims or controls, tension springs also acceptable.
4. Provide manufacturer's standard strikes.
5. Provide exit devices cut to door width and height. Locate exit devices at height recommended by exit device manufacturer, allowable by governing building codes, and approved by Architect.
6. Mount mechanism case flush on face of doors, or provide spacers to fill gaps behind devices. Where glass trim or molding projects off face of door, provide glass bead kits.
7. Where lever handles are specified as outside trim for exit devices, provide heavy-duty lever trims with forged or cast escutcheon plates. Provide vandal-resistant levers that will travel to 90-degree down position when more than 35 pounds of torque are applied, and which can easily be re-set.
 - b. Lever Style: Match lever style of locksets.
1. Provide UL labeled fire exit hardware for fire rated openings.

2.6 KEYS, KEYING, AND KEY CONTROL – BEST AS CITY STANDARD

- A. See Keying Requirements in this section

2.7 CLOSERS

A. Heavy Duty Surface Closers

1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory. ISO 9000 certify closers. Stamp units with date of manufacture code.
2. Provide door closers with fully hydraulic, full rack and pinion action with aluminum cylinder.
3. Closer Body: 1-1/2 inch (38 mm) diameter with 5/8 inch (16 mm) diameter heat-treated pinion journal.
4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.

6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
 7. Pressure Relief Valve (PRV) Technology: Not permitted.
 8. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.
- B. Surface Closers
1. Provide door closers conforming to ANSI/BHMA A156.4 Grade 1 requirements by BHMA certified independent testing laboratory.
 2. Provide door closers with fully hydraulic, full rack and pinion action with aluminum cylinder.
 3. Closer Body: 1-1/4 inch (32 mm) diameter, with 5/8 inch (16 mm) diameter heat-treated pinion journal.
 4. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
 5. Spring Power: Continuously adjustable over full range of closer sizes, and providing reduced opening force as required by accessibility codes and standards.
 6. Hydraulic Regulation: By tamper-proof, non-critical valves, with separate adjustment for latch speed, general speed, and backcheck.
 7. Pressure Relief Valve (PRV) Technology: not permitted.
 8. Provide special templates, drop plates, mounting brackets, or adapters for arms as required for details, overhead stops, and other door hardware items interfering with closer mounting.

2.8 OTHER HARDWARE

- A. Door stops: Provide stops to protect walls, casework or other hardware.
1. Except as otherwise indicated, provide stops at each leaf of every swinging door leaf.
 2. Where wall or floor stops are not appropriate, provide overhead holders.
- B. Weatherstrip and Gasket
1. Provide continuous weather-strip gasketing on exterior doors and provide smoke, light, or sound gasketing on interior doors where indicated or scheduled.
 2. Provide non-corrosive fasteners as recommended by the manufacturer for application indicated.
- C. Thresholds
1. Except as otherwise indicated, provide standard metal threshold unit of type, size and profile as detailed or scheduled.
- D. Silencers
1. Interior hollow metal frames, 3 for single doors, 2 for pairs of doors.
- E. Kickplates
1. Four beveled edges, .050 inches minimum thickness, height and width as scheduled. Sheet-metal screws of bronze or stainless steel to match other hardware.

2.9 HARDWARE FINISH

- A. Provide the following finishes unless noted differently in hardware groups:

Hinges	630 Stainless Steel Exterior (U532D), 652 Dull Chrome Interior
Locksets	626 Dull Chrome
Exit Devices	626 Dull Chrome
Closers	689 Aluminum
Kickplates	630 Stainless Steel
Other Hardware	626 Dull Chrome
Thresholds	Aluminum
Weatherstrip/Sweeps	Aluminum

2.10 KEYING REQUIREMENTS

- A. All keyed cylinders shall be subject to a new masterkey system integrated with the Parish.
- B. Furnish cylinders with construction cores. Following construction supply permanent keyed cores.
- C. Cylinders to be furnished with visual key control with key code. Stamped on the face of the keys and marked on the back or side of the cylinders.
- D. Key Quantities
- 6 EA Master Keys
 - 10 EA Construction Keys
 - 3 EA Change Keys per keyed alike group

2.11 ACCESS CONTROL SYSTEM

- A. This project shall utilize and provide continuity with the established City standard access control system.
- 1. Door Controllers – Honeywell NetAXS 123
 - 2. Prox Card Readers – HID
 - 3. Electric Strikes – Adams Rite 7400-628 12/24 volt at single leafs
 - 4. 2 Leaf Maglock – Includes Maglock REX Button, Mounting Bracket; 2 amp power supply 618A at 24 VDC, 2 ea. switch bars
- B. The City utilizes Security Solutions as vendor for this system.
- 1. Contact: Robert Wagner
360-296-2595 (cell)
robertw@ssnw.co
- C. Cabling
- 1. Connect cabling from each Door Location to Room 107-Utility Room with composite package home run.

PART 3 - EXECUTION

3.1 ACCEPTABLE INSTALLERS

- A. Factory trained, certified, and carries a factory-issued card certifying that person as a "Certified Installer". Alternative: can demonstrate suitably equivalent competence and experience.

3.2 PREPARATION

- A. Ensure that walls and frames are square and plumb before hardware installation.
- B. Locate hardware per SDI-100 and applicable building, fire, life-safety, accessibility, and security codes. Notify Architect of any code conflicts before ordering materials.

3.3 INSTALLATION

- A. Do not install surface mounted items until finishes have been completed on substrate. Set units level, plumb and true to line and location. Adjust and reinforce attachment substrate for proper installation and operation.
- B. Locate floor stops not more than 4 inches from the wall.
- C. Drill pilot holes for fasteners in wood doors and/or frames.

3.4 ADJUSTING

- A. Adjust and check for proper operation and function. Replace units, which cannot be adjusted to operate freely and smoothly.
- B. Hardware damaged by improper installation or adjustment methods to be repaired or replaced to Owner's satisfaction.

3.5 FOLLOW UP INSPECTION

- A. Installer to provide letter of agreement to Owner that approximately 6 months after substantial completion, installer will visit project with representative of the manufacturers of the locking devices and door closers to accomplish the following:
 - 1. Re-adjust locks and closers
 - 2. Evaluate maintenance procedures and recommend changes or additions, and instruct Owner's personnel.
 - 3. Identify items that have deteriorated or failed.
 - 4. Submit written report identifying problems and likely future problems.

3.6 DEMONSTRATION

- A. Demonstrate electrical, electronic and pneumatic hardware system including adjustment and maintenance procedures

3.7 PROTECTION/CLEANING

- A. Cover installed hardware, protect from paint, cleaning agents, weathering, carts/barrows, etc. Remove covering materials and clean hardware just prior to substantial completion. Clean adjacent wall, frame and door surfaces soiled from installation/reinstallation process.

3.8 BIDDER DESIGNED SCHEDULE

- A. Provide schedule for Owner/Architect review.

END OF SECTION 08 70 00

SECTION 08 80 00 - GLAZING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes
 - 1. Glazing at interior and exterior locations
 - 2. Fire rated glazing
- B. Related Sections
 - 1. 08 11 00 Metal Doors and Frames
 - 2. 08 14 00 Wood Doors
 - 3. 08 54 13 Fiberglass Windows

1.2 REFERENCES

- A. ASTM International (ASTM).
 - 1. C 920 - "Specification for Elastomeric Joint Sealants."
 - 2. E2010-01: "Standard Test Method for Positive Pressure Fire Tests of Window Assemblies."
- B. Flat Glass Marketing Association (FGMA).
 - 1. "Sealant Manual"
- C. Glazing Association of North America (GANA)
 - 1. "Glazing Manual"
- D. International Building Code (IBC).
- E. National Fenestration Rating Council (NFRC)
 - 1. NFRC100 "Procedure for Determining Fenestration Product U-Factors"
- F. National Fire Protection Association (NFPA).
 - 1. NFPA 80 - "Fire Doors and Windows."
 - 2. NFPA 257 – "Fire Tests of Windows Assemblies"
- G. Underwriters Laboratories, Inc. (UL).
 - 1. UL9 – "Fire Tests of Window Assemblies"

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Installed glass shall be able to withstand a wind load specified by IBC for project location.
 - 2. Meet Energy requirements of the Washington State Energy Code and the Drawings.

1.4 SUBMITTALS

- A. Comply with requirements of Section 01 33 00.
- B. Product data: Submit manufacturer's technical data for each glazing material required, including installation and maintenance instructions.
- C. Certificates of compliance from glass and glazing materials manufacturers attesting that glass and glazing materials furnished for project comply with requirements. Separate certification will not be required for glazing materials bearing manufacturer's permanent label designating type and thickness of glass, provided labels represent a quality control program involving a recognized certification agency or independent testing laboratory acceptable to authority having jurisdiction.
- D. Product Test Listings: From UL indicating fire-rated glass complies with requirements, based on comprehensive testing of current product.
- E. Samples: Submit, for verification purposes, approx. 8-inch by 10-inch sample for each type of glass indicated.

1.5 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Glass and glazing shall conform with recommendations of GANA "Glazing Manual."
- B. Regulatory Requirements:
 - 1. Glass and glazing shall conform with applicable requirements of IBC Chapter 24.
 - 2. Tempered safety glass shall bear an identifying mark, and shall be accompanied by certification that it conforms to Federal Safety Standard 16 CFR 1201.
 - 3. Exterior glass shall be selected to conform with applicable requirements of the Washington State Energy Code (WSEC) to suite window types, manufacturers and targeted performance requirements established for the project.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Glass:
 - 1. Manufacturer's: Use manufacturer's that are compatible with specified window systems.
 - 2. Tempered Glass: Provide tempered glass at locations required by the International Building Code.
 - 3. Typical interior glazing: Single pane clear float, 1/4" thick, tempered.
 - 4. Fire rated glazing: TGP Firelite, 3/16" thick. Rating to suit assembly shown on drawings.
 - 5. Glazing at Exterior Windows: 1" clear insulating glass, low-e, argon filled. Glazing to meet WSEC minimum U-value.
 - 6. Glazing at Exterior Metal Doors: 1" clear insulating glass, low-e, argon filled, warm edge spacer. Glazing performance to meet WSEC min. U-Value.

- B. Glazing Materials:
1. Types and Sizes: As recommended by glass manufacturer, unless otherwise shown or specified.
 2. Tape: Butyl rubber, Pecora Corporation "Extru-Seal Tape" G-66 and BB-50, Tremco "Tremco 440 Tape."
 3. Tape at fire rated assemblies: As recommended by fire rating glazing manufacturer.
 4. Glazing Compound and Sealant: For use in aluminum frames, non-staining types of color to match frames; for use in other frames when exposed to view, either gray or neutral color as selected.
 - a. Glazing Compound: Pecora Corporation "M-242."
 - b. Sealant: For butt glazing conditions only, Tremco "Proglaze", General Electric Company "Silglaze Sealant", Sonneborn "OmniGlaze", silicone sealant in conformance with FS TT- S-001543A. Sealant to have V.O.C. rating of 250 g/L or less.
 5. Glazing and Sealant at fire rated assemblies: As recommended by fire rating glazing manufacturer. Sealant to have V.O.C. rating of 250 g/L or less.
 6. Setting Blocks and Spacers: Neoprene, of hardness as recommended by glass manufacturer. EPDM and silicone is permitted at fire rated glazing to suit manufacturer's requirements. Note: test compatibility with sealant before installation.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions, recommendations of GANA, FGMA, and regulatory requirements.
- B. Tolerances: Conform to manufacturer's specified limits.
- C. Make exposed surfaces of glazing compounds and sealants smooth.
- D. Completed exterior installations shall be watertight.
- E. Attach cross streamers away from glass face. Do not apply to glass surface.

3.2 CLEANING

- A. Upon completion of glazing Work, clean excess glazing compound and sealant from glass and adjacent surfaces.
- B. Leave manufacturers' labels intact and in place until time of final inspection and cleaning.

END OF SECTION 08 80 00

SECTION 09 29 00 – GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide all gypsum board and acoustical insulation Work shown and specified.
- B. Related Sections:
 - 1. Section 06 10 00 – Rough Carpentry
 - 2. Section 07 92 00 – Joint Sealants

1.2 REFERENCES

- A. ASTM International (ASTM).
 - 1. A 653 - "Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process."
 - 2. B 633 - "Specification for Electrodeposited Coatings of Zinc on Iron and Steel."
 - 3. C 475 - "Specification for Joint Compound and Joint Tape for Finishing Gypsum Board."
 - 4. C 665 - "Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing."
 - 5. C 1396 - "Specification for Gypsum Board."
 - 6. E 497 - "Practice for Installing Sound-Isolating Lightweight Partitions."
- B. Gypsum Association (GA).
 - 1. GA 216 - "Recommended Specifications for the Application and Finishing of Gypsum Board."
- C. International Building Code (IBC), currently adopted edition.
- D. Northwest Wall and Ceiling Bureau (NWCB).
- E. Underwriters Laboratories, Inc. (UL).
- F. South Coast Air Quality Management District (SCAQMD)
 - 1. Rule 1168 – Low / No VOC Adhesives and Caulks
 - a. Maximum allowed VOC Levels (G/L) as indicated

VOC Limit Product Type	G/L
Drywall and Panel Adhesives	50
Multipurpose Construction Adhesives	70
Architectural Sealants, Including Caulk	250

1.3 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with IBC Chapters 7 and 25.
 - 2. Rated gypsum board shall be in conformance with UL fire resistance and fire hazard classifications.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Noise Barrier Batts shall be kept dry during shipping, storage, and handling.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. General: All materials shall be supplied by one manufacturer. United States Gypsum, CertainTeed, Georgia-Pacific, Gold Bond.
- B. Gypsum Board: Conform with requirements of ASTM C 1396, grade manufactured for finished wall surfaces with tapered longitudinal edges. Furnish in 48 inch widths and lengths which will result in a minimum footage of joints.
 - 1. Type X, 5/8 inch thick, where indicated on drawings where indicated on drawings.
 - 2. USG FiberRock Aquatough AR or approved equal, 5/8 inch thick, at all Restrooms, Kitchen, fire sprinkler room, water service room, and Janitor's closets. Use Type X where indicated in drawings.
 - 3. 1" thick fire rated shaftwall.
- C. Gypsum Board Accessories:
 - 1. Screws:
 - a. Wood Framing: Type W, 1-1/4 inch long.
 - 2. Corner Bead: Fine mesh expanded steel wing type, zinc coated in conformance with ASTM A 653 G90 coating designation, or ASTM B 633.
 - 3. Control Joint: Steel, perforated wing type, with single bead, zinc coated in conformance with ASTM A 653 G90 coating designation, or ASTM B 633.
 - 4. Metal Trim: Steel, of configuration and size as shown or required, zinc coated in conformance with ASTM A 653, G90 coating designation, or ASTM B 633.
- D. Joint Treatment: Joint tape and joint compound for embedding and finishing shall be products of one manufacturer and in conformance with ASTM C 475.
- E. Adhesive: As recommended by gypsum board manufacturer.
- F. Waterproof Sealer: In accordance with gypsum board manufacturer's recommendations.
- G. Acoustical Insulation: Owens-Corning Fiberglas Corporation, Noise Barrier Batts, ASTM C 665, 3 -1/2 inches thick.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that framing is accurately spaced and aligned. Correct framing members out of alignment, bowed or warped, to provide true, plumb surfaces before applying gypsum board.

3.2 INSTALLATION

- A. Install materials in accordance with GA 216, manufacturer's instructions, requirements of regulatory agencies, and as shown or approved equal. Comply with Adhesives per SCAQMD standards.
- B. Apply gypsum board first to ceilings and then to partitions. Apply vertically to partitions. Joints on opposite sides of same partition shall occur on different studs. Install gypsum board in moderate contact, not forced into place.
- C. Apply gypsum board as close as possible to floor surface to provide full backing for resilient base. If floor level is inconsistent, creating voids greater than 1/4 inch, mud in voids to align flush with face of gypsum board.
- D. Attach gypsum board to framed panel edges and intermediate supports with screws at 12 inches on center for ceilings, and 16 inches on center for partitions.
- E. Accessories: Provide corner beads at vertical and horizontal external corners. Provide metal trim where gypsum board abuts partition or ceiling of dissimilar construction.
- F. Acoustical Partitions:
 - 1. Friction fit noise barrier batts in place until interior finish is applied. In areas where noise barrier batt insulation will be applied in heights over 8 feet, provide supplementary support until interior finish is applied. Carefully fit insulation around outlets, junction boxes, and other irregularities.
 - 2. Install gypsum board 1/4 to 3/8 inch above floor and fill resultant space with acoustical sealer.
 - 3. Provide a minimum clearance of 1/4 inch along perimeters of penetrations; fill resultant space with acoustical sealer.
 - 4. Achieve maximum sound insulation through careful installation in jointing, sealing, taping, and staggering of joints. Conform with ASTM E 497.
- G. Finishing:
 - 1. Provide taping and finishing using proper hand tools such as broad knives or trowels with straight and true edges or mechanical tools designed for this purpose.
 - 2. Seal all screw heads at WR gypsum board with waterproof sealer.
 - 3. Apply joint compound at all joints, fasteners, and metal trim in accordance with GA 216, and NWCB Finish Level 4.
 - 4. Reinforce all joints, corner beads and metal trim with tape. Center all tape on joint and seat in joint compound. Apply skim coat to cover tape. Allow tape to dry before second coat is applied.
 - 5. Apply second coat of joint compound over embedding coat, cover tape and feather 2 inches beyond edges leaving joint flush.
 - 6. When second coat is dry apply third thin coat of finishing compound feathered 2 inches beyond second coat.
 - 7. Finish all nail, screw depressions, gouges, and scratches with 3 coats of joint compound. Leave surface of gypsum board flush, smooth, and free of tool marks and ridges.

8. Fire tape only, all gypsum board surfaces in ceiling plenums. Finish all other gypsum board surfaces in accordance with manufacturer's recommendations.
 9. Sand finish coat when dry to leave surface flush, smooth, and ready for painting specified in section 09 90 00.
- H. With final application of joint compound and sanding, leave gypsum board surfaces uniformly smooth to comply with NWCB Finish Level 4. Provide light dash texture finish for all exposed gypsum board.
- I. Prime paint gypsum board, with latex primer-sealer specified in Section 09 90 00, before and after application of texture coat.

END OF SECTION 09 29 00

SECTION 09 51 00 – ACOUSTICAL CEILINGS

PART 1 - GENERAL

1.1 SUMMARY

- A. Work Includes:
 - 1. Installation of new suspension system grid and tiles within new improved areas as shown on the Drawings.

1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM).
 - 1. C 423 - "Test Method for Sound Absorption and Sound Absorption Coefficients by the Reverberation room Method."
 - 2. C636 – "Standard Specification for the manufacture, performance, and testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings."
 - 3. E 84 - "Test Method for Surface Burning Characteristics of Building Materials."
- B. Federal Specifications (FS).
 - 1. SS-S-118B - "Sound Controlling (Acoustical) Tiles and Panels."

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's technical data for each type of acoustical ceiling unit required. Include installation information for tile and adhesive.
- B. Shop drawings for acoustical baffle system.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver acoustical ceiling units to project site in original, unopened packages and store them in a fully enclosed space where they will be protected against damage from moisture, direct sunlight, surface contamination, and other causes.
- B. Before installing acoustical ceiling units, permit them to reach room temperature and a stabilized moisture content.
- C. Handle acoustical ceiling units carefully to avoid chipping edges or damaged units in any way.

1.5 JOBSITE CONDITIONS

- A. Meet tile and adhesive manufacturer's requirements for jobsite conditions including, but not limited to, temperature and humidity limitations.

1.6 WARRANTY

- A. Acoustical panel: Submit a written warranty executed by the manufacturer, agreeing to repair or replace acoustical panels that fall within the warranty period. Failures include but are not limited to: Sagging and Warping

- B. Warranty Period: Manufacturer's standard warranty.
- C. The Warranty shall not deprive the Owner of other rights the Owner may have under other provisions of the Contract Documents and will be in addition to and run concurrent with other warranties made by the Contractor under the requirements of the Contract Documents.

1.7 MAINTENANCE

- A. Extra Materials: Deliver extra materials to Owner. Furnish extra materials described below that match products installed. Packaged with protective covering for storage and identified with appropriate labels.
 - 1. Acoustical Ceiling Units: Furnish minimum one unopened carton (40 tiles) of each type.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Specific brand names are listed as standards of quality, appearance, and utility.

2.2 MATERIALS

- A. Suspension System: Where no existing Use Chicago Metallic Corporation, 1200 System; Armstrong, Prelude XL; USG Interiors, Inc., DX System; or approved to work with selected tile panels.
 - 1. General: All components shall be products of the same manufacturer.
 - 2. Type: 15/16 inch exposed, fire-rated, single web, direct hung, for use with 24 inch by 48 inch acoustical panels as shown.
 - 3. Perimeter Angles and Corner Pieces: Same material as that of suspension system.
 - 4. At "cloud" or exposed perimeter edge condition: 6" tall Armstrong Axiom Vector (inverted) or equal.
 - 5. Hanger Wire and Ties: Galvanized, soft annealed mild steel wire complying with ASTM C 636, 12 gage minimum.
 - 6. Miscellaneous Accessories: Manufacturer's standard as required for use with suspension system provided.
 - 7. Finish: As selected from manufacturer's standard, white.
- B. Mineral Fiber Ceiling Panels: Manufacturer: Armstrong, School Zone, Fine Fissured; or approved substitution; 24" x 24" x $\frac{3}{4}$ " thick (#1810) and 24" x 48" x $\frac{3}{4}$ " thick (#1811), noncombustible mineral fiber, Class A fire-rated, square lay-in panels. Factory applied washable white vinyl latex paint finish. Minimum NCR of 0.70 or better.
- C. Ceiling Tile Accessories
 - 1. Perimeter Trim: Armstrong Slip-On wall moldings. 10 foot lengths with 15/16" flange. Thickness to suit ceiling panels. Install at ceiling/wall junctions and at change of planes.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Layout and direction of acoustical panels as shown. Center in rooms and spaces with continuous joints, parallel to partitions. Broken or discontinuous jointing not acceptable.
- B. Install acoustical panels in accordance with manufacturer's instructions.
- C. Install no panel or tile less than 1/2 the width of field tile except where required for irregularly shaped areas.
- D. Replace discolored, damaged, or improperly installed acoustical panel and tile units.
- E. Seismic Restraints: Install in strict accordance with current IBC and State requirements. See detail in drawing set.
- F. Install perimeter trim at all ceiling wall junctions and at changes of plane.

3.2 CLEANING

- A. Comply with manufacturer's instructions for cleaning and touch-up of minor finish damage. Remove and replace Work that cannot be successfully cleaned and repaired to permanently eliminate evidence of damage.

END OF SECTION 09 51 00

SECTION 09 68 00 – CARPET

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide New Carpet and accessories as shown and specified.
- B. Related Sections:
 - 1. Section 01 23 00 – Alternates
 - 2. Section 03 54 16 – Hydraulic Cement Underlayment
 - 3. Section 09 65 00 – Resilient Flooring

1.2 SUBMITTALS

- A. Samples: Three 24 inch square pieces of carpet of each color selected.

1.3 QUALITY ASSURANCE

- A. Installer Qualifications: Installer of at least 10 projects equal in yardage to Work specified. Minimum experience to acquire warranty coverage.

1.4 MAINTENANCE

- A. Carpet Tiles: Two full cartons and any left over from a full box for each color selected.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. CPT-1, CPT-2, CPT-3
 - 1. Carpet Tile: J & J Flooring
 - Pattern: Tri-Plex 1832
 - Size: 24" x 24"
 - Color:
 - CPT-1: 2292 – Times a Lady
 - CPT-2: 2295 – Musketeers
 - CPT-3: 2293 – Dog Night
 - Construction: Loop
 - Wear Layer: Universal Fibers polyester – applied pattern
 - Std. Backing Polyester Felt Cushion
 - Dye Method: Solution Dyed
 - Pattern Repeat: Random $\frac{1}{3}$ / $\frac{1}{3}$ / $\frac{1}{3}$ for each color
 - Total Thickness: 0.205 inches (nominal average)
 - Install: $\frac{1}{4}$ Turn

- B. Walk Off Mat
 - 1. Manufacturer: Mats Inc.
Product Line: Berber RB Roll Matting
Style: 6'-7'W roll goods x $\frac{3}{8}$ " thick, 64 oz./sq. yd.
Color: Light Beige
Material: 100%, Solution Dyed polypropylene fiber
Backing: Oxforce Highdensity Rubber
Installation Method: Glue Down
- C. Installation Materials:
 - 1. Adhesive: Anti-microbial, pressure sensitive type, suitable to release carpet when re-carpeting, as recommended by carpet manufacturer.

2.2 ACCESSORIES

- A. Leveling, Patching and Underlayment Compounds
 - 1. Latex types as required by carpet manufacturer. Capable of being extended to a feather edge and of sustaining loads without indentation. Underlayment not to contain gypsum compounds.
 - 2. Underlayment compound to have a moisture permanence of no greater than 1 perm.
 - 3. Use Hydraulic Cement Underlayment if existing conditions are beyond tolerances for compounds listed above.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Prior to start of Work inspect all surfaces, verify that surfaces are clean, dry, sound, level, and free from oil, grease, wax or other foreign matter that would impair installation.

3.2 PREPARATION

- A. Fill cracks more than 1/16 inch wide, and depressions, with crack filler. Fill and thoroughly sand edge and end joints. Lightly sand any surface roughness around fasteners.

3.3 INSTALLATION

- A. Install carpet in accordance with manufacturer's instructions, within allowable temperature range recommended by manufacturer.
- B. Carpet:
 - 1. Fit neatly into breaks and recesses, against bases, around penetrations, under thresholds, and around permanent cabinets and equipment.
 - 2. Broom or roll to remove air bubbles and insure bond.
 - 3. Install edge strips where carpet adjoins resilient flooring.

3.4 CLEANING

- A. Upon completion, vacuum with commercial beater bar type vacuum cleaner. Protect from soiling and damage until acceptance by Owner.
- B. After each area of carpet has been installed, protect from soiling and damage until acceptance by Owner.
- C. At existing carpeting remaining within area of work, provide thorough wet type cleaning per City Standards.

END OF SECTION 09 68 00

SECTION 09 90 00 - PAINTING AND COATING

PART 1 - GENERAL

1.1 SUMMARY

- A. Unless otherwise shown or specified paint all surfaces exposed in the finished Work.
- B. Surfaces Not to be Painted: Materials with factory applied finish or integral color, hardware, finished metals, glass, plastic laminate, resilient flooring, lighting fixtures, Code-Required labels.
- C. Related Sections:
 - 1. Section 07 19 00 – Water Repellents

1.2 REFERENCES

- A. Master Painters Institute (MPI): "MPI Architectural Painting Specification Manual."

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Flame Spread: Provide paint products conforming to the following classifications:
 - a. Class A: 0 - 25.
 - b. Class B: 26 - 75.
 - c. Class C: 76 - 200.
 - 2. Provide product ratings at designated locations as follows:
 - a. Enclosed Vertical Exitways, Corridors, and Other Exitways: Class A.
 - b. Rooms or Other Areas: Class B.

1.4 SUBMITTALS

- A. Product Data: Complete material list showing product name, number, manufacturer's name, intended use and function on the Project.
- B. Samples:
 - 1. Except as noted below: 8-1/2 by 11 inches in size of each color and finish required, upon materials corresponding with those to be finished on the Project. Approved samples shall constitute standards for color and finish for acceptance or rejection of completed Work.
 - 2. Exterior Siding: Provide 3 variations of each color selected on 2'x2' panels of siding mocked up to represent siding layout.

1.5 QUALITY ASSURANCE

- A. Qualifications: Preparation and painting Work shall conform with recommended practices and quality standards of the MPI.

- B. Paints and Coats shall be Low/No VOC Paints and Primers as indicated.

1.

Paint Type	Maximum VOC Limit
Coatings, Flats & Non-Flats	50 g/L
Primer or Undercoat & Sealers	100 g/L
Opaque Floor Coatings	50 g/L
Rust Preventative Coatings	100 g/L
Clear Wood Finishes	275 g/L

1.6 PROJECT CONDITIONS

- A. Environmental Requirements: Comply with manufacturers' recommendations for environmental conditions under which paint and painting systems shall be applied.
- B. Do not allow rags to accumulate. At the end of each day's Work remove from Site rags and papers used for painting or cleanup operations. During the day's Work keep used rags in approved closed metal containers.

1.7 MAINTENANCE

- A. Extra Materials: Furnish extra stock at the rate of one gallon for each body color or type used, and one gallon of each accent color or type used.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturers: Sherwin Williams – Substitutions upon approval.

2.2 MATERIALS

- A. Paints: Comply with MPI and finish systems specified.
- B. Putty: Conform to FS TT-P-791A(3), colored to match paint and stain finishes, as applicable.
- C. Cementitious Filler: Nonshrink formulation, white Portland cement with fine silicate aggregate, zinc- oxide pigment, and reinforcing chemical binder as approved.
- D. Spackling Compound: Standard gypsum board compound.
- E. Unspecified materials such as turpentine, linseed oil, or mineral spirits shall be products of reputable manufacturers and as recommended by paint manufacturers.
- F. Materials for Undercoats and Finish Coats: Ready mixed, and shall not be changed, except thinning of undercoats (when required), reinforcing, or coloring, all of which shall be performed in accordance with manufacturers' recommendations.

2.3 PAINTING SYSTEMS

A. General:

1. Finish systems codes specified are for MPI Premium Grade finishes unless otherwise noted.
2. Each system establishes procedure, quality, and number of coats. All coats listed are in addition to shop prime coats. Additional coat or coats will be required if system specified does not cover.
3. Specified coats for any one paint system shall be products of the same manufacturer.
4. Provide Low/No VOC interior paints and coatings per ESDS 6.1.

B. Mechanical and Electrical:

1. Exposed HVAC ducts, conduit and uncovered piping in finished spaces: MPI System No. INT. 5.3J, waterborne, 3 coats.
One coat galvanized primer MPI #107.
Two coats acrylic enamel #43.
2. Pipe and duct covering: MPI System No. INT. 10.1A waterborne, 4 coats.
One coat latex primer sealer #50.
Two coats interior latex #43.
3. Inside of ducts, visible from finished space MPI System No. INT. 5.3J, waterborne, 3 coats.
One coat black galvanized primer MPI #107.
Two coats flat black acrylic enamel MPI #53.
4. Exterior galvanized metal: MPI System No. EXT. 5.3B, solvent base, 3 coats.
One coat cementitious primer MPI #107.
Two coats exterior alkyd MPI #10.
5. Miscellaneous:
Finish registers, grilles, exposed conduit, electrical cabinets, and similar items to match adjacent surfaces.

C. Exterior:

1. Ferrous metal, (not galvanized): MPI System No. EXT. 5.1D, solvent base, 3 coats.
One coat alkyd metal primer MPI #107.
Two coats alkyd MPI #10.
2. Galvanized metal: MPI System No. EXT. 5.3B, solvent base, 3 coats.
One coat cementitious primer MPI #107.
Two coats alkyd MPI #15 at satin locations MPI#11 at gloss locations.
3. Wood Siding and Trim: Sherwin Williams, no substitutions.
One coat: Exterior Latex wood primer, B42W8041.
Two coats: A-100 Exterior Latex Satin, A82 Series.
4. Cementitious Composition Board: Sherwin Williams, No substitutions.
One coat: Loxon Concrete and Masonry Primer Sealer, A24W8300.
Two coats: A-100 Exterior Latex Satin, A82 Series.

D. Interior: Provide for up to 3 colors, to highlight architectural features as directed, which may require one additional coat in addition to coats specified. Gloss as selected.

1. Gypsum board, typical: Sherwin Williams, 4 coats.
Primer Pre-texture at exterior walls: Interior Latex Moisture Vapor Barrier primer #B72WI.

- Primer Pre-texture at non-exterior walls: Promar 400 Zero VOC Latex Primer, B28W4600.
Primer Post-texture: Promar 400 Zero VOC Latex Primer, B28W4600.
Top 2 coats: Promar 400 Zero VOC Latex Eg-Shel, B20-4600 series.
2. Gypsum Board, Unit Kitchens, and Bathrooms: Sherwin Williams, 4 coats.
Primer Pre-texture at exterior walls: Interior Latex Moisture Vapor Barrier primer #B72WI.
Primer Pre-texture at non-exterior walls: Promar 400 Zero VOC Latex Primer, B28W4600.
Primer Post-texture: Promar 400 Zero VOC Latex Primer, B28W4600.
Top 2 coats: Promar 400 Zero VOC Latex Semi-Gloss B31-4600 series.
3. Exposed Wood (where paint is scheduled): Sherwin Williams, no substitutions, 3 coats.
One coat primer: Promar 400 Zero VOC Latex Primer, B28W4600.
Two coats: Promar 400 Zero VOC Latex Semi-Gloss B31-4600.
4. Hollow Metal Doors and Frames: MPI System No. INT. 5.1E, solvent base, 3 coats.
One coat alkyd metal primer MPI #107.
Two coats alkyd Pro Industrial 0 VOC, semi-gloss.
5. Ferrous Metal (Not Galvanized): MPI System No. INT. 5.1E, solvent base, 3 coats.
One coat alkyd metal primer MPI #107.
Two coats alkyd Pro Industrial 0 VOC, semi-gloss.
6. Galvanized Metal: MPI System No. INT. 5.3C, solvent base, 3 coats.
One coat cementitious primer MPI #107.
Two coats alkyd Pro Industrial 0 VOC, semi-gloss.
7. Wood Doors (where paint is scheduled): Sherwin Williams, 3 coats.
One coat primer: Promar 400 Zero VOC Latex Primer, B28W4600.
Two coats: Promar 400 Zero VOC Latex Semi-Gloss B31-4600 series.
8. Wood Doors to receive natural finish: MPI System No. INT. 6.3H, solvent base, 4 coats.
One coat lacquer sanding sealer #84.
Three coats clear lacquer #87, flat.

E. Interior Concrete Slab

1. 2 coats sealer per City Facility Standards.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Rooms and spaces shall be broom clean before commencing painting Work.
- B. Prepare surfaces in accordance with materials manufacturers' and MPI recommendations. Clean, remove foreign matter, patch holes, cracks, and imperfections with compound recommended by manufacturer of paint to be applied to these surfaces. All areas to be painted shall be brought to true, even surfaces.
- C. Remove hardware, nameplates, switchplates, and other items which are not to be painted. Protect by masking or other means those items which cannot be removed.
- D. Mix paints only over a removable surface in well ventilated areas and in accordance with manufacturers' instructions.

3.2 APPLICATION

- A. Apply material evenly, free from sags, runs, crawls, holidays, or defects. Mix to proper consistency, brush out smooth, leaving minimum of brush marks; material shall be flowed on. Avoid lapping material on adjacent surfaces.
- B. Apply paint by brushes, roller and back brush, or spray and back brush; sheepskin daubers may be used to reach surfaces which are inaccessible to paint brushes.
- C. On smooth surfaces carefully sand all finishes for good adhesion of subsequent coats.
- D. Apply putty, caulk, or spackle after surfaces are primed and primer is dry. Spot prime areas as required.
- E. Tint all pigmented undercoats to approximately same shade as final coat. Noticeably decrease depth of shade in successive coats.
- F. Shop primed metal surfaces of all mechanical and electrical equipment shall receive 2 finish coats of paint to match adjoining wall or ceiling surfaces.
- G. At completion of Work of other Sections, touch up damaged finishes as required.

3.3 PATCHING

- A. Repaint entire surface of patched surfaces to nearest change in plane.

3.4 CLEANING

- A. Clean up spilled and splattered paint daily.
- B. On completion carefully clean all glass, hardware, and similar surfaces to remove all misplaced paint and stain spots or spills. Leave Work in condition acceptable to Architect.
- C. Leave premises in a clean and orderly condition.

END OF SECTION 09 90 00

SECTION 10 14 00 – SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Exterior Signage.
 - 2. Building Address Numbers.

1.2 QUALITY ASSURANCE

- A. Regulatory Requirements: Interior products shall meet requirements of the Americans With Disabilities Act Accessibility Guidelines (ADAAG) and local amendments and modifications.
- B. Installer: Installation shall be performed by installer specialized and experienced in work similar to that required for this project.

1.3 SUBMITTALS

- A. Product Data: Submit product data for specified products. Include material details for each sign specified.
- B. Shop Drawings: Submit shop drawings showing layout, profiles, and product components, including dimensions, anchorage, and accessories.
- C. Samples: Submit supplier's standard color chart for selection purposes and selected colors for verification purposes.
- D. Installation: Submit supplier's installation instructions.
- E. Closeout Submittals:
 - 1. Submit operation and maintenance data for installed products, including precautions against harmful cleaning materials and methods.
 - 2. Submit warranty documents specified herein.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. General
 - 1. Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
 - 2. Deliver products in manufacturer's original, unopened, undamaged containers with identification labels intact.
 - 3. Store products protected from weather, temperature, and other harmful conditions as recommended by supplier.
 - 4. Handle products in accordance with manufacturer's instructions.

1.5 WARRANTY

- A. Manufacturer's Warranty: Submit manufacturer's standard warranty document executed by authorized company official.

PART 2 PRODUCTS

2.1 SIGNAGE SYSTEMS

- A. Exterior Building Name Signs as shown on drawings
 - 1. Die-cut 1/8" thick aluminum letters with satin finish.
 - 2. 10" height of capitol letters.
 - 3. Font: Georgia or as approved.
 - 4. Mount on 1" posts from substrate.
- B. Miscellaneous
 - 1. Building Address Numbers: White vinyl self-adhered to meet City and Fire Department requirements at new entrance doors.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Site Verification of Conditions: Verify installation conditions previously established under other sections are acceptable for product installation in accordance with manufacturer's instructions.
- B. Scheduling of installation by Owner or it's representative implies that substrate and conditions are prepared and ready for product installation. Proceeding with installation implies installer's acceptance of substrate and conditions.

3.2 INSTALLATION

- A. Install product in accordance with supplier's instructions.
- B. Install product in locations indicated using mounting methods recommended by sign manufacturer and free from distortion, warp, or defect adversely affecting appearance.
- C. Install product level, plumb, and at heights indicated.
- D. Install interior signage at heights to conform to Americans with Disabilities Act Accessibility Guidelines (ADAAG) and applicable local amendments and regulations.
- E. Install signs within the following tolerances and in accordance with manufacturer's recommendations:
 - 1. Exterior: Within 1 inch vertically and horizontally of intended location.
 - 2. Interior: Within 1/4 inch vertically and horizontally of intended location.

3.3 CLEANING, PROTECTION, AND REPAIR

- A. Repair scratches and other damage which might have occurred during installation. Replace components where repairs were made but are still visible to the unaided eye from a distance of 5 feet.
- B. Remove temporary coverings and protection to adjacent work areas. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project in accordance with provisions in Division 1.

3.4 SIGN SCHEDULE

- A. Refer to Drawings for sizes, locations, and layout of signage types, sign text copy, and graphics.

END OF SECTION 10 14 00

SECTION 10 44 00 – FIRE PROTECTION SPECIALTIES

PART 1 - GENERAL

1.1 SUBMITTALS

- A. Product Data: Manufacturer's data for materials, fabrication, colors and finishes, installation details, and maintenance instructions.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Fire Extinguishers: J.L. Industries, Cosmic 10E, 4A-80BC.
- B. Fire Extinguisher Cabinet
 - 1. JL Industries, Ambassador Series, surface mounted, Model 1017B10, solid door with 2" x 4" clear acrylic view window and Saf-T-Lock with 3" rolled cabinet edge.
 - 2. Provide rated semi-recessed type at rated wall conditions.
- C. Emergency Responder Lock Box:
 - 1. Provide and Install at 1 location per drawings.
 - 2. Provide access key/card secure box meeting AHJ Fire Department requirements.
 - a. Basis of Design: Box (Supra SUP2HS) and Cylinder Core (Medico MED60065OT), or as required by Local AHJ.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

END OF SECTION 10 44 00

